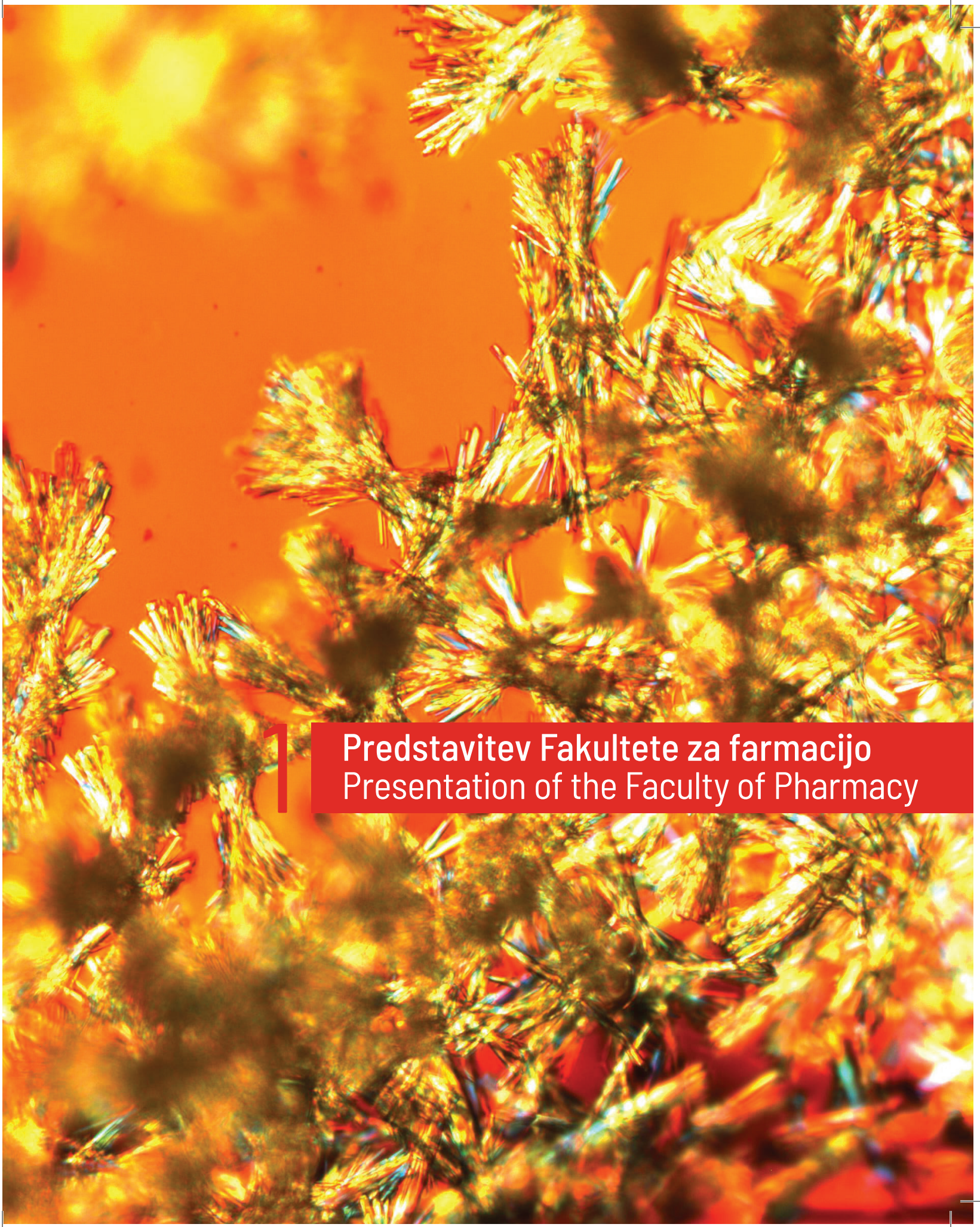
Univerza *v Ljubljani*
Fakulteta *za farmacijo*

2019

POROČILO O DOSEŽKIH

PROGRESS REPORT

KAZALO / CONTENT



1 Predstavitev Fakultete za farmacijo
Presentation of the Faculty of Pharmacy

UVODNI POZDRAV

Spoštovani,

Poročilo o dosežkih leta 2019 nastaja v času pandemije zaradi okužbe z virusom SARS-COV-2. Naš čas in predvsem naši odnosi dobivajo drugačne dimenzije. Odmaknjeni vneto čakamo dobrih in spodbudnih novic. Upam, da bo pričujoče poročilo vsem, ki ga prebirate, dokaz zavzetega, odgovornega in uspešnega delovanja fakultete, sodelavcem Fakultete za farmacijo pa v ponos in spodbudo.

Leto 2019 je bilo za Univerzo v Ljubljani slavnostno. Praznovali smo 100 let odkar je **3. decembra 1919 potekalo prvo predavanje v slovenskem jeziku. Ta čast je pripadla slavistu prof. dr. Franu Ramovšu.** Ustanovitev Univerze v Ljubljani in poučevanje v slovenskem jeziku sta bila ključna mejnika v razvoju slovenskega naroda, ki je z vzgojo intelektualcev pridobival na samozavesti in samobitnosti ter dozoreval za lastno državo. V stotih letih delovanja Univerze v Ljubljani je študij uspešno zaključilo več kot tristo tisoč študentov, kar predstavlja 80 % slovenskih izobražencev, ki pomembno prispevamo k oblikovanju in delovanju družbe, k tehnološkemu razvoju, pridobitvam znanosti in umetniškim stvaritvam. V slavnostnem letu smo bili priča praznični dogodkom Univerze kot tudi dogodkom številnih fakultet, ki so obeležile svoje jubileje delovanja. To je bila izvrstna priložnost, da smo se na Univerzi bolje spoznali in povezali, kar je zagotovo dobra popotnica v novo stoletje.

Univerza v Ljubljani je imela pet ustanovnih članic - Filozofsko, Medicinsko, Pravno, Tehniško in Teološko fakulteto. Izobraževanja s področja tehnike so se izvajala v prostorih tedanje državne obrtne šole na Aškerčevi cesti, dokler ni bila po načrtih arhitekta Jožeta Plečnika zgrajena prva namenska stavba, danes Aškerčeva 7. Stavba, ki daje od leta 1960 zavetje študentom farmacije, danes daje prostor 1500 študentom UL FFA na programih farmacija, laboratorijska biomedicina, kozmologija in industrijska farmacija, prav tako pa je to prostor ustvarjalnega dela 180 zaposlenih. Tudi Fakulteta za farmacijo želi obeležiti 60. jubilej študija farmacije. Omejitve druženja, namenjene preprečitvi širjenja okužb, zahtevajo spremembo načrtov, vendar sem prepričana, da bomo našli nove poti in oblike.

Preteklo leto je bilo za Fakulteto izjemno. Trdega dela, pravijo, nas naučijo starši, zagotovo pa ga vzgajamo tudi na Fakulteti. S predanim delom uspehi ne izostanejo. Naj navedem samo peščico takih, ki odsevajo vizijo Fakultete za farmacijo. Znanstvenih in strokovnih uspehov si ne predstavljamo brez interdisciplinarnih povezav, ki prepletajo stroke, inštitucije in ljudi ter presegajo nacionalne in regionalne meje. Tak pristop se zrcali v naših znanstvenih dosežkih. Številne nacionalne in bilateralne raziskovalne projekte smo pridobili in tudi uspešno izvajali. Uspešno izvajamo prvi projekt v okviru iniciative za inovativna zdravila - imi2. Izvajamo in koordiniramo projekt skupnega evropskega doktorskega projekta. Pridobili smo nosilstvo nacionalnega centra za translacijske raziskave in projekt kohezijskega sklada v višini 2,5 milijona evrov. Uspešnost nam potrjujejo tudi dejstva, da so bili tudi na letošnjem razpisu za Krkine nagrade študenti in mladi doktorji UL FFA izjemno uspešni. Odlično so se odrezali tudi na Biocampu in natečaju za Rektorjevo nagrado za naj inovacijo Univerze v Ljubljani.

Ob svojih mednarodnih ambicijah nikakor ne zanemarjamo skrbi za slovensko družbo in jezik. Naši učitelji so bili gonilna sila pri nastajanju in oblikovanju 2. izdaje Slovenskega farmacevtskega terminološkega slovarja in so skupaj s partnerji omogočili njegovo izdajo. Na Fakulteti za farmacijo skrbimo za prepoznavnost študijev. Vrata fakultete smo odprli v okviru vseevropskega projekta Noč raziskovalcev, organizirali pa smo tudi poletno šolo za dijake slovenskih srednjih šol. Za sodelovanje pri izvedbi Slovenskega festivala znanosti smo prejeli priznanje Odlično partnerstvo, ki ga podeljuje Slovenska znanstvena fundacija.

Fakulteta je tudi prejemnica priznanja Lekarne Ljubljana za dolgoletno vzajemno sodelovanje, ki so ga lekarne podelile na slovesnosti ob 70-letnici delovanja. To priznanje je zagotovo odraz marljivega sodelovanja generacij farmacevtov, ki so tkali niti in jih uspešno stkali v vrhunske storitve na področju farmacije in skrbi za paciente.

Med najzahtevnejše projekte Fakultete za farmacijo zagotovo sodi priprava dokumentacije za novogradnjo BRDO. Izveden je bil odprt, dvostopenjski urbanistični in arhitekturni projektni natečaj za izbiro strokovno najprimernejših rešitev za nove objekte UL Fakultete za farmacijo in UL Fakultete za strojništvo. Projekt novogradenj je skupni projekt dveh fakultet, ki sta po večletnih pripravah pristopili k projektu novogradenj, saj delujeta trenutno v zelo omejenih prostorih. Verjamemo namreč, da bosta novogradnji omogočili mednarodno primerljivost univerzitetnega izobraževanja in raziskovanja ter oblikovanja konkurenčnih kadrov. Sodobna infrastruktura bo nudila razvojno-inovativno podporo tako slovenskemu gospodarstvu kakor tudi javnemu sektorju, predvsem na področju zdravja. Projekta novogradenj imata tudi širšo podporo gospodarstva, ki se zaveda pomena sodobnih infrastruktur. S kolegom prof. dr. Mitjanom Kalinom, dekanom Fakultete za strojništvo, sva pridobila pismo podpore številnih gospodarskih družb, ki so pomembni partnerji fakultet in delodajalci naših diplomantov, magistrov in doktorjev znanosti; še več - skupaj smo pomembni oblikovalci družbene in ekonomske blaginje.

V predhodnih letih smo na UL FFA posvetili pozornost študiju potreb fakultete in študiju najboljših praks. Vodstvo je vključno s predstojniki in delovno skupino mlajših sodelavcev oblikovalo izhodišča za izdelavo natečajne naloge. Obiskali in proučili smo sodobne fakultete v Leidnu, Utrechtu, Frankfurtu, Gradcu in drugod. Pri oblikovanju koncepta infrastrukturnega centra in prototipnih laboratorijev smo se zgledovali po najboljših praksah v farmacevtski industriji, pozabili nismo niti botaničnega vrta zdravilnih rastlin niti učne lekarne. V letu 2019 smo uspešno zaključili urbanistično fazo natečaja ter razpisali drugo, arhitekturno fazo natečaja. Pravočasno je natečajne elaborate s ponudbami oddalo 9 natečajnih skupin. Ocenjevalna komisija je pregledovala in ocenila natečajne elaborate v skladu z merili za ocenjevanje iz natečajnih pogojev. Ugotovila je, da noben od elaboratov ne izpolnjuje popolnoma vseh pričakovanj, zato smo se odločili, da prve nagrade ne podelimo, podelili pa smo dve enakovredni drugi nagradi, tretjo nagrado ter priznanja. Ugotovili smo, da imata drugonagrajeni rešitvi dober potencial, da z dodelavo izpolnita arhitekturna in programska pričakovanja v okvirih, ki nam jih dopušča lokacija načrtovane stavbe. Prepričana sem, da bodo našli odlično rešitev in da bo nova stavba pedagogom in študentom zagotovila kakovostne delovne pogoje za študij in raziskovanje, vrhunske, sodobne in tehnično brezhibne laboratorijske ter druge, z njimi povezane prostore, in nasploh stimulativno univerzitetno okolje.

Smo na znanosti temelječa fakulteta, obenem pa vsakodnevno oblikujemo pomemben človeški kapital Slovenije, vrhunske kadre za vrhunsko stroko na področjih farmacije, laboratorijske medicine in kozmetologije.

Pogumno naprej

Prof. dr. Irena Mlinarič-Raščan, mag. farm.,
dekanja

INTRO GREET

Dear readers,

The 2019 Progress Report is emerging in a time of pandemic due to SARS-COV-2 virus infection. Our time and particularly our relationships take on different dimensions. While distanced, we are all eagerly awaiting encouraging news. I hope that this report will be a source of pride and encouragement to all of you who read it, as well as to the employees of the Faculty of Pharmacy.

The year 2019 was ceremonious for the University of Ljubljana. We celebrated 100 years from the first lecture in the Slovenian language, which took place on the 3rd of December, 1919. The honoured lecturer was a Slavist, Prof. Dr. Fran Ramovš. Both the establishment of the University of Ljubljana and teaching in the Slovene language were the milestones in the development of the Slovenian nation, which gained self-confidence and through the education of intellectuals matured to reach independence. In the hundred years of operation of the University of Ljubljana, more than 300,000 students have successfully completed their studies, representing almost 80 % of Slovenian intellectuals, who contribute significantly to the formation and operation of the society, technological development and advancement of science and artistic creation. In the ceremonious year we witnessed the festive events of the University, as well as the events of many other faculties, celebrating their anniversaries. It was a great opportunity for us to get to know each other better and form connections at the University, therefore marking a great start into a new century.

The University of Ljubljana had five founding members - the Faculties of Philosophy, Medicine, Law, Technology and Theology. Education in the field of technology was carried out in the premises of the then state craft school on Aškerčeva cesta, until the first purpose-built faculty was constructed according to the plans of the architect Jože Plečnik, nowadays Aškerčeva 7. The building, which has been a home to pharmacy students since 1960, nowadays offers lectures to 1,500 UL FFA students in the programs of pharmacy, laboratory biomedicine, cosmology and industrial pharmacy and also provides a place for the creative work of 180 employees. The Faculty of Pharmacy is due to celebrate the 60th anniversary of the pharmaceutical education at the University of Ljubljana. Unfortunately, our plans have been jeopardized due to the regulations limiting public and social gatherings in order to prevent the spread of viral infections. Despite the inconvenience I am certain we will find new avenues and forms to commemorate the event.

The past year has been exceptional for the Faculty. They say the value of hard work is instilled by our parents and we certainly instil that value in our students at the Faculty as well. With dedicated work success does not lag behind. Let me mention just a handful of those that reflect the vision of the Faculty of Pharmacy. At the Faculty of Pharmacy scientific and professional success cannot be achieved without interdisciplinary connections that intertwine professions, institutions and people and transcend national and regional borders. This kind of approach is reflected in our scientific achievements. We have acquired and successfully implemented numerous national and bilateral research projects. We are successfully implementing the first project within the initiative for innovative medicines - imi2. We implement and coordinate the joint European doctoral project. We obtained the coordination of the National Centre for Translational Research and the Cohesion Fund project in the amount of 2.5 million euros. The success is also confirmed by the fact that UL FFA students and young doctors were extremely successful in this year's competition for Krka awards. They also excelled at the Biocamp and at Rector's Award for the best innovation of the University of Ljubljana.

In addition to our international ambitions, we as well pay attention to the Slovenian society and language. The Faculty members were the driving force in the creation and design of the 2nd edition of the Slovenian Pharmaceutical Terminology Dictionary and they enabled its publication together with partners. At the Faculty of Pharmacy, we ensure and promote recognisability of the study programs. We participated in the pan-European Researchers' Night project, we organized

a summer school for Slovenian high school students and participated in the implementation of the Slovenian Science Festival, for which we received the Excellent Partnership award by the Slovenian Science Foundation.

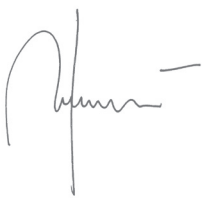
The Faculty is also the recipient of the award of Lekarna Ljubljana for long-term mutual cooperation, which was presented at the ceremony for the 70th anniversary of their operation. This recognition is certainly a reflection of the diligent collaboration of generations of pharmacists who have been working hard consistently and successfully created top-notch services in the field of pharmacy and patient care.

One of the most demanding projects of the Faculty of Pharmacy is certainly the preparation of documentation for the new premises of the Faculty of Pharmacy at BRDO campus. An open, two-stage urban and architectural design competition was carried out in order to select the most technically suitable solutions for the new facilities of the UL Faculty of Pharmacy and the UL Faculty of Mechanical Engineering. The new construction project is a joint project of two faculties, which, after many years of preparation undertook this demanding initiative, as they currently operate in very limited spaces. We believe that the new facilities will enable international comparability of university education and research, including the formation of competitive professionals. Modern infrastructure will also offer development and innovative support to the Slovenian economy as well as to the public sector, especially in the field of health. The new construction projects also have wide support of the economy sector, which is aware of the importance of modern infrastructures. With a colleague Prof. Dr. Mitjan Kalin, Dean of the Faculty of Mechanical Engineering, we received a letter of support from numerous companies as partners of the faculties and employers of our graduates, masters and doctors of science; on top of that, we significantly contribute to creating social and economic prosperity.

In previous years we devoted our attention to studying the needs of the faculty and best practices here at UL FFA. The management, including the supervisors and a working group of junior associates, formed the starting points for the preparation of the competition paper. We visited and studied modern faculties in Leiden, Utrecht, Frankfurt, Graz and elsewhere. In designing the concept of the infrastructure centre and prototype laboratories, we followed the best practices in the pharmaceutical industry and we did not forget the botanical garden of medicinal plants and the teaching pharmacy. In 2019 the urban phase of the competition was successfully completed and the second, architectural phase of the competition was announced. Nine competition groups submitted their competition studies in time. The evaluation committee reviewed and evaluated the competition projects in accordance with the evaluation criteria, defining the terms and conditions of the competition. The committee found that none of the studies fully met all expectations and decided not to award the first prize; however, two equivalent second prizes, a third prize and recognitions were awarded. Both solutions receiving the second prize have good potential to meet architectural and program-associated expectations within the limits allowed by the location of the planned building. I am convinced that they will come up with a great solution and that the new building will provide educators and students with good working conditions for performing studies and research, including state-of-the-art, modern and technically flawless laboratories and other related spaces for stimulating the university environment.

The Faculty of Pharmacy is science-based and at the same devoted to forming excellent human capital of Slovenia on a daily basis and raising top professionals in the fields of pharmacy, laboratory medicine and cosmetology.

Advancing with courage



Prof. Dr. Irena Mlinarič-Raščan,
Dean

UNIVERZA V LJUBLJANI OB STOLETNEM JUBILEJU

Univerza v Ljubljani (UL, www.uni-lj.si) kot najstarejša in največja visokošolska ter znanstvenoraziskovalna ustanova v Republiki Sloveniji je v letu 2019 praznovala 100. obletnico uspešnega delovanja. Za nastanek prve slovenske univerze so si prizadevali vsi družbeni sloji vse od leta 1848. Univerza je nastala po avstrijskem modelu, ob ustanovitvi je vključevala pet fakultet, delovala pa je po zakonu o univerzi Kraljevine Srbov, Hrvatov in Slovencev, veljavnem za vse tri takratne univerze še v Beogradu in Zagrebu. Ustanovitev je imela konstitutiven pomen za slovensko znanost in je postopoma združila profesorje, prej razdrobljene po raznih avstrijskih univerzah. V stoletju mnogoterih sprememb in mednarodnih vplivov je UL vodilo 44 rektorjev, od katerih je vsak na svoj način zaznamoval njeno zdajšnjo podobo. Nekateri so jo ustanavljali in razvijali, drugi so morali braniti njeno avtonomijo, tretji celo njen obstoj. Ob prebiranju številnih tiskanih gradiv o UL spoznamo, da je vseskozi postavljala in udejanjala svoje razvojne cilje na podlagi tehtnih razprav, vrednot in danih možnosti. Na primer filozofija, pravo, medicina in matematika se izvajajo od vsega začetka, študij farmacije pa je bil organiziran na UL na pobudo farmacevtskih strokovnjakov v letih 1946-1948 in nato 1955-1956 kot delni študij, po letu 1960 pa kot popoln univerzitetni študij.

UL je imela vse od ustanovitve velik pomen pri nabiranju, premišljanju in premlevanju idej, pomembnih za razvoj posameznih znanstvenih disciplin, posameznih vitalnih praks, vključno s poučevanjem na vseh nivojih izobraževanja ter razvoja in krepitve narodne samobitnosti. Stoletni razvoj UL se odraža v spremembah njenega poimenovanja (slika 1) in organizacijskih shem, v fizičnih in statističnih kazalnikih rasti in razvoja, ki vključujejo nastajanje novih fakultet in akademij, pri pripravi novih študijskih programov, pri številu študentov in številu podeljenih diplomskih listin, številu profesorjev in asistentov, pri rasti raziskovalnih programov in projektov ter postavitvi znanstvene infrastrukture, pa tudi v pridobivanju in obnovah, projektiranju in gradnji modernih študijskih in laboratorijskih prostorov, predavalnic in kabinetov. UL danes združuje 3 umetniške akademije in 23 fakultet (članice UL) in ima najdaljšo tradicijo v univerzitetnem izobraževanju na vseh treh stopnjah in največ študentov v Republiki Sloveniji. Na osnovi lastnega raziskovanja ter domačih in tujih raziskovalnih dosežkov izobražuje vrhunske znanstvenike, umetnike in strokovnjake, ki so usposobljeni za vodenje trajnostnega razvoja. V dinamiki današnjega sveta je UL ena redkih univerz, ki tudi v svetovnem merilu razvija vse pomembne znanstvene vede in nudi usposabljanje najvišje kvalificiranih strokovnjakov za področja humanistike, družboslovja, medicine, naravoslovja, tehnike in umetnosti. Število vseh doktorjev znanosti promoviranih na UL od leta 1920 do leta 2020 je 11.840, število vseh podeljenih listin v zadnjih desetih letih (2009-2019) pa je 109.832.

UL se v celoti zaveda pomena znanj in veščin potrebnih za sistematičen razvoj družbe in gospodarskih dejavnosti. Že zdavnaj je prerasla nacionalne okvirje, dejavno vstopila v evropski visokošolski in raziskovalni prostor in postala mednarodno prepoznavna inštitucija, ki daje velik poudarek kakovosti in internacionalizaciji. Sodeluje z najuglednejšimi svetovnimi univerzami in spodbuja članice k povezovanju v mednarodne izobraževalne in raziskovalne mreže in mednarodne projekte, izmenjavo študentov, učiteljev in raziskovalcev, akreditacijo skupnih programov in drugo. Poleg tega je UL pripravljena na prihodnje izzive z vključevanjem v mednarodna partnerstva, izmenjavo dobrih praks, uvajanjem novih metod poučevanja in učenja, vključno z informacijskimi tehnologijami, krepitvijo kulture kakovosti, vse s ciljem doseči večje število inovacij, doseči še višjo stopnjo kreativnosti in trajnost. Univerza v Ljubljani je na različnih rangirnih lestvicah zelo visoko med najboljšimi svetovnimi univerzami.

Ob njenem častitljivem jubileju naši *almi mater* čestitamo in želimo, da bi še naprej tako pogumno stopala po začrtani poti, sledila visokim ciljem in globalnim izzivom v dobrobit vseh ljudi.

100th ANNIVERSARY OF THE UNIVERSITY OF LJUBLJANA

In 2019 the University of Ljubljana (UL, www.uni-lj.si) as the oldest and largest higher education and scientific research institution in the Republic of Slovenia celebrated the 100th anniversary of its successful operation. All social classes have been striving for the creation of the first Slovene university since 1848. The university was created according to the Austrian model, which at the time of its establishment included five faculties and operated according to the law on the University of the Kingdom of Serbs, Croats and Slovenes, valid for all three universities at the time, including Belgrade and Zagreb. The establishment of the University of Ljubljana had a constitutive significance for Slovene science and gradually brought together professors, previously fragmented across various Austrian universities. In a century of many changes and international influences, UL has been led by 44 rectors, each of whom has marked its current image in its own way. Some founded and developed it; others had to defend its autonomy, a third even its existence. Reading many printed materials about UL, we learn that it has always set and implemented its development goals based on sound discussions, values and given opportunities. For example, philosophy, law, medicine and math have been practiced from the beginning; the pharmacy study was organized at the University of Ljubljana on the busy initiative of the pharmaceutical experts in the years 1946-1948, then 1955-1956 as a part-time study and after 1960 as a full-time university study.

Since its inception UL has played an important role in collecting, thinking and discussing ideas important for the development of individual scientific disciplines, vital practices, including teaching at all levels of education and the development and strengthening of national identity. The centennial development of UL is reflected in changes in its name and organizational schemes, in physical and statistical indicators of growth and development, which includes the creation of new faculties and academies, preparation of new study programs, number of students and awarded diplomas, number of professors and assistants, growth of research programs and projects, as well as in the acquisition and renovation, design and construction of modern study and laboratory facilities, lecture halls and cabinets. Today, UL unites 3 art academies and 23 faculties (UL members) and has the longest tradition in university education at all three levels and the largest number of students in the Republic of Slovenia. Based on its own research and domestic and foreign research achievements, it educates top scientists, artists and experts who are qualified to lead sustainable development. In the dynamics of today's world, UL is one of the few universities that also develops all important scientific disciplines on a global scale and offers training of the most qualified experts in the fields of humanities, social sciences, medicine, natural science, technical engineering and art. The number of all doctors of science promoted at UL from the year 1920 to 2020 is 11,840 and the number of all diploma certificates awarded in the last ten years (2009-2019) is 109,832.

UL is fully aware of the importance of knowledge and skills necessary for the systematic development of society and economic activities. It has long since outgrown national frameworks, actively entered the European Higher Education and Research Area and become an internationally recognized institution that places great emphasis on quality and internationalization. It cooperates with the world's most prestigious universities and encourages members to join international educational and research networks and international projects, exchange students, teachers and researchers, accredit joint programs and more. In addition, UL is ready for future challenges by engaging in international partnerships, exchanging good practices, introducing new teaching and learning methods, including information technology, strengthening the quality culture, all with the aim of achieving more innovation, improve creativity and preserve sustainability. The University of Ljubljana ranks very high among the best universities on various worlds' rankings.

On the occasion of her venerable jubilee, we congratulate our *alma mater* and wish her to continue to follow the set path so bravely, to pursue high goals and global challenges for the benefit of all people.

ZAPOREDJE SPREMEMB V POIMENOVANJU NAJVEČJE SLOVENSKE UNIVERZE
THE SEQUENCE OF CHANGES IN THE NAME OF THE LARGEST SLOVENIAN UNIVERSITY

Univerza Kraljevine Srbov, Hrvatov in Slovencev v Ljubljani/Univeritas Labacensis
University of the Kingdom of Serbs, Croats and Slovenes in Ljubljana (1919–1929)

Univerza kralja Aleksandra I. v Ljubljani/Universitas Alexandrina (1929–1941)

R. universita di Lubiana/Kraljeva univerza v Ljubljani (1941–1943)

Universität Laibach/Univerza v Ljubljani (1943–1945)

Univerza v Ljubljani (1945–1979)

Univerza Edvarda Kardelja v Ljubljani (1979–1990)

Univerza v Ljubljani (od 1990 naprej)

Stara tehnika je bila dograjena leta 1921 po načrtih arhitekta Jožeta Plečnika kot prva za univerzo zgrajena zgradba. V njej so domovali oddelki Tehniške fakultete. Po letu 1965 je postopoma dobil prostore Farmacevtski odsek Oddelka za kemijo na Fakulteti za naravoslovje in tehnologijo Univerze v Ljubljani, ki se je razvil v Fakulteto za farmacijo do leta 1995. Za širitev aktivnosti je fakulteta postopoma obnovila vse prostore Stare tehnike in zgradila prizidek s sodobnimi laboratoriji in predavalnicami do leta 2000.

The Old Technique was completed in 1921 according to the plans of the architect Jože Plečnik as the first building built for the university. It was home to departments of the Technical Faculty. After 1965, the building gradually acquired the premises of the Pharmaceutical Section of the Department of Chemistry at the Faculty of Science and Technology, University of Ljubljana, which developed into the Faculty of Pharmacy until 1995. To expand its activities, the faculty gradually renovated all the premises of the Old Technique and built an extension with modern laboratories and lecture halls until 2000.

Stara Tehnika / Old Technique

ORGANIZIRANOST

UL FFA je raziskovalno usmerjena pedagoška ustanova, kar izkazuje tako z objavami raziskovalnih dosežkov svojih zaposlenih v uglednih mednarodnih revijah kot tudi s prenosom teh znanj v pedagoški proces na vseh programih.

Osnovne naloge so ustvarjanje, prenašanje in ohranjanje znanja, kar ob inovativnosti in raziskavah pomeni tudi učinkovito poučevanje in ohranjanje zgodovinskega spomina, vezanega na stroko. S številom objav v znanstvenih revijah ter s številom citatov in projektov z gospodarstvom se UL FFA uvršča v sam vrh Univerze v Ljubljani. Tovrstni način dela in razmišljanja pa je vpet tudi v študijske programe.

UL FFA kot del Univerze v Ljubljani gradi svoj ugled, integriteto in razvoj na odličnosti, učinkovitosti ter etični drži študentov in učiteljev. Farmacevtske izkušnje se gradijo na dolgoletni tradiciji tako v slovenskem kot širšem prostoru, z vizijo usmerjenosti v prihodnost.

Po evropskih merilih je UL FFA srednje velika farmacevtska fakulteta, matična za širše področje farmacije, klinične biokemije in kozmetologije, ki letno sprejme 165 študentov na programu Farmacija, 90 študentov na programu Laboratorijska biomedicina (50 na 1. stopnji, 40 na 2. stopnji), 40 študentov na programu Kozmetologija, 40 študentov na programu Industrijska farmacija in 20 do 30 študentov doktorskega študija. V zadnjih letih je na UL FFA skupno s specializanti vpisanih okrog 1500 študentov.

Fakulteta za farmacijo ima šest kateder, ki predstavljajo osnovne organizacijske enote pedagoškega in znanstveno-raziskovalnega dela ter inštitut za farmacijo, ki izvaja temeljne in razvojne projekte za tekoče potrebe farmacevtske stroke, oz. ima naslednje organizacijske enote: vodstvo fakultete, tajništvo fakultete, katedre in Inštitut za farmacijo.

Učitelji in sodelavci so večinoma registrirani kot raziskovalci pri Javni agenciji za raziskovalno dejavnost (ARRS) in imajo nedvomno velik raziskovalno-razvojni potencial.

ORGANIZATION

The Faculty of Pharmacy is a research-oriented teaching institution, evidenced from the publications of research achievements in highly esteemed international journals, as well as in the transfer of knowledge in all programs.

The faculty's basic tasks are creating, transmitting and retaining knowledge. Therefore, its priority, alongside innovation and research, is effective teaching and maintaining the profession-related historical memory. Its members' number of journal publications, number of citations and number of projects rank the faculty at the very top of the University of Ljubljana's member institutions. This way of working and thinking is also entwined in the study-programs.

As part of the University of Ljubljana, the Faculty of Pharmacy builds its reputation, integrity and development on excellence, effectiveness and the ethical stance of its students and teachers. We are building on the long-term tradition of pharmaceutical experience in Slovenia and beyond, while always looking toward the future.

According to European criteria, the faculty is a medium-sized educational institution of the pharmacy-that is central to the wider field of pharmacy, clinical biochemistry and cosmetology. Each year the faculty admits 165 students in the Pharmacy program, 90 students to the Laboratory Biomedicine program (50 undergraduate and 40 graduate students), 40 students to the Cosmetology program, 40 students to the Industrial Pharmacy program and 20 to 30 to doctoral studies. In the past years there have been about 1,500 students together with specialist trainees enrolled at the Faculty of Pharmacy.

The Faculty of Pharmacy has six departments, which represent the basic organizational units of teaching and scientific research, and the Institute of Pharmacy, which implements basic and development projects for the current needs of the pharmaceutical profession. In other words, the faculty has the

Družbena odgovornost UL FFA se kaže v sodelovanju z uporabniki znanja na kulturnih, gospodarskih in socialnih področjih. Tako vlogo želi ohraniti in utrditi tudi v prihodnje in stremeti k povečevanju uveljavljenosti in ugledu v mednarodnem prostoru. S tem namenom se vključuje v mednarodna združenja in sklepa mednarodna partnerstva.

Vizija UL FFA je prispevati k sooblikovanju prihodnosti ter ostati v svet odprta, odzivna in odgovorna akademska izobraževalna in raziskovalna ustanova. Obenem stremi k ustvarjanju in širjenju znanstvenih spoznanj in delovanju v dobrobit slovenskih državljanov, s čimer prispeva k povečevanju splošnega razvoja in utrjevanju nacionalne samobitnosti.

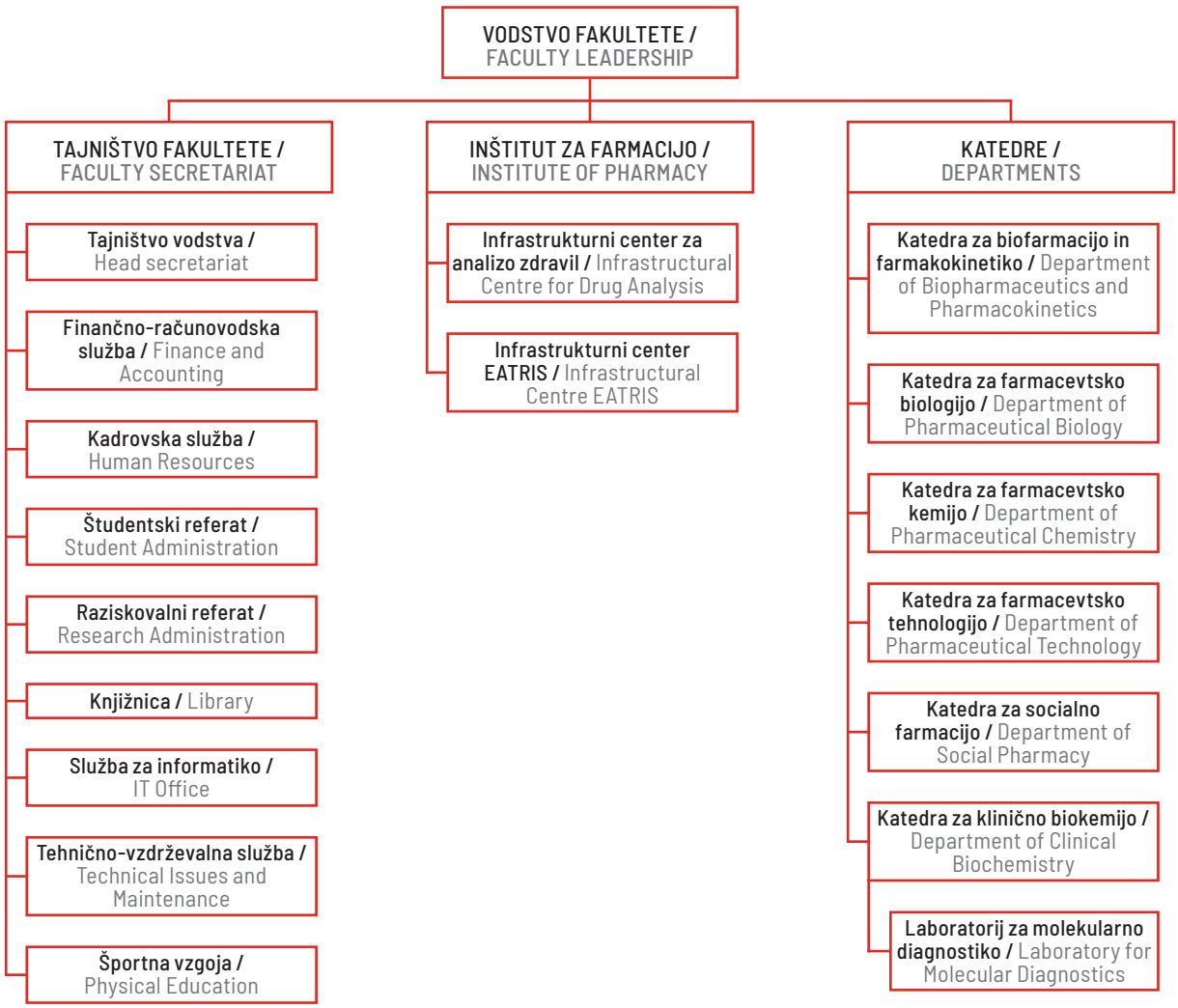
following organizational units: faculty management, faculty secretariat, departments and the Institute of Pharmacy.

Teachers and associates are mostly registered as researchers with the Slovenian Research Agency (ARRS) and undoubtedly have great research and development potential.

The social responsibility of the Faculty of Pharmacy is reflected in the cooperation with users of knowledge in the cultural, economic and social fields. The faculty wants to maintain and consolidate that role in the future and strive to increase its high standing and reputation in the international arena. To this end the faculty joins international associations and makes international partnerships.

The vision of the Faculty of Pharmacy is to contribute to creating the future and to remain an accessible, responsive and responsible academic educational and research institution. At the same time, it strives to create and disseminate scientific knowledge and work for the benefit of the Slovenian citizens, thus contributing to general development and strengthening national identity.

ORGANIZACIJSKE ENOTE UL FFA / FACULTY OF PHARMACY'S ORGANISATIONAL UNITS



VODSTVO FAKULTETE (mandat od 1. 10. 2019)
FACULTY'S GOVERNANCE (in mandate since 1. 10. 2019)

Vodstvo UL FFA / Faculty's Governance
od leve proti desni: izr. prof. dr. Rok Dreu - prodekan za znanstveno raziskovalno področje, prof. dr. Irena Mlinarič-Raščan - dekanja, izr. prof. dr. Mojca Lunder - prodekanja za mednarodno sodelovanje, prof. dr. Marko Anderluh - prodekan za študijsko področje

KATEDRE FAKULTETE ZA FARMACIJO

Katedra za biofarmacijo in farmakokinetiko
predstojnik: prof. dr. Albin Kristl, mag. farm.

Katedra za farmacevtsko biologijo
predstojnik: izr. prof. dr. Tomaž Bratkovič, mag. farm.

Katedra za farmacevtsko kemijo
predstojnik: prof. dr. Stanislav Gobec, mag. farm.

Katedra za farmacevtsko tehnologijo
predstojnica: prof. dr. Mirjana Gašperlin, mag. farm.

Katedra za socialno farmacijo
predstojnik: prof. dr. Mitja Kos, mag. farm.

Katedra za klinično biokemijo
predstojnica: doc. dr. Nataša Karas Kuželički, mag. farm.

Vodja Laboratorija za molekularno diagnostiko:
prof. dr. Joško Osredkar, mag. farm., spec. med. biokem.

INŠTITUT ZA FARMACIJO

predstojnik: izr. prof. dr. Rok Dreu, mag. farm.

ORGANI FAKULTETE

Senat
predsednica: prof. dr. Irena Mlinarič-Raščan, mag. farm.

Akademski zbor
predsednica: prof. dr. Marija Sollner Dolenc, mag. farm.

Upravni odbor
predsednik: izr. prof. dr. Matjaž Jeras, mag. farm.

Študentski svet
predsednik: Jaka Rotman

TAJNIŠTVO

Tajnik fakultete
Katja Višnjevec Vahčič, univ. dipl. prav.

Tajnica vodstva
Lidija Mataija, dipl. ekon.

Finančno-računovodska služba
Aleš Kolenko, univ. dipl. ekon., vodja službe

FACULTY OF PHARMACY DEPARTMENTS

Department of Biopharmaceutics and Pharmacokinetics
Head: Prof. Dr. Albin Kristl, M. Pharm., PhD

Department of Pharmaceutical Biology
Head: Assist. Prof. Dr. Tomaž Bratkovič, M. Pharm., PhD

Department of Pharmaceutical Chemistry
Head: Prof. Dr. Stanislav Gobec, M. Pharm., PhD

Department of Pharmaceutical Technology
Head: Prof. Dr. Mirjana Gašperlin, M. Pharm, PhD

Department of Social Pharmacy
Head: Prof. Dr. Mitja Kos, M. Pharm., PhD

Department of Clinical Biochemistry
Head: Assist. Prof. Dr. Nataša Karas Kuželički, M. Pharm., PhD

Head of the Laboratory for Molecular Diagnostics:
Prof. Dr. Joško Osredkar, M. Pharm., PhD, EuSPLM

INSTITUTE OF PHARMACY

Head: Assoc. Prof. Dr. Rok Dreu, M. Pharm., PhD

THE FACULTY'S GOVERNING BODIES

Senate
Chair: Prof. Dr. Irena Mlinarič-Raščan, M. Pharm., PhD

Academic Assembly
Chair: Prof. Dr. Marija Sollner Dolenc, M. Pharm., PhD

Management Board
Chair: Assoc. Prof. Dr. Matjaž Jeras, M. Pharm., PhD

Student Council
Chair: Jaka Rotman

FACULTY SECRETARY'S OFFICE

Faculty Secretary
Katja Višnjevec Vahčič, LLB

Head Secretary
Lidija Mataija, BS Econ.

Finance and Accounting
Head: Aleš Kolenko, BS Econ.

Kadrovska služba
Zdenka Gantar, viš. upr. del., vodja službe

Študentski referat
Tanja Kadunc, dipl. org. tur., vodja referata

Raziskovalni referat
Judita Merjasec, mag. manag., vodja referata

Knjižnica
Borut Toth, prof. fil. in sociol., vodja knjižnice

Služba za informatiko
Tanja Gregorič, univ. dipl. org. inf., vodja službe

Športna vzgoja
pred. Dušan Videmšek, prof. športne vzgoje

KOMISIJE SENATA UL FFA

Komisija za študijsko področje
predsednik: prof. dr. Marko Anderluh, mag. farm.

Komisija za doktorski študij
predsednik: izr. prof. dr. Rok Dreu, mag. farm.

Komisija za raziskovalno in razvojno delo
predsednik: izr. prof. dr. Rok Dreu, mag. farm.

Habilitacijska komisija
predsednica: prof. dr. Marija Bogataj, mag. farm.

Komisija za priznanja in nagrade
predsednik: prof. dr. Odon Planinšek, mag. farm.

Komisija za priznavanje tuje izobrazbe
predsednik: prof. dr. Marko Anderluh, mag. farm.

Komisija za kakovost in akreditacijo
predsednik: izr. prof. dr. Bojan Doljak, mag. farm.

Komisija za strokovna vprašanja
predsednica: prof. dr. Mirjana Gašperlin, mag. farm.

Komisija za internacionalizacijo
predsednik: prof. dr. Iztok Grabnar, mag. farm.

Komisija fakultete za etična vprašanja
predsednica: asist. dr. Alenka Šmid, mag. farm.

Personnel Department:
Head: Zdenka Gantar, snr. admist. work.

Student Affairs Office:
Head: Tanja Kadunc, BSc (Tourism)

Research Office:
Head: Judita Merjasec, M.Sc. (Administrative Sciences)

Library:
Head: Borut Toth, Prof. Phil. and Soc.

IT Service
Head: Tanja Gregorič, BSc (Organisational Informatics)

Sport Education
Dušan Videmšek, Sport Education Professor

SENATE COMMITTEES

Study Affairs Committee
Chair: Prof. Dr. Marko Anderluh, M. Pharm., PhD

Doctoral Study Committee
Chair: Assoc. Prof. Dr. Rok Dreu, M. Pharm., PhD

Research and Development Committee
Chair: Assoc. Prof. Dr. Rok Dreu, M. Pharm., PhD

Commission Committee
Chair: Prof. Dr. Marija Bogataj, M. Pharm., PhD

Awards and Decorations Committee
Chair: Prof. Dr. Odon Planinšek, M. Pharm., PhD

Recognition of Foreign Education Committee
Chair: Prof. Dr. Marko Anderluh, M. Pharm., PhD

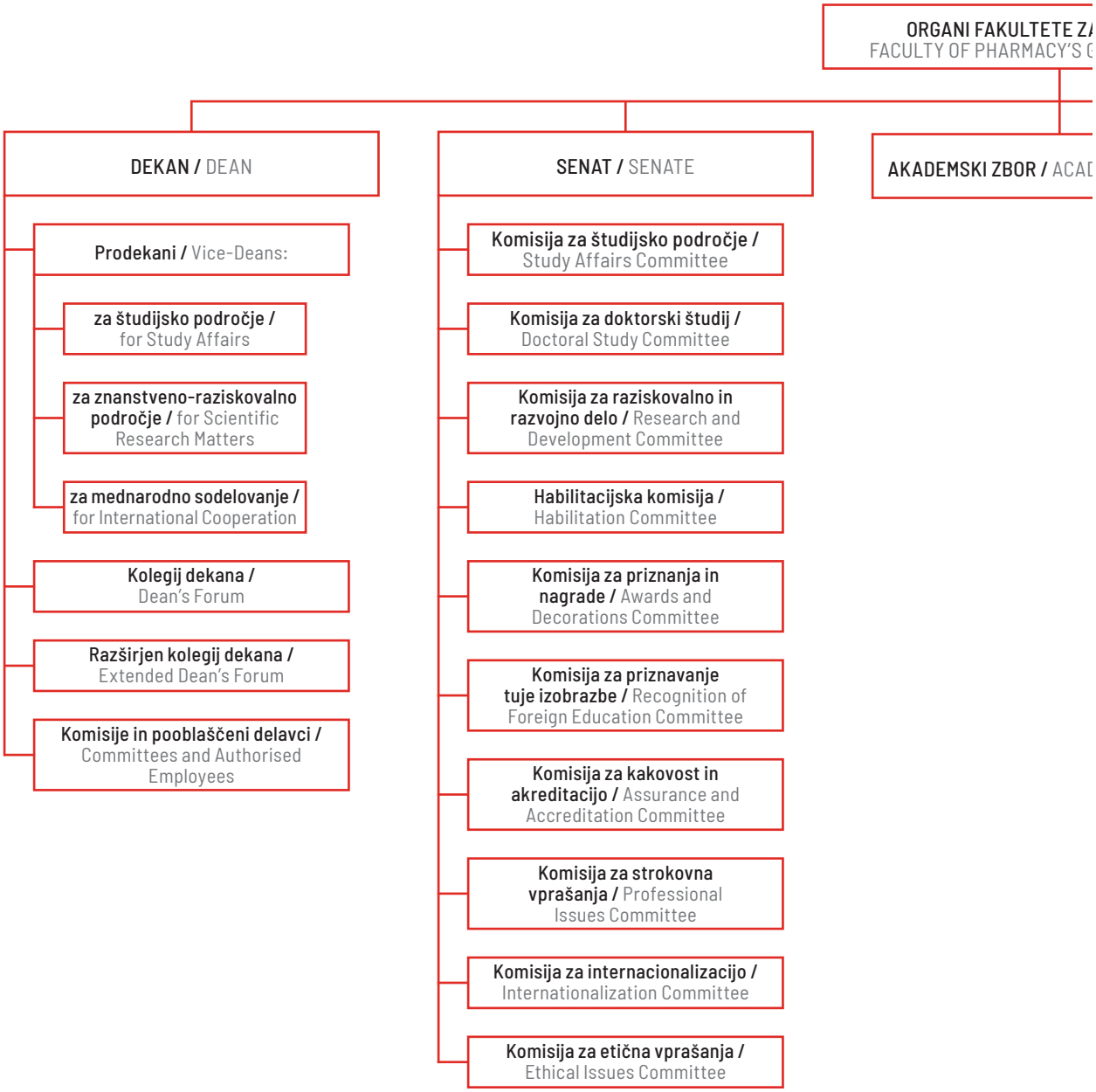
Quality Assurance and Accreditation Committee
Chair: Assoc. Prof. Dr. Bojan Doljak, M. Pharm., PhD

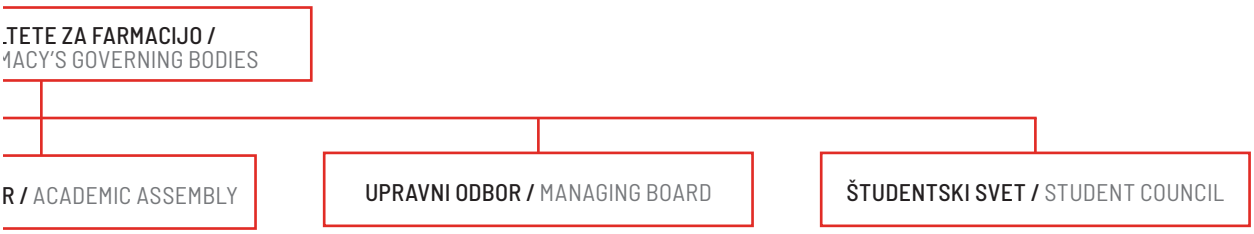
Professional Issues Committee
Chair: Prof. Dr. Mirjana Gašperlin, M. Pharm., PhD

Internationalization Committee
Chair: Prof. Dr. Iztok Grabnar, M. Pharm., PhD

Ethical Affairs Committee
Chair: Assist. Dr. Alenka Šmid, M. Pharm., PhD

ORGANI UL FFA / FACULTY OF PHARMACY'S GOVERNING BODIES

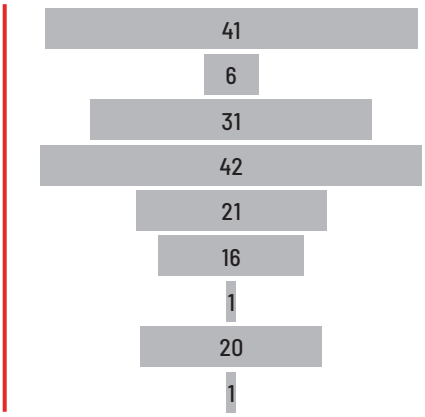



.TETE ZA FARMACIJO /
MACY'S GOVERNING BODIES
R / ACADEMIC ASSEMBLY
UPRAVNI ODBOR / MANAGING BOARD
ŠTUDENTSKI SVET / STUDENT COUNCIL

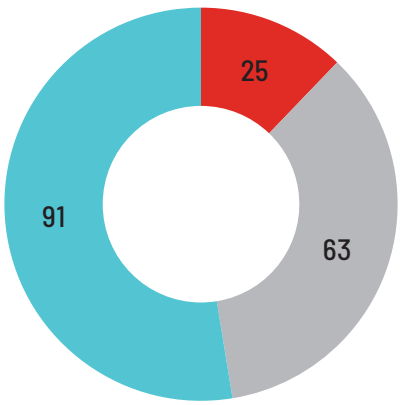
ZAPOSLENI / EMPLOYEES

ZAPOSLENI NA FAKULTETI ZA FARMACIJO / FACULTY OF PHARMACY'S EMPLOYEES

na dan 31. 12. 2020/on 31/12/2020



IZOBRAZBENA STRUKTURA ZAPOSLENIH NA UL FFA
EDUCATIONAL STRUCTURE OF THE EMPLOYEES IN THE FACULTY OF PHARMACY



doktorat / doctorate

VIII. stopnja izobrazbe (2. bolonjska stopnja oz. prejšnja univerzitetna) /
8th level of education (2nd Bologna cycle; previously University degree)

ostali / other

PREDSTAVITEV KATEDER

Katedre so jedro pedagoškega in strokovnega dela fakultete. Obenem predstavljajo stičišče znanstveno-raziskovalnega dela. Raziskovalno delo članov kateder poteka na povezovanju elementov raziskovalnega dela, ki se odvija v okviru vseh kateder in med raziskovalnimi ter programskimi skupinami. Raziskovalci izvajajo raziskave, svetovanja in izobraževanja ter usposabljanja za najpomembnejše slovenske inštitucije. Slednje oblike delovanja so vezane na potrebe in možnosti po pridobivanju sredstev za raziskovalno delo na razpisih ter na zahteve po povezovanju v interdisciplinarne skupine glede na vsebino posameznega raziskovalnega vprašanja.

PRESENTATION OF DEPARTMENTS

The departments are the core of the faculty's teaching, research, developmental and professional work. They are also connecting elements for research work taking place through the departments, as well as through research and program groups. These groups are not organizational units of the faculty per se, but are linked to the needs and abilities to acquire funds for research work in public tenders; they are also linked to demands to connect into interdisciplinary groups depending on the content of an individual research issue.

Gradimo pripadnost/Team building event

KATEDRA ZA KLINIČNO BIOKEMIJO
DEPARTMENT OF CLINICAL BIOCHEMISTRY

Člani Katedre v letu 2019/ Members of the chair in 2019

- prof. dr. Borut Božič, prof. dr. Darko Černe, prof. dr. Janja Marc, prof. dr. Irena Mlinarič-Raščan, prof. dr. Joško Osredkar
- izr. prof. dr. Matjaž Jeras, izr. prof. dr. Barbara Ostanek, izr. prof. dr. Helena Podgornik, izr. prof. dr. Urban Švajger
- asist. doc. dr. Martina Gobec, doc. dr. Nataša Karas Kuželički, doc. dr. Nika Marija Lovšin, doc. dr. Alenka Šmid, doc. dr. Janja Zupan, doc. dr. Mojca Božič Mijovski
- asist. Damjan Avsec, Manja Cedilnik, asist. Klemen Čamernik, Petra Ferkov, Matej Godec, Simona Gričar, asist. dr. Jasna Lojk, asist. dr. Tijana Markovič, asist. Sanja Nabergoj, asist. dr. Jasna Omersel, asist. dr. Irena Prodan Žitnik, Majda Sirnik, asist. dr. Dunja Urbančič, Lucija Ana Vrščaj, Taja Zore

Na Katedri za klinično biokemijo razvijamo področje laboratorijske medicine, zlasti tisti del, ki obsega klinično biokemijo. Klinična biokemija uporablja kemijske, molekulske in celične pristope za razumevanje in ovrednotenje človekovega zdravja in bolezni. Še posebej intenzivno se ukvarjamo s področji hematologije, (farmako)genetike in imunologije, ki jih samostojno in v sodelovanju s kliniki tudi znanstveno razvijamo. Poleg vsebin klinične biokemije se ukvarjamo tudi z drugimi področji laboratorijske medicine, kot so toksikologija, matične celice in tkivno inženirstvo. Na Katedri iščemo biološke kazalce etiopatogeneze kompleksnih bolezni (osteoporoza, metabolni sindrom, kronična limfocitna levkemija, prirojene srčne napake, orofacialne shize, ateroskleroza, avtoimunske bolezni) na genomskem, epigenetskem, transkriptomskem, proteomskem in metabolomskem nivoju. Intenzivno se ukvarjamo tudi s sodobnimi personaliziranimi pristopi v medicini, ki vključujejo tudi diagnostiko (farmakogenomika, nutrigenomika, TDM). Katedra za klinično biokemijo je začetnica razvoja področja farmakogenomike na UL FFA, predvsem na področju onkologije. Nedavno smo začeli razvijati področje dela z matičnimi celicami, kjer intenzivno sodelujemo s kliniki na področju regenerativne medicine sklepov.

Na vseh opisanih področjih Katedre intenzivno sodelujemo s stroko, posledica tega pa je visoka stopnja prenosljivosti naših raziskovalnih rezultatov v klinično prakso. V okviru Katedre deluje tudi medicinski laboratorij z dovoljenjem za delo Ministrstva za zdravje RS (Laboratorij za molekularno diagnostiko LMD), ki je odličen primer prenosa znanstvenih dognanj v klinično prakso in se edini v Sloveniji ukvarja s farmakogenetiko in TDM tiopurinskih zdravil.

At the Department of Clinical Biochemistry, the main focus is on developing laboratory medicine, with emphasis on clinical biochemistry. Clinical biochemistry utilizes chemical, molecular and cellular approaches to investigate and explain mechanisms of human health and illness. The members of the department are intensely involved in hematology, (pharmaco)genetics and immunology, which are being developed through independent research and in cooperation with clinicians. Alongside clinical biochemistry they also work on the emerging fields of laboratory medicine such as toxicology, stem cell research and tissue engineering. One of the research interests of the department is identifying biomarkers for complex human traits and diseases such as osteoporosis, metabolic syndrome, chronic lymphocytic leukaemia, congenital heart defects, orofacial clefts, atherosclerosis and autoimmune diseases at the genomic, epigenetic, transcriptomic, proteomic and metabolomic levels. In addition to that the department intensively deals with modern personalized approaches in medicine, which also include diagnostics (pharmacogenomics, nutrigenomics and TDM). The Department of Clinical Biochemistry is a pioneer at the Faculty of Pharmacy in developing pharmacogenomics, especially in oncology. It has recently started developing stem cell research, where there is intensive cooperation with clinicians in joint regenerative medicine.

In all of these fields the department cooperates with professional societies, resulting in a high degree of transferability of its research findings into clinical practice. The Laboratory for Molecular Diagnostics (LMD), which is licensed by the Slovenian Ministry of Health, is also an important part of the department and it is a great example of the transfer of research into clinic. It is also the only establishment in Slovenia working on the pharmacogenomics and TDM of thiopurine drugs.

KLJUČNI DOSEŽKI V LETU 2019

V sklopu mednarodnega sodelovanja smo objavili številne pomembne članke v revijah z visokim faktorjem vpliva. Raziskovalna skupina pod vodstvom prof. dr. Janje Marc je sodelovala pri prvi študiji, ki na molekularnem nivoju razloži razliko v kakovosti kosti med spoloma (Kodrič K. [et al.] Exp Mol Med. 2019 Aug 14;51(8):1-16). Omenjeni članek je prejel tudi Dekanovo nagrado 2019. Raziskovala skupina prof. dr. Irene Mlinarič-Raščan pa je naredila pomemben prispevek k odkritju endogenega substrata encima tiopurin-S metiltransferaze (TPMT) (Urbančič D. ... [et al.], Biochimica et biophysica acta (G). 2019, 1863 (1): 182–190.) ter prispevala k novim odkritjem na področju nutrigenomike folatov (Vidmar M. ... [et al.], Archives of toxicology. Feb. 2019, 93(2): 227-251).

V letu 2019 smo pridobili kar tri nove ARRS projekte:

- J3-1745 - Vloga imunoproteasoma v oblikovanju imunskega odziva posredovanega s trombociti (doc. dr. Martina Gobec)
- J3-1759 - Celostna karakterizacija zadetkov analiz GWAS - pot do novih terapevtskih tarč za anabolno zdravljenje osteoporoze (GWASforAna) (prof. dr. Janja Marc)
- J3-1749 - Mezenhimske matične celice - nosilci endogene regenerativne sposobnosti tkiv v boju proti staranju mišično-skeletnega sistema (doc. dr. Janja Zupan)

Prof. dr. Janja Marc in asist. dr. Irena Prodan Žitnik sta organizirali CEEPUS poletno šolo v sklopu mreže mobilnosti SI-0611: Novel diagnostic and therapeutic approaches to complex genetic disorders. Katedra je sodelovala pri izvedbi Noči raziskovalcev in Prve poletne šole za dijake, ki poteka pod okriljem Kariernega centra Univerze v Ljubljani.

Člani Katedre smo bili aktivni tudi na področju izboljšav pedagoškega procesa. V letu 2019 smo bili avtorji pri dveh znanstvenih člankih s področja visokošolskega izobraževanja: Karas Kuželički N. ... [et al.], Pharmacogenomics, 2019, 20(9): 643-657 in Božič B. ... [et al.], A Journal of Pharmacy Education and Practice, 2019, 7(1): 1-12.

KEY ACHIEVEMENTS IN 2019

As part of international cooperation, the department's members have published several articles in high-impact-factor journals. A research group led by Prof. Dr. Janja Marc took part in the first study deciphering the mechanisms of the differences in the bone quality between genders (Kodrič K. ... [et al.] Exp Mol Med. 2019 Aug 14; 51(8):1-16). A research group led by Prof. Dr. Irena Mlinarič-Raščan made an important contribution toward identifying the endogenous substrate of thiopurine-S methyltransferase (TPMT) (Urbančič D. ... [et al.], Biochimica et biophysica acta (G). 2019, 1863 (1): 182–190.) and also contributed to the knowledge in the field of nutrigenomics (Vidmar M. ... [et al.], Archives of toxicology. Feb. 2019, 93(2): 227-251).

In 2019 the department won three new Slovenian Research Agency (ARRS) grants:

- J3-1745 - Elucidating the role of immunoproteasome in platelet-driven immune response (Assist. Prof. Dr. Martina Gobec)
- J3-1759 - Comprehensive characterization of GWAS hits – pipeline to novel drug targets for anabolic treatment of osteoporosis (GWASforAna) (Prof. Dr. Janja Marc)
- J3-1749 - Mesenchymal stem cells-the keepers of tissue endogenous regenerative capacity facing up to aging of the musculoskeletal system (Assist. Prof. Dr. Janja Zupan).

Prof. Dr. Janja Marc and Assist. Dr. Irena Prodan Žitnik organized the CEEPUS summer school as part of the SI-0611 mobility network: Novel Diagnostic and Therapeutic Approaches to Complex Genetic Disorders. The members of the department participated in the organization of events, the European researcher`s night and First summer school for high school students, running within the Career centre of the University of Ljubljana.

Members of the department were also active in the field of the innovative teaching approaches. In 2019 we authored two research papers in university education: Karas Kuželički N. ... [et al.], Pharmacogenomics, 2019, 20, 9, 643-657 and Božič B. ... [et al.], A Journal of Pharmacy Education and Practice, 2019, 7, 1, 1-12.

KATEDRA ZA FARMACEVTSKO BIOLOGIJO
DEPARTMENT OF PHARMACEUTICAL BIOLOGY

Člani Katedre v letu 2019/ Members of the chair in 2019

- prof. dr. Janko Kos, prof. dr. Samo Kreft, prof. dr. Borut Štrukelj
- izr. prof. dr. Tomaž Bratkovič, izr. prof. dr. Bojan Doljak, izr. prof. dr. Nina Kočevar Glavač, izr. prof. dr. Mojca Lunder
- doc. dr. Peter Molek, doc. dr. Urša Pečar Fonović, doc. dr. Anja Pišlar
- Krištof Bozovičar, asist. Tanja Jakoš, asist. dr. Meta Kokalj Ladan, asist. dr. Nika Kruljec, Irena Klančnik Mavec, Mateja Matjaž, asist. Nina Poljšak, Maša Močnik Roner, asist. dr. Matjaž Ravnikar, Abida Zahirović

Na Katedri za farmacevtsko biologijo organiziramo in izvajamo pedagoški proces na vseh študijskih programih UL FFA. Znanstveno-raziskovalno, pedagoško in strokovno delujemo na področjih farmakognozije in fitokemije, celične in molekularne biologije, biokemije, farmacevtske biotehnologije in sorodnih ved. Odkrivamo, razvijamo in vrednotimo zdravila naravnega izvora (tj. rastlinske in glivne sekundarne metabolite ter biotehnološke učinkovine) ter raziskujemo molekularne mehanizme bolezenskih procesov. Na področju celične in molekularne biologije raziskujemo mehanizme nastanka in napredovanja raka, protitumorskega imunskega odziva in nevrodegenerativnih ter nevroloških bolezni s ciljem opredeliti nova terapevtska prijemališča in diagnostične označevalce. Ukvarjamo se z izražanjem (gliko)proteinskih učinkovin, pridobljenih s tehnikami genskega inženirstva, in vrednotenjem njihovih fizikalno-kemijskih in bioloških lastnosti. S pomočjo bioloških kombinatoričnih knjižnic odkrivamo nove biološko aktivne peptide (zaviralce terapevtsko pomembnih encimov, ligande za afinitetno kromatografijo in peptide, ki posnemajo strukturo alergenov za imunoterapijo). Na področjih farmakognozije in fitokemije razvijamo analizne metode za preverjanje istovetnosti in vrednotenje kakovosti zdravilnih rastlin. Iz gliv in rastlin (tradicionalno uporabljanih za zdravljenje bolezni ali takih, ki jih še ne uporabljamo v zdravilne namene) izoliramo biološko aktivne snovi in vrednotimo njihovo delovanje.

At the Department of Pharmaceutical Biology, we organize and carry out pedagogical activities with all study-programs of the Faculty of Pharmacy, University of Ljubljana. Our research, pedagogical and professional activities encompass the fields of pharmacognosy and phytochemistry, cell and molecular biology, biochemistry, pharmaceutical biotechnology and related sciences. We discover, develop and analyse medicines of natural origin (i.e., plant and fungal secondary metabolites and biotechnological active substances) and explore pathophysiological processes at the molecular level. In the field of cell and molecular biology, we explore the onset and progression mechanisms of cancer, anti-tumor immune response and neurodegenerative and neurological diseases, with the aim of defining new therapeutic molecular targets and diagnostic markers. We clone and express recombinant (glyco)proteins and analyse their physicochemical and biological properties. Using biological combinatorial libraries, we screen for novel biologically active peptides (such as inhibitors of therapeutically important enzymes, ligands for affinity chromatography and peptides that mimic the structures of allergens for immunotherapy). In the fields of pharmacognosy and phytochemistry we develop analytical methods to examine the identity and to assess the quality of medicinal plants. We isolate biologically active substances from fungi and plants (that are either traditionally used to treat illnesses or have not yet been used for such purposes), and analyse their activities.

KLJUČNI DOSEŽKI V LETU 2019

Med raziskovalnimi dosežki Katedre za farmacevtsko biologijo v letu 2019 velja izpostaviti znanstveni članek, objavljen v eni od najpomembnejših imunoloških revij: Zahirović A. ... [et al.]: Identification of bee venom Api m 1 IgE epitopes and characterization of corresponding mimotopes.- The journal of allergy and clinical immunology, 2019, 143, 2, str. 791-794.e5.

Omenjeni članek je prejel tudi Dekanovo nagrado 2019. V njem smo poročali o strukturi antigenskih determinant poglavitnega alergena čebeljega strupa Api m 1, ki jih prepoznavajo imunoglobulini E in pripadajočih peptidnih mimetikov epitopov. Peptidni mimetiki epitopov Api m 1 so izjemno obetavno izhodišče za načrtovanje usmerjene in varne imunoterapije alergijskih bolezni. Dosežek skupine, ki jo poleg članov Katedre za farmacevtsko biologijo tvorijo še raziskovalci iz Univerzitetne klinike za pljučne bolezni in alergijo Golnik, sta prepoznali tako Univerza v Ljubljani (uvrstila ga je med najodličnejše raziskovalne dosežke Univerze v Ljubljani v letu 2019) kot Javna agencija za raziskovalno dejavnost Republike Slovenije (uvrstila ga je med

najboljše raziskovalne dosežke v letu 2019 v okviru dogodka in publikacije Odlični v znanosti 2019). Skupina pod vodstvom izr. prof. dr. Mojce Lunder je pripravila tudi odmeven pregledni znanstveni članek na temo imunoterapij alergij na čebelji strup: Zahirović A. ... [et al.]: Bee venom immunotherapy: current status and future directions, objavljen junija 2019 v eminentni reviji Clinical reviews in allergy & immunology.

V letu 2019 smo pridobili projekt ARRS: J4-1776 - Izboljšanje imunoterapevtske vrednosti NK celic z modulacijo cistatina F (prof. dr. Janko Kos).

Asist. dr. Nika Kruljec je za doktorsko disertacijo z naslovom Načrtovanje in razvoj peptidnih ligandov za afinitetno čiščenje protiteles (mentor izr. prof. dr. Tomaž Bratkovič) na razpisu za 49. Krkine nagrade prejela Veliko Krkino nagrado za raziskovalno nalogo.

Mateja Prunk je zagovarjala doktorsko disertacijo z naslovom Vloga cistatina F in cisteinskih katepsinov pri delovanju citotoksičnih limfocitov T (mentor prof. dr. Janko Kos) v kateri je preučila, ali je uravnavanje s cistatinom F posredovane citotoksičnosti splošen mehanizem, ki je značilen za imunske celice oz. ali je celično specifičen.

KEY ACHIEVEMENTS IN 2019

Among the numerous research achievements of the Department of Pharmaceutical Biology in 2019, one stands out as it was published in an eminent immunology journal, Zahirović A. ... [et al.]: Identification of bee venom Api m 1 IgE epitopes and characterization of corresponding mimotopes. The journal of allergy and clinical immunology, 2019, 143, 2, pp. 791-794. e5.). In a paper that was rewarded the 2019 Dean's award, we report on the identification of the major bee venom allergen Api m 1 antigenic determinants recognized by class E immunoglobulins, and cognate epitope mimetics (mimotopes). Api m 1 mimotopes represent promising new candidates for the development of more precise and safer allergen immunotherapy. The achievement of the group, which in addition to the members of the Department of Pharmaceutical Biology also includes researchers from the University Clinic of Respiratory and Allergic Diseases Golnik, was recognized by both, the University of Ljubljana (the paper was selected among the top most outstanding achievements of UL in 2019) and the Slovenian Research Agency (the work was chosen as one of the most important publications in 2019 and presented in the Excellent in Science event). In addition, the group led by Assoc. Prof. Dr. Mojca Lunder prepared a review paper on the topic of immunotherapies for bee venom allergies that was published in high-ranking journal: Zahirović A. ... [et al.]: Bee venom immunotherapy: current status and future directions. Clinical reviews in allergy & immunology, 2019, 58, 3, p.p. 326-341.

In 2019, Prof. Dr. Janko Kos, received a grant from the Slovenian Research Agency (J4-1776, Improvement of immunotherapeutic potential of NK cells through modulation of cystatin F).

Assist. Dr. Nika Kruljec won the Krka Grand Prize for her doctoral thesis entitled Design and development of peptide ligands for antibody affinity purification (mentor: Assoc. Prof. Dr. Tomaž Bratkovič) at the 49th Annual Krka Prizes tender.

Mateja Prunk successfully defended her PhD thesis entitled Role of cystatin F and cysteine cathepsins in the function of cytotoxic T lymphocytes, in which she analyzed whether cystatin F-regulated cytotoxicity is a general mechanism operating in immune cells or whether it is cell-specific.

KATEDRA ZA FARMACEVTSKO KEMIJO
DEPARTMENT OF PHARMACEUTICAL CHEMISTRY

Člani Katedre v letu 2019/ Members of the chair in 2019

- prof. dr. Marko Anderluh, prof. dr. Stanislav Gobec, prof. dr. Danijel Kikelj, prof. dr. Aleš Obreza, prof. dr. Lucija Peterlin Mašič, prof. dr. Marija Sollner Dolenc, prof. dr. Zdenko Časar, prof. dr. Uroš Urleb
- izr. prof. dr. Janez Ilaš, izr. prof. dr. Žiga Jakopin, izr. prof. dr. Janez Mravljak, izr. prof. dr. Anamarija Zega, izr. prof. dr. Matej Sova
- doc. dr. Darja Gramec Skledar, doc. dr. Rok Frlan, doc. dr. Martina Hrast, doc. dr. Stane Pajk, doc. dr. Izidor Sosič, doc. dr. Nace Zidar
- asist. dr. Aljoša Bolje, asist. Aleša Bricelj, Sandra Cetin, asist. Martina Durcik, asist. dr. Andrej Emanuel Cotman, Federica Fulgheri, Katarina Grabrijan, Špela Gubič, asist. dr. Urban Košak, asist. dr. Damijan Knez, asist. dr. Eva Krajnc, asist. dr. Štefan Možina, asist. Samo Guzelj, Katarina Hočevar, Luka Hiti, asist. Maša Kenda, Maria Elena Loi, asist. Andraž Lamut, Anže Meden, asist. dr. Eva Ogorevc, Katja Perc, asist. Matic Proj, asist. Eva Shannon Schiffrer, Daniela Secci, asist. Žiga Skok, Nika Strašek, Maša Sterle, asist. Andrej Šterman, Martina Tekavec, asist. Žan Toplak, Sjors Van Klaveren, asist. Matjaž Weiss, dr. Petra Zadravec, Živa Zajec, Damijana Zalar, Taja Zore

Na Katedri za farmacevtsko kemijo organiziramo in opravljamo pedagoško, znanstveno-raziskovalno in strokovno delo na širšem področju farmacevtske kemije, farmacevtske analize in toksikologije. Izvajamo raziskave načrtovanja, sinteze in biološkega vrednotenja spojin kot potencialnih novih učinkovin ter razvoj novih molekulskih orodij za proučevanje interakcij z biološkimi makromolekulami. Glavni raziskovalni poudarki so na razvoju novih učinkovin za naslednje tarče: encimi, ki so udeleženi v sintezi bakterijske stene, encimi, udeleženi v biosintezi mikolnih kislin mikobakterij, encimi, ki so pomembni pri nastanku nevrodegenerativnih obolenj, natrijevi in kalijevi kanali, proteini toplotnega šoka (Hsp90), Toll-u podobni receptorji (TLR), NOD receptorji, lektini (galektini, Siglec, DC-SIGN in FimH), imunoproteasom in tarče v procesu koagulacije krvi. Razvijamo nove sintezne poti, nove separacijske in analizne metode za karakterizacijo spojin, nove metode za biološko karakterizacijo sintetiziranih spojin, nove antioksidante, nove stabilne nitroksidne ter fluorescenčne označevalce. Glavnina raziskav poteka na Katedri v okviru programske skupine Farmacevtska kemija: načrtovanje, sinteza in vrednotenje učinkovin (2015–2020), del pa v povezavi z Medicinsko fakulteto, Veterinarsko fakulteto, Kemijskim inštitutom in Inštitutom »Jožef Stefan« ter v okviru domačih in mednarodnih projektov.

Člani Katedre za farmacevtsko kemijo smo bili udeleženi pri organizaciji Mednarodne poletne šole v okviru COST akcije CM1406 Epichembio, Epigenetics, Chemical Biology, ki je potekala od 17.- 19. 3. 2019 v Ljubljani. Pod okriljem Slovenskega toksikološkega društva pa smo januarja 2019 soorganizirali 4. kongres Slovenskega toksikološkega društva. V septembru 2019 smo nato izvedli še tradicionalno srečanje slovenskih farmacevtskih kemikov. Člani naše Katedre so sicer izvedli tudi številna vabljena predavanja na mednarodnih kongresih: Obreza [et al.] - 8th BBBB International Conference on Pharmaceutical Sciences (Izmir, Turčija), Gobec [et al.] - 18th Blue Danube Symposium on Heterocyclic Chemistry (Ljubljana, Slovenija), Peterlin Mašič L. - mednarodna šola COST

The Department of Pharmaceutical Chemistry organises and performs pedagogical, scientific research and professional work in the wider field of pharmaceutical chemistry, pharmaceutical analysis and toxicology. At the Department, we perform various types of research for design, syntheses and biological evaluation of new compounds to be used as potential new active ingredients and develop new molecular tools to study interactions with biological macromolecules. The main research focus is on the development of new drug candidates targeting enzymes involved in bacterial cell wall synthesis, enzymes involved in the biosynthesis of mycolic acids in mycobacteria, enzymes that are important for development of neurodegenerative diseases, sodium and potassium ion channels, heat-shock proteins (Hsp90), Toll-like receptors (TLR), NOD receptors, lectins (galectins, Siglecs, DC-SIGN and FimH), immunoproteasome and enzymes involved in the process of blood coagulation. We develop new synthetic methods, new separation methods and analytical methods for the characterisation of compounds, new methods for biological evaluation of synthesised compounds, new antioxidants and new stable nitroxide and fluorescent markers. The majority of research takes place at the Department, while the rest is carried out in cooperation with the Faculty of Medicine, Faculty of Veterinary Medicine, National Institute of Chemistry and Jožef Stefan Institute. Our research is mostly funded by the Slovenian Research Agency (Medicinal chemistry - drug design, synthesis and evaluation) program group 2015-2020 and by various other national and international projects.

Members of the Department of Pharmaceutical Chemistry participated in the organization of the International Summer School under the auspices of COST action CM1406 Epichembio, Epigenetics, Chemical Biology, which took place from the 17th till the 19th of March 2019 in Ljubljana. In January 2019 we co-organized the 4th Congress of the Slovenian Toxicological Society, while in September 2019 we held a traditional meeting of the Slovenian pharmaceutical chemists. The members of our department have also delivered many invited lectures at international

akcije CM1406 (Ljubljana, Slovenija); Kenda [et al.] - 9th Meeting of the Immunotoxicology and Chemical Allergy Speciality Section (Milano, Italija); Ilaš J. - 11th Joint Meeting on Medicinal Chemistry (Praga, Češka); Jakopin [et al.] - 1st Peptide Chemistry Day Symposium (Zagreb, Hrvaška).

conferences: Obreza [et al.] - 8th BBBB International Conference on Pharmaceutical Sciences (Izmir, Turkey), Gobec [et al.] - 18th Blue Danube Symposium on Heterocyclic Chemistry (Ljubljana, Slovenia), Peterlin Mašič L. - International Summer School of COST action CM1406 (Ljubljana, Slovenia); Kenda [et al.] - 9th Meeting of the Immunotoxicology and Chemical Allergy Specialty Section (Milan, Italy); Ilaš J. - 11th Joint Meeting on Medicinal Chemistry (Prague, Czech Republic); Jakopin [et al.] - 1st Peptide Chemistry Day Symposium (Zagreb, Croatia).

KLJUČNI DOSEŽKI V LETU 2019

Med raziskovalnimi dosežki je treba izpostaviti prebojne in odmevne objave na področju farmacevtske kemije (Šterman, A. ... [et al.], Organic Chemistry Frontiers 2019, 6, 2991-2998; Meden, A. ... [et al.], Chemical Communications 2019, 55, 3765-3768; Nabergoj, S. ... [et al.], Medicinal Research Reviews 2019, 39, 1447-1484; Lamut, A. ... [et al.], Medicinal Research Reviews 2019, 39, 2460-2504; Tomović, K. ... [et al.], Medicinal Research Reviews 2019, 39, 404-422; Anderluh et al., Pharmacology & Therapeutics 2019, 201, 1-7; Benedetto Tiz, D. ... [et al.], European Journal of Medicinal Chemistry 2019, 167, 269-290; Dolšak, A. ... [et al.] , European Journal of Medicinal Chemistry 2019, 179, 109-122) in toksikologije (Gramec Skledar, D. ... [et al.], Chemosphere 2019, 215, 870-880). Člani Katedre za farmacevtsko kemijo so prejeli tudi dva mednarodna patenta (Zupet, R. ... [et al.], WO2011012322A3 in Tomašič, T. ... [et al.] PCT/EP2019/073412, 2019). Med prejetimi nagradami velja izpostaviti nagrado Kongresni ambasador 2019 (M. Anderluh), Minařikovo priznanje Slovenskega farmacevtskega društva (L. Peterlin Mašič), Odlični v znanosti 2018 (Jakopin, Ž. ... [et al.] in drugo mesto na Rektorjevih nagradah za naj inovacijo UL 2019 (Durcik, M. ... [et al.]). V letu 2019 so člani Katedre za farmacevtsko kemijo pridobili štiri projekte, financirane s strani ARRS (J1-1717, N1-0098, Z1-1859, V1-1914) in dva projekta iz Javnega razpisa za spodbujanje raziskovalcev na začetku kariere 2.1, ki jih financira MIZŠ.

KEY ACHIEVEMENTS IN 2019

Among the research achievements the following important publications in the field of medicinal chemistry (Šterman [et al.], Organic Chemistry Frontiers 2019, 6, 2991-2998; Meden [et al.], Chemical Communications 2019, 55, 3765-3768; Nabergoj [et al.], Medicinal Research Reviews 2019, 39, 1447-1484; Lamut [et al.], Medicinal Research Reviews 2019, 39, 2460-2504; Tomović [et al.],-Medicinal Research Reviews 2019, 39, 404-422; Anderluh et al., Pharmacology & Therapeutics 2019, 201, 1-7; Benedetto Tiz [et al.], European Journal of Medicinal Chemistry 2019, 167, 269-290; Dolšak [et al.], European Journal of Medicinal Chemistry 2019, 179, 109-122) and toxicology (Gramec [et al.], Chemosphere 2019, 215, 870-880) should be highlighted. The members of the Department of Pharmaceutical Chemistry also received two granted international patents (Zupet [et al.], WO2011012322A3 and Tomašič [et al.], PCT/EP2019/073412, 2019). Among the awards received are the Congress Ambassador Award 2019 (M. Anderluh), the Minařik Award of the Slovenian Pharmaceutical Society (L. Peterlin Mašič), Excellence in Science 2018 (Žiga Jakopin ... [et al.]) and the second place in the Rector's Awards for the Best Innovation UL 2019 (M. Durcik ... [et al.]). In 2019, the members of the Department of Pharmaceutical Chemistry acquired four grants funded by the ARRS (J1-1717, N1-0098, Z1-1859, V1-1914) and two grants from Call for proposals to support early career researchers 2.1, funded by the Ministry of Education, Science and Sport.

KATEDRA ZA FARMACEVTSKO TEHNOLOGIJO
DEPARTMENT OF PHARMACEUTICAL TECHNOLOGY

Člani Katedre v letu 2019/ Members of the chair in 2019

- prof. dr. Mirjana Gašperlin, prof. dr. Julijana Kristl, prof. dr. Odon Planinšek, prof. dr. Stanko Srčič, prof. dr. Janez Kerč, prof. dr. Franc Vrečer
- izr. prof. dr. Rok Dreu, izr. prof. dr. Petra Kocbek, izr. prof. dr. Pegi Ahlin Grabnar
- doc. dr. Ilija German Ilić, doc. dr. Mirjam Gosenca Matjaž, doc. dr. Alenka Zvonar Pobirk, doc. dr. Špela Zupančič, doc. dr. Biljana Janković
- asist. Maja Bjelošević, asist. dr. Katarina Bolko Seljak, Črt Dragar, Valerija Garb, asist. Blaž Grilc, Tatjana Hrovatič, Mojca Keržan, asist. dr. Zoran Lavrič, asist. Janja Mirtič, asist. Mitja Pohlen, asist. Tanja Potrč, asist. dr. Barbara Sterle Zorec, asist. Mercedes Vitek, asist. Anže Zidar

Na Katedri za Farmacevtsko tehnologijo pokrivamo področja farmacevtske tehnologije, nanotehnologije, industrijske farmacije, farmacevtskega inženirstva, kozmetologije, fizikalne farmacije in farmacevtsko tehnološke analitike. Usmerjeni smo v razvoj, izdelavo in vrednotenje tako klasičnih farmacevtskih oblik kot naprednih dostavnih sistemov za humana in veterinarska zdravila ter kozmetičnih izdelkov. Uspešno sledimo sodobnim trendom razvoja inovativnih dostavnih sistemov, kot so nanodostavni sistemi, bolnikom prijazne oblike, farmacevtske oblike za biofarmacevtike in teranostike, oblike z nadzorovanim sproščanjem ter pristopi za povečanje topnosti. V laboratorijih Katedre razvijamo specifične tehnologije za izdelavo zdravil z vgrajeno kakovostjo kot so: vrtinčnoslojne tehnologije, visokostrižno granuliranje, granuliranje s talinami, oblaganje, večplastno tabletiranje, sušenje/strjevanje z razprševanjem, visokotlačna in ultrazvočna homogenizacija, liofilizacija, mikroenkapsuliranje, elektrostatsko sukanje in razprševanje, idr. Uporabljamo najsodobnejše tehnološko analitske tehnike za karakterizacijo pomožnih snovi in končnih oblik, varnost in toksičnost nanozdravil. Vse bolj vključujemo zanesljive numerične modele za napovedovanje procesov in formulacij s simulacijami. Katedra je vključena v raziskovalni program Farmacevtska tehnologija, uspešno izvaja več interdisciplinarnih raziskovalnih projektov in je aktivna v CEEPUS, PSSRC mreži (Pharmaceutical Solid State Research Cluster) in drugje. Na lokalni ravni izvajamo razvojne projekte z gospodarstvom, sodelujemo pri vseživljenjskem izobraževanju in usposabljanju ter organizaciji domačih in mednarodnih simpozijev s področja farmacevtske tehnologije. Odraz mednarodne znanstvene prepoznavnosti je dejstvo, da smo posamezni učitelji člani uredniških odborov mednarodnih znanstvenih revij, ocenjevalci doktorskih nalog na tujih univerzah, pa tudi recenzenti člankov za znanstvene revije na globalni ravni in drugo.

The Chair of Pharmaceutical Technology covers the areas of Pharmaceutical Technology, Nanotechnology, Industrial Pharmacy, Pharmaceutical Engineering, Cosmetology, Physical Pharmacy and Pharmaceutical Technological Analytics. We are focused on the development, manufacturing and evaluation of both classic pharmaceutical dosage forms and advanced delivery systems for human and veterinary medicines and cosmetic products. We successfully follow current trends in the development of innovative delivery systems, such as nanodelivery systems, patient-friendly formulations, pharmaceutical formulations for biopharmaceuticals and theranostics, controlled release formulations and solubility enhancing approaches. In the department's laboratories we are developing specific technologies for manufacturing medicines with integrated quality, such as fluid bed technology, high-shear granulation, melt granulation, coating, multilayer tabletting, spray drying/congealing, high-pressure and ultrasonic homogenization, lyophilisation, microencapsulation, electrospinning and electrospraying, etc. We use state-of-the-art analytical techniques for the characterization of excipients, final dosage forms and safety of nanomedicines. We are increasingly incorporating reliable numerical models for the prediction of processes and formulations through simulations. The Chair is a part of the Pharmaceutical Technology research program and successfully carries out several interdisciplinary research projects; it is also active in CEEPUS, PSSRC Network (Pharmaceutical Solid State Research Cluster) and elsewhere. Locally, the department carries out development projects with the pharmaceutical industry, participates in lifelong education and training and organizes national and international symposia in the field of pharmaceutical technology. The international scientific recognition is reflected in the fact that individual teachers are members of the editorial boards of international scientific journals, evaluators of doctoral dissertations at foreign universities, as well as reviewers of articles for scientific journals on a global scale and more.

KLJUČNI DOSEŽKI V LETU 2019

Slovenska nacionalna komisija za Unesco in podjetje L'Oréal Adria je na mednarodni dan žensk v okviru programa Za ženske v znanosti 2019 podelila štipendijo naši mladi raziskovalki Janji Mirtič za odlično raziskovalno delo na področju novih naprednih dostavnih sistemov osnovanih na polielektrolitih.

UL FFA je na predlog Katedre za farmacevtsko tehnologijo v okviru Tedna univerze podelila priznanje za življenjsko delo prof. dr. Stanku Srčiču za njegovo dolgoletno, predano in uspešno pedagoško, znanstvenoraziskovalno in strokovno delo.

Raziskave na področju elektrostatskega sukanja in razvoja inovativnih nanovlaken, zbranih pod naslovom "Nanovlakna kot dostavni sistemi učinkovin«, sodijo po izboru ARRS med izjemne znanstvene dosežke v polju farmacija. Raziskovalci skupine prof. dr. Julijane Kristl so razvili platformo za izdelavo nanovlaken iz različnih naravnih in sinteznih polimerov za vgrajevanje zdravilnih učinkovin in probiotikov ter dosegli specifično izboljšanje njihovih biofarmacevtskih lastnosti. Objave so v mednarodnih znanstvenih krogih dobro sprejete in citirane.

Članek objavljen v reviji Journal of Controlled Release z naslovom: Sustained release of antimicrobials from double-layer nanofiber mats for local treatment of periodontal disease, evaluated using a new micro flow-through apparatus, kjer so med avtorji tudi raziskovalke s Katedre za farmacevtsko tehnologijo, Špela Zupančič, Petra Kocbek in Julijana Kristl, je bil objavljen v ugledni mednarodni reviji s faktorjem vpliva 7.7. V članku avtorji poročajo o uspešnem razvoju dvoplastnih nanovlaken s ciprofloksacinom in metronidazolom, katerih sproščanje je trajalo najmanj 1 teden, kar so dokazali s svojo novorazvito pretočno in vitro napravo, ki simulira stanje v obzobnem žepu, idealnem mestu za lokalno zdravljenje parodontalne bolezni.

KEY ACHIEVEMENTS IN 2019

The Slovenian National Commission for UNESCO and L'Oréal Adria awarded scholarships to three promising young researchers on the International Women's Day in the framework of the program called For Women in Science. A young researcher, Janja Mirtič, is also the recipient of the scholarship for research work on novel and advanced delivery systems for active pharmaceutical ingredients and probiotic bacteria.

On the proposal of the Department of Pharmaceutical Technology, UL FFA has awarded Lifetime Achievement Award to Prof. Dr. Stanko Srčič for his long, dedicated and successful teaching, scientific research and professional work.

Research in the field of electrospinning process and development of innovative nanofibers collected under the title »Nanofibers as drug delivery systems« was chosen as one of the ARRS outstanding scientific achievements in the field of pharmacy. The researchers of Prof. Dr. Julijana Kristl's group have developed a platform for the production of nanofibers from a variety of natural and synthetic polymers for incorporation of drugs and probiotics, which showed specific improvement of their biopharmaceutical properties. Publications are well received and cited in the international scientific circles.

Article in the Journal of Controlled release entitled: Sustained release of antimicrobials from double-layer nanofiber mats for local treatment of periodontal disease: evaluated using a new micro flow-through method, with participating researchers from the Chair of Pharmaceutical Technology, Špela Zupančič, Petra Kocbek and Julijana Kristl, was published in a reputable international journal with an impact factor of 7.7. In the article authors reported the successful development of the double layer nanofiber mat with ciprofloxacin and metronidazole. Both antimicrobials were released from nanofibers in a prolonged manner over 1 week, which was evaluated in our newly-developed flow-through in vitro apparatus that simulated conditions in a periodontal pocket, the ideal site for local treatment of periodontal disease.

KATEDRA ZA BIOFARMACIJO IN FARMAKOKINETIKO
DEPARTMENT OF BIOPHARMACEUTICS AND PHARMACOKINETICS

Člani Katedre v letu 2019/ Members of the chair in 2019

- prof. dr. Marija Bogataj, prof. dr. Iztok Grabnar, prof. dr. Albin Kristl
- izr. prof. dr. Mojca Kerec Kos, izr. prof. dr. Robert Roškar, izr. prof. Tomaž Vovk, izr. prof. dr. Simon Žakelj
- doc. dr. Jurij Trontelj
- Margareta Cof, Tjaša Felicijan, Andrej Grobin, Mihaela Kolarev, Nevenka Lilik, Nika Osel, Timeja Planinšek Parfant, asist. Katarina Rede, asist. Žane Temova Rakuša, asist. Jurij Zdovc

Na Katedri za biofarmacijo in farmakokinetiko raziskujemo procese, ki potekajo v človeškem telesu po aplikaciji zdravila. Te procese lahko razdelimo na sproščanje zdravilne učinkovine iz farmacevtske oblike, njeno absorpcijo, porazdelitev, metabolizem in izločanje (sistem LADME). Za vrednotenje farmakokinetike spojin razvijamo različne kromatografske metode z UV/Vis, EC, fluorescenčno in MS-MS detekcijo. V okviru predformulacijskih raziskav proučujemo njihove fizikalno-kemijske lastnosti, kot so topnost, hitrost raztapljanja, stabilnost, ionizacija, permeabilnost ter metabolične pretvorbe. Na osnovi teh parametrov in profilov sproščanja in vitro napovedujemo lastnosti farmacevtske oblike in vivo. S tako pridobljenim znanjem razvijamo tudi farmakokinetično-farmakodinamične modele, ki omogočajo napovedovanje kliničnih učinkov zdravil ter iskanje vzrokov za njihovo variabilnost. Ti modeli omogočajo uvedbo individualnega odmerjanja zdravil glede na posameznikove genotipske in fenotipske značilnosti. Raziskave, ki so podprte z vsemi najsodobnejšimi tehnologijami, pripomorejo k učinkovitejšemu in varnejšemu zdravljenju z zdravili. Ker nas zanima tudi nadaljnja usoda zdravilnih učinkovin in njihovih metabolitov, raziskujemo njihovo pojavnosti v okoljskih vzorcih odpadnih, površinskih in pitnih vod s pomočjo zelo občutljivih in selektivnih LC-MS/MS metod.

The Department of Biopharmaceutics and Pharmacokinetics studies the processes taking place within the human body after the application of a medicine. These processes can be divided into the liberation of the active substance from the pharmaceutical form, absorption, distribution, metabolism and excretion (the LADME system). To evaluate the pharmacokinetics of substances, we develop various chromatographic methods using UV/Vis, EC, fluorescent and MS-MS detection. As part of preformulation studies we assess physicochemical properties such as solubility, dissolution rate, stability, ionization, permeability and metabolic conversion. On the basis of these parameters and in vitro release profiles, we can predict the in vivo properties of a pharmaceutical form. The information acquired allows to develop pharmacokinetic and pharmacodynamic models, which enable us to predict the clinical effects of medicines. The consideration of the characteristics of an individual patient's genotype and phenotype allows personalized dosing. Studies that are supported by these kinds of modern technologies contribute to more effective and safer treatment with the medicines. Further fate of active pharmaceutical ingredients and their metabolism is studied by investigating their occurrence in environmental samples of waste, surface water and drinking water using highly sensitive and selective LC-MS/MS methods.

KLJUČNI DOSEŽKI V LETU 2019

Objava člankov v A1 z visokim faktorjem vpliva (IF):

Sibinovska Nadica, Žakelj Simon, Kristan Katja: Suitability of RPMI 2650 cell models for nasal drug permeability prediction.- European Journal of Pharmaceutics and Biopharmaceutics, 2019, 145, str. 85-95. Raziskava permeabilnosti zdravilnih učinkovin skozi dva fiziološka in farmakološka modela celic RPMI 2650 za nosno epitelijsko bariero, ki se razlikujeta glede na način gojenja (air-liquid interphase in liquid-liquid), je pokazala, da je predvsem air-liquid model zelo perspektiven. Raziskava je temeljila na meritvah permeabilnosti 23 modelnih učinkovin in nekaterih označevalcev z ničelno permeabilnostjo. Poleg tega smo ugotovili povezave med permeabilnostjo učinkovin v preiskovanih celičnih modelih in permeabilnostjo v popolnoma diferenciranem nosnem epitelijskem modelu (MucilAir ™) ter v celicah Caco-2 kot tudi v izoliranem jejunumu podgane.

Dall'Acqua Stefano, Grabnar Iztok, Verardo Roberto, Klaric Enio, Marchionni Luigi, Luidy-Imada Eddie, Sut Stefania, Agostinis Chiara, Bulla Roberta, Perissutti Beatrice, Voinovic Dardio: Combined extracts of Echinacea angustifolia DC. and Zingiber officinale Roscoe in softgel capsules: Pharmacokinetics and immunomodulatory effects assessed by gene expression profiling, Phytomedicine, 2019, 65, 153090.

Proučevali smo imunomodulacijsko aktivnost in farmakokinetiko lipofilnih izvlečkov ameriškega slamnika (Echinacea angustifolia DC.) in ingverja (Zingiber officinale Roscoe) oblikovanih v mehke kapsule pri 10 zdravih prostovoljcih. Z LC-MS smo določili plazemski koncentracijski profil dodeka-2E, 4E, 8Z, 10E / Z-tetraenizobutilamida (tetraen), 6-gingerola in 6-šogaola (proste oblike in glukuronida), pregledali celotno inducirano transkripcijsko preoblikovanje v mononuklearnih celicah periferne krvi in opravili celostno funkcijsko analizo genske ekspresije. Vse komponente so se zelo hitro absorbirale. Integrirana analiza podatkov o genski ekspresiji je pokazala imunomodulatorne in protivnetne učinke, podobne učinkom hidrokortizona. Rezultati raziskave pojasnjujejo mehanizme imunomodulatornega in protivnetnega delovanja kombinacije ekstraktov ter potrjujejo njihovo učinkovitost.

Kerec Kos Mojca, Veranič Peter, Erman Andreja: Poly-L-lysine as an effective and safe desquamation inducer of urinary bladder epithelium -Polymers, 2019, 11, 9, str. 1-14.

Inducirano luščenje epitelijskih celic sečnega mehurja (urotelijskih celic) se pogosto uporablja v študijah regeneracije urotelija in pri zdravljenju ponavljajočega se bakterijskega cistitisa. Znano je, da pozitivno nabit polimer hitosan povzroča obsežno luščenje terminalno diferenciranih površinskih urotelijskih celic. Zanimalo nas je, ali ima podobno sposobnost luščenja tudi drugi polikationski polimer poli-L-lizin, zato smo preučevali njegov vpliv na funkcionalno in strukturno integriteto urotelija v poskusih ex vivo in in vivo. Učinek poli-L-lizina na luščenje površinskih urotelijskih celic je bil selektiven in odvisen od njegove koncentracije. Poli-L-lizin se je izkazal kot obetaven polimer za situacije, ko je potrebno luščenje urotelijskih celic.

Uspešno smo nadaljevali z delom na projektu »Frakcioniranje in oplemenitenje sirotkinih proteinov ter izraba preostanka za oblikovanje novih funkcionalnih živil in prehranskih dopolnil«(LAKTIKA), ki ga koordinira podjetje Arhel, d. o. o.

KEY ACHIEVEMENTS IN 2019

Sibinovska Nadica, Žakelj Simon, Kristan Katja: Suitability of RPMI 2650 cell models for nasal drug permeability prediction. European Journal of Pharmaceutics and Biopharmaceutics, 2019, 145, str. 85-95.

The air-liquid RPMI 2650 cell model was found to be a promising pharmacological model for the nasal epithelial barrier and much more suitable than the liquid-liquid model for nasal drug permeability prediction. Their suitability was investigated according to the regulatory guidelines for in vitro permeability methods for drug permeability classification. The permeability of 23 model drugs and several zero permeability markers across the cell models was measured and correlations with the fully differentiated nasal epithelial model (MucilAir™), the Caco-2 cells and isolated rat jejunum were established.

Dall'Acqua Stefano, Grabnar Iztok, Verardo Roberto, Klaric Enio, Marchionni Luigi, Luidy-Imada Eddie, Sut Stefania, Agostinis Chiara, Bulla Roberta, Perissutti Beatrice, Voinovic Dardio: Combined extracts of Echinacea angustifolia DC. and Zingiber officinale Roscoe in softgel capsules: Pharmacokinetics and immunomodulatory effects assessed by gene expression profiling, Phytomedicine, 2019, 65, 153090. IF = 4,180.

This study aimed to investigate immunomodulatory activity and pharmacokinetics of a lipophilic extract of two natural products, Echinacea angustifolia DC. and Zingiber officinale Roscoe formulated as softgel capsules in 10 healthy volunteers. We determined the plasma concentration-time course of dodeca-2E,4E,8Z,10E/Z-tetraenoic isobutylamide (tetraene), 6-gingerol and 6-shogaol (free and glucuronide) by LC-MS, examined the overall transcriptional remodelling induced in the peripheral blood mononuclear cells and performed an integrative functional analysis on the generated gene expression. All components were absorbed very rapidly. Integrated analysis of the gene expression data highlighted immunomodulatory and anti-inflammatory effects similar to those exerted by hydrocortisone. Collectively, these results provide evidence to support the immunomodulatory and anti-inflammatory properties of the combination and pinpoint the underlying mechanistic pathways.

Kerec Kos Mojca, Veranič Peter, Erman Andreja: Poly-L-lysine as an effective and safe desquamation inducer of urinary bladder epithelium, Polymers, 2019, 11, 1-14. IF = 3,164.

Induced desquamation of urinary bladder epithelial cells (urothelial cells) is frequently used in studies of bladder epithelial regeneration and also in treating recurrent bacterial cystitis. Positively charged polymer chitosan is known to cause large-scale desquamation of terminally differentiated urothelial cells. To compare the desquamation ability of another polycation poly-L-lysine, we studied its effect on the functional and structural integrity of urothelium in ex vivo and in vivo experiments. Poly-L-lysine induced a selective and concentration-dependent desquamation of superficial urothelial cells followed by quick regeneration of the urothelium,. Poly-L-lysine was thus proven to be a promising polymer to be used when desquamation of urothelial cells is required.

We successfully continued the project Fractionation and Processing of Whey Proteins and Exploitation of the Residue for the Formation of New Functional Foods and Food Supplements (LAKTIKA), which is coordinated by the company Arhel, d.o.o.

KATEDRA ZA SOCIALNO FARMACIJO
DEPARTMENT OF SOCIAL PHARMACY

Člani Katedre v letu 2019/ Members of the chair in 2019

- prof. dr. Mitja Kos
- izr. prof. dr. Igor Locatelli
- doc. dr. Nejc Horvat, doc. dr. Lea Knez
- Marija Babnik Gatej, asist. dr. Nanča Čebron Lipovec, asist. dr. Andreja Čufar, asist. Janja Jazbar, asist. Ana Kodrič, asist. Urška Nabergoj Makovec, Žana Voh, asist. Špela Žerovnik

Na Katedri za socialno farmacijo proučujemo vplive zdravil na sodobnega človeka in družbo v mednarodnem in domačem okolju. Ukvarjamo se predvsem z nadzorom zdravil po prihodu na trg oz. v roke bolnika. Pri svojem delu prepletamo naravoslovne in družboslovne metode raziskovanja. V okviru farmakoepidemiologije spremljamo varnost in učinkovitost zdravil na ravni populacije, s farmakoekonomiko pa osvetlimo stroškovne vidike uporabe zdravil. Zanima nas tudi vrednotenje storitev farmacevta v lekarni, pri čemer posvečamo posebno pozornost raziskovanju vidika pacienta. S pomočjo rezultatov teh raziskav pripomoremo k nadgradnji farmacevtovih storitev, širše pa raziskujemo delovanje zdravstvenega sistema nasploh in vlogo pacienta v njem. V tem okviru proučujemo tudi storitve, ki jih prinaša sodoben način pristopa k pacientu v obliki eZdravja in mZdravja. Poleg opisanega raziskujemo značilnosti domače in mednarodne regulative, ki ureja področje zdravil in farmacevtske stroke. Pri tem tvorno prispevamo k nastajanju nove zakonodaje in uvajanju najvišjih standardov v vsakodnevno prakso.

The Department of Social Pharmacy studies the effects of medicines on a modern individual and society in the international and domestic setting. We mainly deal with control of medicines after their arrival on the market – in other words, into the hands of patients. In our work, we combine natural and social science research methods. In the framework of pharmacoepidemiology we monitor the medicines' safety and effectiveness at the population level, while in the framework of pharmacoeconomics, we highlight the cost aspect of the medicine use. We are also interested in the evaluation of pharmacy services with special attention to the patient's perspective which enables upgrade of pharmacy services. In the broader perspective we explore the functioning of healthcare system and the patient's role in it. In this framework we also study modern services in the form of eHealth and mHealth. In the Department of Social Pharmacy we also explore the properties of domestic and foreign regulations that cover the area of medicines and pharmaceutical profession. In doing so, we actively contribute to creating new legislation and implementation of the highest standards into everyday practice.

KLJUČNI DOSEŽKI V LETU 2019

V letu 2019 smo uspešno zaključili mednarodni projekt PhaRmAcist-led CogniTIve Services in Europe (PRACTISE), ki smo ga izvajali skupaj s partnerji iz Portugalske (skupina dr. Filipa Costa) in Švice (skupina dr. Kurta Hersbergerja). Namen projekta, ki ga je formalno prepoznala tudi organizacija PCNE, je bil pridobiti vpogled v obseg in naravo kognitivnih storitev v lekarniški dejavnosti v evropskih državah. Sodelujoči člani SF: Urška Nabergoj Makovec, Nejc Horvat in Mitja Kos.

V sodelovanju z dr. Sabino Vogler, WHO Collaborating Centre for Pharmaceutical Pricing and Reimbursement Policies (Dunaj, Avstrija), smo objavili sistematični pregled raziskav o transparentnosti cen zdravil. Sodelujoči člani SF: Nika Marđetko, Mitja Kos.

V krovnem pregledu raziskav brezšivne skrbi ugotavljamo, da farmacevtske intervencije na prehodih med ravnmi zdravstvenega sistema potencialno izboljšajo varnost uporabe zdravil, pomanjkljivi pa so dokazi o zmanjševanju umrljivosti pacientov. Sodelujoči člani SF: Nanča Čebron Lipovec, Špela Žerovnik, Mitja Kos.

Objavili smo rezultate dveh raziskav primerjalne učinkovitosti zdravil, osnovanih na sistematičnem pregledu kliničnih raziskav in poznejši metaanalizi rezultatov izbranih raziskav. V prvi smo ovrednotili učinkovitost zdravil za zdravljenje pljučne arterijske hipertenzije kot dodanega zdravljenja, v drugi pa smo ovrednotili učinkovitost psihostimulantov za zdravljenje motnje pozornosti s hiperaktivnostjo pri odraslih. Sodelujoči člani SF: Igor Locatelli.

Andreja Detiček je v svoji doktorski disertaciji proučevala dostop slovenskih pacientov do inovativnih zdravil za zdravljenje redkih bolezni in drugih rakavih bolezni.

V februarju 2019 smo organizirali konferenco združenja Pharmaceutical Care Network Europe na temo »Right questions, valid answers«, ki je potekala na Nizozemskem. Sodelujoči člani SF: Nejc Horvat in Mitja Kos.

V oktobru 2019 smo pomembno prispevali k organizaciji konference društva European Society for Clinical Pharmacy na temo »The Digital Revolution«, ki je potekala v Ljubljani. Sodelujoči člani SF: Nejc Horvat in Mitja Kos.

KEY ACHIEVEMENTS IN 2019

In 2019 we successfully completed the international project PhaRmAcist-led CogniTIve Services in Europe (PRACTISE), which was performed together with partners from Portugal (Dr. Filipa Costa Group) and Switzerland (Dr. Kurt Hersberger Group). The purpose of the project, which was formally recognized by PCNE, was to gain insight into the scope and nature of pharmaceutical cognitive services in community pharmacies in Europe. Participants: Urška Nabergoj Makovec, Nejc Horvat and Mitja Kos.

In collaboration with Dr Sabina Vogler, WHO Collaborating Centre for Pharmaceutical Pricing and Reimbursement Policies (Vienna, Austria), we published a systematic review of medicines prices transparency studies. Participants: Nika Marđetko, Mitja Kos.

In an umbrella review of seamless care research, we have found that pharmaceutical interventions at the transitions between levels of the health system potentially improve the safety of medicine use; however, there is insufficient evidence about reducing patient mortality. Participants: Nanča Čebron Lipovec, Špela Žerovnik, Mitja Kos.

We have published the results of two comparative efficacy studies based on a systematic review of clinical trials and a meta-analysis of the results of selected studies. In the first, we evaluated the efficacy of pulmonary arterial hypertension medicines as an adjunctive treatment. In the second, we evaluated the efficacy of psychostimulants for the treatment of attention-deficit hyperactivity disorder in adults. Participant: Igor Locatelli.

In her doctoral dissertation Andreja Detiček studied the access of Slovenian patients to innovative medicines for the treatment of rare diseases and other cancerous diseases.

In February 2019 we organized a Pharmaceutical Care Network Europe conference entitled “Right questions, valid answers”, held in the Netherlands. Participants: Nejc Horvat and Mitja Kos.

In October 2019 we made a significant contribution to the organization of the European Society for Clinical Pharmacy conference on the topic of “The Digital Revolution”, held in Ljubljana. Participants: Nejc Horvat and Mitja Kos

TAJNIŠTVO FAKULTETE
FACULTY SECRETARY'S OFFICE

Člani tajništva v letu 2019/ Members of the secretary's office in 2019

- Tajnik fakultete Katja Višnjevec Vahčič
- Zdenka Gantar, Tanja Gregorič, Urban Jernejčič, Nataša Juvan, Tanja Kadunc, Aleš Kolenko, Tomaž Kuštrin, Judita Merjasec, Marta Pogačar, Sebina Mujegić, Lidija Mataija, Milenka Sojer, Darko Šaša, Polona Škulj, Darja Šviga, Boris Terobšič, Borut Toth, Dušan Videmšek, Bernarda Žagar, Rafael Hribar, Slavi Menard, Ivanka Radojičić

Tajništvo UL FFA je samostojna organizacijska enota, ki nudi kakovostno upravno-administrativno podporo pri izvajanju pedagoške in znanstveno-raziskovalne dejavnosti, delavci v službi za tehnično vzdrževanje in recepcijo pa zagotavljajo varno, čisto in zdravo delovno okolje.

Tajništvo fakultete opravlja tudi upravno-administrativne in finančno gospodarske naloge v zvezi z izvajanjem tržne dejavnosti fakultete. Del tajništva je tudi učitelj športne vzgoje, ki s svojim delom spodbuja študente - in nemalokrat tudi zaposlene - k zdravemu življenjskemu slogu.

Tajništvo sestavljajo podenote: tajništvo vodstva, kadrovska služba, raziskovalni referat, študentski referat, finančno računovodska služba, služba za informatiko, tehnično-vzdrževalna služba, knjižnica. V letu 2019 se je po dolgoletnem življenjskem delu na UL FFA upokojila tajnica fakultete, ga. Slavi Menard, ki je pustila velik pečat. S svojim dolgoletnim delom je soprispevala k razvoju in rasti UL FFA.

Zaposleni v organizacijski enoti tajništva nadgrajujejo svoje znanje in se udeležujejo tudi mednarodnih izmenjav in izpopolnjevanj. V letu 2019 so bile izvedene 3 STT Erasmus+ mobilnosti ter 1 udeležba na mednarodni konferenci EARMA 2019 v Bologni, Italija.

The faculty secretary's office is an independent organizational unit that provides quality administrative support for performing professional and scientific research activities. Employees in the technical maintenance and reception service, on the other hand, ensure a safe, clean and healthy working environment.

The secretary's office also performs administrative and financial-economic tasks related to carrying out the faculty's marketing activities. The physical education teacher is also a member of this organizational unit who encourages students - and often employees – to follow a healthy lifestyle.

The subunits of the Secretary's Office: The Secretary Services, Personnel Department, Research Department, Student Affairs Office, Finance and Accounting, IT Service, Technical Maintenance Service, Library. In 2019, after many years of working at the faculty, the secretary Mrs. Slavi Menard retired. Mrs. Menard's contribution to the development and growth of the faculty has been substantial.

The members of the faculty secretary's office upgrade their knowledge and also participate in international exchange and trainings. In 2019 we had 3 STT Erasmus+ motilities and 1 participation in the international conference EARMA 2019 in Bologna, Italy.

INŠTITUT ZA FARMACIJO
INSTITUTE OF PHARMACY

Člani inštituta v letu 2019/ Members of the chair in 2019

- prof. dr. Irena Mlinarič-Raščan
- izr. prof. dr. Rok Dreu, izr. prof. dr. Anamarija Zega
- Ema Valentina Brovč, Maja Frelih, asist. Katja Glinšek, asist. dr. Tanja Gmeiner, asist. Rebeka Jereb, asist. Lidija Kovač, Klemen Kreft, asist. dr. Dunja Urbančič, Maša Vidmar Golja, asist. Helena Vrbanac, asist. Nina Žigart

Inštitut za farmacijo je od leta 2002 povezovalna organizacijska enota UL FFA, kjer izvajamo znanstveno-raziskovalne, razvojno-aplikativne in strokovne projekte ter mednarodne aktivnosti, ki presegajo aktivnosti posamezne katedre. V Inštitutu delujemo kot projektna ali timska povezava raziskovalcev in tehničnih sodelavcev različnih kateder ali s svojimi zaposlenimi sodelavci. V okviru Inštituta delujeta dva infrastrukturna centra:

Infrastrukturni center za analizo zdravil, ki deluje v sklopu Mreže raziskovalnih infrastrukturnih centrov Univerze v Ljubljani (MRIC UL) je namenjen podpori raziskovalnega in pedagoškega dela na področju farmacije. Center nudi analitsko podporo pri razvoju zdravil, pri identifikaciji in določanju fizikalno kemijskih lastnosti učinkovin, pomožnih snovi in nečistot. UL FFA je v okviru ARRS razpisa Paket 16 kupila najsodobnejši tekočinski kromatograf ultra visoke zmogljivosti sklopljen z masnim spektrometrom visoke ločljivosti. Da bi povečali učinkovitost rabe specifične velike raziskovalne opreme, smo v 2019 v okviru Inštituta za farmacijo zaposlili prvo operaterko te velike opreme.

EATRIS Slovenija je član konzorcija EATRIS ERIC, velike evropske raziskovalne infrastrukture na področju translacijskih raziskav.

V letu 2019 smo realizirali veliko planiranih aktivnosti in dosegli predvidene cilje pri izvajanju ESFRI projekta EATRIS. Rezultat aktivnosti v EATRISU sta dva nova mednarodna projekta: EATRIS-Plus in Erasmus+ ADVANCE.

V letu 2019 je bil ustanovljen konzorcij EATRIS-TRI.si, ki povezuje UL FFA, Medicinsko fakulteto Univerze v Mariboru in Kemijski inštitut. Konzorcij je bil pod koordinatorstvom vodilnega partnerja UL FFA uspešen pri prijavi projekta »**Razvoj raziskovalne infrastrukture za mednarodno konkurenčnost slovenskega RRI prostora – RI-SI-EATRIS-TRI.si**«.

V okviru projekta EATRIS-TRI.si. smo realizirali nakup dveh kosov opreme: pretočnega citometra z vizualizacijo ImageStreamX MarkII, ki je namenjen

Since 2002 the Institute of Pharmacy has been the organizational unit of the Faculty of Pharmacy, which carries out scientific research, development-applied and professional projects and international activities that go beyond the activities of an individual chair. The Institute acts as a project or team liaison of researchers and technical associates of different departments or with the Institute's own employees. There are two infrastructure centres within the Institute:

The Infrastructure Centre for Analysis of Medicinal Products, which is part of the Network of Research Infrastructure Centres of the University of Ljubljana (MRIC UL), is intended to support research and teaching work in the field of pharmacy. The Centre provides analytical support for drug development, identification and determination of physico-chemical properties of active substances, excipients and its impurities. UL FFA has purchased a state-of-the-art ultra-high performance liquid chromatograph coupled with a high resolution mass spectrometer within the ARRS tender Package 16. In order to increase the efficiency of the use of specific large research equipment, we employed the first operator of this large equipment in 2019.

EATRIS Slovenia is a member of the EATRIS ERIC consortium, a large European research infrastructure in the field of translational research.

In 2019 we implemented many planned activities and achieved the envisaged goals of the ESFRI EATRIS project. **Two new international projects** are the result of the EATRIS activities: **EATRIS-Plus** and **Erasmus + ADVANCE.**

In 2019 a consortium of EATRIS-TRI.si was formed, linking the UL FFA, the Faculty of Medicine, University of Maribor and the National Chemical Institute. Under the coordination of UL FFA as a leading partner, the consortium was successful in applying for the project "**Development of Research Infrastructure for the International Competitiveness of the Slovenian RRI Area - RI-SI-EATRIS-TRI.si"**.

Within the RI-SI-EATRIS-TRI.si project we made the purchase of two pieces of equipment: imaging

analizi celic oz. majhnih delcev in pridobivanju podrobne slike velikega števila analiziranih dogodkov v relativno kratkem času, ter kombiniranega čitalca ELISPOT/FLUOROSPOT, ki omogoča sočasno kvantitativno analizo različnih topnih proizvodov posameznih imunskih celic in vitro.

flow-cyometer ImageStreamX MarkII, which is intended for cell analysis or small particles and obtaining a detailed picture of a large number of analysed objects in a relatively short time and a combined ELISPOT/FLUOROSPOT reader, which enables simultaneous quantitative analysis of various soluble products of individual immune cells in vitro.

KLJUČNI DOSEŽKI V LETU 2019

S povezovanjem prostorskih in kadrovskih potencialov z gospodarskimi družbami mladim strokovnjakom omogočamo, da se v okviru doktorskega ali specialističnega podoktorskega izobraževanja vključujejo v aplikativne projekte na področju razvoja novih farmacevtskih izdelkov, analitskih metod, vrednotenja (geno)toksičnosti učinkovin, registracije novih zdravil in regulative. Namen tovrstnega sodelovanja je utrjevanje in poglabljanje povezovanja akademske in gospodarske sfere.

V mesecu maju 2019 je UL FFA organizirala strokovni posvet "Translational research in Neurosciences – thorough collaboration among academia, patient management and pharmaceutical industry". Posvet je bil namenjen aktivnemu sodelovanju akademskih, znanstvenih, raziskovalnih, industrijskih in kliničnih partnerjev na področju translacijskih raziskav v biomedicini in farmaciji.

UL FFA je skupaj s Pisarno za prenos znanja Univerze v Ljubljani organizirala delavnico Inovator.si?. Ugledni evropski in nemški patentni zastopnik dr. Carsten Prusko, ki že več leta dela za podjetje Zacco Euro, je predstavil postopek prijave, prevzema in pravnega zavarovanja službenega izuma. Udeleženci so predstavili tudi svoje konkretne primere in imeli priložnost individualnega posvetovanja s patentnim zastopnikom. Delavnica je bila namenjena raziskovalcem na začetku kariere in tudi izkušenim raziskovalcem.

KEY ACHIEVEMENTS IN 2019

By combining premises and human resources of UL FFA with enterprises we enable young professionals within their doctoral or specialist postdoctoral training to be engaged in applied projects in the field of new pharmaceutical product development, analytical methods, evaluation of substance (geno)toxicity, registration of new medicines and regulations. The purpose of such cooperation is to consolidate and deepen the integration of the academic and economic spheres.

In May 2019 UL FFA organized a professional consultation "Translational research in Neurosciences – thorough collaboration among academia, patient management and pharmaceutical industry". The consultation was aimed at the active involvement of academic, scientific, research, industry and clinical partners in the field of translational research in biomedicine and pharmacy.

UL FFA has together with the Knowledge Transfer Office of the University of Ljubljana organized the workshop Innovator.si?. Distinguished European and German patent agent Dr. Carsten Prusko, who has been working for Zacco Euro for many years, has introduced the process of applying for a business invention, together with claiming it and having legal insurance over it. The participants also presented their specific cases and had the opportunity to consult the patent attorney individually. The workshop was aimed at early-stage researchers as well as experienced researchers.

ŠTUDENTSKI SVET FAKULTETE ZA FARMACIJO UNIVERZE V LJUBLJANI (ŠSFFA), ŠTUDENTSKA ORGANIZACIJA FAKULTETE ZA FARMACIJO (ŠOFFA), DRUŠTVO ŠTUDENTOV FARMACIJE SLOVENIJE (DŠFS)

Študentski svet Fakultete za farmacijo Univerze v Ljubljani (ŠSFFA)
Študentski svet je organ fakultete, katerega člani so predstavniki letnikov, izvoljeni na letnih volitvah. ŠSFFA predstavlja študente UL FFA v organih fakultete (senat UL FFA, upravni odbor UL FFA in različne komisije) in pa v študentskem svetu Univerze v Ljubljani. ŠSFFA se ukvarja predvsem s študijem na UL FFA ter zagovarjanjem pravic študentov na vseh ravneh zastopanja.

Študentska organizacija Fakultete za farmacijo (ŠOFFA)
ŠOFFA je ena izmed podružnic družine Študentske organizacije Univerze v Ljubljani, (ŠOU) kakršno ima vsaka fakulteta Univerze v Ljubljani. ŠOFFA organizira različne dogodke izobraževalnega in družabnega značaja, kot so božična ekskurzija, farmacevtski piknik, farmacevtsko smučanje in druge aktivnosti. Aktivnosti družabnega programa so potrebne za povezovanje mlajših in starejših študentov, kar omogoča izmenjavo znanj in izkušenj.

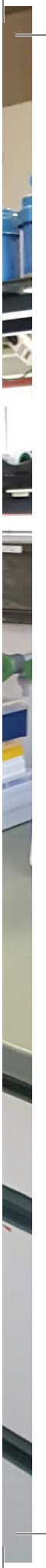
Društvo študentov farmacije Slovenije (DŠFS)
DŠFS in ŠSSFD delujeta kot ena organizacija z isto ekipo, ki vodi projekte in zastopa naše društvo na nacionalnem in mednarodnem nivoju. S pomočjo članov pod vodstvom koordinatorjev izvajajo različne javne kampanje, humanitarne projekte, mednarodne izmenjave Twinnet in SEP, mednarodne poletne farmacevtske tabore (IPSC), strokovne večere, trikrat letno pa izide študentsko glasilo Spatula.

STUDENT COUNCIL OF THE FACULTY OF PHARMACY OF THE UNIVERSITY OF LJUBLJANA (ŠSFFA), STUDENT ORGANIZATION OF THE FACULTY OF PHARMACY (ŠOFFA), SLOVENIAN PHARMACY STUDENTS' SOCIETY (DŠFS)

Student Council UL FFA, University of Ljubljana (ŠSFFA)
ŠSFFA is one of the governing bodies of the faculty. Its members, who are elected annually, are representatives of each year of their respective-programs. The ŠSFFA represents Faculty of Pharmacy students in other governing bodies of the faculty (the Senate, the Managing Board and various committees), as well as in the Student Council of the University of Ljubljana. The ŠSFFA mainly deals with the program at the Faculty of Pharmacy and defending students' rights on all levels of representation.

Student Organization of the Faculty of Pharmacy (ŠOFFA)
The ŠOFFA is one of the ŠOU's (the University of Ljubljana Student Organization) branches, which exists at each faculty at the University of Ljubljana. The ŠOFFA holds various educational and social events, such as the Christmas excursion, pharmaceutical picnic, pharmaceutical ski trip and other activities. Social activities are necessary to connect younger and older students, which in turn allows exchange of knowledge and experience.

Slovenian Pharmacy Students' Society (DŠFS)
The DŠFS and ŠSSFD function as a single organization with the same team that leads projects and represents our society on national and international levels. With the help of our members and under the guidance of the coordinators the organization carries out various public campaigns, humanitarian projects, Twinnet and SEP international exchanges, the International Pharmaceutical Summer Camp (IPSC) and professional training evenings. The organization also publishes the student newsletter Spatula three times a year.



2 Poročilo o delu
Activity report

PREGLED POSLOVANJA

UL FFA je v letu 2019 poslovala uspešno in dosegla zastavljene cilje ter s prihodki prvič presegla mejo 10 milijonov evrov, ki so natančneje znašali 10.564.864 EUR. Odhodki so znašali 10.247.577 EUR, tako da je ustvarjeni presežek prihodkov nad odhodki pred in po obračunu davka od dohodkov pravnih oseb (DDPO) 317.287 EUR, kar je največ v zadnjih desetih letih.

V primerjavi z letom 2018 so se realizirani prihodki UL FFA v letu 2019 povečali za kar 1.084.693 EUR oz. 11,4 %, prav tako pa so bili višji odhodki za 950.277 EUR oz. 10,2 %, zaradi česar je bil ustvarjen poslovni izid, ki je v letu 2019 za 134.416 EUR oz. skoraj 75 % višji kot v letu 2018.

V letu 2019 fakulteta beleži rast prihodkov v okviru vseh glavnih skupin virov financiranja. Največja absolutna rast prihodkov v letu 2019 v primerjavi z letom 2018 je bila dosežena v okviru financiranja raziskovalnih programov in projektov ter mladih raziskovalcev s strani ARRS. Prihodki tega vira so znašali 2.433.097 EUR in so bili za 365.284 EUR oz. 17,7 % višji kot leta 2018. Za približno toliko so se povečali prihodki MIZŠ, ki so znašali 6.208.973 EUR. Relativno gledano je bila že drugo leto zapovrstjo največja rast zabeležena v kategoriji »EU skladi in mednarodni projekti«, ki so višji za 74,7 %, predvsem zaradi pričetka izvajanja novega IMI projekta ENABLE ter dveh projektov "Raziskovalci na začetku kariere" 2.1. Fakulteta je bila uspešna tudi pri prodaji storitev na trgu, saj so se prihodki glede na preteklo leto povečali za 1,7 % in so znašali 746.466 EUR, kar predstavlja 7,1 % vseh prihodkov.

BUSINESS OVERVIEW

In 2019 the University of Ljubljana's Faculty of Pharmacy was successful in its business performance and achieved most of the goals it set. Its revenues exceeded 10 million EUR for the first time and amounted to €10,564,864 and expenses were in the amount of €10,247,577, resulting in highest achieved excess of revenues over expenses in the last 10 years in the amount of €317,287 before and after income tax.

Compared to 2018 revenues increased by €1,084,693 or 11.04 % and expenses by €950,277 or 10.2 %, which led to a higher net income of €134,416, meaning an almost 75 % increase.

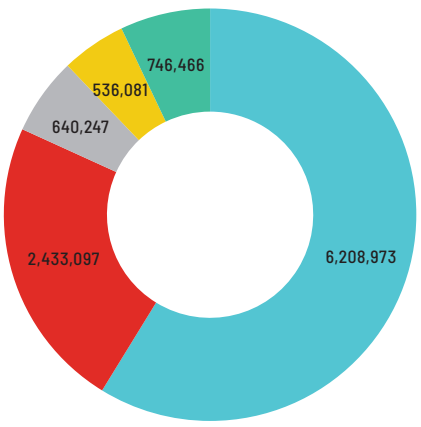
In 2019 the faculty recorded growth of revenue in all basic sources of income. The highest absolute revenue growth compared to 2019 in the amount of €365,284 or 17.3% was from the Slovenian Research Agency, the cumulative revenue of which amounted to €2,433.097.

Approximately the same amount of increase of funds was recorded from financing undergraduate and graduate-programs by the Ministry of Education, Science and Sport that amounted to €6,208,973. The highest relative revenue growth for second year in a row was recorded in the category of EU funds and international research projects, at 74.7 %, mostly due to the start of the IMI ENABLE project and two "Researchers at start of their career" projects. Faculty was also successful from cooperation with the industry since market revenues increased by 1,7% and amounted to €746,466 and represent a 7.1% share of total income.

Prihodki v EUR / Revenues, EUR	2019	2018	Struktura 2019 / 2019 Structure	Indeks 19/18 / 19/18 Index
Prihodki od MIZŠ / Ministry of Education, Science, and Sport	6.208.973	5.846.280	58,8%	106,2
Prihodki od ARRS / Slovenian Research Agency	2.433.097	2.067.813	23,0%	117,7
EU skladi in mednarodni projekti / EU funds and international projects	640.247	366.456	6,0%	174,7
Druga javna služba / Other public services	536.081	465.898	5,1%	115,1
Prodaja storitev na trgu / Market sales of services	746.466	733.724	7,1%	101,7
Skupaj prihodki / Total revenues	10.564.864	9.480.171	100,0	111,4

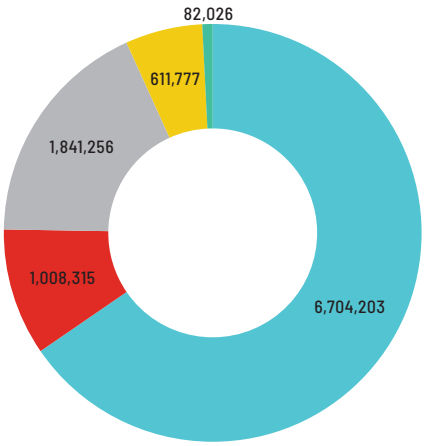
Odhodki v EUR / Expenses, EUR	2019	2018	Struktura 2019 / 2019 Structure	Indeks 19/18 /19/18 Index
Stroški dela / Labor costs	6.704.203	5.952.512	65,4%	112,6
Stroški materiala / Cost of Goods	1.008.315	919.286	9,8%	109,7
Stroški storitev / Cost of Services	1.841.256	1.840.180	18,0%	100,1
Amortizacija / Depreciation	611.777	496.746	6,0%	123,2
Drugi stroški in odhodki / Other expenses	82.026	88.576	0,8%	92,6
Skupaj odhodki / Total expenses	**10.247.577**	**9.297.300**	**100,0**	**111,4**

STRUKTURA PRIHODKOV V 2019, PO VIRU FINANCIRANJA V EUR
REVENUE STRUCTURE IN 2019, EUR



Prihodki od MIZŠ / Ministry of Education, Science and Sport
Prihodki od ARRS / Slovenian Research Agency
EU skladi in mednarodni projekti / EU funds and international projects
Druga javna služba / Other public services
Prodaja storitev na trgu / Market sales of services

STRUKTURA ODHODKOV V 2019, PO VRSTAH STROŠKOV V EUR
EXPENSE STRUCTURE IN 2019, EUR



Stroški dela / Labor costs
Stroški materiala / Cost of Goods
Stroški storitev / Cost of Services
Stroški amortizacije / Depreciation
Drugi stroški in odhodki / Other expenses

ŠTUDIJSKO PODROČJE

PREDSTAVITEV ŠTUDIJSKIH PROGRAMOV

ENOVITI magistrski študijski program Farmacija

Študij farmacije izobražuje za reguliran poklic farmacevt skladno z evropsko direktivo 2006/36/ES in omogoča pridobitev naziva magister/magistra farmacije, ki je priznan v vseh državah članicah EU.

Študij usposobi študenta za izvajanje strokovnih del in nalog na področju farmacije, vključujoč skrb in svetovanje pacientom, izdajo zdravil, proizvodnjo zdravil, razvoj in raziskave ter analizo in nadzor kakovosti zdravil. Obenem nudi osnovo za nadaljevanje študija na doktorski stopnji in je odprt za stalno vseživljenjsko strokovno usposabljanje. Študij traja 5 let in vključuje obvezno polletno praktično usposabljanje v učnih zavodih (lekarnah) in izdelavo magistrske naloge.

UNIVERZITETNI in MAGISTRSKI študijski program Laboratorijska biomedicina

Študent laboratorijske biomedicine pridobi po prvi stopnji študija, ki traja 3 leta, naziv diplomirani inženir/diplomirana inženirka laboratorijske biomedicine (UN), po drugi stopnji, ki traja 2 leti, pa magister/magistrica laboratorijske biomedicine. Po obeh stopnjah je možnost zaposlitve v različnih medicinskih laboratorijih in v industriji, po drugi stopnji pa tudi nadaljevanje študija na doktorski stopnji ali specializaciji iz medicinske biokemije.

UNIVERZITETNI študijski program Kozmetologija

Univerzitetni študijski program traja 3 leta, študent pa po uspešno opravljenem študiju pridobi strokovni naziv diplomirani kozmetolog (UN)/diplomirana kozmetologinja(UN). Glavni namen študija je usposobiti strokovnjake na področju kozmetoloških znanosti. Poleg osnovnih znanj naravoslovne usmeritve nudi program poglobljena znanja iz strokovnih ved kozmetologije.

FIELD OF STUDY

PRESENTATION OF ACADEMIC-PROGRAMS

UNIFORM master's program in pharmacy

In accordance with European Directive 2006/36/ES the pharmacy program educates students for the regulated profession of pharmacist, through which they obtain their degrees as masters of pharmacy, which are recognized by all EU member states. The program gives the students the skills to carry out professional work and tasks in pharmacy, including counselling patients, dispensing medicines, development and research, analysis and controlling the quality of medicines. The program provides students with a firm basis to continue their education at the doctoral level and it is open to ongoing lifelong professional training. The five-year program includes six months of mandatory practical training in pharmacies with the master's thesis research and defence.

BACHELOR'S and MASTER'S programs in laboratory biomedicine

After the first cycle of study (three years), a laboratory biomedicine student obtains the bachelor's degree in laboratory biomedicine. After the second cycle (additional two years), the student receives the master's degree in laboratory biomedicine. After each of the two cycles students can seek employment in various medical laboratories or in industry. At the end of the second cycle students can also proceed with their education at the doctoral level or with a certificate in medical biochemistry.

BACHELOR'S program in cosmetology

This university program lasts for three years and gives its students bachelor's degree in cosmetology. Its main purpose is to provide experts with skills in cosmetic sciences. Alongside basic knowledge of natural sciences the program offers in-depth study of professional cosmetology sciences.

MAGISTRSKI študijski program Industrijska farmacija

Magistrski študij traja 2 leti in omogoča pridobitve znanj in veščin za delo v farmacevtsko-industrijskem okolju, vendar ne v okviru reguliranega poklica farmacevta. Strokovni naziv, ki ga pridobi diplomant, je magister/magistrica industrijske farmacije.

DOKTORSKI študijski program Biomedicina

Na doktorskem študiju UL FFA izvaja programe Farmacija, Klinična biokemija in Laboratorijska biomedicina ter Toksikologija, ki omogočajo pridobitev naziva doktor/doktorica znanosti. Osnovna ideja študija biomedicine in izvajanja na več članicah UL je v veliki izbirnosti, ki bodočim doktorjem znanosti omogoča študij po meri in pridobivanje specifičnih kompetenc, ki jih težko pokriva le ena članica UL.

Značilnosti študija na UL FFA so visoka motiviranost študentov, velika interdisciplinarnost programov, raznolikost študijskih pristopov in dobra povezanost s potencialnimi delodajalci tako v gospodarstvu (farmacevtska industrija, veledrogerije, predstavništva) kot v javnem sektorju (lekarne, bolnišnice, medicinski laboratoriji).

MASTER'S program in industrial pharmacy

This master's program (two years) provides students with both knowledge and skills needed to work in a pharmaceutical industrial environment, but not in the regulated pharmacist profession. The student receives their professional master's degree in industrial pharmacy.

DOCTORAL program in biomedicine

The Faculty of Pharmacy is responsible for pharmacy, clinical biochemistry and laboratory biomedicine, and toxicology. The basic idea of the interdisciplinary program offered by multiple member institutions of the University of Ljubljana lies in the multiplicity of choices. This way future doctorate holders acquire specific skills that would be difficult to acquire at a single faculty.

The characteristics of studying at UL FFA are high student motivation, high interdisciplinarity of the programs, diversity of study approaches and good connections with potential employers in the real sector (pharmaceutical industry, wholesalers, representative offices) and in the public sector (pharmacies, hospitals, medical laboratories).

ŠTUDENTI IN DIPLOMANTI 2018/2019 / 2018/19 STUDENTS AND GRADUATES

Število študentov

V študijskem letu 2018/19 je bilo na vseh programih dodiplomskega in podiplomskega študija UL FFA vpisanih 1455 študentov. Novost v študijskem letu 2018/19 je povečano število vpisnih mest na Enovitem magistrskem študijskem programu farmacija iz 150 na 165. Odločitev smo sprejeli na UL FFA usklajeno z deležniki iz javnega in realnega sektorja ter z njo odgovarjamo na povečano potrebo po magistrih farmacije v javnem zdravstvu in farmacevtski industriji.

V študijskem letu 2018/2019 je zaključilo študij:

- **273 diplomantov na 1. in 2. stopnji (143 EM FAR, 31 S1 KOZ, 37 S1 LBM, 35 S2 INF, 27 S2 LBM),**
- **10 doktorandov na 3. stopnji.**

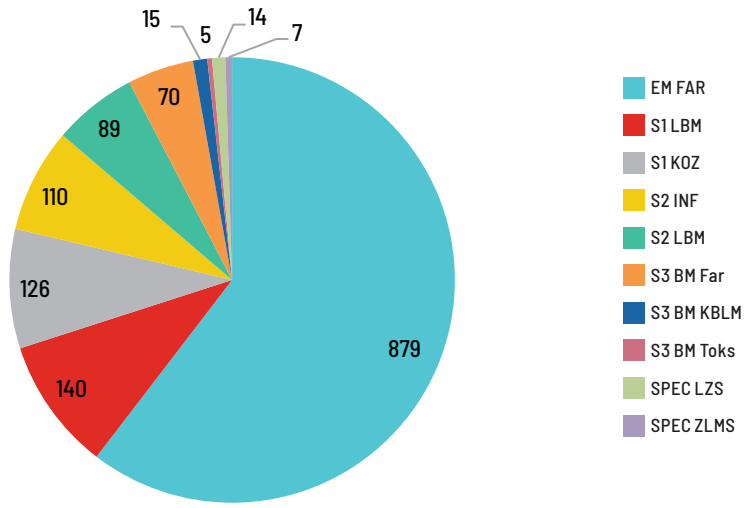
Number of students

In the academic year 2018/19 1455 students were enrolled in the undergraduate and graduate programs at the University of Ljubljana's Faculty of Pharmacy. A novelty in the academic year 2018/19 is the increased number of enrolled students at the Uniform Master's Pharmacy Program from 150 to 165. This decision of UL FFA was done in accordance with stakeholders from public and real sector as a response to the increased need for masters of pharmacy in public health services and in pharmaceutical industry.

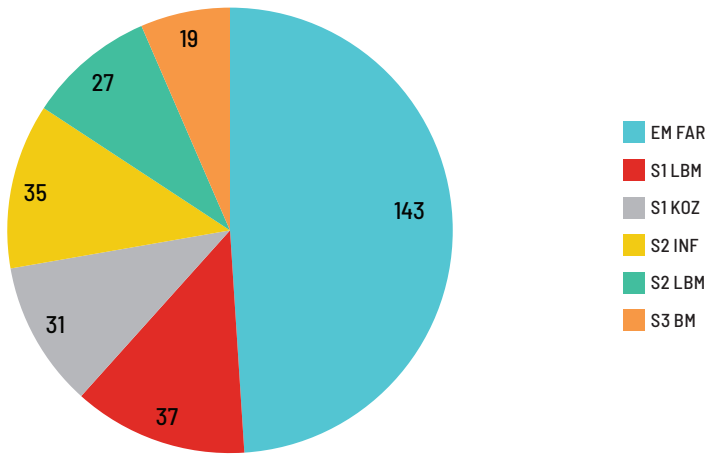
In the academic year 2018/19 there were:

- 273 graduates in cycles 1 and 2 (143 EM FAR, 31 S1 KOZ, 37 S1 LBM, 35 S2 INF, 27 S2 LBM) and
- 10 graduates in cycle 3.

ŠTUDENTI PO ŠTUDIJSKIH PROGRAMIH V 2018/2019
STUDENTS BY PROGRAMME, 2018/2019



DIPLOMANTI PO ŠTUDIJSKIH PROGRAMIH V 2018/2019
GRADUATES BY PROGRAMME 2018/19



EM FAR – enoviti magistrski študij program Farmacija)/Pharmacy (single-cycle master's degree); **S1 LBM – Univerzitetni študijski program Laboratorijska biomedicina (1. stopnja)/** Laboratory biomedicine (bachelor's degree); **S1 KOZ – Univerzitetni študijski program Kozmetologija (1. stopnja) /** Cosmetology (bachelor's degree); **S2 INF – Magistrski študijski program Industrijska farmacija (2. stopnja) /** Industrial pharmacy (master's degree); **S2 LBM – Magistrski študijski program Laboratorijska biomedicina (2. stopnja) /** Laboratory biomedicine (master's degree); **S3 BM – Biomedicina (3. stopnja): področja Farmacija, Klinična biokemija in laboratorijska biomedicine ter Toksikologija /** Biomedicine (doctorate) in pharmacy, clinical biochemistry and laboratory medicine, and toxicology; **SPEC – Specializacija v sodelovanju z Lekarniško zbornico Slovenije za področja: Klinična farmacija, Oblikovanje zdravil, Preizkušanje zdravil in Farmakognozija ter v sodelovanju z Zbornico laboratorijske medicine Slovenije za področje Medicinske biokemije /** Certificate in collaboration with the Pharmacy Chamber of Slovenia in clinical pharmacy, community pharmacy, medicinal design, medicinal testing, and pharmacognosy, and in collaboration with the Laboratory Medicine Chamber of Slovenia in medical biochemistry

ZNANSTVENA, RAZISKOVALNA IN STROKOVNA DEJAVNOST

V letu 2019 je UL FFA na področju raziskav in razvoja dosegla nekaj odličnih uspehov, med katerimi lahko izpostavimo:

- Uspešno raziskovalno delo v okviru projekta ENABLE - European Gram Negative AntiBacterial Engine (IMI), ki se je pričelo ob koncu leta 2018 in je z ustreznimi rezultati botrovalo podaljšanju projekta do maja 2020.
- UL FFA oz. njen infrastrukturni center EATRIS-TRI.si sta skupaj s partnerji pridobila tri projekte in sicer infrastrukturni projekt »Razvoj raziskovalne infrastrukture za mednarodno konkurenčnost slovenskega RRI prostora – RI-SI-EATRIS-TRI.si«, projekt EATRIS-PLUS in izobraževalni evropski projekt Erasmus+ ADVANCE. V okviru izvajanja teh projektov so načrtovane investicije v ključno veliko raziskovalno opremo ter krepitev raziskovalnega dela na področju translacijske medicine.
- Zaposleni na UL FFA so v 2019 prejeli vidna priznanja:
  - članstvo v Evropski akademiji znanosti in umetnosti (EASA),
  - najodličnejši raziskovalni dosežek Univerze v Ljubljani v letu 2019,
  - Novartisovo nagrado za znanstveno odličnost ter Minařikovo priznanje,
  - ekipa zaposlenih UL FFA je osvojila 2. mesto na razpisu Rektorjeve nagrade za naj inovacijo Univerze v Ljubljani 2019.

Raziskovalne dosežke je UL FFA (oz. njeni sodelavci) objavljala v prestižnih publikacijah s področja naravoslovja in medicine, s katerimi je dosegala znatno družbeno odmevnost.

Tudi v letu 2019 je UL FFA nadaljevala kulturo sodelovanja s ključnimi gospodarskimi subjekti na področju farmacije doma in v tujini. Ključnega pomena

RESEARCH AND PROFESSIONAL ACTIVITIES

In 2019 UL FFA accomplished several excellent achievements in the field of research and development, among which the following can be pointed out:

- Successful research endeavours within the "ENABLE European Gram Negatives Antimicrobial Engine (IMI)" project, which started at the end of 2018 and resulted in the extension of the project till May 2020.
- UL FFA has - together with its infrastructure centre Eatris-TRI.si and its partners - gained three projects, namely the infrastructure Project »Development of research infrastructure for the international competitiveness of Slovenian RRI space - RI-SI-EATRIS-TRI.si«, the EATRIS-PLUS project and the Erasmus+ ADVANCE, European educational project. In the context of the implementation of projects goals investment into a key major research equipment and strengthening of research efforts in the field of translational Medicine will be carried out.
- In 2019 the employees of UL FFA received visible recognitions:
  - membership of the European Academy of Sciences and Arts (EASA),
  - the most excellent research achievement of the University of Ljubljana in 2019,
  - Novartis Award for Scientific Excellence and the 2019 Minařik Award,
  - team of UL FFA employees won the second prize in the 2019 call for Chancellor's Prize for Innovation of the University of Ljubljana.

Research achievements in the field of natural sciences and medicine were published in prestigious journals with high impact factors. Publications have gained visible recognition of scientific community.

In 2019 UL FFA continued the collaboration with distinguished industrial partners in the field of pharmacy, home and abroad. The key point of such

pri tem je prenos znanja v industrijo in hkrati bogatitev zaposlenih z dragocenimi strokovnimi izkušnjami na področju realnih izzivov iz prakse.

Pri ključnih kazalcih uspešnosti raziskovalnega dela (število objav, število citatov in količina FTE) je UL FFA tudi v letu 2019 glede na predhodno leto beležila pozitivno rast, kar kaže na njeno dobro raziskovalno delo. Zlasti zgovoren je podatek, da v zadnjih treh letih vztrajno narašča delež člankov v revijah s faktorjem vpliva večjim od 4.

OBJAVE IN CITIRANOST DEL V LETU 2019

Raziskovalci UL FFA so v letu 2019 objavili 180 znanstvenih člankov, od tega 158 v revijah s faktorjem vpliva (SCI), kar je največ po letu 2011. V revijah s SCI je bilo objavljenih 132 izvirnih in 48 preglednih znanstvenih člankov ter 2 kratka znanstvena prispevka.

V letu 2019 so objavljena dela UL FFA prejela 4649 čistih citatov, kar predstavlja konstantno rast (za 18 % več kot leto poprej).

Preglednica ponazarja vire financiranja raziskovalne dejavnosti in razmerje znanstvenih člankov glede na FTE, financiranih iz virov ARRS in EU. Faktor učinkovitosti števila znanstvenih objav s SCI glede na FTE (ARRS in EU) je v letu 2019 znašal 3,5 članke s SCI/FTE.

collaboration is the transfer of knowledge to the industry and at the same time the enrichment of employees with valuable professional experience in the form of realistic challenges from the professional practice.

All key indicators of successful research work (number of announcements, number of citations and amount of FTE) continued to grow in 2019, which indicates that the Faculty of Pharmacy performs adequately in this regard. It is particularly eloquent that the portion of articles in journals with the impact factor greater than 4 has steadily increased in the last three years.

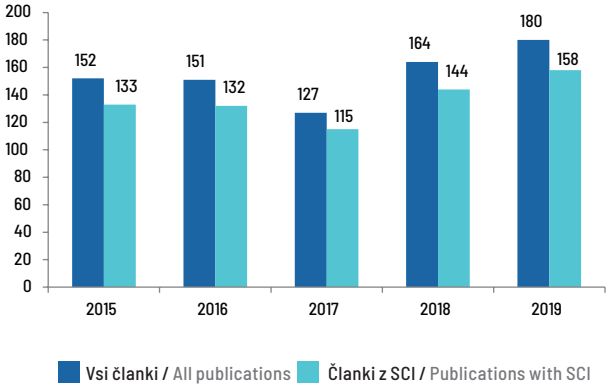
PUBLICATIONS AND CITATION OF WORKS IN 2019

In 2019 researchers at the Faculty of Pharmacy published 180 research articles, of which 158 were in journals listed in the Science Citation Index (SCI), the highest output since 2011. Altogether, 132 original articles, 48 review articles and 2 short research articles were published in SCI journals.

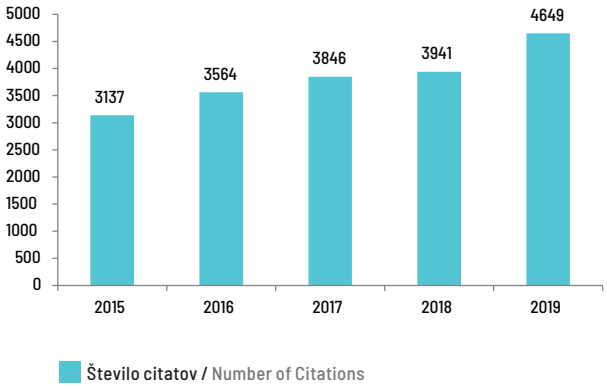
In 2019 the published works of the Faculty of Pharmacy received 4,649 pure citations, which represents a constant growth over the years (e.g. 18 % more than the previous year).

Table illustrates the sources of funding for research activities and the ratio of research articles in terms of FTE financed from ARRS and EU sources. In 2019 the effectiveness of the number of research publications with SCI per 1 FTE (ARRS and EU) was 3.5.

ŠTEVILO ZNANSTVENIH OBJAV
NUMBER OF SCIENTIFIC PUBLICATIONS



ŠTEVILO CITATOV
NUMBER OF CITATIONS



Razmerje objavljenih znanstvenih člankov raziskovalcev in višina financiranja iz virov ARRS in EU
Ratio between research articles and FTE researchers financed by EU/ARRS

Leto / Year	Sredstva za raziskovalce (FTE) / Funds for researchers (FTE)				Št. vseh znanstvenih člankov/FTE / Number of all research publications/ FTE	Št. člankov v revijah s SCI/ FTE/ Number of publications with SCI/FTE
	ARRS Projekti in programi / Projects and prgrammes	ARRS MR	EU	Skupaj / Total		
2014	19,8	16,8	8,2	44,8	3,2	2,7
2015	19,06	13,8	5,5	38,36	4	3,5
2016	23,22	16,83	2,24	42,29	3,6	2,9
2017	21,49	15,1	1	37,59	3,4	3,1
2018	24,31	16,6	2,3	43,21	3,8	3,3
2019	26,20	17,25	2	45,45	4	3,5

PROJEKTI IN PROGRAMI

Raziskovalno delo na UL FFA je potekalo pod okriljem štirih programskih skupin ter v okviru številnih projektov. V letu 2019 so bili nacionalni raziskovalni programi ARRS financirani v obsegu 12,54 FTE. UL FFA je izvajala še 23 temeljnih raziskovalnih projektov, 2 aplikativna raziskovalna projekta, 2 ciljna raziskovalna programa, 3 podoktorske projekte, 6 drugih nacionalnih projektov (MIZŠ), večje število razvojnoraziskovalnih projektov z gospodarstvom, evropske projekte v obsegu 2 FTE ter več drugih mednarodnih in bilateralnih projektov.

V letu 2019 smo pridobili 5 novih mladih raziskovalcev. Z uspešnimi prijavami na programske in projektne razpise ARRS smo v 2019 uspeli povečati obseg financiranja za skoraj 2 FTE.

NACIONALNI PROGRAMI IN PROJEKTI

RAZISKOVALNI PROGRAMI UL FFA

- Farmacevtska tehnologija: od dostavnih sistemov učinkovin do terapijskih izidov zdravil pri otrocih in starostnikih P1-0189
  (vodja prof. dr. Albin Kristl, obseg 3,93 FTE)
- Farmacevtska kemija: načrtovanje, sinteza in vrednotenje učinkovin P1-0208
  (vodja prof. dr. Stanislav Gobec, obseg: 6,16 FTE)
- Farmacevtska biotehnologija: znanost za zdravje P4-0127
  (vodja prof. dr. Janko Kos, obseg na UL FFA: 1,4 FTE)
- Klinična biokemija: geni, hormonske in osebnostne spremembe pri metabolnih motnjah P3-0298
  (vodja prof. dr. Andrej Janež, UKC Ljubljana; koordinatorica na UL FFA prof. dr. Janja Marc, obseg na UL FFA: 1,04FTE)

RAZISKOVALNI PROJEKTI UL FFA

<u>Temeljni raziskovalni projekti ARRS</u>

- J3-7245 - Odkrivanje novih regulatorjev izražanja RANKL, ključne molekule ne samo v kostni prenovi
  (nosilka: prof. dr. Janja Marc)

PROJECTS AND PROGRAMS

The faculty's research work was carried out under the auspices of four program groups and in the framework of multitude of projects. In 2019 ARRS's national research programs were financed to the extent of 12.54 FTE. The Faculty of Pharmacy also carried out twenty-three basic research projects, two applied research projects, three postdoctoral projects, six other national projects of the Ministry of Education, Science and Sport, a large number of research development projects in cooperation with industry, European projects to the extent of 2.0 FTE, and several other international and bilateral projects.

In 2019 we acquired five new junior researchers. With successful applications to the ARRS program and project calls we managed to increase the volume of financing by almost two FTEs.

NATIONAL-PROGRAMS AND PROJECTS

FACULTY OF PHARMACY RESEARCH-PROGRAMS

- Pharmaceutical technology: From delivery systems for active ingredients to drugs' therapeutic results in children and older people – P1-0189
  (PI: Prof. Dr. Albin Kristl; extent: 3. 93 FTE)
- Pharmaceutical chemistry: Planning, synthesis and evaluation of active ingredients – P1-0208
  (PI: Prof. Dr. Stanislav Gobec; extent: 6.16 FTE)
- Pharmaceutical biotechnology: Science for health – P4-0127
  (PI: Prof. Dr. Janko Kos; extent: 1.40 FTE)
- Genes, hormonal and personality changes in metabolic disorders – P3-0298
  (PI: Prof. Dr. Andrej Janež from the Ljubljana University Medical Centre; coordinator at the Faculty of Pharmacy: Prof. Dr. Janja Marc; extent: 1.04 FTE)

FACULTY OF PHARMACY RESEARCH PROJECTS

<u>ARRS basic research projects:</u>

- Discovering new regulators of RANKL gene expression: key molecules not only in bone regeneration
  (PI: Prof. Dr. Janja Marc)

- J1-7302 - Nanoteranostiki na osnovi magnetno odzivnih materialov
  (nosilka: izr. prof. dr. Petra Kocbek)
- J4-7640 - Elektrostatska imobilizacija bakterij in vpliv na njihovo filozofijo
  (koordinatorica na UL FFA: prof. dr. Julijana Kristl, nosilec: dr. Aleš Lapanje, IMMT)
- J4-8227 - Preprečevanje rezistence tumorskih celic na antiproteazno terapijo z inhibitorji katepsina X.
  (nosilec: prof. dr. Janko Kos)
- J1-8140 - Endokrini in genotoksični potencial inhibitorjev proteinskih kinaz: pomen za tveganje za okolje in zdravje ljudi
  (koordinatorica na UL FFA: prof. dr. Marija Sollner Dolenc, nosilka: prof. dr. Metka Filipič, NIB)
- J3-8207 - Novi izzivi folatne terapije v porodništvu in ginekologiji
  (koordinatorica na UL FFA: prof. dr. Irena Mlinarič-Raščan, nosilka: prof. dr. Ksenija Geršak, UKC LJ)
- J1-8145 - Dinamični vidik vezave ligandov na proteine
  (koordinator na UL FFA: prof. dr. Stanislav Gobec, nosilka: prof. dr. Simona Golič Grdadolnik, KI)
- J1-8152 - Inhibicija prenove celične stene Staphylococus aureus
  (koordinator na UL FFA: prof. dr. Marko Anderluh, nosilec: prof. dr. Dušan Turk, IJS)
- J3-8210 - Potencial nizkih, sub-terapevtskih odmerkov statinov in sartanov v primarni in sekundarni preventivi srčno-žilnih bolezni
  (koordinator na UL FFA: prof. dr. Janja Marc, nosilec: prof. dr. Mirza Šabovič, UKC LJ)
- J3-9256 - Razvoj agonistov receptorja NOD2 ter dualnih NOD2/TLR7 agonističnih konjugatov kot novih adjuvansov za cepiva
  (nosilec: izr. prof. dr. Žiga Jakopin)
- J1-9192 - Nove protitumorne učinkovine napetostno odvisnih kalijevih kanalov hEag1 in njihova validacija v limfomih
  (nosilka: prof. dr. Lucija Peterlin Mašič)
- J1-9194 - Nanozdravila z antibiotiki in probiotiki za lokalno zdravljenje parodontalne bolezni
  (nosilka: prof. dr. Julijana Kristl)

- Nanotheranostics based on magnetic responsive materials
  (PI: Assoc. Prof. Dr. Petra Kocbek)
- Electrostatic immobilization of bacteria and the influence on their philosophy
  (coordinator at the Faculty of Pharmacy: Prof. Dr. Julijana Kristl; PI: Dr. Aleš Lapanje, IMMT)
- Cathepsin X inhibitors impair the resistance of tumor cells to antiprotease therapy
  (PI: Prof. Dr. Janko Kos)
- Endocrine and genotoxic potential of inhibitors of protein kinases: Significance for environmental and human health risks
  (coordinator at the Faculty of Pharmacy: Prof. Dr. Marija Sollner Dolenc; PI: Prof. Dr. Metka Filipič, NIB)
- New frontiers in folate supplementation in obstetrics and gynaecology (NFFS OB-GYN)
  (coordinator at the Faculty of Pharmacy: Prof. Dr. Irena Mlinarič-Raščan; PI: Prof. Dr. Ksenija Geršak, UKC LJ)
- Dynamic aspect of ligand protein binding
  (coordinator at the Faculty of Pharmacy: Prof. Stanislav Gobec; PI: Prof. Dr. Simona Golič Grdadolnik, KI)
- Inhibition of cell wall regeneration in Staphylococcus aureus
  (coordinator at the Faculty of Pharmacy: Prof. Dr. Marko Anderluh; PI: Prof. Dr. Dušan Turk, IJS)
- Potential of low, sub-therapeutic doses of statins and sartans in the primary and secondary prevention of cardiovascular diseases
  (coordinator at Faculty of Pharmacy: Prof. Dr. Janja Marc; PI: Prof. Mirza Šabovič, UKC LJ)
- Development of NOD2 agonists and dual NOD2/TLR7 agonistic conjugates as novel vaccine adjuvants
  (PI: Assoc. Prof. Dr. Žiga Jakopin)
- New anticancer leads for emerging cancer target potassium ion channels hEag1 and its validation in lymphoma tumors
  (PI: Prof. Dr. Lucija Peterlin Mašič)
- Nanomedicines with antibiotics and probiotics for local treatment of periodontal disease
  (PI: Prof. Dr. Julijana Kristl)

- J3-9267 - Zaviranje aktivnosti katepsina X kot nov pristop za zdravljenje Parkinsonove bolezni (nosilka: doc. dr. Anja Pišlar)
- J4-9327 - Ciljanje, slikanje in zdravljenje kolorektalnega raka z varnimi teranostičnimi bakterijami (koordinator na UL FFA: prof. dr. Janko Kos, nosilec: izr. prof. dr. Aleš Berlec, IJS)
- J3-1749 - Mezenhimske matične celice-nosilci endogene regenerativne sposobnosti tkiv v boju proti staranju mišično-skeletnega sistema (nosilka: doc. dr. Janja Zupan)
- J1-1717 - Razvoj novih zaviralcev Hsp90 s protitumornim delovanjem (nosilec: izr. prof. dr. Tihomir Tomašič)
- J3-1759 - Celostna karakterizacija zadetkov analiz GWAS - pot do novih terapevtskih tarč za anabolno zdravljenje osteoporoze (GWASforAna) (nosilka: prof. dr. Janja Marc)
- J3-1745 - Vloga imunoproteasoma v oblikovanju imunskega odziva posredovanega s trombociti (nosilka: doc. dr. Martina Gobec)
- J4-1776 - Izboljšanje imunoterapevtske vrednosti NK celic z modulacijo cistatina F (koordinator na UL FFA: prof. dr. Janko Kos, nosilec: prof. dr. Janko Kos, IJS)
- J4-1778 - Uporaba malega proteina bakteriofaga v boju proti razvoju odpornosti proti antibiotikom pri bakteriji Staphylococcus aureus (koordinator na UL FFA: prof. dr. Stanislav Gobec, nosilec: doc. dr. Matej Butala, UL BF)
- J1-1715 - Atlas proteinskih interakcij za napovedovanje genskih variacij povezanih z interakcijami z zdravili in razvojem bolezni (koordinator na UL FFA: prof. dr. Stanislav Gobec, nosilka: prof. dr. Dušanka Janežič, UPFAMNIT)
- J1-1709 - Strukturni vpogled v mehanizem tvorbe površine bakterije Clostridium difficile (koordinator na UL FFA: izr. prof. dr. Janez Mravljak, nosilec: prof. dr. Dušan Turk, IJS)
- J4-1767 - Selektivna ekstrakcija molekul z visoko vrednostjo za sektor specialnih kemikalij iz ostankov

- Inhibition of cathepsin X activity as a novel strategy for the treatment of Parkinson's disease (PI: Assist. Prof. Dr. Anja Pišlar)
- Targeting, imaging and treating of colorectal cancer with safe theranostic bacteria (coordinator at the Faculty of Pharmacy: Prof. Dr. Janko Kos, Assoc. Prof. Dr. Aleš Berlec, IJS)
- Mesenchymal stem cells-the keepers of tissue endogenous regenerative capacity facing up to aging of the musculoskeletal system (PI: Assist. Prof. Dr. Janja Zupan)
- Development of novel Hsp90 inhibitors with anticancer activity (PI: Assoc. Prof. Dr. Tihomir Tomašič)
- Comprehensive characterization of GWAS hits – pipeline to novel drug targets for anabolic treatment of osteoporosis (GWASforAna) (PI: Prof. Dr. Janja Marc)
- Elucidating the role of immunoproteasome in platelet-driven immune response (PI: Assist. Prof. Dr. Martina Gobec)
- Improvement of immunotherapeutic potential of NK cells through modulation of cystatin F (coordinator at the Faculty of Pharmacy: Prof. Dr. Janko Kos, PI: Prof. Dr. Janko Kos, IJS)
- Exploitation of a virus-borne small protein to combat antibiotic resistance in Staphylococcus aureus (coordinator at the Faculty of Pharmacy: Prof. Dr. Stanislav Gobec, PI: Assist. Prof. Dr. Matej Butala, University of Ljubljana, Biotechnical faculty)
- Protein interaction atlas for prediction of genetic variations involved in drug interactions and disease development (coordinator at the Faculty of Pharmacy: Prof. Dr. Stanislav Gobec, PI: Prof. Dr. Dušanka Janežič, UPFAMNIT)
- Structural insight into the mechanism of Clostridium difficile surface formation (coordinator at the Faculty of Pharmacy: Assoc. Prof. Dr. Janez Mravljak, PI: Prof. Dr. Dušan Turk, IJS)
- Selective extraction of high value molecules from forest products processing residues in the speciality

predelave lesa
(koordinator na UL FFA: prof. dr. Samo Kreft, nosilka: dr. Andreja Kutnar, InnoRenew CoE)

Aplikativni raziskovalni projekti ARRS

- L2-7550 - Nano strukturirani vlaknasti materiali za ciljno depozicijo zdravilnih učinkovin, izdelani z electrospinningom
  (koordinator na UL FFA prof. dr. Albin Kristl, nosilec: prof. dr. Igor Emri, UL FS)
- L1-8157 - Razvoj multifunkcionalnih učinkovin za zdravljenje Alzheimerjeve bolezni
  (nosilec: prof. dr. Stanislav Gobec)

Ciljni raziskovalni programi

- V4-1605 - Uporaba hmeljnih pripravkov za ekološko zatiranje varoje (Varroa destructor)
  (koordinator na UL FFA: prof. dr. Stanko Srčič, nosilec: prof. dr. Iztok Košir)
- V1-1914 - Izbor in priprava dosjeja potencialno nevrotoksične kemikalije z uporabo metod in silico za namen izvajanja evropske kemijske zakonodaje REACH
  (koordinatorica na UL FFA: prof. dr. Marija Sollner Dolenc, nosilec: prof. dr. Marjan Vračko Grobelšek, KI)

Podoktorski raziskovalni projekt

- Z1-8158 - Razvoj novih zaviralcev encimov biosinteze peptidoglikana MurA in MurB
  (nosilec: doc. dr. Marko Jukič)
- Z1-9195 - Zaviralci butirilholin-esteraze za lajšanje simptomov Alzheimerjeve bolezni
  (nosilec: asist. dr. Urban Košak)
- Z1-1859 - Kovalentni zaviralci: zaviranje monoamin oksidaze preko nekatalitskih aminokislinskih ostankov
  (nosilec: doc. dr. Damijan Knez)

chemicals sector
(coordinator at the Faculty of Pharmacy: Prof. Dr. Samo Kreft, PI: dr. Andreja Kurtner, InnoRenew CoE)

ARRS's applied research projects

- Elecrospun nanofibrous materials for solid state drug delivery system
  (coordinator at the Faculty of Pharmacy: Prof. Dr. Albin Kristl; PI: Prof. Dr. Igor Emri, University of Ljubljana, Faculty of Mechanical Engineering)
- Development of multifunctional compounds for treatment of Alzheimer's disease
  (PI: Prof. Dr. Stanislav Gobec)

Target research programs

- The use of hop products for organic control of varroa (Varroa destructor)
  (coordinator at the Faculty of Pharmacy: Prof. Dr. Stanko Srčič ; PI: Prof. Dr. Iztok Košir)
- Selection and preparation of a dossier potentially neurotoxic chemical using in silico methods for the purpose of implementing the European chemical legislation REACH
  (coordinator at the Faculty of Pharmacy: Prof. Dr. Marija Sollner Dolenc; PI: Prof. Dr. Marjan Vračko Grobelšek, National Institute of Chemistry)

Post-doctoral research projects

- Discovery of new inhibitors of bacterial peptidoglycan biosynthesis enzymes MurA and MurB
  (PI: Assist. Prof. Dr. Marko Jukič)
- Butyrylcholinesterase inhibitors for alleviating symptoms of Alzheimer's disease
  (PI: Assist. Dr. Urban Košak)
- Targeted covalent inhibitors: inhibiting monoamine oxidase through non-catalytic amino-acid residues
  (PI: Assist. Prof. Dr. Damijan Knez)

DRUGI NACIONALNI PROJEKTI

- N1-0068 - Identifikacija nepeptidnih inhibitorjev imunoproteasoma z metodami razvoja učinkovin na osnovi fragmentov
  (nosilec: prof. dr. Stanislav Gobec)
- N1-0098 - Odkrivanje in mehanizem delovanja novih spojin vodnic hEag1 kalijevih kanalov s protirakavim delovanjem
  (nosilka: prof. dr. Lucija Peterlin Mašič)

Projekti ESRR

- Spodbujanje izvajanja raziskovalnorazvojnih projektov (TRL 3-6): Ekstrakcija in oplemenitenje sirotkinih proteinov ter izraba preostanka za oblikovanje novih funkcionalnih živil in prehranskih dopolnil »LAKTIKA«. Koordinator projekta je ARHEL d. o. o., koordinator projekta na UL FFA: prof. dr. Albin Kristl, sodelujeta Katedra za biofarmacijo in farmakokinetiko ter Katedra za farmacevtsko tehnologijo.
- Raziskovalci na začetku kariere 2.0 (Validacija imunoproteasoma kot terapevtske tarče in razvoj inhibitorjev, prijaviteljica: dr. Eva Ogorevc)
- Raziskovalci na začetku kariere 2.1 (Razvoj in vpeljava naprednih analitskih pristopov, ki temeljijo na kvantitativni uporabi masne spektrometrije med razvojem biofarmacevtskih učinkovin, prijaviteljica: dr. Eva Kranjc)
- Raziskovalci na začetku kariere 2.1 (Strukturna karakterizacija proteinov v trdnih farmacevtskih oblikah, prijavitelj: dr. Aljoša Bolje)
- Razvoj raziskovalne infrastrukture za mednarodno konkurenčnost slovenskega RRI prostora – RI-SI-EATRIS-TRI.si. V projekt sta pod koordinatorstvomposlovodečega vodilnega partnerja UL FFA vključena še dva konzorcijska partnerja: Kemijski inštitut in Univerza v Mariboru (Medicinska fakulteta). Koordinator na UL FFA je prof. dr. Irena Mlinarič-Raščan.

OTHER NATIONAL PROJECTS

- Identification of non-peptidic inhibitors of the immunoproteasome using fragment based drug discovery methods
  (PI: Prof. Dr. Stanislav Gobec)
- Discovery and mechanism of action of novel hEag1 potassium channel lead molecules with anti-cancer activity
  (PI: Prof. Dr. Lucija Peterlin Mašič)

ESRR projects

- Promoting research and development projects (TRL 3-6): Extraction and enrichment of whey proteins and the use of the residuals for the design of new functional foods and dietary supplements (LAKTIKA). The PI of the project is ARHEL d.o.o., the coordinator at the Faculty of Pharmacy is Prof. Dr. Albin Kristl and the participating chairs are the Chair of biopharmaceutics and pharmacokinetics and the Chair of pharmaceutical technology.
- Researchers at the beginning of career 2.0 (Validation of immunoproteasome as a therapeutic target and development of inhibitors; applicant: Dr. Eva Ogorevc)
- Researchers at the beginning of career 2.1 (Development and introduction of advanced analytical approaches based on quantitative mass spectroscopy into development of biopharmaceutical active compounds; applicant: Dr. Eva Kranjc)
- Researchers at the beginning of career 2.1 (Structural characterization of proteins formulated into solid dosage forms; applicant: Dr. Aljoša Bolje)
- Development of the research infrastructure for international competitiveness of Slovenian RRI space – RI-SI-EATRIS-TRI.si (coordinated by a leading partner UL FFA in collaboration with consortium partners: National institute of Chemistry and University of-Maribor (Faculty of Medicine); coordinator at the-UL FFA: Prof. Dr. Irena Mlinarič-Raščan)

Projekti ESS

Mobilnost slovenskih visokošolskih učiteljev (MUL)

UL FFA je izvedla dve gostovanji z namenom sodelovanja v neposrednem pedagoškem procesu na tujih visokošolskih inštitucijah. Sofinanciranje projekta omogoča podporo pedagoškemu in strokovnemu izpopolnjevanju visokošolskih učiteljev na tujih visokošolskih inštitucijah ter prenos znanj, izkušenj in dobrih praks pridobljenih v okviru mobilnosti v študijski proces. Pri tem želi UL FFA nameniti posebno pozornost vzpostavitvi dolgoročnih mednarodnih partnerstev ter mrež UL z univerzami v Evropi in po svetu, s ciljem razvijanja vsestranskega medsebojnega sodelovanja na pedagoškem, raziskovalnem in razvojnem področju. UL FFA je v okviru projekta izvedla trimesečni gostovanji izr. prof. dr. Mojce Kerec Kos na Univerzi v Zagrebu in doc. dr. Staneta Pajka na Katoliški univerzi v Leuvnu, Belgija.

MEDNARODNI RAZISKOVALNI PROJEKTI 2019

Projekti EU

PhD4GlycoDrug

UL FFA je v okviru programa Obzorje 2020 Marie Skłodowska-Curie Innovative Training Networks pridobila štiriletni projekt European Joint Doctorate z akronimom PhD4GlycoDrug. PhD4GlycoDrug projekt je skupni evropski doktorski program na področju odkrivanja in razvoja spojin vodnic na osnovi ogljikovih hidratov z delovanjem na lektinske receptorje in encime, ki vežejo in procesirajo ogljikove hidrate. Skupni izobraževalni in raziskovalni program konzorcija PhD4GlycoDrug vključuje vse faze razvoja do spojine vodnice, od identifikacije in karakterizacije novih tarč, odkrivanja novih bioaktivnih spojin, njihove optimizacije in biokemijskega vrednotenja v sistemih in vitro ter in vivo. Koordinator projekta na UL FFA je prof. dr. Marko Anderluh.

ESS projects:

Mobility of Slovenian higher education teachers (MUL)

The UL FFA employees conducted two long term participations in a direct pedagogical process in foreign higher education institutions. Co-financing of the project allows support for pedagogical and professional training of higher education teachers in foreign higher education institutions and at the same time transfer of knowledge, experience and good practices gained in the context of mobility to the study process in the institution back home. In this context the UL aims to pay particular attention to the creation of long-term international partnerships and networks with universities in Europe and the world with the goal of developing versatile mutual cooperation in the pedagogical, research and development fields. UL FFA has in the context of the project performed two three-month participations: Assoc. Prof. Dr. Mojca Kerec Kos at the University of Zagreb and Assist. Prof. Dr. Stane Pajk at the KU Leuven, Belgium.

INTERNATIONAL RESEARCH PROJECTS IN 2019

EU Projects:

PhD4GlycoDrug

In the context of horizon 2020 Marie Skłodowska-Curie Innovative TRAINING NETWORKS, UL FFA acquired a four-year European Joint Doctorate with acronym PhD4GlycoDrug. PhD4GlycoDrug project is a common European doctoral program in the field of discovery and development of lead compounds based on carbohydrate structure, with the action on lectin receptors and enzymes that bind and process carbohydrates. The joint education and research program of the consortium PhD4GlycoDrug includes all stages of development till the lead compound, from the identification and characterization of new targets, discovery of new bioactive compounds, their optimisation and biochemical evaluations in in vitro and in vivo systems. Project coordinator: Prof. Dr. Marko Anderluh.

CELSA

Znanstveni cilj predlaganega projekta je priprava novih protirakavih spojin vodnic in validacija ter modulacija rakave tarče hEag1 s potencialom za zdravljenje ne-Hodgkinovega limfoma. Predlagani projekt pokriva celoten cikel zgodnjega odkrivanja novih učinkovin: molekulsko modeliranje, sintezo, testiranje na ionskih kanalih ter platformo za protitumorno vrednotenje novih učinkovin. Koordinator projekta je prof. dr. Jan Tytgat, KU Leuven, Pharmaceutical and Pharmacological Sciences, Toxicology and Pharmacology, vodja projekta UL FFA je prof. dr. Lucija Peterlin Mašič.

S proteinom G sklopljeni receptorji so dobro validirane tarče, saj nanje deluje ena tretjina vseh zdravil na tržišču. CCR7 je primer takšnega receptorja, ki pa je slabo raziskan kljub udeleženosti v številnih človeških boleznih (npr. rak, vnetne in imunske bolezni). V projektu bomo s pomočjo vrednotenja kemijske knjižnice, virtualnega rešetanja in optimizacije že znanih neselektivnih ligandov skušali odkriti selektivni ligand za receptor CCR7. Modulacijo delovanja receptorja bomo potrdili z različnimi in vitro biološkimi testi. Vodja projekta na UL FFA je prof. dr. Stanislav Gobec.

ARTE

Namen projekta Advanced Regenerative Therapies Ecosystem (ARTE) je razviti lokalni ekosistem za inovativne terapije in regenerativno medicino ter tako narediti privlačno okolje za naložbe v sektor Zdravje, ki je eden od ključnih sektorjev pametnih specializacij S3. To bomo dosegli z razvojem čezmejnega sodelovanja med italijanskimi in slovenskimi subjekti: Fakulteta za farmacijo, Ortopedska bolnišnica Valdoltra, Bolnišnica Videm, podjetje VivaBioCell, Tehnološki park Biovalley

CELSA

The scientific objective of the proposed project is the preparation of new antibacterial compounds and validation and modulation of the cancer target hEag1 with the potential for the treatment of non-Hodgkin lymphoma. The proposed project covers the full cycle of early discovery of new active substances: molecular modelling, synthesis, ion channel testing and a platform for the antitumor action evaluation of new compounds. Project coordinator: Prof. Dr. Jan Tytgat, KU Leuven, Pharmaceutical and Pharmacological Sciences, Toxicology and Pharmacology, Project head at the UL FFA: Prof. Dr. Lucija Peterlin Mašič.

Protein G coupled receptors are well-validated targets targeted by one third of all medicinal products on the market. CCR7 is an example of such a receptor, although it is poorly studied, despite being involved in many human diseases (e.g. cancer, inflammatory and immunodeficiency diseases). In the project the discovery of selective ligand for the CCR7 receptor will be attempted through the use of chemical library, virtual screening and optimization of the already known non-selective ligands. Modulation of the receptor action will be confirmed by various in vitro biological tests. Project head at the UL FFA: Prof. Dr. Stanislav Gobec.

ARTE

The project Advanced Regenerative Therapies Ecosystem (ARTE) aims to develop a local ecosystem for innovative therapies and regenerative medicine and thus make an attractive environment for investments in the health sector, one of the key sectors of the smart specialization of S3. This will be achieved through the development of cross-border cooperation between Italian and Slovenian entities: Faculty of Pharmacy, Orthopaedic hospital Valdoltra, hospital Videm, enterprise VivaBioCell, Technology Park Biovalley and Technology Park Ljubljana. The project is very innovative as it introduces new methodologies in personalised and regenerative medicine, it has enormous market potential and will

in Tehnološki park Ljubljana. Projekt je zelo inovativen, saj uvaja nove metodologije v personalizirano in regenerativno medicino, ima ogromen tržni potencial in bo z inovativnimi, učinkovitimi in varnimi terapijami izboljšal kakovost življenja pacientov. ARTE je sofinanciran iz programa sodelovanja INTERREG V-A Italija-Slovenija 2014-2020. Vodja projekta na UL FFA je prof. dr. Janja Marc.

Novel diagnostic and therapeutic approaches to complex genetic disorders

(CIII-HR-0611). Projekt CEEPUS, regionalni program, katerega cilj je vzpostaviti in spodbujati mobilnosti študentov in profesorjev med sodelujočimi državami in ga koordinira Univerza v Zagrebu. V projekt so vključene fakultete iz držav partneric Avstrija, Bolgarija, Češka, Hrvaška, Madžarska, Poljska, Romunija, Slovaška, Slovenija, Srbija, Albanija, Severna Makedonija in Črna Gora. Koordinatorica na strani UL FFA je prof. dr. Janja Marc.

IMI – ENABLE

UL FFA je partner na projektu IMI– ENABLE, pri katerem sodelujejo štiri mednarodne farmacevtske družbe (AstraZeneca, Basilea, Evotec in GlaxoSmithKline) ter 24 univerz, raziskovalnih inštitucij, javnih ustanov in 15 majhnih in srednje velikih podjetij. Projekt spada v okvir IMI programa New Drugs for Bad Bugs (ND4BB). Namen projekta ENABLE je predklinični in zgodnji klinični razvoj novih potencialnih učinkovin z delovanjem proti Gram – negativnim bakterijam, ki zaradi pogoste rezistence na obstoječe protibakterijske učinkovine predstavljajo velik terapevtski problem in izziv. Cilj projekta, ki je bil v decembru 2019 podaljšan do 31. 5. 2020, je razviti tri spojine vodnice in dva klinična kandidata ter najmanj z eno spojino začeti prvo fazo kliničnih testiranj. Vodja projekta na UL FFA je prof. dr. Danijel Kikelj.

improve the quality of life of patients with innovative, efficient and safe therapies. ARTE is co-financed by the INTERREG V-A cooperation program Italy-Slovenia 2014-2020. Project head at UL FFA: Prof. Dr. Janja Marc.

Novel diagnostic and therapeutic approaches to complex genetic disorders

(CIII-HR-0611). The CEEPUS project, a regional program aimed at establishing and promoting the mobility of students and professors between participating countries and coordinated by the University of Zagreb. The project includes faculties of partner countries Austria, Bulgaria, Czech Republic, Croatia, Hungary, Poland, Romania, Slovakia, Slovenia, Serbia, Albania, North Macedonia and Montenegro. Coordinator at the UL FFA: Prof. Dr. Janja Marc.

IMI – ENABLE

UL FFA is a partner in the IMI-ENABLE project, involving Four International Pharmaceutical companies (AstraZeneca, Basilea, Evotec and GlaxoSmithKline) and 24 universities, research institutions, public institutions and 15 small and medium-sized enterprises. The project falls within the IMI framework of the New Drugs for Bad Bugs (ND4BB). The aim of the ENABLE project is the pre-clinical and early clinical development of new potential active substances acting against anti-Gram-negative bacteria, which due to frequent resistance to existing antibacterial agents, constitute a major therapeutic problem and challenge. The goal of the project, which was in December 2019, extended till the end of May 2002, is to develop three lead compounds and two clinical candidates and to identify at least one compound in order to start the first phase of clinical tests. Project head at UL FFA: Prof. Dr. Danijel Kikelj.

EATRIS-PLUS

Evropski infrastrukturni center za translacijsko medicino EATRIS je pridobil financiranje Evropske komisije za vodilni projekt Eatris-plus. Ta je namenjen krepitvi zmogljivosti in zagotavljanju inovativnih znanstvenih orodij za doseganje trajnosti programa EATRIS na področju personalizirane medicine. Specifični cilji projekta vključujejo: utrjevanje zmogljivosti centra EATRIS na področju personalizirane medicine za boljše delovanje akademskih inštitucij in industrije ter povečanje povezovanja centra EATRIS z velikimi farmacevtskimi podjetji; okrepitev trajnostnega finančnega modela EATRIS; spodbujanje deležnikov k aktivnemu vključevanju v infrastrukturno delovanje; in razširitev strateškega partnerstva z raziskovalno infrastrukturo. EATRIS-Plus bo prispeval k združevanju in izkoriščanju translacijske infrastrukturne zmogljivosti akademskih inštitucij na področju različnih tehnologij omik ter priskrbel dostop do podatkov, pridobljenih s tovrstnimi sodobnimi tehnologijami. Projekt bo s tem omogočil lažje reševanje globalnih znanstvenih in družbenih izzivov na področju personalizirane medicine. Koordinator na UL FFA je prof. dr. Irena Mlinarič-Raščan.

Erasmus+ ADVANCE

Projekt Erasmus+ ADVANCE je evropski izobraževalni projekt. Osnovan je na tristopenjskem učnem programu s področja naprednih zdravil (ATMP) in bo vseboval: 1) spletne tečaje, 2) spletne seminarje ter 3) praktični enotedenski delavnici. UL FFA je z italijanskim inštitutom za zdravje (Istituto Superiore di Sanita – ISS) zadolžena za sodelovanje pri pripravi učnega načrta ter izvedbo delavnic. Vsaka delavnica bo sprejela do 30 slušateljev. Udeleženci programa bodo tekom izobraževanja prejemali potrdila, s pomočjo katerih bodo dokazovali ekspertizo s področja ATMP. Program

EATRIS-PLUS

The European infrastructure centre for translational medicine EATRIS has gained funding from the European Commission for the leading project Eatris-Plus. Project is designed to strengthen capacity and provide innovative scientific tools to achieve the sustainability of the EATRIS program in the field of personalised medicine. The specific objectives of the project include: consolidating the capacity of the EATRIS centre in the field of personalised medicine to improve the functioning of academic institutions and industry and to enhance the integration of the EATRIS centre with large pharmaceutical companies; to strengthen the sustainable EATRIS financial model; to encourage stakeholders to actively integrate into infrastructure operations; and to extend the strategic partnership with research infrastructure. EATRIS-Plus will contribute to combining and exploiting the translational infrastructure capacity of academic institutions in the field of different omic technologies and provide access to data obtained through such modern technologies. The project will facilitate the resolution of global scientific and societal challenges in the field of personalised medicine. Coordinator at the UL FFA: Prof. Dr. Irena Mlinarič-Raščan.

Erasmus+ ADVANCE

The Erasmus + ADVANCE project is an example of the implementation of good practice of complex learning. It is based on a three-stage learning program in the field of ATMP and will encompass: 1) online courses, 2) webinars and 3) a practical one-week workshop. With the Italian Health Institute (Istituto Superiore di Sanita – ISS) UL FFA is responsible for participating in the preparation of the curriculum and the implementation of both practical workshops. Each workshop will accept up to 30 listeners. Program participants will receive certificates or badges during the individual stages of education, with the help of which they will prove an expertise in the field of ATMP. Program is aimed at scientists from the broader area of biomedicine, who would at the start of their career like

je namenjen študentom in znanstvenikom s širšega področja biomedicine, ki bi na začetku svoje kariere želeli pridobiti specifična znanja in kompetence za soočanje z izzivi, pri razvoju, izdelavi, trženju in uporabi ATMP. Koordinator projekta je EATRIS ERIC, Nizozemska, kot partnerji pa poleg UL FFA sodelujejo še: Istituto Superiore di Sanita, Italija; Universite Libre de Bruxelles, Belgija; Elevate, Nizozemska; KU Leuven, Belgija in Takis SRL, Italija. Koordinator na UL FFA je prof. dr. Irena Mlinarič-Raščan.

to acquire specific knowledge and competences to meet the challenges of development, manufacturing, marketing and use of ATMP. Project coordinator is EATRIS ERIC, Netherlands. As partners of the project and in addition to the UL FFA the following institutions also participate: Istituto Superiore di Sanita, Italy; Universite Libre de Bruxelles, Belgium; Elevate, Netherlands; KU Leuven, Belgium and Takis SRL, Italy. Coordinator at the UL FFA: Prof. Dr. Irena Mlinarič-Raščan

Drugi mednarodni projekti

Ameriški projekt »A transcriptome-wide approach to identifying RNA targets of the Prader-Willi locus snoRNAs« (Foundation for Prader-Willi Research)

Prader-Willijev sindrom je genetska bolezen, katere etiologija je slabo pojasnjena. Njen osrednji vzrok je delecija genov skupine nekodirajočih RNA (SNORD116), ki so izražene pretežno v možganih in katerih funkcija ni pojasnjena. V okviru projekta bomo za identifikacijo RNA-vezavnih partnerjev SNORD116 razvili novo presejalno tehniko, ki temelji na kovalentnem premreženju partnerskih RNA v živih celicah, delni razgradnji RNA v celičnem lizatu, ligaciji obeh molekul RNA (tj. tvorbi hibridnih molekul RNA) in sekvenciranju hibridov. Identifikacija tarčnih RNA SNORD116 bo ponudila vpogled v etiologijo PWS in bo osnova za načrtovanje novih terapevtskih strategij. Koordinator projekta na UL FFA je izr. prof. dr. Tomaž Bratkovič, sodelujoča raziskovalca sta prof. dr. Boris Rogelj (IJS) in prof. dr. Jernej Ule (Francis Crick Institute).

COST – sodelovanje v 19 projektih

Bilateralni projekti

UL FFA je imela v letu 2019 vzpostavljenih 19 bilateralnih projektov, kjer sodelujemo z akademskimi inštitucijami v naslednjih državah: Argentina, Črna gora, Francija, Hrvaška, Madžarska, Rusija, Srbija in ZDA.

Other international projects:

USA project »RNA targets of SNORD116« (Foundation for Prader-Willi Research)

Prader-Willie's syndrome is a genetic disease whose etiology is poorly explained. Its central cause is delecium of genes of the non-coding RNA Group (SNORD116), which are expressed predominantly in the brain and whose function is not clarified. In the context of the project, we will use a new technique called hiCLIP, developed by Prof. Ule and colleagues, to identify the RNA binding partners SNORD116. The essence of the approach is the immunoprecipitation of proteins that bind SNORD116 (along with its target RNA) in the cellular nucleus, formation of hybrid molecules of RNA and sequencing of hybrids. Identification of the target RNA SNORD116 will offer insight into the etiology of PWS and will be the basis for designing new therapeutic strategies. Coordinator of the project at the UL FFA: Assoc. Prof. Dr. Tomaž Bratkovič, participating researchers are Prof. Dr. Boris Rogelj (IJS) and Prof. Dr. Jernej Ule (Francis Crick Institute).

COST projects - cooperating in nineteen projects.

Bilateral projects

In 2019 the Faculty of Pharmacy was part of nineteen bilateral projects. We cooperated with academic institutions from Argentina, Croatia, France, Hungary, Montenegro, Russia, Serbia and the United States.

PRENOS ZNANJA

Tudi v letu 2019 smo nadaljevali z inovacijsko dejavnostjo, tako na področju vlaganja patentnih prijav kot s sodelovanjem na natečaju za naj inovacijo Univerze v Ljubljani. Nadaljevali smo s tradicijo raziskovalnega sodelovanja z gospodarskimi partnerji, ki nam omogoča neposredni prenos znanja v gospodarstvo in bogatitev lastnega kadra s pomembnimi izkušnjami realnih izzivov. Ponosni smo, da z uporabo inovativnih in sodobnih raziskovalnih in razvojnih pristopov pripomoremo k doseganju raziskovalno-razvojnih ciljev industrijskih partnerjev. Na trgu pridobljena sredstva vlagamo v kontinuiran razvoj UL FFA.

UL FFA je v letu 2019 sodelovala z naslednjimi gospodarskimi partnerji: Lek, Krka, Medis, Merck Sharp&Dohme, Herbify, X-Biotix Therapeutics, Širimo dobro besedo, Patron, Vizera, AS AN, Vis Vitalis, Pharmahemp, Bayer Aktiengesellschaft, PharmaLinea, REPLEK FARM, Primrose, Medis, Medilip, Biological Research Centre, CeramTec in ostali.

KNOWLEDGE TRANSFER

Also in 2019 we continued with innovation activities, both in the field of submitting patent applications and by participating in the competition for the University of Ljubljana innovation. We continued with the tradition of research cooperation with the economic partners, which allows us to directly transfer knowledge to the pharmaceutical industry and at the same time enriches our own staff with important experiences by facing real challenges. We are proud to be able to help achieving the research and development goals of industrial partners by using innovative and modern research and development approaches. Funds acquired on the market are invested in the continuous development of UL FFA.

In 2019 UL FFA collaborated with the following economic partners: Lek, Krka, Medis, Merck Sharp&Dohme, Herbify, X-Biotix Therapeutics, Širimo dobro besedo, Patron, Vizera, AS AN, Vis Vitalis, Pharmahemp, Bayer Aktiengesellschaft, PharmaLinea, REPLEK FARM, Primrose, Medis, Medilip, Biological Research Centre, CeramTec and others.

INOVACIJE IN IZUMI

UL FFA že nekaj let zapored uspešno sodeluje s Pisarno za prenos znanja Univerze v Ljubljani pri vlaganju patentnih prijav, izvedbi smiselnega predhodnega »International Search Report-a« ter strokovnega vodenja postopkov do podelitve patentov. To se kaže v visokem številu novih patentnih prijav (dva v letu 2019). UL FFA je dne 19. 9. 2019 skupaj s Pisarno za prenos znanja Univerze v Ljubljani organizirala izobraževalni dogodek »Inovator.si?« na temo intelektualne lastnine in prijavljanja patentov.

INVENTIONS AND INNOVATIONS

For several years UL FFA has been successfully cooperating with the University of Ljubljana's knowledge transfer office in the field of patent applications, the implementation of a meaningful prior "International Search Report" and the professional management of procedures to grant patents. This is reflected in the high number of new patent applications (two in 2019). On the 19th of September 2019 UL FFA, together with the knowledge Transfer office of the University of Ljubljana, organised an educational event "Inovator.si?" on the subject of intellectual property and patent registration.

Podjetniška skupina / Entrepreneurial group

Podjetniška skupina UL FFA je v letu 2019 dosegla 2. mesto na natečaju Rektorjeva nagrada za naj inovacijo Univerze v Ljubljani 2019

Odpornost na antibiotike postaja vse resnejša nevarnost za javno zdravje tako v kliničnem okolju kot v skupnosti. Izum predstavljajo nove protibakterijske spojine s širokim spektrom protibakterijskega delovanja in nizkim tveganjem za razvoj rezistence. Novi zaviralci DNA giraze B imajo širok spekter delovanja, saj so učinkoviti proti po Gramu pozitivnim (G+) in po Gramu negativnim (G-) bakterijam, vključno s sevi, ki so odporni na zdravilne učinkovine, ki so trenutno na voljo v terapiji. Nove spojine izkazujejo odlično aktivnost proti meticilinu odpornim Staphylococcus aureus (MRSA) in predstavljajo potencial za razvoj novih učinkovin za zdravljenje kožnih infekcij, ki jih povzroča omenjena bakterija. Odkritje novih protibakterijskih spojin na Katedri za farmacevtsko kemijo je plod večletnega dela raziskovalne skupine, ki jo trenutno sestavljajo Martina Durcik, Tihomir Tomašič, Lucija Peterlin Mašič, Nace Zidar, Anamarija Zega, Janez Ilaš, Žiga Skok in Danijel Kikelj ter sodelovanja s številnimi odličnimi tujimi raziskovalnimi skupinami.

UL FFA enterprise group won second prize in the Chancellor's Prize for Innovation of the University of Ljubljana 2019 call

Antibiotic resistance is becoming a serious threat to public health, both in the clinical environment and in the community. The invention is represented by new antibacterial compounds with a broad spectrum of antibacterial action and low risk of developing resistance. New DNA inhibitors of gyrase B have a wide range of action, as they are effective against Gram positive (G +) and Gram negative (G-) bacteria, including strains that are resistant to the active substances currently available in therapy. New compounds show excellent activity against methylenine-resistant Staphylococcus aureus (MRSA) and present the potential for the development of new ingredients to treat skin infections, caused by the aforementioned bacterium. The discovery of new antibacterial compounds on the Chair of pharmaceutical chemistry is the fruit of the multiannual work of the research group, currently comprised by Martina Durcik, Tihomir Tomašič, Lucija Peterlin Mašič, Nace Zidar, Anamarija Zega, Janez Ilaš, Žiga Skok in Danijel Kikelj and also due to past collaborations with many excellent foreign research groups.

Nagrajenec asist. dr. Urban Košak / Prize winner Assist. Prof. Dr. Urban Košak

Asist. dr. Urban Košak zmagovalec mednarodnega natečaja Falling Walls Lab Ljubljana 2019

Dne 25. 9. 2019, je v NLB Centru inovativnega podjetništva v Ljubljani potekal mednarodni natečaj Falling Walls Lab Ljubljana 2019. Svoje inovativne ideje je predstavilo šest finalistov iz različnih akademskih področij. Šestčlanska komisija je izbrala zmagovalca, asist. dr. Urbana Košaka iz UL FFA. Asist. dr. Košak je zmagal s prebojno idejo o novem zdravilu za lajšanje simptomov Alzheimerjeve bolezni. Ideja se mu je porodila skupaj s preostalimi člani ekipe, ker imajo trenutna zdravila za lajšanje simptomov te bolezni številne slabosti (npr. neželeni učinki, neučinkovitost v poznih stadijih bolezni).

Priznanje TARAS za najboljši sodelovalni projekt v industriji je prejel LEK d. d.

Priznanje Taras, ki je bilo podeljeno za najboljši sodelovalni projekt v industriji, je prejelo podjetje Lek d. d. v sodelovanju z UL FFA in UL FS.

Nagrajeni projekt je multidisciplinarni uspeh razvoja t. i. »Umetnega želodca«. Gre za posnetek človeškega organa, čigar osnovo predstavlja anatomsko

Assist. Dr. Urban Košak is the winner of the International Competition Falling Walls Lab Ljubljana 2019

On the 25th of September 2019, the international competition Falling Walls Lab Ljubljana 2019 was held at the NLB centre of innovative entrepreneurship. Six finalists from different academic fields presented their innovative ideas. The six-member committee selected the winner Assist. Dr. Urban Košak from UL FFA. Assist. Dr. Urban Košak won with an innovative idea regarding new medicine to relieve the symptoms of Alzheimer's disease. The idea was generated within the research group, as current medicines to relieve the symptoms of Alzheimer's disease have many disadvantages (e.g. side effects, inefficiencies in the late stages of the disease).

TARAS Award for Best Collaborative project in industry was received by LEK d. d.

The award of Taras, awarded for the best collaborative project in the industry, was received by Lek d.d., in cooperation with UL FFA and UL FS.

The award-winning project is a multidisciplinary success of the development of the so-called "artificial stomach". It is a snapshot of a human body organ,

TARAS/TARAS recognition

oblikovana silikonska vreča, ki jo objemajo elektronsko nadzorovane zaslonke, te pa s kontroliranim stiskanjem omogočajo biorelevantne vzorce želodčnega gibanja; z umetnim sfinktrom pa simuliramo delovanje pilorusa ter nadziramo praznjenje želodca. Omogoča napredne raziskave formulacij v razvoju in napovedovanje obnašanja farmacevtskih oblik po zaužitju v človeškem želodcu. S tem se lahko pospeši razvoj, hkrati pa zmanjša število potrebnih poskusov in vivo na ljudeh, s čimer prihranimo tako čas kot tudi denar.

Ta model globalno gledano predstavlja pomembno novost na področju razvoja in testiranja farmacevtskih oblik in je plod zglednega sodelovanja različnih znanosti in strok. UL FFA je pri projektu sodelovala s koordinacijo znanstveno raziskovalnega dela v okviru projekta Razvoj kadrov pod vodstvom dekanje prof. dr. Irene Mlinarič-Raščan in prof. dr. Boruta Božiča ter koordinatorstvom prof. dr. Marije Bogataj in mentorstvom doc. dr. Jurija Trontlja dvema doktorandkama: asist. dr. Meliti Hribar in asist. Heleni Vrbanac.

whose base represents an anatomically crafted silicone bag, which is encompassed by electronically controlled apertures. Apertures exhibiting controlled compression enable biorelevant gastric movement patterns; with the artificial sphincter, the operation of the pylorus is simulated and consequently also the control of the stomach emptying. Artificial stomach enables advanced research in the formulation development and forecasting of the behaviour of pharmaceutical forms after ingestion. This can accelerate development, while reducing the number of experiments needed in vivo on humans, thus saving both time and money.

This model represents a globally important novelty in the field of development and testing of pharmaceutical dosage forms, and is a result of the exemplary participation of various sciences and disciplines. UL FFA has participated in the project by coordinating research work within the project Development of personnel under leadership of the dean Prof. Dr. Irena Mlinarič-Raščan and Prof. Dr. Borut Božič and with the supervision of Prof. Marija Bogataj and Assist. Prof. Dr. Jurij Trontelj to two PhD students: Assist. dr. Melita Hribar in Assist. Dr. Melita Hribar.

Sodelavke in doktorandke na simpoziju prof. dr. Boruta Božiča/ Co-workers and doctoral students at the Symposium of Prof. Dr. Borut Božič

Uspešno sodelovanje UL FFA s podjetjem Lek, Biofarmacevtika Mengeš

Sodelavci UL FFA, Katedre za farmacevtsko tehnologijo, se lahko pohvalijo z uspešnim sodelovanjem s kolegi iz farmacevtskega podjetja Lek, Biofarmacevtika Mengeš, t. j. na področju razvoja in optimizacije tehnološkega postopka liofilizacije za pripravo formulacij z biološkimi učinkovinami.

Rezultat konstruktivnega znanstveno-raziskovalnega udejstvovanja in vzpostavitve dobrega skupinskega dela predstavljata dva znanstvena članka, objavljena v zadnjem letu v revijah s faktorjem vpliva. Znanstveni rezultati so neposredno implementirani v gospodarsko okolje ter tako predstavljajo temelje za uspešen razvoj biološko podobnih zdravil. Rezultati so bili večkrat predstavljeni na mednarodnih konferencah in v okviru internih srečanj korporacije Novartis.

Povezovanje UL FFA z vodilnimi farmacevtskimi podjetji predstavlja velik doprinos k njeni odličnosti in znanstveno-raziskovalnemu ugledu tako v domačem kot tudi v mednarodnem okolju.

Successful cooperation of UL FFA with Lek, Biopharmaceutics Mengeš

The members of the UL FFA, the Chair of Pharmaceutical Technology, can claim successful cooperation with colleagues from the pharmaceutical company Lek, Biopharmaceutics Mengeš, i.e. in the field of development and optimisation of the technological process of lyophilisation for the preparation of formulations with biological substances.

The result of constructive scientific research and the establishment of good teamwork is represented by two scientific articles, published in the last year in journals with impact factor. Scientific results are directly implemented in the industrial environment and thus represent the foundations for the successful development of biosimilar medicinal products. The results were presented at international conferences and in the context of the internal meetings of the Novartis corporation.

The integration of the UL FFA with leading pharmaceutical companies represents a great contribution to its excellence and scientific and research reputation in both domestic and international environments.

Simpozij Dan medmolekulskih in medčloveških interakcij ob jubileju prof. dr. Boruta Božiča

Meseca Septembra 2019 je bil organiziran enodnevni znanstveni simpozij ob 60-letnici prof. dr. Boruta Božiča. Prof. Božič je od leta 2004 zaposlen na Katedri za klinično biokemijo Fakultete za farmacijo v Ljubljani; njegovo raziskovalno delo je vezano pretežno na raziskovalno skupino Kliničnega oddelka za revmatologijo Kliničnega centra v Ljubljani in sicer je osrednja tema študij mehanizmov nastanka in razvoja avtoimunskih motenj, s poudarkom na specifičnosti in afiniteti protiteles, antigenski prepoznavi in medmolekulskih interakcijah v imunskem sistemu ter klinični uporabnosti imunoseroloških preiskav.

Naslov simpozija Dan medmolekulskih in medčloveških interakcij odraža vse aspekte profesionalnega delovanja prof. dr. Božiča: preučevanje medmolekulskih interakcij v imunskem sistemu ter razumevanju medčloveških interakcij v vlogi pedagoga in vodje. V osrednjem delu simpozija so skozi znanstvena predavanja o medmolekulskih interakcijah svoje raziskovalno delo predstavili bivši in sedanji sodelavci ter doktorandke prof. dr. Božiča, ki so pomembno zaznamovali njegovo poklicno pot. V drugi del simpozija je bilo vključeno predavanje, ki je iz antropološkega vidika opredelilo pomen in uporabno vrednost interakcij med ljudmi in sodobnimi tehnologijami, ki dandanes sooblikujejo naše okolje in vsakdan. Zaključek simpozija pa je seveda bil namenjen osebnemu pogledu in razmišljanjem prof. dr. Božiča o tem o tem, katera vprašanja, dileme in odgovore so prinesla desetletja njegovih pedagoških interakcij, v katere je kot učitelj še vedno aktivno vpet v odnosu do drugih učiteljev, raziskovalcev, študentov in številnih strokovnjakov farmacevtske in laboratorijske stroke.

Intermolecular and Interpersonal Interactions Day on the occasion of Prof. Dr. Borut Božič's anniversary

In September 2019, a one-day scientific symposium was organized on the occasion of the 60th anniversary of Prof. Dr. Borut Božič. Prof. Dr. Borut Božič has been employed at the Department of Clinical Biochemistry of the Faculty of Pharmacy in Ljubljana since 2004. His research work is mainly related to the research group of the Clinical Department of Rheumatology of the Clinical Center in Ljubljana. They study the mechanisms of occurrence and development of autoimmune disorders with emphasis on the specificity and affinity of antibodies, antigenic recognition and intermolecular interactions in the immune system as well as the clinical applicability of immunoserological tests.

The title of the symposium, Intermolecular and Interpersonal Interactions Day, reflects all aspects of Prof. Dr. Božič's professional work: study of intermolecular interactions in the immune system and understanding interpersonal interactions in the role of teacher and leader. Primarily, former and current colleagues and doctoral students working with Prof. Dr. Božič who left a significant impact on his career presented their research work through scientific lectures on intermolecular interactions. The second part of the symposium included anthropologically oriented lecture defining the meaning and usefulness of interactions between people and modern technologies that co-shape our environment and everyday life. Obviously, the symposium conclusion was marked by prof. Prof. Dr. Božič's personal view and thoughts on questions, dilemmas, and answers he has faced through decades of his pedagogical interactions in which, as a teacher, he is still actively involved in relation to other teachers, researchers, students, and many pharmaceutical and laboratory professionals.

ODPRTOST V DRUŽBO

Noč raziskovalcev – HUMANISTIKA-TO SI TI!

V okviru vseevropskega projekta Evropska noč raziskovalcev smo 27. 9. 2019 na UL FFA pripravili aktivnosti za javnost, da bi predstavili delo raziskovalk in raziskovalcev. Za mlade, ki se za karierno pot šele odločajo, smo pripravili zanimive delavnice, kjer so se lahko sami preizkusili v izdelavi zdravil, izolaciji nukleinskih kislin, merjenju glukoze v krvi, izdelavi srebrovega zrcala, svetleče lave in slončkove zobne paste. Širši javnosti smo predstavili izzive pri zdravljenju z zdravili in način zagotavljanja varne in učinkovite uporabe zdravil ter razvoj novih storitev v lekarniški dejavnosti kot odgovor na predstavljene izzive. Na delavnici so se obiskovalci lahko seznanili s pravilno uporabo inhalatorjev ter nato sami preizkusili različne oblike inhalatorjev in pršilnikov. Na ogledu v lekarni Mirje so podrobneje spoznali delo lekarniškega farmacevta, prostore lekarne in njihovo namembnost ter se preizkusili v izdelavi krem. Obiskali smo tudi Gimnazijo Celje Center in dijakom predstavili študijske programe, ki jih fakulteta izvaja, predvsem pa raziskovalno delo na UL FFA.

Noč raziskovalcev/Researchers' Night

IMPACT ON SOCIETY

European Researchers' Night at the Faculty of Pharmacy – HUMANITIES -THAT'S YOU!

In the framework of the trans-European project The Researcher's Night we prepared activities for the public on the 27th of September 2019 in order to present the work of researchers employed at the faculty. For young people who are only deciding on the career path, we prepared interesting workshops, where they were able to test themselves in the manufacture of medicinal products, nucleic acid isolation, blood glucose measurement, in the manufacture of the silver mirror, shiny lava and baby elephant's toothpaste. The general public was familiarized with the challenges of drug treatment, along with ensuring safe and effective use of medicinal products; furthermore, it was acquainted with the development of new services in the pharmacy in response to the challenges presented. At the workshop the visitors were able to learn about the proper use of inhalers and were then able to test different applicators of inhalers and nebulisers. While visiting the pharmacy Mirje they learned more about the work of the pharmacist, the pharmacy's premises and their intended purpose. They also tried to manufacture the creams themselves. We also visited the gymnasium Celje Center, where the students were acquainted with the Faculty of Pharmacy, the study programs and above all, with the research work at the Faculty of Pharmacy.

Asist. Martina Durcik med finalisti Znanstvenega slama 2019

Dne 16. 9. 2019 je v sklopu konference Cutting Edge potekal Znanstveni slam, na katerem je med finalisti nastopila tudi mlada raziskovalka Martina Durcik s Katedre za farmacevtsko kemijo UL FFA. V kratki 5-minutni poljudni predstavitvi svojega raziskovalnega dela je publiki predstavila problem bakterijske odpornosti in reševanje le-te z odkrivanjem novih protibakterijskih spojin, ki zavirajo bakterijski encim DNA-girazo B, ki ima ključno vlogo pri podvajanju molekule DNA. Razviti zaviralci imajo odlično protibakterijsko delovanje na odporne bakterije, kot so proti meticilinu odporni Staphylococcus aureus, proti vankomicinu odporni Enterococcus faecium, multirezistentni Neisseria gonorrhoeae in Streptococcus pneumoniae, ter Acinetobacter baumannii in Pseudomonas aeruginosa. Svojo predstavitev je poimenovala »Bitka proti superbakterijam«. Znanstveni slam (Science Slam) je tekmovanje, v katerem raziskovalci svoje raziskovalno delo na zanimiv in privlačen način predstavijo širši javnosti. Dogodki potekajo v okviru zavoda za promocijo znanosti: Znanost na cesti, znanje in ideje na prepihu (ZnC).

Evropsko podiplomsko izobraževanje iz Radiofarmacije - modul 1: Farmacija

V sodelovanju s Kliniko za nuklearno medicino Univerzitetnega kliničnega centra Ljubljana in švicarsko univerzo ETH Zurich smo v dneh od 26. 8. do 6. 9. 2019 že desetič izvedli podiplomsko izobraževanje iz radiofarmacije, ki je del evropske sheme podiplomskega izobraževanja. Sodelovanje z ETH Zurich in mednarodna zasedba udeležencev je veliko strokovno priznanje Fakulteti za farmacijo ter pripomore k boljši prepoznavnosti Univerze v Ljubljani.

Koordinacija: doc. dr. Tanja Gmeiner

Assist. Martina Durcik among finalists of the Science slam 2019

The Cutting Edge Conference held a science slam on the 16th of October 2019. Among the presenting finalists there was also a young researcher, Martina Durcik, from the Chair of Pharmaceutical Chemistry, UL FFA. In a short, 5-minute popular presentation of her research work, the audience was familiarized with a problem of bacterial resistance and how to solve this challenge by discovering new antibacterial compounds that inhibit the bacterial enzyme DNA- Gyrase B, which plays a key role in duplicating the DNA molecule. Developed inhibitors have excellent antibacterial action on resistant bacteria such as methicillin-resistant Staphylococcus aureus, against vancomycin resistant Enterococcus faecium, multi-resistant Neisseria Gonorrhoeae, Streptococcus pneumoniae, Acinetobacter baumannii and Pseudomonas aeruginosa. She named her presentation "The battle against Superbacteria". Science Slam is a contest in which researchers present their research work in an interesting and attractive way to the general public. The events take place within the Institute for the promotion of science: road science, knowledge and ideas scrutinized.

Postgraduate European Radiopharmacy Course - Modul 1: Pharmacy

In cooperation with the Department of Nuclear Medicine of the University Medical Centre Ljubljana and the Swiss University ETH Zurich, we have from 26th of August till 6th of September 2019, for the tenth time, carried out the post-graduate Radiopharmacy course, which is a part of the European post-graduate educational scheme. Cooperation with ETH Zurich and the International Ensemble of participants is a great professional recognition of the faculty of Pharmacy, which in turn contributes to a better visibility of the University of Ljubljana.

Coordinator: Assist. Prof. Dr. Tanja Gmeiner

Mednarodna poletna šola CEEPUS 2019

V dneh med 24. 7. in 29. 7. 2019 je v Portorožu potekala 6. mednarodna poletna šola CEEPUS, ki jo je organizirala mreža CEEPUS SI-0611: »Novel diagnostic and therapeutic approaches to complex genetic disorders« v sodelovanju z UL FFA. Sodelovalo je 42 udeležencev iz 8 držav (Slovenija, Hrvaška, Madžarska, Bosna in Hercegovina, Srbija in Češka, Kazahstan, Palestina), od tega 9 učiteljev in 33 dodiplomskih in podiplomskih študentov laboratorijske biomedicine, medicinske biokemije, farmacije in medicine. Koordinacija: prof. dr. Janja Marc.

International Summer School CEEPUS 2019

The 6th CEEPUS International Summer School »Novel diagnostic and therapeutic approaches to complex genetic disorders«, organized by CEEPUS SI-0611, was held in Portorož from the 24th till the 29th of July 2019. Summer school was organized in cooperation with UL FFA. 42 participants from 8 countries (Slovenia, Croatia, Hungary, Bosnia and Herzegovina, Serbia and the Czech Republic, Kazakhstan, Palestine) participated, including 9 teachers and 33 undergraduate and graduate students in laboratory biomedicine, medical biochemistry, pharmacy and medicine.
Coordination: Prof. Dr. Janja Marc

Mednarodna šola/ International school

Izšla je druga, dopolnjena in pregledana izdaja Farmacevtskega terminološkega slovarja

Farmacevtska stroka je po osmih letih v začetku leta 2019 dobila nov, dopolnjen in pregledan terminološki slovar, ki je nastal v sodelovanju med Fakulteto za farmacijo Univerze v Ljubljani in Inštitutom za slovenski jezik Frana Ramovša ZRC SAZU. Zasnova slovarja, ki je prvič izšel pri Založbi ZRC leta 2011, sicer sega v leto 2004, še šest let prej, pa je začel izhajati Formularium Slovenicum, slovenski dodatek k Evropski farmakopeji, kar je po navedbah urednikov tudi neke vrste terminološki slovar. Nova 2. izdaja vsebuje 1035 novih gesel, 1160 pa je dopolnjenih oziroma popravljenih. Pri pripravi tega slovarja je sodelovalo 23 avtorjev, večina s Fakultete za farmacijo in s tremi glavnimi uredniki: dr. Marjeto Humar iz terminološke sekcije Inštituta za slovenski jezik Frana Ramovša ter prof. dr. Alešem Obrezo in prof. dr. Jelko Šmid Korbar s Fakultete za farmacijo Univerze v Ljubljani.

"Terminološki slovar predstavlja terminologijo stroke, je odraz njene razvitosti in skrbi strokovnjakov za slovensko terminologijo. Stroka se neprestano razvija in z njenim razvojem nastaja nova terminologija," je na predstavitvi slovarja v atriju SAZU razloge za nastanek novega slovarja pojasnila prof. dr. Šmid Korbar. "Čeprav je med obema izdajama minilo osem let, so se vmes pojavili novi termini, na primer s področja industrijske farmacije in nanotehnologije," je dodala. Prof dr. Aleš Obreza je poudaril pomen terminoloških slovarjev kot nujni učni pripomoček v učnem procesu za uveljavljanje slovenskega izrazja s področja farmacije tako med študenti kot pedagoškimi delavci.

Slovar ima poleg opredelitev slovenskih izrazov tudi tujejezične ustreznike, angleške in latinske, saj po navedbah urednikov strokovnjaki slovenski prevod neredko iščejo prek angleškega ali latinskega izraza. Slovar je že na voljo tudi na spletnem mestu Inštituta Frana Ramovša, na naslovu https://isjfr.zrc-sazu.si/terminologisce.

A second, supplemented and revised edition of the Pharmaceutical Terminology Dictionary was published

In the beginning of 2019 after eight years the pharmaceutical profession got a new, supplemented and reviewed dictionary of terminology, which emerged as a product of cooperation between the Faculty of Pharmacy, University of Ljubljana, and the Fran Ramovš Institute for the Slovenian Language ZRC SAZU. The concept of the dictionary, which was first published in 2011 by the publishing unit Založba ZRC, initially dates back to 2004 and six year earlier Formularium Slovenicum was being published, the Slovenian addition to European Pharmacopoeia, which is, according to some editors, also some kind of terminology dictionary. The new second edition included 1035 new dictionary entries and 1160 are supplemented, i.e. revised. When preparing this dictionary 23 authors were involved, mostly from the Faculty of Pharmacy with three editors-in-chief: Dr. Marjeta Humar from the terminology section of Fran Ramovš Institute for the Slovenian Language and Prof. Dr. Aleš Obreza with Prof. Dr. Jelka Šmid Korbar from the Faculty of Pharmacy, University of Ljubljana.

"The dictionary of terminology represents the language of profession and reflects its development, along with experts' care for the Slovenian terminology. The profession is constantly developing and through its development new terminology emerges," explained Prof. Dr. Jelka Šmid Korbar during the dictionary presentation at the atrium of SAZU. Despite the fact that eight years passed between the publications of both books, new terms emerge, e.g. involving the field of industrial pharmacy and nano-technology," she added. Prof. Dr. Aleš Obreza stressed the importance of terminology dictionaries as essential learning accessories in the learning process in order to establish Slovenian terminology in the pharmacy field both between the students and teaching staff. In addition to defining Slovenian expressions, the dictionary also offers equivalents in foreign languages, i.e. English and Latin; according to the editors it is not uncommon for the experts to look for a Slovenian translation via English or Latin term. The dictionary is already available on the website of the Fran Ramovš Institute for the Slovenian Language: https://isjfr.zrc-sazu.si/terminologisce.

MEDNARODNA DEJAVNOST

UL FFA je prepoznana, mednarodno odprta in odlična raziskovalna in pedagoška inštitucija, ki prispeva svoj delež v slovensko in svetovno zakladnico znanja in iz nje prenaša znanje med študente in druge uporabnike. Iz vidika internacionalizacije spodbujamo in ohranjamo visoko število študentskih izmenjav na vseh študijskih programih. Prav tako se izmenjav udeležujejo naši zaposleni. Močno smo vpeti v mednarodne študijske in znanstvene tokove, internacionalizacija pa je integrirana med vse deležnike, vključene v delovanje fakultete, kar predstavlja naše ključne strateške cilje.

V skladu s tem želimo v prihodnjih letih povečati število gostujočih predavateljev in raziskovalcev z namenom doseganja strateških partnerstev. Želimo povečati interes študentov tudi iz severnega dela Evrope, da bi se v večjem številu udeležili izmenjav. Še naprej želimo omogočiti kakovostno mobilnost čim večjemu številu domačih študentov in na tak način prispevati k nadgradnji splošnih kompetenc diplomantov – povečati konkurenčnost naših diplomantov pri iskanju zaposlitev. Spodbujamo študijske izmenjave in praktične izmenjave študentov na programih S1 KOZ ter S1 LBM.

PROGRAMI MOBILNOSTI

- Erasmus: Trenutno imamo na UL FFA sklenjenih 65 bilateralnih pogodb in dogovorjenih približno 160 mest za izmenjavo študentov ter 75 mest za izmenjavo učiteljev.
- Srednjeevropski program za izmenjavo študentov in profesorjev CEEPUS: Cilj programa je vzpostaviti in spodbujati mobilnosti študentov in profesorjev med sodelujočimi državami ter izkoristiti prijateljske povezave in možnosti za oblikovanje skupnih študijskih programov. V programu CEEPUS sodelujejo visokošolske inštitucije iz naslednjih držav: Albanija, Avstrija, Bolgarija, Bosna in Hercegovina, Češka, Črna Gora, Hrvaška, Kosovo,

INTERNATIONAL ACTIVITY

Faculty of Pharmacy is a recognized, internationally open and excellent research and teaching institution, which contributes its share to the Slovenian and world treasury of knowledge and transfers knowledge among students and other users. From the aspect of internationalization, we encourage and maintain a high number of staff exchanges and student exchanges within all study programs. We follow international study and scientific trends, moreover internationalization is integrated among all stakeholders involved in the functioning of the Faculty, and these are our key strategic goals.

In line with this our goal in the next term is to increase the number of guest lecturers and researchers with the purpose of achieving strategic partnerships. Our aim is to increase interest among students from northern Europe in taking part in exchanges. We aim to continuously provide high-quality mobility accessible to as many Faculty of Pharmacy students as possible, thus contributing to improving our graduates' general skills and increasing their competitiveness on the job market. We encourage student exchanges in Student Mobility for Studies and Student Mobility for Practice for the programs cosmetology (S1 KOZ) and laboratory biomedicine (S1 LBM).

MOBILITY PROGRAMS

- Erasmus: At moment 65 bilateral inter-institutional agreements are signed to support about 160 student and 75 teaching mobilities.
- CEEPUS (Central European Exchange Program for University Studies): The aim of the program is to establish and promote student and professor mobility between participating countries and to take advantage of the friendly connections and opportunities for the creation of joint study programs. Higher education institutions from the following countries participate in the CEEPUS program: Albania, Austria, Bulgaria, Bosnia and Herzegovina, the Czech Republic, Montenegro, Croatia, Kosovo, Hungary, Northern Macedonia, Poland,

Madžarska, Severna Makedonija, Poljska, Romunija, Slovaška, Slovenija in Srbija.
- Norveški finančni mehanizem: Omogoča izmenjave za namen študija ali prakse na Norveškem, Islandiji in v Lihtenštajnu.
- Programa Mednarodne zveze študentov farmacije (IPSF) in Evropske zveze študentov farmacije (EPSA).
- Druge vrste mobilnosti (npr. individualni obiski študentov, obiski v okviru pogodb COST, enodnevni obiski z drugih univerz).

MOBILNOST V ŠTEVILKAH

Naši študenti na tujih inštitucijah

- 57 študentov se je udeležilo mednarodne mobilnosti v okviru programa Erasmus +, od tega 39 za namen študija, 18 za namen praktičnega usposabljanja, v trajanju od 2 do 8 mesecev.
- 27 študentov je opravilo raziskovalno delo in delo v lekarnah v dolžini do 1 meseca v okviru SEP praks.

Gostujoči študenti na UL FFA

- 60 tujih študentov je opravilo del svojih študijskih obveznosti na UL FFA v okviru programa Erasmus + (52 za namen študija in 12 za namen praktičnega usposabljanja).
- 39 tujih študentov je bilo na UL FFA v okviru programa CEEPUS (10 na praktičnem usposabljanju in 29 na poletni šoli).
- 23 tujih študentov je bilo na krajših izmenjavah z namenom pridobivanja veščin – organizirano s strani študentov preko projekta Student Exchange Programme (SEP), ki ga organizira Mednarodna zveza študentov farmacije (IPSF).

Izmenjave učiteljev in raziskovalcev

- V študijskem letu 2018/19 je 30 tujih visokošolskih učiteljev in 22 tujih raziskovalcev gostovalo na UL FFA.
- V tujini je bilo v študijskem letu 2018/19 na izmenjavi 33 visokošolskih učiteljev in 22 raziskovalcev UL FFA, kjer so sodelovali v pedagoškem ali znanstveno-raziskovalnem delu na tujem visokošolskem zavodu.

Romania, Slovakia, Slovenia and Serbia.
- Norwegian financial mechanism: Enabling exchanges for studies and traineeships in Norway, Iceland, and Liechtenstein.
- International Pharmaceutical Students' Federation (IPSF) and European Pharmaceutical Students' Association (EPSA) programs.
- Other types of mobility (e.g. individual student visits, COST visits, short visits of staff from other universities...).

MOBILITY IN NUMBERS

Our students at institutions abroad

- 57 students participated in Erasmus + international mobility, 39 of them for the purpose of study, 18 for the purpose of practical training, 4 of them graduates, from 2 and up to 8 months.
- 27 students completed short term training (research and pharmacy traineeships) for up to 1 month - SEP internships.

Faculty of pharmacy guest students

- 60 foreign students completed part of their study obligations at Faculty of Pharmacy within the Erasmus + program (52 for the purpose of study and 12 for practical training).
- 39 foreign students attended the Faculty as part of the CEEPUS program (10 for research traineeships and 29 in summer school).
- 23 foreign students participated in short exchanges for the purpose of acquiring skills - organized by students through the Student Exchange Program (SEP) project organized by the International Union of Pharmacy Students (IPSF).

Exchanges of teachers and researchers

- In the academic year 2018/19, 30 foreign higher education teachers and 22 foreign researchers visited the Faculty of Pharmacy.
- During the academic year 2018/19, 33 teachers and 22 researchers of the Faculty of Pharmacy participated in an exchange abroad. At a foreign higher education institution they participated in

- Na izmenjavi na UL FFA je bilo 10 tujih administrativnih delavcev.
- Izmenjave v tujini so se udeležili 4 administrativni delavci UL FFA.

KLJUČNI DOSEŽKI V LETU 2019

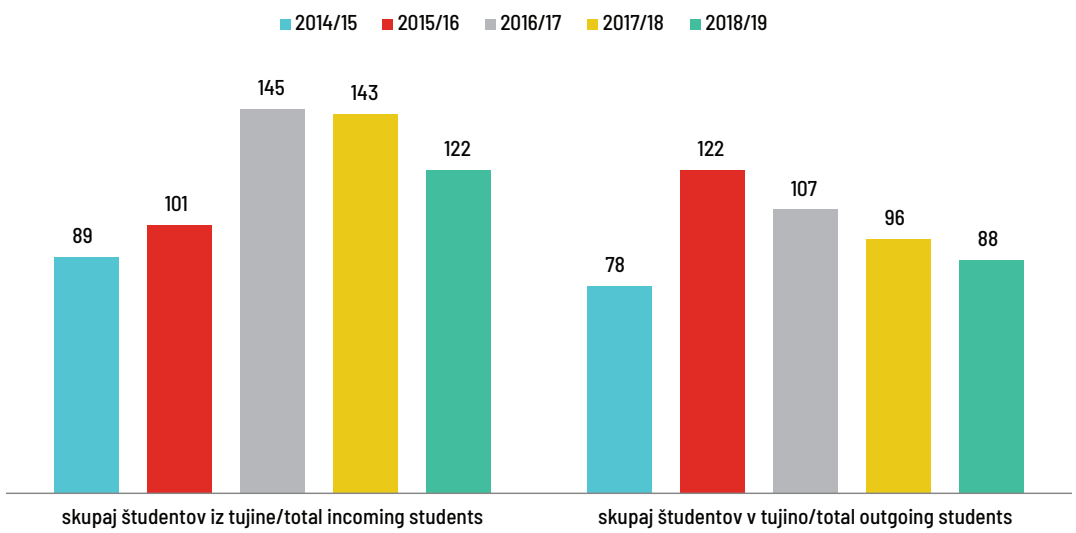
V študijskem letu 2018/19 smo opazili povečano zanimanje študentov iz severne Evrope za izmenjave na UL FFA. Na UL FFA je bil izveden 21. EPSA Summer University 2019, z naslovom: »Joining forces with other professionals for better healthcare«. Dogodka se je udeležilo 28 študentov iz vse Evrope. V dneh med 18. 3. in 20. 3. 2019 je na UL FFA potekala COST Training School s 14-imi udeleženimi študenti iz tujine. UL FFA je v letu 2019 sklenila bilateralni sporazum za izmenjavo študentov in profesorjev v okviru programa Erasmus + z Ludwig-Maximillians Universität München.

- teaching or scientific research work.
- 10 foreign administrators visited the Faculty of Pharmacy.
- 4 administrative staff of the Faculty participated in the exchange abroad.

KEY ACHIEVEMENTS

In the academic year 2018/19, students from Northern Europe became notably more interested in exchanges at the Faculty of Pharmacy. The 21st EPSA Summer University 2019 was held at the Faculty with the title: "Joining forces with other professionals for better healthcare". 28 students from all over Europe attended the event. Between the 18th and the 20th of March 2019 COST Training School was held, with 14 participating students from abroad. In 2019, the Faculty of Pharmacy signed a bilateral agreement for the exchange of students and professors under the Erasmus + program with the Ludwig-Maximillians Universität Munich.

MOBILNOST ŠTUDENTOV / STUDENT MOBILITY



Število študentov UL FFA na izmenjavi v tujini in število tujih študentov na izmenjavi na UL FFA (zadnjih pet študijskih let). / The number of faculty students in the exchange programme abroad, and the number of foreign students in the exchange programme at the faculty (data for the last five years).

PARTNERSKE FAKULTETE, S KATERIMI UL FFA SODELUJE V PROGRAMU ERASMUS +
FFA'S PARTNER FACULTIES IN THE ERASMUS + PROGRAM

Partnerske fakultete, s katerimi UL FFA sodeluje v program Erasmus+/FFA's partner faculties in the Erasmus+programme

OBŠTUDIJSKA DEJAVNOST

Študentska organiziranost na UL FFA je specifična in študentom omogoča velik spekter delovanja tako s strokovnih področij kot obštudijskega delovanja in mednarodnega udejstvovanja. Študentski svet UL FFA (ŠSFFA) zelo uspešno deluje. V teh letih se je uveljavil kot zelo konstruktiven sogovornik pri vprašanjih vezanih na študijski proces in kakovosti UL FFA. Ustvarja mnenja o pedagoških delavcih ter jim tako omogoča izvolitev v zahtevane nazive. Je uradni zastopnik študentov UL FFA na vseh organizacijskih nivojih in uspešno sodeluje v drugih organih fakultete (Senat, Upravni odbor, Komisija za študijsko področje, Akademski zbor, Komisija za kakovost). Svoje študente prav tako zastopa v okviru univerze na sejah ŠS UL.

Na UL FFA delujeta Društvo študentov farmacije Slovenije (DŠFS) in Študentska sekcija Slovenskega farmacevtskega društva (ŠSSFD). Skupaj s Študentskim svetom (ŠS) in Študentsko organizacijo (ŠO) zelo uspešno sodelujejo pri organizaciji strokovnih in družabnih projektov: Svetovanje bolnikom, Mala šola klinike, strokovna predavanja in okrogle mize.

Spatula

Spatula je glasilo Študentske sekcije Slovenskega farmacevtskega društva (SFD), s katerim seznanjamo študente na UL FFA o aktualnih obštudijskih dogodkih in novostih v svetu farmacije, laboratorijske biomedicine, kozmetologije ter sorodnih panog na lokalnem in mednarodnem področju. Je periodična publikacija, ki je dosegla 79. številko, prispevki se objavljajo v slovenskem jeziku, razen člankov tujih avtorjev, ki so objavljeni v angleškem jeziku.

V Spatuli so nekatere stalne rubrike kot so: Iz stroke, Na pogovoru, Dogajalo se je, Ko bom velik, bom ..., Pogled z druge perspektive, Poročilo o športnih dosežkih, Razvedrilo. Leta 2019 smo izdali 3 številke glasila - februarja, maja in oktobra.

EXTRACURRICULAR ACTIVITIES

The extracurricular opportunities at the Faculty of Pharmacy at the University in Ljubljana are specific and enable students a wide spectrum of work, both in professional areas and also extracurricular activities and international engagements. ŠSFFA is very successful at its work. Through the years it has proved itself as a very constructive interlocutor in regards to questions about the study process and wider qualities of the faculty. It produces opinions about the pedagogical workers and so enables them the possibility of election into the desired titles. It is the official representative of the faculty's students at all organisational levels and it successfully collaborates in other bodies of the faculty (Senate, Management Board, Study Area Commission, Academic Assembly, Commission of Quality). It also represents its students on the University level at the sessions of the ŠS UL.

At the faculty we also have the DŠFS and the ŠSSFD. Together with ŠOFFA they successfully collaborate at organizing professional and social projects: Advising Patients, Little School of the Clinic, professional lectures and round tables.

Spatula

Spatula is the newsletter of the Students' section of the Slovenian Pharmaceutical Society. With the newsletter we inform the faculty's students about current extracurricular activities and developments in the world of pharmacy, medical biomedicine, cosmetic science and other related industries on both local and international levels. New issues are published periodically with articles being published in Slovenian, except for the articles by foreign authors, which are published in English.

The newsletter has a few permanent columns such as: 'From the profession', 'It was Happening', 'When I Grow up, I Want to be...', 'A Different Point of View', 'A Report on Sports Achievements' and many more. In 2019 we published three issues of Spatula – the February, May and October editions.

5. Simpozij Študentske sekcije Slovenskega farmacevtskega društva: Sodobna tarčna terapija

Dne 19. 10. 2019 se je na 5. Simpoziju ŠSSFD zvrstilo 7 predavanj strokovnjakov iz različnih področij farmacije in medicine, ki so predavali o sodobni tarčni terapiji, podrobneje o bioloških in podobnih bioloških zdravilih. Udeležencev je bilo okoli 300, največ med njimi študentov UL FFA ter tudi študentov ostalih naravoslovnih fakultet.

Inkubator inovativnosti

V sodelovanju sta ŠOFFA in DŠFS organizirala Inkubator inovativnosti, »Marketing skills« event pod okriljem podjetja MSD. Ekipe so predstavile svoje rešitve na zastavljeni problem iz sfere farmacevtskega marketinga.

Na UL FFA so študenti organizirali strokovne večere z naslednjimi tematikami: Podaljševanje življenja z znanostjo in tehnologijo, Kronične vnetne črevesne bolezni (KVČB), Sindrom izgorelosti.

Javne kampanje

Študenti so v letu 2019 organizirali naslednje javne kampanje: EPSA Javna kampanja: Boj proti raku; Javna kampanja: InterAKCIJA; Javna kampanja: Festival zdravja; Javna Kampanja: Kam gredo moja zdravila?; Tečaj prve pomoči; Pomoč na stojnicah Europe Donne pri projektu Rožnati oktober; Javna kampanja: Mental health week.

IPSF SEP (Students Exchange Programme)

To je program mobilnosti, ki študentom farmacije ponuja priložnost za spoznavanje farmacevtske stroke v več kot 90 državah sveta. Je eden večjih projektov Svetovne organizacije študentov farmacije (IPSF). Program teče vse leto in študentom nudi 1- do 3-mesečno prakso in izkušnje s področij dela v splošni in bolnišnični lekarni, farmacevtski industriji, raziskovalnem delu in delu kliničnega farmacevta. Večina praks poteka v poletnih mesecih. V letu 2019 je prakso v Ljubljani, Kranju, na Golniku, v Mariboru, Domžalah in Portorožu v obdobju med junijem in septembrom opravljalo 23 tujih študentov. UL FFA je leta 2019 omogočila opravljanje SEP praks štirim študentom na Katedri za Farmacevtsko biologijo, dvema

The Fifth Symposium of the Students' Section of the Slovenian Pharmaceutical Society: Modern Target Therapy

On the 19th of October seven experts gave lectures about different areas of pharmacy and medicine on the now Fifth Symposium of ŠSSFD. The topics of the lectures centred around modern target therapy, specifically about biologicals and biosimilars. Around 300 people attended the lectures, the majority of listeners came from the Faculty of Pharmacy and other faculties of natural sciences.

Incubator of Innovations

ŠOFFA and DŠFS collaborated and organised the Incubator of Innovations, a "Marketing skills" event with the help of the company MSD. The competing teams presented their solutions for the assigned problems about pharmaceutical marketing.

The students organised multiple Professional Evenings with the following topics: Lengthening Life with the Help of Science and Technology, Chronic Inflammatory Bowel Disease and Burnout Syndrome.

Public campaigns

Through 2019 the students organised several public campaigns: EPSA Public Campaign: Fight against Cancer, Public Campaign: InterACTION, Public Campaign: Festival of Health, Public Campaign: Where does my medicine go?, Course of First Aid, Helping out on Europa Donna Stands During the Project Pink October and the Public Campaign: Mental health week.

IPSF SEP (Students Exchange Program)

This is a program of mobility which gives the students of pharmacy the chance of getting to know the pharmaceutical profession in more than 90 countries around the world. It is one of the biggest projects of IPSF. The program is held every year and offers students 1–3 months of practical training in a pharmacy in a general hospital, the pharmaceutical industry, research work and working as a clinical pharmacist. The majority of practical training takes place in the summer months. In 2019 23 foreign students had their practical training in Ljubljana, Kranj, Golnik, Maribor, Domžale and Portorož between June and September.

študentoma na Katedri za Farmacevtsko tehnologijo, enemu študentu na Katedri za Socialno farmacijo ter enemu študentu na Katedri za Biofarmacijo in farmakokinetiko.

EPSA Individual Mobility Project

EPSA Individual Mobility Project (IMP) je dolgoročen projekt, ki študentom farmacije in nedavno diplomiranim farmacevtom in diplomantom farmacevtskih znanosti ponuja možnost za pridobitev delovnih in raziskovalnih izkušenj na vseh področjih farmacevtske stroke. IMP je bil ustvarjen z željo medsebojnega povezovanja evropske farmacevtske industrije, inštitucij in organizacij študentov farmacije. IMP ima potencial za poenotenje evropskih držav z vidika mobilnosti študentov farmacije. Projekt študentom in nedavnim diplomantom ponuja najmanj 3 in največ 12 mesecev dolgo plačano pripravništvo v mednarodni farmacevtski inštituciji. Študentska organizacija UL FFA (ŠOFFA) je ena izmed podružnic ŠOU v Ljubljani.

IPSF Svetovni kongres (Kigali, Ruanda 2019)

Mednarodna zveza študentov farmacije (IPSF) je v dneh med 30. 7. in 8. 8. 2019 organizirala že svoj 65. svetovni kongres, ki je potekal v Ruandi. Primarni namen tega 10-dnevnega druženja študentov farmacije s celega sveta je letno zasedanje generalne skupščine IPSF, ki je sestavljena iz vseh članskih nacionalnih organizacij študentov farmacije. Poleg svetovnega kongresa se študenti UL FFA udeležijo tudi projekta evropske regije IPSF, znanega pod imenom EuRO, ki poleti organizira simpozij, namenjen društvom, ki so člani IPSF, vendar geografsko spadajo pod Evropo.

EPSA letni kongres (Sofija, Bolgarija, april 2019)

Zveza evropskih študentov farmacije (EPSA) vsako pomlad organizira svoj največji dogodek, in sicer Letni kongres, ki traja sedem dni, vsebuje pa zelo bogat strokovni in tudi družabni program. Na kongresu se sestanejo delegati iz vsake izmed članskih organizacij (po dva delegata na organizacijo), ki imajo funkcijo odločanja in pravico do glasovanja na Generalni skupščini. Delegati imajo nalogo zastopati interese

The Faculty of Pharmacy of the University of Ljubljana hosted practical training for four students at the Chair for Pharmaceutical Biology, two students at the Chair for Pharmaceutical Technology, one student at the Chair for Social Pharmacy and one student at the Chair for Biopharmacy and Pharmacokinetics.

EPSA Individual Mobility Project

EPSA Individual Mobility Project (IMP) is a long-term project which gives students of pharmacy, recently graduated pharmacists and graduates of pharmaceutical sciences the possibility to gain work and research experience in all levels of pharmaceutical profession. IMP was created with the desire of creating connections between the European pharmaceutical industry, institutions and organisations of students of pharmacy. IMP has the potential to unify European countries from the aspect of mobility of students of pharmacy. The project offers students and recent graduates a minimum of 3 and maximum of 12 months long paid partnership in the international pharmaceutical industry.

IPSF World Congress (Kigali, Rwanda 2019)

IPSF organized its now 65th world congress between the 30th of July and the 8th of August, which took place in Rwanda. The primal intention of this 10-day congress of students of pharmacy from the entire world is the annual session of the General Assembly of IPFS, which consists of all member national organisations of students of pharmacy. Alongside the world congress students also participate in projects of the European region IPSF, known under the name of EuRO, which organises a summer symposium for societies which are members of IPSF, but geographically belong to Europe.

EPSA Annual Congress (Sofia, Bulgaria, April 2019)

EPSA organizes their biggest event each spring; the Annual Congress, which is 7 days long and offers a rich professional and social program. At the congress delegates from all member organisations (two delegates per organisation) meet and have the function of making decisions and the right to vote on the General Assembly. Delegates must represent the interests of students, which their societies represent,

študentov, ki jih njihova društva predstavljajo, torej slovenska delegata zastopata interese in mnenja študentov UL FFA, hkrati pa predstavljata organiziranost študija farmacije v Sloveniji in iščeta nove ideje ter možnosti za izboljšavo obštudijskih aktivnosti na lokalni ravni. Na pozicije v ekipi EPSA za mandat 2019/2020 je bilo izvoljenih sedem študentov UL FFA.

EPSA Poletna univerza (Portorož, Slovenija, julij 2019)

Poletna univerza je EPSA dogodek, kjer ni zasedanja Generalne skupščine. Leta 2019 je Poletna univerza potekala v Portorožu, kjer so se imeli študentje iz članskih društev možnost družiti, hkrati pa v sproščenem vzdušju pridobiti nove veščine s pomočjo treningov in delavnic o mreženju, Evropski uniji, komunikaciji. Letošnjo letno recepcijo je organiziralo Društvo študentov farmacije Slovenija oz. Študentska sekcija Slovenskega farmacevtskega društva. Poletne univerze se je udeležilo 17 študentov UL FFA. 21. EPSA Poletno univerzo je organiziralo 8 študentov farmacije, pri samem poteku Poletne univerze pa je pomagalo 20 slovenskih študentov. 21. EPSA Summer University 2019 je potekal v dneh v dneh od 16. 7. do 21. 7. 2019 v Portorožu.

EPSA Jesenska skupščina (Poreč, Hrvaška, oktober in november 2019)

Jesenska skupščina je drugi največji in najpomembnejši dogodek EPSA, kjer se na zasedanju Generalne skupščine prav tako zberejo uradni delegati članskih organizacij in člani ekipe EPSA, ki po polovici opravljenega mandata predstavijo svoje dosedanje delo in načrte za vnaprej. Slovensko delegacijo je na Jesenski skupščini zastopalo 35 študentov.

Informativni dnevi in Informativa

Študenti UL FFA so predstavljali fakulteto, študijske programe in obštudijske aktivnosti. V okviru študentskega delovanja so bili organizirani tudi:

Spoznavni piknik, Spoznavni žur, Škratki Božička za en dan, Drug Dealer večerja in predbožični žur, Zdrav zajtrk, Humanitarni žur, Humanitarni Stand-up in Strokovna ekskurzija v Beograd, Inkubator inovativnosti, Vampire Cup.

so the Slovene delegates must represent the interests and opinions of the students of the Faculty of Pharmacy. At the same time, they represent how the study process is organised and are looking for ideas on how to improve the process on a local level. Seven students from the Faculty of Pharmacy have been elected into the EPSA board for the 2019/2020 mandate.

EPSA Summer University (Portorož, Slovenia, July 2019)

The Summer University is an EPSA event where there is no General Assembly. In 2019 the Summer University was held in Portorož, where students of member organisations had the opportunity to hang out and at the same time gain new skills in a relaxed environment with the help of trainings and workshops about making connections, the European Union, communication. This year's reception was organized by the Society of Students of Pharmacy of Slovenia or Students' Section of the Slovene Pharmacy Society. 17 Slovenian students attended the Summer University. The 21st EPSA Summer University 2019 lasted from the 16th till the 21st of July 2019 in Portorož.

EPSA Autumn Assembly (Poreč, Croatia, October and November 2019)

The Fall Assembly is the second biggest and most important EPSA event. At the General Assembly Meeting official delegates of member organisations and members of the team EPSA also meet. They present their work up until the half point of their mandate and present their future plans. The Slovene delegation on Fall Assembly was represented by 35 students.

Information days and 'Informativa' career fair

Students represented the faculty, its study programs, as well as its curricular and extracurricular activities.

Other organised student activities were: Get-to-know Picnic, Get-to-know Party, The Elves of Santa for a Day, Drug Dealer Dinner and Pre-Christmas Party, Drug Dealer Dinner and Pre-Christmas Party, Charity Party, Professional Excursion (Belgrade), Charity Stand up and the Vampire Cup.

ŠPORTNI DOSEŽKI V ŠTUDIJSKEM LETU 2018/2019
SPORTS ACHIEVEMENTS IN THE ACADEMIC YEAR 2018/2019

UNIVERZITETNA LIGAŠKA TEKMOVANJA /UNIVERSITY LEAGUE COMPETITIONS

ODBOJKA (Ž): 4. MESTO / VOLLEYBOY (WOMEN): FOURTH PLACE

Mojca Novak (kap.), Pia Berglez, Maša Beguš, Iza Rozman, Špela Morgan, Sara Vidovič, Zala Rus, Špela Barbič, Anamarija Ahlin, Ana Kristina Šalinovič, Ema Sopčič, Maja Kovačevič, Eva Kop, Lara Goršek, Mia Medved

ODBOJKA (M): 5. MESTO / VOLLEYBALL (MEN): FIFTH PLACE

Jure Kirbiš (kap.), Žan Rekar, May Žitnik, Leon Lombergar, Jan Hribernik, Janko Stankič, Davorin Levanič, Miha Rožič, Lev Grabnar

KOŠARKA (Ž): 5. MESTO / BASKETBALL (WOMEN): FIFTH PLACE

Urša Žibert (kap.), Maja Jakobčič, Lara Kozina Bubnič, Tinkara Zoran, Maša Dolenc, Manca Vetrih, Katarina Rede, Maša Sterle, Sanja Martinovič

KOŠARKA (M): 17. MESTO / BASKETBALL (MEN): SEVENTEENTH PLACE

Jaka Dernovšek (kap.), Davorin Levanič, Jaka Rotman, Žiga Kemperle, Gašper Kemperle, Žan Vodopivc, Samo Nose, Luka Markič, Matjaž Weiss, Blaž Matoh, Lev Grabnar

DVORANSKI NOGOMET (M): 9. mesto / FUTSAL (MEN): NINTH PLACE

Nejc Ajlec (kap. 1), Žan Matijaševič (kap. 2), Aljaž Žurman, Tilen Kralj, Blaž Videčnik, Klemen Mezgec, Elvis Jusufovič, Anže Močnik, Miha Klopčič, Dejan Temov, Bine Fridrih, Jan Hribernik

ŠPORTNO-REKREATIVNA DEJAVNOST ZAPOSLENIH NA UL FFA
SPORTS AND RECREATION FOR THE EMPLOYEES AT UL FFA

- Pohodništvo / Hiking
- Udeležba na Volkswagen 24. Ljubljanskem maratonu (41 udeležencev) / Attending the twenty-fourth Volkswagen Ljubljana Marathon (41 participants) Udeležba na Volkswagen 24. Ljubljanskem maratonu (41 udeležencev)
- Zimski športni dan / Winter sports day

POMEMBNEJŠI REZULTATI VRHUNSKIH ŠPORTNIC IN ŠPORTNIKOV UL FFA
IMPORTANT ACHIEVEMENTS BY TOP ATHLETES STUDYING AT THE FACULTY OF PHARMACY

- **Matej Vaušek (moderni ples / modern dance)**
  1. mesto na SP v modernem plesu (Poljska/2019) / first place; World Championship in Modern Dance (Poland/2019)
- **Jaka Vrevc Žlajpah (ples /akrobatski rock and roll/ ples v paru s soplesalko Loti Marinko / dance/acrobatic rock and roll/couples – with Loti Marinko)**
  - Končno 4. mesto na svetovni lestvici 2018 (MCCS) / final fourth place in overall world ranking 2018 (MCCS)
  - Naslov državnega prvaka v kategoriji MCCS/2019 / the title of national champion in MCCS/2019 category)
  - 3. mesto na svetovnem pokalu (Ukrajina/2018) / third place; World Cup (Ukraine/2018)
- **Boris Markoja (šah / chess)**
  Državni univerzitetni prvak v šahu (Ljubljana/2019) / National university chess champion (Ljubljana/2019)
- **Neja Filipič (atletika / (athletics)**
  3. mesto v troskoku na poletni Univerzijadi (Italija/2019) / third place; triple jump at the Summer Universiade (Italy/2019)

- **Aljaž Frelih (namizni tenis / table tennis)**
  - 2. mesto na odprtem turnirju RS za člane (Logatec/2018) / second place; open tournament of the RS for members (Logatec/2018)
  - 1. mesto dvojice na DP za člane U21 (Prebold/2019) / first place; couples, national championship for members U21 (Prebold/2019)
  - DP za mladince Izola/2019: 1. mesto/dvojice; 2. mesto/mešane dvojice; 3. mesto/posamezno / Youth national championship Izola/2019: first place/doubles; second place/mixed doubles; third place/singles
- **Anja Štanger (borilni športi/judo / martial arts/judo)**
  - 3-krat 3. mesto na tekmovanju za Grand Prix (Tunis/2018; Tbilisi/2018; Antalya/2019) ranked third three times for Grand Prix-(Tunis/2018; Tbilisi/2018; Antalya/2019)
  - 2-krat 1. mesto na tekmovanju za Continental Open (Tallin/2019; Yaounde/2019) ranked first twice for Continental Open-(Tallin/2019; Yaounde/2019)
  - 1. mesto na članskem DP 2018 / first place; national championship for members 2018
- **Pia Ban (gimnastika/akrobatika / gymnastics/acrobatics)**
  - 1. mesto DP mala prožna ponjava (končna uvrstitev za pokal SLO 2019: 1. mesto) / first place; national championship, mini trampoline (final ranking for SLO Cup 2019: first place)
  - 1. mesto DP velika prožna ponjava (končna uvrstitev za pokal SLO 2019: 1. mesto) / frist place; national championship, trampoline (final ranking for SLO Cup: first place)
  - 1. mesto DP v akrobatiki 2019 / first place; national championship in acrobatics, 2019
- **Anja Prezelj (streljanje / shooting)**
  - 5. mesto na mladinskih OI (Argentina/2018) / fifth place; Youth Olympic Games (Argentina/2018)
  - 19. mesto na evropskem prvenstvu za mladinke (Hrvaška/2019) / nineteenth place; Women's Junior European Championship (Croatia/2019)
  - 1. mesto na DP 2019 za mladinke / first place; Women's Junior National Championship 2019
- **Urška Krašovec (atletika / athletics)**
  - 1. mesto na 3000 m in 3. mesto na 1500 m na pokalu SLO za mladinke 2019 / first place: 300 m; third place: 1500 m; Junior Women SLO Cup 2019
  - 3. mesto na 3000 m na ekipnem prvenstvu SLO za članice 2019 / third place: 3000 m; SLO Team Championship for female members 2019
  - 2. mesto na prvenstvu SLO v krosu za srednje šole 2019 / second place; SLO cross-country championship for secondary schools 2019
- **Katja Podobnik (atletika / athletics)**
  - Ljubljanski maraton – DP 2018 v cestnem teku na 10. km (2. mesto) / Ljubljana marathon – Road running national championship 2018; 10 km (second place)
  - Konjiški maraton – cestni tek na 10. km (2. mesto) / Konjice Marathon – Road running; 10 km (second place)
  - Ljubljanski maraton 2019 – tek na 10. km (4. mesto) / Ljubljana marathon 2019 – 10-km run (fourth place)
- **Andraž Lamut (gimnastika / gymnastics)**
  - 1. mesto v mnogoboju in na posameznih orodjih (krogi, preskok, bradlja, drog) na mednarodnem tekmovanju (Maribor/2019) / first place: international competition in all-around gymnastics and individual gym gears (hanging rings, vault, parallel bars, horizontal bar); international competition (Maribor 2019)
  - 1. mesto na pokalu SLO 2018 in nastop v finalu mnogoboja na Sredozemskih igrah / first place SLO Cup 2018 and performing in all-around finals in Mediterranean Games

ZNANSTVENORAZISKOVALNO DELO NA PODROČJU ŠPORTA UL FFA

Življenjski slog študentov UL FFA

V raziskavo, katere nosilec je Dušan Videmšek, smo naključno izbrali 603 študente (48,4 % moških in 51,6 % žensk) 13 fakultet Univerze v Ljubljani ter še posebej analizirali življenjski slog 133 študentov prvega in drugega letnika UL FFA, ki obiskujejo vodene vadbe v okviru predmeta Športna vzgoja, katere nosilec je pred. Dušan Videmšek, prof. športne vzgoje.

Raziskava je pokazala, da so vsi študenti UL FFA športno dejavni, približno polovica enkrat do dvakrat na teden in polovica trikrat na teden in več. Študenti UL FFA so v povprečju pogosteje pod stresom kot študenti nekaterih drugih fakultet Univerze v Ljubljani, večinoma zaradi študijskih obremenitev, posamezniki pa so kot vzrok za stres navedli tudi delo ob študiju, slabe materialne pogoje za življenje in družinske oziroma osebne probleme. Kar polovica jih meni, da pogosto ali celo vsak dan občutijo napetost, stres ali velik pritisk, le posamezniki so pod stresom redko ali nikoli. V primeru stresnih situacij najraje posegajo po slanih ali sladkih prigrizkih, v nekoliko manjši meri se takrat pogosteje ukvarjajo s športom in spijejo več kave kot običajno, posamezni študenti UL FFA pa so navedli tudi druge načine spoprijemanja s stresom (kajenje, spanje, meditacija, poslušanje glasbe). Dve tretjini študentov UL FFA spi 7 do 8 ur izven izpitnega obdobja, kar v povprečju predstavlja nekoliko večji delež kot pri študentih drugih fakultet Univerze v Ljubljani. Študenti UL FFA večinoma ne spijo dovolj, manj kot 7 ur predvsem zaradi napornega študija. Posamezniki so kot vzrok navedli obiskovanje zabav in druženje s prijatelji pozno v noč.

Študenti UL FFA v približno enakem, oziroma nekoliko večjem deležu kot študenti drugih fakultet uživajo zajtrk, ne kadijo in ne uživajo alkoholnih pijač ter

SCIENTIFIC AND RESEARCH WORK IN SPORTS IN UL FFA

Student lifestyle in UL FFA

603 students have been randomly selected to be part of our research, held by Dušan Videmšek (48,4 % of men and 51,6 % of women), along with 13 faculties of the University of Ljubljana; the part that was particularly analysed was the lifestyle of 133 students of UL FFA in their first and second year, who attend guided workout sessions as part of their Physical Education, the course convenor of which is the Head of Department, Dušan Videmšek, professor of PE.

The research showed that all the students of UL FFA are active in sports, about half of them are active once to twice a week and other half three times a week or more. The students of UL FFA on average are more frequently exposed to stress than the students of other faculties of the University of Ljubljana, mostly because of their studies. Some individuals stated working during studies is also the cause of stress, along with bad material conditions and family or personal issues. Half of them claim that they frequently or even on a daily basis feel tension, stress or great pressure, only a few individuals claim to be under stress rarely or never at all. In case of stressful situations, they will preferably consume salty or sweet snacks, they do somewhat fewer sports activities and drink more coffee than usually. However, individual students of UL FFA stated other means of stress coping methods (smoking, sleeping, meditation, listening to music).

Two thirds of UF FFA students sleep 7 – 8 hours during the period with no exams, which on average presents a somewhat larger part than with students of other faculties of the University of Ljubljana. The UL FFA students normally do not sleep enough, as they sleep less than 7 hours, mostly because of the demanding studies. Individuals stated that going to parties and hanging out with friends until late at night are the reason for that.

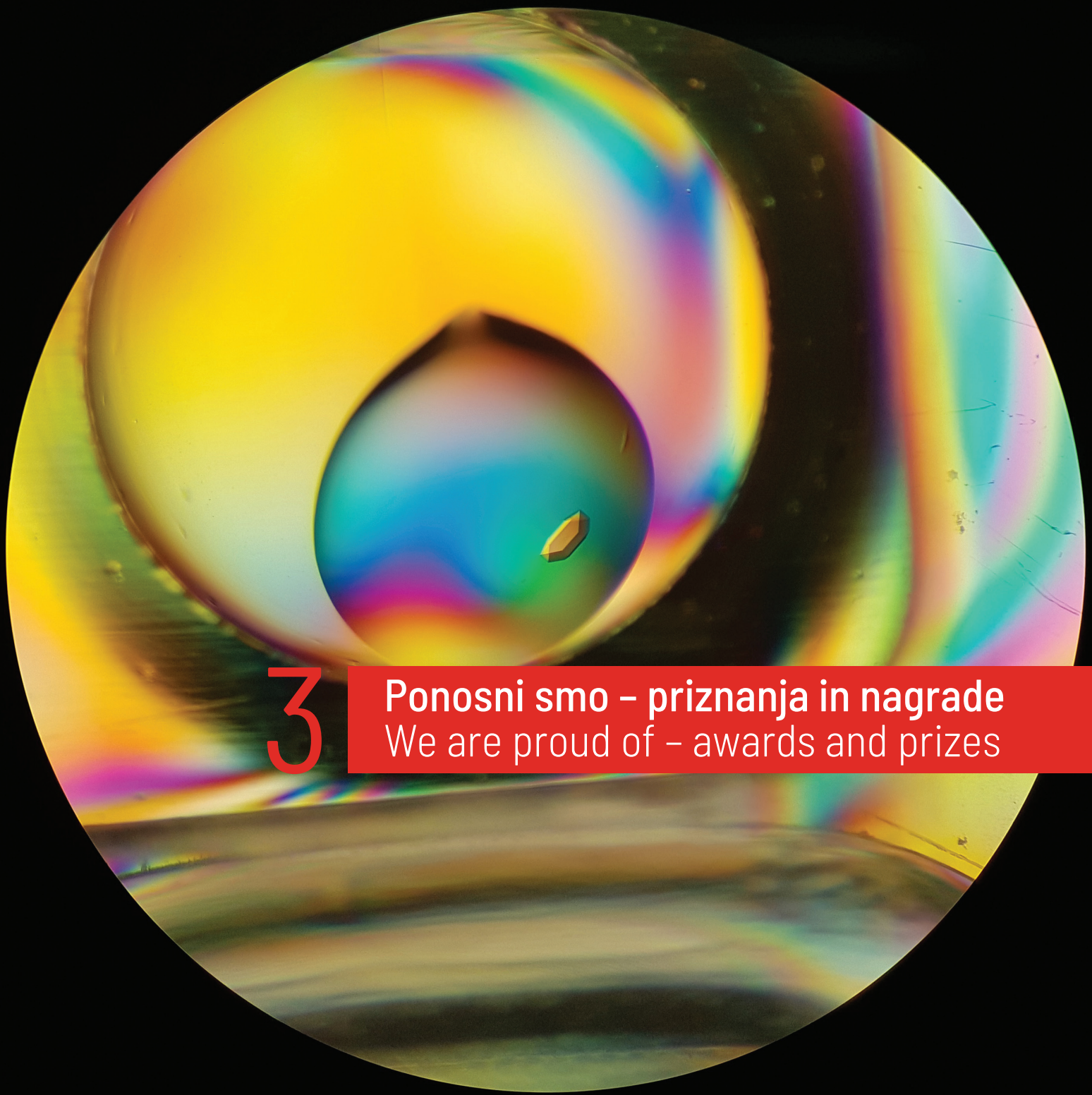
večinoma pijejo vodo ali nesladkani čaj. Ob tem pa je treba poudariti, da v povprečju v večji meri kot odrasli prebivalci Slovenije (NIJZ, 2018) uživajo alkohol in ne zajtrkujejo. Kakšni so predlogi za izboljšanje življenjskega sloga študentov? Hristić in sodelavci (2014) so po Evropskem kodeksu proti raku priredili naslednja priporočila zdravega načina življenja za študente:

- Izberi si življenjski slog, ki ti ne škodi in mu lahko slediš do konca življenja.
- Bodi zadovoljen s seboj in se drzni nagraditi po uspešnem delu.
- Z redno športno dejavnostjo ohranjaj telesno pripravljenost in zdravo telesno maso.
- Vzemi si čas za zdravo in redno prehranjevanje.
- Izogibaj se škodljivi in tvegani rabi alkohola, cigaret ter drugih psihoaktivnih snovi.
- Ceni svoje telo.
- Upoštevaj načela varne spolnosti.

In comparison to other faculties the students of UL FFA tend to consume breakfast in about the same or slightly bigger share; they also do not smoke and they do not consume alcoholic drins, they mostly drink water or unsweetened tea. It must be pointed out, however, that on average the students drink alcohol and skip breakfast more frequently than the adult inhabitants of Slovenija (NIPH), 2018). What are the suggestions to improve the lifestyle of students? In the European Code Against Cancer Hristić and co. (2014) adapted the following recommendations of healthy student lifestyle:

- Choose a lifestyle that doesn't harm you and makes it possible for you to live by it for the rest of your life.
- Be satisfied with yourself and reward yourself after successfully completing your work.
- Keep fit and maintain healthy body mass by exercising regularly.
- Take time for healthy and regular eating habits
- Avoid harmful and risky consumption of alcohol, use of drugs and other psychoactive substanes.
- Appreciate your body.
- Follow the principles of safe sex.

Šport/Sport



3 Ponosni smo – priznanja in nagrade
We are proud of – awards and prizes

PONOSNI SMO – PRIZNANJA IN NAGRADE

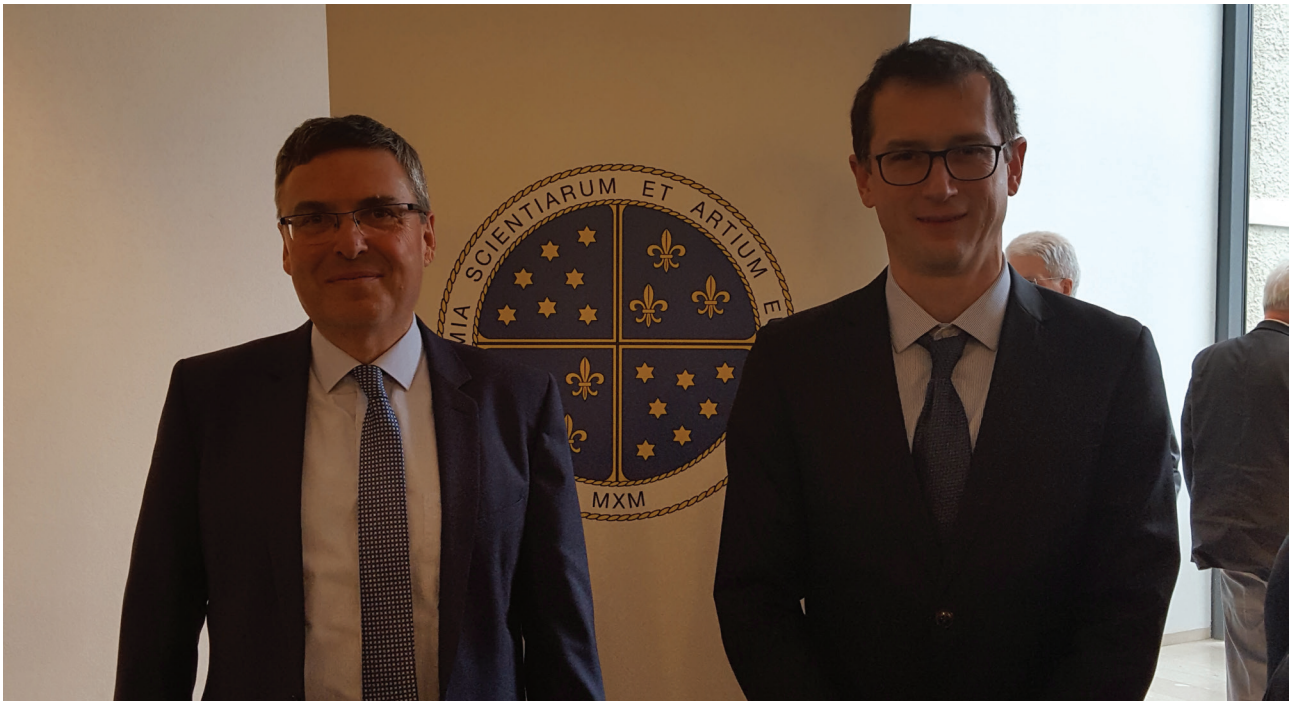
Prof. dr. Stanislav Gobec je postal član Evropske akademije znanosti in umetnosti (EASA)

Listino o imenovanju so mu izročili na inavguracijski slovesnosti dne 2. 3. 2019 v Salzburgu. Evropska akademija znanosti in umetnosti vključuje preko 2000 članov, ki so vrhunski raziskovalci ali umetniki, med njimi je 32 Nobelovih nagrajencev. Njen namen je spodbujanje kritičnega razmišljanja, kulturnega dialoga ter interdisciplinarnega in mednacionalnega sodelovanja. EASA močno podpira skupni evropski znanstveni prostor in opozarja na etične vidike znanstvenega dela.

WE ARE PROUD OF - AWARDS AND PRIZES

Prof. Dr. Stanislav Gobec became a member of the European Academy of Sciences and Arts (EASA)

The Certificate of Appointment was handed to him at the inauguration ceremony on the 2nd of March 2019 in Salzburg. The European Academy of Sciences and Arts includes over 2000 members who are top researchers or artists, including 32 Nobel laureates. EASA aims to promote critical thinking, cultural dialogue and interdisciplinary and transnational cooperation. The Academy strongly supports the common European scientific area and draws attention to the ethical aspects of scientific work.



Nagrajenec prof. dr. Stanislav Gobec / Reward winner Prof. Dr. Stanislav Gobec

Najodličnejši raziskovalni dosežek/ The most outstanding research achievement

Najodličnejši raziskovalni dosežek UL v letu 2019: Uspeh raziskovalne skupine UL FFA

V zbornični dvorani UL je dne 18. 12. 2019 potekala predstavitev najodličnejših raziskovalnih dosežkov UL v letu 2019. Komisija za raziskovalno delo UL je med deset najodličnejših dosežkov uvrstila tudi raziskovalni dosežek, ki predstavlja pomemben korak k učinkovitejši imunoterapiji pri alergiji na čebelji strup. Dosežek je rezultat sodelovanja raziskovalcev UL FFA (Abida Zahirović, Borut Štrukelj, Mojca Lunder) in raziskovalcev Univerzitetne klinike Golnik (Ana Koren, Peter Kopač, Peter Korošec). Pri izboru najodličnejših raziskovalnih dosežkov je komisija upoštevala predvsem mednarodno odmevnost, izkazano s citati in vplivnostjo revije, kjer je bilo delo objavljeno. Na izbor sta vplivala tudi zaključena celota dosežka, zanimiva za širšo strokovno in splošno javnost, ter koristnost uporabe.

The most outstanding research achievement of the University of Ljubljana in 2019: The success of the UL FFA research team

On the 18th of December, 2019, the ceremony of the most outstanding research achievements of the University of Ljubljana in 2019 took place at the Chamber hall. The Research Committee of the University of Ljubljana ranked a research achievement, which represents an important step towards more effective immunotherapy of bee venom allergy, among the ten most outstanding achievements. The achievement is the result of collaboration between UL FFA researchers (Abida Zahirović, Borut Štrukelj, Mojca Lunder) and researchers at the University clinic Golnik (Ana Koren, Peter Kopač, Peter Korošec). In selecting the most excellent research achievements, the commission took into account the international reputation, expressed through the quotations and impact factor of the journal, where the work was published. The selection was also influenced by the overall completeness of the achievement, by the interest of the general professional and general public, and the utility of its use.

Nagrajenka doc. dr. Biljana Janković / Prize winner Assist. Prof. Dr. Biljana Janković

Doc. dr. Biljana Janković je prejemnica nagrade za znanstveno odličnost v letu 2019

Doc. dr. Biljana Janković iz Razvojnega centra Slovenija in docentka na UL FFA UL je prejemnica nagrade za znanstveno odličnost, ki jo Sandoz vsako leto podeli najboljšim znanstvenikom z večletnimi izjemnimi dosežki v raziskavah in razvoju. Doc. dr. Biljana Janković se je izkazala s pomembnimi dosežki pri izdelavi modelov od procesnih parametrov, ki simulirajo robustnost izdelkov, do spodbujanja zasnove dvanajstih znanstvenih inkubatorjev za soočanje z razvojnimi izzivi prihodnosti. Odlično sodeluje z drugimi enotami v Novartisu in zunanjimi partnerji ter je mentorica več doktorskim študentom na UL FFA.

Assist. Prof. Dr. Biljana Janković is the recipient of the 2019 Scientific Excellence Award

Assist. Prof. Dr. Biljana Janković from the Development Center Slovenia and Assistant Professor at the Faculty of Pharmacy, University of Ljubljana has received the award for scientific excellence, awarded annually by Sandoz to the best scientists with many years of outstanding research and development achievements. Assist. Prof. Dr. Biljana Janković has made significant achievements in development of models, from process parameters that simulate product robustness to promoting the design of twelve scientific incubators to meet the development challenges of the future. Her cooperation with-other Novartis units and external partners is outstanding and she is also a mentor to several PhD students at UL FFA.

Prof. dr. Lucija Peterlin Mašič, prejemnica Minařikovega priznanja 2019

Na predlog Sekcije za farmacevtsko kemijo je izvršni odbor SFD potrdil podelitev Minařikovega priznanja v letu 2019 prof. dr. Luciji Peterlin Mašič, redni profesorici za farmacevtsko kemijo in docentki za toksikološko kemijo, za znanstvene, strokovne in organizacijske prispevke na področju farmacije, in za njene vsestranske izzive, ki jih namenja razvoju farmacevtske kemije in toksikološke kemije. Zelo je dejavna na področju internacionalizacije farmacevtskega študija, saj je bila mentorica številnim slovenskim študentom in študentom na izmenjavi Erasmus.

Naziv kongresni ambasador 2019 prof. dr. Marku Anderluhu

Na Ljubljanskem gradu so podelili častne nazive prvim kongresnim ambasadorkam in ambasadorjem za leto 2019. Med 25 ambasadorji je tudi devet ssodelavcev UL FFA in med njimi prodekan za študijsko področje, prof. dr. Marko Anderluh. Prejemniki naziva kongresni ambasador so zaslužni, da je Slovenija uspešno gostila mednarodne kongrese in druge poslovne dogodke. Slovenski ambasadorski program je pomemben za uspeh Slovenije pri internacionalizaciji znanosti, strokovnih ved, gospodarstva in športa.

Prof. Dr. Lucija Peterlin Mašič, UL FFA - recipient of the 2019 Minařik recognition award

At the proposal of the Pharmaceutical Chemistry section the SFD executive board approved the 2019 Minařik recognition award to Prof. Dr. Lucija Peterlin Mašič, full Professor of Pharmaceutical Chemistry and Assistant Professor of Toxicological Chemistry, for scientific, professional and organizational contributions in the field of pharmacy and her comprehensive challenges oriented towards development of pharmaceutical chemistry and toxicological chemistry. She is very active at the internationalization of pharmaceutical study programs, as she has been a mentor to many Slovenian and Erasmus students.

The Name of Congress Ambassador 2019 went to Prof. Dr. Marko Anderluh

Honours of the congress ambassadors in the year 2019 were awarded at the Ljubljana Castle. Among the 25 ambassadors there were also nine associates of the University of Ljubljana and among them the Vice Dean on UL FFA Education Prof. Dr. Marko Anderluh. The recipients of the Congress Ambassador title are credited for having successfully hosted international congresses or other business events. The Slovenian Ambassador Program is of great importance for Slovenia's success in the internationalization of science, business and sports.

Nagrajenka Asist. Janja Mirtič / Scholarship winner Assist. Janja Mirtič

Asist. Janja Mirtič, dobitnica štipendije L'Oréal-Unesco Za ženske v znanosti

Slovenska nacionalna komisija za Unesco in podjetje L'Oréal Adria sta na mednarodni dan žensk v okviru programa Za ženske v znanosti podelila štipendije trem perspektivnim mladim raziskovalkam. Med prejemnicami štipendije je tudi asistentka Janja Mirtič z UL FFA za raziskovalno delo na področju novih in naprednih dostavnih sistemov za zdravilne učinkovine in probiotične bakterije. V okviru svojega doktorskega študija na UL FFA Janja Mirtič stremi k izdelavi polielektrolitih osnovanih delcev nano velikosti. Ti so namenjeni vgradnji zdravilnih učinkovin kot podpornega ogrodja v regenerativni medicini, kot ogrodja celicam za celično terapijo ali v tkivnem inženirstvu.

Assist. Janja Mirtič, winner of the L'Oréal-Unesco scholarship for Women in science

On the International Women's Day the Slovenian National Commission for UNESCO and the L'Oréal Adria company have, in the context of the Women for Science program, awarded scholarships to three promising young researchers. The recipient of the scholarship was also Janja Mirtič, an assistant at UL FFA, for research work on new and advanced delivery systems for active substances and probiotic bacteria. As part of her doctoral studies at UL FFA, Janja Mirtič strives to produce nano-sized polyelectrolyte based particles. These are intended to incorporate active ingredients as a supporting framework in regenerative medicine, as a framework for cells for cell therapy, or in tissue engineering.

Nagrajenci Krkinih nagrad / Krka award winners

Uspeh študentov UL FFA na 49. razpisu za Krkine nagrade

V Krki so 18. 10. 2019, podelili 49. Krkine nagrade. Predsednik uprave in generalni direktor Krke Jože Colarič in dr. Aleš Rotar, član Krkine uprave, direktor Razvoja in proizvodnje zdravil, sta jih na slovesnosti podelila 30 raziskovalcem, med njimi pa je 5 raziskovalcev prejelo veliko Krkino nagrado za doktorsko ali magistrsko nalogo, med katerimi sta tudi doktorski nalogi asist. dr. Nike Kruljec in doc. dr. Darje Gramec Skledar, obe z UL FFA. Med petimi velikimi nagradami so šle kar 4 v roke sedanjih in bivših študentov UL FFA. Študentje UL FFA so prejeli še 11 Krkinih nagrad za dodiplomske in podiplomske naloge. Letošnji slavnostni govornik na podelitvi, ki je sledila simpoziju s predstavitvami raziskovalnih nalog, je bil prodekan za študijsko področje, prof. dr. Marko Anderluh, pred leti tudi sam prejemnik velike Krkine nagrade.

The success of UL FFA students at 49th Krka Awards

The 49th Krka Awards were presented in Krka on the 18th of October 2019. During the ceremony president of the management board and Krka managing director Jože Colarič and Dr. Aleš Rotar, member of Krka's Board of Directors, Director of drug development and production presented awards to 30 researchers. Five researchers received great Krka Award for their doctoral or master's thesis, among them two PhD theses were prepared by dr. Assist. Dr. Nika Kruljec, and Assist. Prof. Dr. Darja Gramec Skledar, who finished their PhD study at UL FFA. Out of five major awards as many as four went to current and former UL FFA students. UL FFA students have received other eleven Krka awards for their undergraduate and graduate works. This year's keynote speaker at the award ceremony, which followed the symposium with presentations of research achievements, was a vice-dean for education, Prof. Dr. Marko Anderluh, also a recipient of great Krka's award years ago.

Nagrajenci in uspeh študentov UL FFA na Regijskem BioCampu/ Winners and success of UL FFA students at the Regional BioCamp

Velik uspeh študentov UL FFA na Regijskem BioCampu 2019

V dneh med 19. 5. in 21. 5. 2019 je Novartis v Sloveniji gostil deveti zaporedni Regijski BioCamp. Udeleženci so se ukvarjali z nevroznanostjo in izzivi ter priložnostmi, ki jih prinaša zdravljenje nevroloških bolezni v prihodnosti. Na letošnjem dogodku so se udeleženci prvič spoprijeli s praktično nalogo, temelječo na realnem primeru s področja digitalnih terapevtikov v okviru Novartisovega inštituta za biomedicinske raziskave. Strokovna komisija je po načinu dela in inovativnem razmišljanju izbrala štiri posameznike, ki so v tekmovalnem delu dogodka najbolj izstopali. Izbrana je bila tudi ena zmagovalna ekipa, ki je predstavila najboljši celostni projekt. Med individualnimi zmagovalci letošnjega Regijskega BioCampa sta Ardita Veseli in asist. Jurij Zdovc, oba s Katedre za biofarmacijo in farmakokinetiko UL FFA. Študenti UL FFA so bili odlični tudi v skupinskem delu, saj so bili kar trije del zmagovalne ekipe: Ardita Veseli, Rok Hribšek in Anže Zidar.

Great success of UL FFA students at Regional BioCamp 2019

Between the 19th and the 21st of May 2019 Novartis hosted the ninth consecutive Regional BioCamp in Slovenia. Participants addressed the neuroscience and challenges and opportunities posed by the treatment of neurological diseases in the future. At this year's event participants were first introduced to a hands-on task, based on a real life case of digital therapeutics in the framework of Novartis Institute for Biomedical Research. The expert committee selected four individuals who stood out the most in the competitive part of the event, according to their method of work and innovative thinking. One winning team was also selected, which presented the best overall project. Among the individual winners of this year's Regional BioCamp are Ardita Veseli and an Assist. Jurij Zdovc, both from the Department of Biopharmacy and Pharmacokinetics, UL FFA. The students of UL FFA excelled also in group work, as three of them were also part of the winning team: Ardita Veseli, Rok Hribšek and Anže Zidar.

SLAVIMO ZNANOST - RAZISKOVALNI DAN UL FFA

Dne 4. 12. 2019 je bil na UL FFA organiziran Raziskovalni dan, ki je bil namenjen osvetlitvi in počastitvi izjemnih dosežkov Fakultete za farmacijo. Na dopoldanskem delu je bila poleg dekanovih nagrajencev vabljena predavateljica prof. dr. Janja Marc, avtorica članka, objavljenega v reviji British Medical Journal. S predavanjem z naslovom »Genomski pristop h kroničnim boleznim« je predstavila rezultate dolgoročnih raziskav in tako sooblikovala Simpozij. Na popoldanskem delu, namenjenemu podelitvi nagrad in priznanj UL FFA, ki jih podeljujemo izstopajočim posameznikom, katerih delo pomembno zaznamuje znanstveni prostor in/ali vpliva na ugled in kakovost fakultete, smo gostili tudi uglednega strokovnjaka iz stroke dr. Aleša Rotarja, člana uprave in direktorja Razvoja in proizvodnje zdravil Krka, d. d., Novo mesto, ki je s predavanjem »Farmacija v toku tehnološkega razvoja« pomembno zaznamoval dogodek.

WE CELEBRATE SCIENCE - FACULTY OF PHARMACY RESEARCH DAY

University of Ljubljana, Faculty of Pharmacy, organized Research Day on the 4th of December 2019, to highlight and honour the outstanding achievements of the Faculty of Pharmacy. In addition to the Dean's Award winners, Prof. Dr. Janja Marc, author of an article published in the British Medical Journal, was invited in the morning as a key-note lecturer. She presented the results of the long-term research through a lecture entitled "The Genomic Approach to Chronic Diseases" and therefore co-created the Symposium. At the afternoon celebration event the faculty's awards and prizes were presented to outstanding individuals, whose work has significantly characterized the scientific area and/or affected the reputation and quality of the faculty. On this occasion we also hosted a distinguished expert from the professional field, Dr. Aleš Rotar, a Member of the Krka management board and a Director of the drug development and production of medicines of Krka d. d., Novo mesto, who marked the event with the lecture "Pharmacy in the Flow of Technological Development".

Nagrajenec g. Tone Strnad / Prize winner Mr. Tone Strnad

Priznanje UL FFA za uspešno sodelovanje z UL FFA je prejel g. Tone Strnad, mag. farm.

Leta 1989 je ustanovil družbo Medis, s katero je utiral pot prvemu zasebnemu podjetju za zdravila na območju tedanje Jugoslavije. Letos Medis praznuje 30 let delovanja. Iz marketinških začetkov se je razvil v družbo z več kot 300 zaposlenimi, ki deluje v 15 državah. G. Strnada odlikuje predanost poklicu in visoka poklicna etika, kar dokazuje s svojimi uspehi preko razvoja in kakovosti družbe. Svojo skrb za ugled stroke izraža tudi s stališči, ki podpirajo zdravstveni model, ki je prijazen do bolnika in strokovno zahteven za farmacevta. G. Strnad se vedno odzove vabilu fakultete k sodelovanju in tako prenaša znanja in izkušnje iz realnega konkurenčnega sveta farmacevtske industrije v akademsko okolje. Na tak način doprinaša h kakovosti pedagoškega procesa in konkurenčnosti diplomantov UL FFA.

Faculty of Pharmacy award for successful cooperation presented to Mr. Tone Strnad, M. Pharm.

In 1989 he founded Medis, paving the way for the first private drug company in the former Yugoslavia. In 2019 Medis celebrated 30 years of operation. From its marketing beginnings Medis has evolved into a company with more than 300 employees, operating in 15 countries. Tone Strnad is distinguished by his dedication to the profession and his high professional ethics, as evidenced by his success through the development and quality of the company. He also expresses his concern for the reputation of the profession with views that support a patient-friendly and professionally demanding healthcare model for the pharmacist. He always responds to the faculty's invitation to participate, thus transferring knowledge and experience from the real competitive world of pharmaceutical industry to the academic environment. In this way he contributes to the quality of the teaching process and the competitiveness of the graduates of the Faculty of Pharmacy.

Nagrajenec prof. dr. Janez Jazbec/ Prize winner Prof. Dr. Janez Jazbec

Priznanje UL FFA za uspešno sodelovanje s fakulteto je prejel prof. dr. Janez Jazbec, dr. med.

Prof. dr. Janez Jazbec je vodja službe za onkologijo in hematologijo Pediatrične klinike Univerzitetnega kliničnega centra Ljubljana ter redni profesor na Medicinski fakulteti. Je dolgoletni sodelavec in partner UL FFA, katerega začetki sodelovanja segajo v pridobitev prvega raziskovalnega projekta na področju farmakogenetike ter prenosu rezultatov v klinično prakso. Sledili so številni skupni projekti, ki so širili meje znanja in prinašali nova spoznanja ter oblikovali osnovo za vzgojo doktorskih študentov in raziskovalcev, danes priznanih strokovnjakov. Prof. dr. Janez Jazbec se vedno odzove vabilu fakultete kot partner na projektih, kot član komisij, somentor in sodelavec. Je vez med klinično prakso in akademskim raziskovanjem in tako doprinaša h kakovosti doktorskega študija in raziskovalnega dela UL FFA.

Faculty of Pharmacy Award for successful cooperation presented to Prof. Dr. Janez Jazbec

Prof. Dr. Janez Jazbec is the Head of the Oncology and Hematology Department at the Pediatric clinic of the University Clinical Center Ljubljana and a professor at the Faculty of Medicine. He is a long-time associate and partner of the Faculty of Pharmacy, whose beginnings of cooperation date back to the acquisition of the first research project in the field of pharmacogenetics and the transfer of results into clinical practice. A number of joint projects followed, expanding the boundaries of knowledge and bringing new insights, and forming the basis for educating doctoral students and researchers, who are recognized experts today. He always responds to the invitation of the faculty as a project partner, as a committee member, co-mentor and associate. He is a link between clinical practice and academic research and thus contributes to the quality of doctoral studies and research work at the Faculty of Pharmacy.

Nagrajenec prof. dr. Stanko Srčič / Prize winner Prof. Dr. Stanko Srčič

Priznanje UL FFA za življenjsko delo je prejel prof. dr. Stanko Srčič, mag. farm.

Prof. dr. Stanko Srčič je s svojim znanstvenim delom izjemno prispeval k prepoznavnosti UL FFA in UL ter odpiral in širil raziskovalna področja. Je avtor in soavtor več kot 120 izvirnih znanstvenih člankov z več kot 1400 citati in raziskovalec s Hirschevim indeksom 20. S svojim strokovnim delom, članstvom v uredniških odborih mednarodnih revij in strokovnih združenjih, s sodelovanjem s priznanimi strokovnjaki na področju farmacevtske tehnologije ter s sodelovanjem s farmacevtsko industrijo in gospodarstvom, je bistveno prispeval k povezovanju fakultete s širšim, mednarodnim okoljem. Prof. dr. Stanko Srčič je izjemen predavatelj, na študente zna prenašati navdušenje in delovno vnemo. Je dobitnik številnih nagrad in priznanj, med katerimi naj omenimo Minařikovo odličje SFD v letu 2014 in pa častni doktorat Univerze v Szegedu leta 2016.

Faculty of Pharmacy Lifetime Achievement Award presented to Prof. Dr. Stanko Srčič

Through his scholarly work, Prof. Dr. Stanko Srčič made an outstanding contribution to the recognition of the Faculty of Pharmacy and the University of Ljubljana, also by opening and expanding research fields. He is the author and co-author of more than 120 original scientific articles with more than 1400 citations and a researcher with the Hirsch Index 20. Through his professional work, memberships in the editorial boards of international journals and professional associations, by working with renowned experts in the field of pharmaceutical technology and by collaborating with industrial partners, he has made a significant contribution to connecting the faculty with broader, international environment. He is an outstanding lecturer who can convey enthusiasm to students. Prof. Dr. Stanko Srčič is the recipient of numerous awards and recognitions, including Minařik's 2014 SFD Distinguished Service Award and is the recipient of the 2016 Szeged University Honorary Doctorate.

Priznanje UL FFA za izjemne rezultate pri delu je prejel prof. dr. Marko Anderluh, mag. farm.

Prof. dr. Marko Anderluh je bil v letu 2018 glavni organizator in vodja simpozija Evropske federacije farmacevtskih kemikov (EFMC) – International Symposium on Medicinal Chemistry, ki smo ga gostili v Ljubljani v dneh od 2. 6. do 6. 9. 2018 na Gospodarskem razstavišču v okviru organizacije Slovenskega farmacevtskega društva ter pod pokroviteljstvom Evropskega združenja za farmacevtsko kemijo. Prof. dr. Marku Anderluhu gre zasluga, da smo lahko mednarodno priznan kongres v Ljubljani odlično organizirali. Je koordinator Marie Curie evropskega projekta PhD4GlycoDrug, katerega cilj je izobraziti mlade doktorske študente s področja razvoja novih gliko-učinkovin in jih opremiti z ustreznimi kompetencami, da bodo atraktivni za farmacevtsko industrijo in raziskovalne organizacije. Pod koordinatorstvom prof. dr. Marka Anderluha sodeluje šest odličnih evropskih akademskih partnerjev in štirje industrijski partnerji, ki izvajajo skupno evropsko doktorsko usposabljanje. Gre za prvi tovrstni inovativni in multidisciplinarni projekt v Sloveniji.

Faculty of Pharmacy Award for outstanding work achievement presented to Prof. Dr. Marko Anderluh

Prof. Dr. Marko Anderluh was the main organizer and leader of the symposium of the European Federation of Pharmaceutical Chemists (EFMC) - International Symposium on Medicinal Chemistry, hosted in Ljubljana from the 2nd till the 6th of September 2018 at the Slovenian Exhibition Centre, organized by the Slovenian Pharmaceutical Society and sponsored by the European Pharmaceutical Chemistry Association. He is credited for organizing the internationally recognized congress in Ljubljana. Prof. Dr. Marko Anderluh is the coordinator of the Marie Curie European PhD4GlycoDrug project, which aims to educate young doctoral students in the development of new glyco-drugs and equip them with the relevant competencies to render them attractive to the pharmaceutical industry and research organizations. Under his coordination six excellent European academic partners and four industry partners are participating in joint European doctoral training. This is the first innovative and multidisciplinary project of this kind in Slovenia.

Prejemnik priznanja prof. dr. Marko Anderluh / Recipient of the award Prof. Dr. Marko Anderluh

Prejemnica priznanja prof. dr. Marija Bogataj / Recipient of the award Prof. Dr. Marija Bogataj

Priznanje UL FFA za izjemne rezultate pri delu je prejela prof. dr. Marija Bogataj, mag. farm.

Na UL FFA deluje že od samih začetkov svoje akademske in raziskovalne kariere. V tem času je bila mentorica ali somentorica pri več kot 100 diplomskih in magistrskih delih ter raziskovalnih nalogah, dveh znanstvenih magisterijih ter somentorica in mentorica šestim doktorandom. Prejela je nagrado Študentskega sveta UL za najboljše pedagoge 2013, od leta 2003 pa opravlja funkcijo predsednice Habilitacijskega odbora na Fakulteti za farmacijo. Poleg sodelovanja z domačimi in uglednimi tujimi raziskovalci jo odlikuje sodelovanje s predvsem slovensko farmacevtsko industrijo, kjer jo prepoznajo kot vodilno strokovnjakinjo z ekspertizo s področja biorelevantnih modelov sproščanja in s tem povezane korelacije in vitro - in vivo. Rezultati njenega raziskovalnega dela se kažejo tudi v objavi številnih publikacij, prijavah patentov ter znanstvenih in strokovnih prispevkov na mednarodnih konferencah.

Faculty of Pharmacy Award for outstanding work achievement presented to Prof. Dr. Marija Bogataj

Prof. Dr. Marija Bogataj has been working at the Faculty of Pharmacy since the beginning of her academic and research career. In this time she has been a mentor and co-mentor in more than 100 diploma and master's theses and research works, two scientific master thesis and a supervisor and co-supervisor to six PhD students. She has received the Student Council of the University of Ljubljana Award for the best teachers in 2013. Since 2003 she has been the Chair of the Habilitation Committee at the Faculty of Pharmacy. In addition to collaborating with domestic and renowned foreign researchers she is distinguished by her collaboration with the Slovenian pharmaceutical industry, where she is recognized as a leading expert in the field of biorelevant drug release models and related in vitro - in vivo correlations. The results of her research work are also reflected in numerous publications, patent applications and by scientific and professional contributions at international conferences.

Priznanje UL FFA za izjemne rezultate pri delu je prejel prof. dr. Iztok Grabnar, mag. farm.

V letih 2016-2019 je bil prodekan za mednarodno sodelovanje, ob tem pa je opravljal tudi pedagoško delo in se raziskovalno udejstvoval ter bil v tem času izvoljen v naziv rednega profesorja. Kot prodekan je sooblikoval in izvrševal vizijo fakultete, v kateri zajemajo pomembno mesto kakovost študija, pretok znanja in prepoznavnost v mednarodnem okolju. Spodbujal je povečano mobilnost študentov v zasledovanju razvoja njihovih poklicnih kompetenc ter povečanju možnosti zaposljivosti. S svojim delom je prispeval k realizaciji študentskih izmenjav v programih svetovnega in evropskega združenja študentov farmacije. Prav tako je skrbel za mednarodne izmenjave pedagogov, raziskovalcev in ostalih zaposlenih. Pod njegovim koordinatorstvom je fakulteta vzdrževala skoraj 60 bilateralnih pogodb Erasmus, bila pa je dejavna v shemah izmenjav CEEPUS, COST in v številnih drugih. S svojimi številnimi aktivnostmi je pomembno prispeval k prepoznavnosti UL FFA in UL ter k razvoju številnih mladih strokovnjakov.

Faculty of Pharmacy Award for outstanding work achievement presented to Prof. Dr. Iztok Grabnar

From 2016 to 2019 Prof. Dr. Iztok Grabnar was a Vice-Dean for International Relations, while also teaching and performing research. During that time, he was elected to the title of full professor. As Vice-Dean, he co-designed and implemented the faculty's vision, in which the quality of studies, the transfer of knowledge and visibility in the international environment are important. He encouraged increased student mobility in pursuit of the development of their professional competences and increased employability. He contributed to the realization of student exchanges in the-programs of the World and European Pharmaceutical Students' Association. He also took care of international exchanges of teachers, researchers and other staff. Under his coordination the Faculty maintained almost 60 bilateral Erasmus contracts and was active in the CEEPUS, COST exchange schemes and many others. Through his many activities he has made a significant contribution to the visibility of the Faculty of Pharmacy and the University of Ljubljana and to the development of many young professionals.

Prejemnik priznanja prof. dr. Iztok Grabnar / Recipient of the award Prof. Dr. Iztok Grabnar

Prejemnica priznanja Eva Velimirovič / Recipient of the award Eva Velimirovič

Priznanje UL FFA študentom za izjemne dosežke je prejela Eva Velimirović

V vseh študijskih letih je bila aktivna v obštudijskih dejavnostih, povezanih s svetom farmacije na lokalni in mednarodni ravni. Bila je vodja EPSA Summer University-ja, vodja strokovnih večerov Društva Študentov Farmacije Slovenije, pri čemer je organizirala mnogo strokovnih večerov, dogodek Zdravstveni tim, tekmovanja Mala šola klinike, Svetovanje bolnikom, LBM tekmovanje in 4. Simpozij DŠFS. V letu 2016/2017 je bila vodja Humanitarne skupine DŠFS. Vsa leta študija je bila aktivna članica društva, pokazala je konstruktiven pristop in pripravljenost, da nudi pomoč, svoje znanje in izkušnje. Društvo študentov farmacije je predstavljala na mnogih mednarodnih dogodkih (EPSA, IPSF), sodelovala s farmacevtskimi podjetji in bila ključna pri organizaciji dogodkov kot so Informativa, informativni dnevi ter pri izvedbi številnih projektov.

Faculty of Pharmacy Award for outstanding student achievement presented to Eva Velimirović

Throughout her academic years Eva Velimirović has been active in extracurricular activities related to the world of pharmacy, locally and internationally. She was the head of EPSA Summer University, head of professional evenings at the Pharmaceutical Students' Association of Slovenia and has organized many professional evenings, the Health Team event, the Little Clinic School Competitions, Patient Counselling, the LBM Competition and the 4th DŠFS Symposium. In 2016/2017 she was the leader of the Humanitarian Group at the DŠFS. Throughout her years of study, she has been an active member of the Society, with a constructive approach and always ready to offer help, her knowledge and experience. The Pharmaceutical Students' Association has been represented by Eva at many international events (EPSA, IPSF), she has collaborated with pharmaceutical companies and has been a key person in organizing events such as Informativa, Information Days and has been actively involved in the implementation of numerous projects.

UL je v okviru Tedna Univerze podelila priznanji strokovnima sodelavkama **Stanislavi Menard** in **Lidiji Mataija.**

Priznanje UL za izjemne rezultate pri delu je prejela ga. Lidija Mataija

Ga. Lidija Mataija dela kot tajnica vodstva na UL FFA že več kot deset let. Pri delu je pozitivno radovedna, zanimajo jo novosti, vedno prebere navodila. Na UL FFA je poleg klasičnih tajniških del zadolžena za sistem urejanja in hrambe dokumentacije preko GC dokumentarnega sistema UL. Ta obsežen projekt je s tajnico fakultete uvajala in vzpostavljala za celo FFA, z UL pa sodeluje tudi pri njegovi nadgradnji.

Priznanje UL za izjemne rezultate pri delu je prejela Ga. Stanislava Menard

Ga. Stanislava Menard je več kot polovico delovne dobe vodila tajništvo UL FFA in se je iz tega delovnega mesta upokojila v letu 2019. Njeno zavzeto in dosledno opravljeno delo pušča svoj pečat na ravni UL FFA in tudi na ravni UL. Neprecenljiv je tudi njen doprinos uvajanja strateških in sistematičnih postopkov v kadrovski politiki fakultete. Za vse vrste delovnih mest je skupaj z dekani in predstojniki izdelala strokovne podlage za presojo kandidatov glede na zahtevnost delovnih mest; pri zaposlovanju je implementirala sodobna kadrovska orodja za opredelitev psihološkega profila in kariernih sider kandidatov, testiranje relevantnih lastnosti in izdelavo mnenja profesionalnega kadrovskega strokovnjaka. V svojem več kot dvajsetletnem zavzetem in izredno doslednem delovanju na UL FFA je znatno prispevala k temu, da je fakulteta ena najbolj organizacijsko in prostorsko urejenih članic UL.

The University of Ljubljana presented awards to **Stanislava Menard** and **Lidija Mataija** within the University of Ljubljana Week.

University of Ljubljana Award for outstanding work achievement presented Ms. Lidija Mataija

Ms. Lidija Mataija has been working as a secretary of UL FFA governance for more than ten years. She is positively curious at work, interested in novelties, she always reads instructions. In addition to the classic secretarial work, she is in charge of the system of editing and storage of documentation through the GC documentary system of UL. She introduced and established this extensive project with the secretary of the faculty for the entire faculty and is also cooperating with UL in its upgrade.

University of Ljubljana Award for outstanding work achievement presented Mrs. Stanislava Menard

Mrs. Stanislava Menard headed the FFA UL secretariat for more than half of her career and retired from this position in 2019. Her dedicated and consistent work leaves its mark at the UL FFA level and also at the UL level. Her contribution to the introduction of strategic and systematic procedures in the personnel policy of the faculty is invaluable. Together with the deans and department heads she prepared expert bases for the assessment of candidates according to the complexity of the positions. She has implemented modern human resources tools for defining the psychological profile and career anchors of candidates, testing relevant characteristics and producing the opinion of a professional human resources expert within the recruitment procedure. In more than twenty years of dedicated and extremely consistent work at the UL FFA she has significantly contributed to the fact that the faculty is one of the most organizationally and spatially organized members of UL.

Nagrajenci UL v okviru Tedna Univerze / UL winners as part of University week

Nagrajenci UL FFA / The winners of the Faculty of Pharmacy

NOVOIZVOLJENI REDNI PROFESORJI UL FFA V LETU 2019

Prof. dr. MITJA KOS

Rodil se je leta 1973 v Šempetru pri Gorici. Po končanem univerzitetnem študiju farmacije na UL leta 1999 se je vpisal na doktorski študij Biomedicina in leta 2005 uspešno zagovarjal doktorsko disertacijo. Med podiplomskim študijem je bil na 3-mesečnem strokovnem usposabljanju na Univerzi v Utrechtu na Nizozemskem. V letu 2002 je opravil tudi civilno služenje vojaškega roka na Zavodu za slepo in slabovidno mladino. Po diplomi leta 1999 se je zaposlil na UL FFA, najprej kot stažist asistent, danes kot visokošolski učitelj. Velik del svojih aktivnosti je posvetil razvoju Katedre za socialno farmacijo, katere predstojnik je od leta 2009 dalje. Prof. dr. Mitja Kos ima preverjeno pedagoško aktivnost. S sodelavci je oblikoval več novih predmetov na dodiplomskih in podiplomskih študijskih programih UL FFA. Razvil je kompetenčni model praktičnega usposabljanja študentov, uvedel sodelovanje z mentorji iz prakse in sodobne pedagoške metode, vključno z objektivno-strukturiranim kliničnim vrednotenjem, kar predstavlja ključen element strokovnega razvoja študentov farmacije. Bil je mentor in somentor pri 49 univerzitetnih diplomah, 29 bolonjskih magisterijih, 2 znanstvenih magisterijih, 7 doktoratih in 3 specializacijah. Kot gostujoči učitelj je v letu 2017 deloval na tuji inštituciji – WHO Collaborating Centre for Pharmaceutical Pricing and Reimbursement Policies, na Austrian Public Health Institute, na Dunaju v Avstriji. Je član izvršnega odbora mednarodne organizacije Pharmaceutical Care Network Europe, ki ji je v obdobju 2016-2018 tudi predsedoval. Kot vabljeni predavatelj sodeluje na domačih in mednarodnih strokovnih srečanjih ter v komisijah Ministrstva za zdravje RS, Lekarniške zbornice Slovenije in Javne agencije za zdravila in medicinske pripomočke.

NEWLY APPOINTED FULL PROFESSORS AT THE FACULTY OF PHARMACY IN 2019

Prof. Dr. MITJA KOS

He was born in 1973 in Šempeter pri Gorici. After completing his university studies in the field of pharmacy at the University of Ljubljana in 1999, he enrolled in the doctoral study of Biomedicine and in 2005 successfully defended his doctoral dissertation. During his postgraduate studies, he completed a 3-month professional training at the University of Utrecht in the Netherlands. In 2002 he also completed civilian military service at The Institute for Blind and Partially Sighted Children Ljubljana. After graduating in 1999, he got a job at the University of Ljubljana's Faculty of Pharmacy, first as an intern assistant, today as a higher education teacher. He dedicated a large part of his activities to the development of the Department of Social Pharmacy and has been its head since 2009. Prof. Dr. Mitja Kos has a proven teaching activity. He and his colleagues formed several new subjects in the undergraduate and postgraduate study-programs of the Faculty of Pharmacy. He developed a competence model of practical student training, introduced cooperation with mentors from practice and modern teaching methods, including objectively-structured clinical evaluation, which is the key element of professional development of pharmacy students. He was a mentor and co-mentor in 49 university degrees, 29 Bologna master's degrees, 2 scientific master's degrees, 7 doctorates and 3 specializations. In 2017 he worked as a visiting teacher at a foreign institution - the WHO Collaborating Centre for Pharmaceutical Pricing and Reimbursement Policies at the Austrian Public Health Institute in Vienna, Austria. He is a member of the executive board of the Pharmaceutical Care Network Europe and in the period 2016-2018 also chaired this international organization. As an invited lecturer he participates in domestic and international professional meetings and in the commissions of the Ministry of Health of the Republic

Osrednja tema njegovih znanstvenih raziskav je varnost in primerjalna učinkovitost zdravil, njihova dostopnost bolnikom ter racionalizacija in optimizacija njihove porabe. Je nosilec razvoja sistema vrednotenja zdravstvenih tehnologij in prenosa farmakoekonomike iz akademskega nivoja v slovensko zdravstveno prakso. S sodelavci je razvil referenčni center za farmakoekonomiko v okviru Katedre za socialno farmacijo. Vodil je več kot 50 aplikativnih gospodarskih projektov s področja farmakoekonomike in farmakoepidemiologije. Deluje tudi na področju farmacevtske skrbi z vrednotenjem farmacevtskih svetovalnih storitev, kot sta farmakoterapijski pregled in pregled uporabe zdravil. Svojo ekspertizo izkazuje z bibliografijo, s predavanji na domačih in mednarodnih strokovnih ter znanstvenih srečanjih in sodelovanjem pri aplikativnih projektih. Objavlja članke v revijah s faktorjem vpliva – pri 31 je prvi ali vodilni avtor ter v drugih revijah – 23 člankov, pri katerih je prvi ali vodilni avtor. Njegova dela imajo 168 čistih citatov.

Prof. dr. Mitja Kos je bil na UL prvič izvoljen v naziv asistenta leta 1999, nato v docenta leta 2008, izrednega profesorja leta 2013, dne 17. 9. 2019 pa v naziv rednega profesorja za področje socialne farmacije.

of Slovenia, the Slovene Chamber of Pharmacy and the Public Agency of the Republic of Slovenia for Medicinal Products and Medical Devices.

The central theme of his scientific research is the safety and comparative efficacy of medicines, their accessibility to patients and the rationalization as well as optimization of their consumption. He is responsible for the development of health evaluation technologies and the transfer of pharmacoeconomics from the academic level into Slovenian health practice. Together with his colleagues he developed a reference centre for pharmacoeconomics within the Department of Social Pharmacy. He led more than 50 applied economic projects in pharmacoeconomics and pharmacoepidemiology. He also works in pharmaceutical care by evaluating pharmaceutical advisory services such as pharmacotherapeutic and drug use review. He demonstrates his expertise with bibliography, lectures at domestic and international professional and scientific meetings and through participation in applied projects. He publishes articles in journals with an impact factor - with 31 articles he is the first or the leading author and in other journals with 23 articles he is the first or the leading author. His works have 168 pure quotations.

Prof. Dr. Mitja Kos was first elected assistant professor at the University of Ljubljana in 1999, then assistant professor in 2008, associate professor in 2013 and on the 17th of September 2019 full professor of social pharmacy.

Prof. dr. ZDENKO ČASAR

Rodil se je leta 1973. Po končanem univerzitetnem študiju kemijske tehnologije na UL se je vpisal na doktorski študij organske kemije na Ecole Doctorale Sciences de la Matiere Université de Rennes v Franciji – v komentorstvu s Fakulteto za kemijo in kemijsko tehnologijo (UM FKKT) Univerze v Mariboru (UM) in leta 2002 v Franciji uspešno zagovarjal doktorsko disertacijo.

Po diplomi leta 1998 se je kot mladi raziskovalec zaposlil na UL FKKT in nato 3 leta doktorskega usposabljanja opravil v Franciji. Po zagovoru disertacije je kot raziskovalec z doktoratom ostal na fakulteti do leta 2004, nato pa se je zaposlil v farmacevtski družbi Lek, kjer je danes vodja področja Zgodnji razvoj farmacevtskih izdelkov in sicer v Sandozovem razvojnem centru Slovenija. V obdobju od 2012 do 2014 je gostoval v Kundlu v Avstriji, kjer je vodil Sandozov globalni kompetenčni center za polimorfizem zdravilnih učinkovin in globalno skupino za portfelj zdravilnih učinkovin. Od leta 2012 je tudi dopolnilno zaposlen na UL FFA kot višji znanstveni sodelavec. V sklopu obeh zaposlitev prof. dr. Časar zavzeto in kakovostno deluje zlasti na znanstveno-raziskovalnem področju sinteze, polimorfizma, stabilnosti in analitike zdravilnih učinkovin in zdravil, kjer se uvršča med vodilne raziskovalce na področju farmacevtske kemije v Sloveniji, med drugim tudi zaradi številnih patentov (83), podeljenih pri mednarodnih patentnih uradih. Do sedaj je bil vodja že več kot 50 industrijskim projektom. Za svoje dosežke je prejel številne nagrade (Novartis VIVA, Puhova, Preglova, nagrade GZS itd.). Njegovo znanstveno delo je obsežno, kar potrjujejo številni članki, objavljeni v uglednih tujih znanstvenih revijah - 41 člankov v revijah s SCI faktorjem vpliva, od tega je sedemintridesetkrat prvi ali vodilni avtor.

Kot predavatelj sodeluje v pedagoškem procesu UL FFA na doktorskem študiju Biomedicina, enovitem magistrskem študiju Farmacija in magistrskem študijskem programu Industrijska farmacija. Bil je mentor in somentor pri doktorskih disertacijah, zaključnih delih magistrskih nalog in mentor naloge,

Prof. Dr. ZDENKO ČASAR

He was born in 1973. After completing his university studies in chemical technology at the University of Ljubljana, he enrolled in a doctoral study in organic chemistry at the Ecole Doctorale Sciences de la Matiere Université de Rennes in France - in co-mentorship with the Faculty of Chemistry and Chemical Technology of the University of Maribor in 2002 he successfully defended his doctoral dissertation in France.

After graduating in 1998, he worked as a young researcher at the Faculty of Chemistry and Chemical Technology and then completed 3 years of doctoral training in France. After defending his dissertation, he remained at the faculty as a researcher with a doctorate until 2004 and then got a job at the pharmaceutical company Lek. He is currently the head of the Early Development of Pharmaceutical Products division at the Sandoz Development Centre Slovenia. From 2012 to 2014 he was a visiting head of Sandoz's Global Polymorphism Competence Centre and the Global Active Ingredients Portfolio Group in Kundl, Austria. Since 2012 he has also been employed on a part-time basis at the Faculty of Pharmacy as a senior research associate. In both his posts Prof. Dr. Zdenko Časar works enthusiastically and effectively especially in the scientific research of synthesis, polymorphism, stability and analysis of active substances and drugs, where he ranks among the leading researchers in pharmaceutical chemistry in Slovenia, partly because of the many patents (83), granted by international patent offices. So far, he has led more than 50 industrial projects. He has received numerous awards for his achievements (Novartis VIVA, Puh Award, Pregl Award, GZS Awards, etc.). His scientific work is extensive, as confirmed by numerous articles published in reputable foreign scientific journals - 41 articles in journals with SCI impact factor, with 37 articles in which he is the first or the leading author.

As a lecturer he participates in the teaching process of the Faculty of Pharmacy in the doctoral study of Biomedicine, the unified master's study of Pharmacy and the master's study program Industrial Pharmacy. He was a mentor and co-mentor in doctoral dissertations, final theses of master's degrees and mentor of the thesis

ki je prejela Krkino nagrado. Med leti 2011 - 2017 je bil organizator in predavatelj na Biocampu, najpomembnejšem pedagoškem srečanju, ki ga organizira industrija za študente naravoslovnih področij v Sloveniji. Kot predavatelj je dve sezoni izvajal izbirni predmet na Univerzi Innsbruck. Prof. dr. Časar je bil predsednik sveta in član uprave ustanove Slovenska znanstvena fundacija, je recenzent za znanstvene publikacije pri različnih tujih revijah ter urednik znanstvene monografije pri založbi Springer. Kot ekspert sodeluje pri Evropskem direktoratu za kakovost zdravil (EDQM). Prof. dr. Zdenko Časar je bil na UL izvoljen v naziv docenta leta 2009, višjega znanstvenega sodelavca leta 2014, izrednega profesorja leta 2016 ter dne 26. 11. 2019 v naziv rednega profesorja za področje farmacevtske kemije.

Prof. dr. JANEZ MAVRI

Rodil se je leta 1962 v Ljubljani. Po univerzitetni diplomi na Oddelku za kemijo in kemijsko tehnologijo Fakultete za naravoslovje in tehnologijo, UL FKKT, je na isti fakulteti leta 1987 zaključil tudi magistrski in leta 1992 doktorski študij. V obdobju od 1993 do 1995 se je podoktorsko usposabljal na Oddelku za biofiziko Univerze Groningen, na Nizozemskem.

Leta 1987 se je zaposlil na Kemijskem inštitutu (KI) v Ljubljani, kjer je od leta 2006 dalje znanstveni svetnik in vodja Laboratorija za računsko biokemijo in načrtovanje učinkovin. V letu 2003 je kot gostujoči profesor deloval na Fakulteti za fiziko, Universite de Franche-Comte v Franciji, v letu 2004 pa kot Fulbrightov štipendist na University of Southern California v Los Angelesu, ZDA. Glavnina njegovega znanstveno-raziskovalnega dela spada na področje multiskalne simulacije reakcij v raztopini in encimih – aplikacija QM/MM metodologije za študij biokemijske reaktivnosti monoaminergičnega sistema, (razvoj in aplikacija te metode je leta 2013 prinesla Nobelovo nagrado za kemijo dr. Ariehu Warshlu, pri katerem je prof. dr. Mavri delal v Los Angelesu) vrednotenja nuklearnih izotopskih efektov ter študija reakcij poškodb DNA. Proučuje računske pristope k razumevanju interakcij med učinkovino in receptorjem.

that received the Krka Award. In the 2011-2017period he was the organizer and lecturer at Biocamp, the most important pedagogical meeting, organized by the industry for students of natural sciences in Slovenia. As a lecturer he taught an elective course at the University of Innsbruck for two seasons. Prof. Dr. Zdenko Časar was the president of the council and a member of the board of the Slovenian Science Foundation, he is a reviewer of scientific publications for various foreign journals and the editor of a scientific monograph at the Springer Publishing House. He works as an expert in the European Directorate for the Quality of Medicines (EDQM). Prof. Dr. Zdenko Časar was elected assistant professor at the University of Ljubljana in 2009, senior research associate in 2014, associate professor in 2016 and on the 26th of November 2019 full professor of pharmaceutical chemistry.

Prof. Dr. JANEZ MAVRI

He was born in 1962 in Ljubljana. After graduating from the Department of Chemistry and Chemical Technology at the Faculty of Natural Sciences and Technology he also completed his master's and doctoral studies in 1987. From 1993 to 1995 he received postdoctoral training at the Department of Biophysics, University of Groningen, the Netherlands.

In 1987 he joined the Institute of Chemistry in Ljubljana, where he has been a scientific advisor and head of the Laboratory for Computational Biochemistry and Drug Design since 2006. In 2003 he worked as a visiting professor at the Faculty of Physics, Universite de Franche-Comte in France and in 2004 as a Fulbright Scholar at the University of Southern California in Los Angeles, USA. The majority of his research work consists of multiscale simulation of reactions in solution and enzymes - application of QM/MM methodology for studying biochemical reactivity of the monoaminergic system (development and application of this method brought the Nobel Prize in Chemistry to Dr. Arieh Warshl in 2013 and Prof. Dr. Mavri worked with him in Los Angeles), evaluation of nuclear isotope effects and study of DNA damage reactions. He studies computational approaches to understanding drug-receptor interactions. He publishes his scientific works

Svoja znanstvena dela objavlja v mednarodnih revijah ter v domačih strokovnih časopisih. Mednarodno odmevnost izkazuje visoko število čistih citatov (1689 po bazi WoS, 1867 po bazi Scopus) in 10-letni H indeks 20 (vir Sicris) oz. skupni H-indeks 27 (vir WoS). Njegovo delo obsega 106 člankov v recenziranih znanstvenih revijah, pri 56 delih je prvi ali vodilni avtor. Prof. dr. Mavri je vodja raziskovalnega programa Molekulske simulacije, bioinformatika in načrtovanje zdravilnih učinkovin. Na UL FFA sodeluje v pedagoškem procesu na doktorskem študiju Biomedicina, pri predmetu Toksikologija. Bil je mentor in somentor pri 3 doktorskih disertacijah in 11 diplomah ter študentskih raziskovalnih nalogah za Krkino in fakultetno nagrado. Kot organizator in predavatelj je bil aktivno udeležen na različnih mednarodnih poletnih šolah. Je član uredniškega odbora Acta Chimica Slovenica, član programskih odborov mednarodnih konferenc ter recenzent pri različnih mednarodnih revijah. Prof. dr. Janez Mavri je bil na UL leta 2003 prvič izvoljen v naziv docenta, leta 2014 v naziv izrednega profesorja, dne 26. 11. 2019 pa v naziv rednega profesorja za področje farmacevtske kemije.

in international journals and in domestic professional journals. The high number of pure citations (1689 according to the WoS database, 1867 according to the Scopus database) and 10-year H-index 20 (Sicris source) or total H-index 27 (WoS source) prove his international standing. His work includes 106 articles in peer-reviewed scientific journals, in 56 works he is the first or the leading author. Prof. Dr. Mavri is the head of the Molecular Simulation, Bioinformatics and Drug Design research program. At the Faculty of Pharmacy, he participates in the teaching process in the doctoral study of Biomedicine, namely in Toxicology. He was a mentor and co-mentor in 3 doctoral dissertations, 11 diplomas and in student research projects for Krka and Faculty Awards. As an organizer and lecturer he was actively involved in various international summer schools. He is a member of the Acta Chimica Slovenica editorial board, a member of the program committees of international conferences and a reviewer in various international journals. Prof. Dr. Janez Mavri was elected assistant professor at the University of Ljubljana in 2003, associate professor in 2014 and on the 26th of November 2019 full professor of pharmaceutical chemistry.

Novoizvoljeni redni profesorji UL FFA V letu 2019 / Newly appointed full professors at the Faculty of Pharmacy in 2019
Od leve proti desni prof. dr. Mitja Kos, dekanja prof. dr. Irena Mlinarič-Raščan, prof. dr. Zdenko Časar in prof. dr. Janez Mavri

PREJEMNIKI DEKANOVIH NAGRAD

Dekanove nagrade se podelijo študentom, raziskovalcem ali doktorandom UL FFA, ki so v preteklem obdobju kot prvi ali vodilni avtor objavili delo v reviji z visokim faktorjem vpliva ali v reviji, ki sodi v zgornjih 10 odstotkov revij s posameznega področja in s tem doprinesli k razvoju farmacevtske znanosti in stroke.

Doc. dr. Darja Gramec Skledar za znanstveni članek z naslovom: »Endokrina aktivnost izbranih naravnih in sinteznih spojin« objavljen v reviji Chemosphere.
Mentorica: prof. dr. Lucija Peterlin Mašič

Asist. dr. Klemen Kodrič za znanstveni članek z naslovom: »SRY – zaščitni dejavnik proti osteoporozi pri moških« objavljen v reviji Experimental & Molecular Medicine.
Mentorica: prof. dr. Janja Marc

Dr. Klemen Korasa za znanstveni članek z naslovom: »Vrednotenje uporabnosti orodij procesne analizne tehnologije pri spremljanju filmskega oblaganja pelet« objavljen v reviji International Journal of Pharmaceutics.
Mentor: prof. dr. Franc Vrečar

Asist. dr. Davide Tiz Benedetto za znanstveni članek z naslovom: »An optimised series of substituted N-phenylpyrrolamides as DNA gyrase B inhibitors« objavljen v reviji European Journal of Medicinal Chemistry.
Mentor: doc. dr. Nace Zidar, Somentor: prof. dr. Danijel Kikelj

Abida Zahirović za znanstveni članek z naslovom: »Določitev epitopov poglavitnega alergena čebeljega strupa Api m 1 in ovrednotenje pripadajočih mimotopov za uporabo v imunoterapiji« objavljen v reviji Journal of Allergy and Clinical Immunology.
Mentorica: izr. prof. dr. Mojca Lunder, somentor: izr. prof. dr. Peter Korošec

RECIPIENTS OF DEAN'S AWARDS

The dean's awards are conferred upon students, researchers, or doctoral students at the Faculty of Pharmacy that have in the past period published work as the first or leading author in a journal with a high impact factor or in a journal in the top ten percent of journals in a particular field, thereby contributing to the development of pharmaceutical sciences and the profession.

Assist. Prof. Dr. Darja Gramec Skledar, for the research article: » Evaluation of endocrine activities of ellagic acid and urolithins using reporter gene assays « published in Chemosphere.
Supervisor: Prof. Dr. Lucija Peterlin Mašič

Assist. Dr. Klemen Kodrič, for the research article: » Sex-determining region Y (SRY) attributes to gender differences in RANKL expression and incidence of osteoporosis « published in Experimental & Molecular Medicine.
Supervisor: Prof. Dr. Janja Marc

Dr. Klemen Korasa, for the research article: » A study on the applicability of multiple process analysers in the production of coated pellets « published in International Journal of Pharmaceutics.
Supervisor: Prof. Dr. Franc Vrečar

Assist. Dr. Davide Tiz Benedetto, for the research article: »An optimised series of substituted N-phenylpyrrolamides as DNA gyrase B inhibitors« published in European Journal of Medicinal Chemistry.
Supervisor: Assist. Prof. Dr. Nace Zidar, Co-supervisor: Prof. Dr. Danijel Kikelj

Abida Zahirović, for the research article: » Identification of bee venom Api m 1 IgE epitopes and characterization of corresponding mimotopes « published in Journal of Allergy and Clinical Immunology.
Assoc. Prof. Dr. Mojca Lunder, Co-supervisor: Assoc. Prof. Dr. Peter Korošec

PREJEMNIKI PREŠERNOVIH NAGRAD 2019

UNIVERZITETNA PREŠERNOVA NAGRADA 2019

Anže Meden: Načrtovanje in sinteza inhibitorjev butirilholinesteraze s triptofanskim skeletom
Mentor: izr. prof. dr. Uroš Grošelj, somentor: prof. dr. Stanislav Gobec

FAKULTETNE PREŠERNOVE NAGRADE 2019

Aleša Bricelj: Načrtovanje in sinteza himernih razgrajevalcev proteina bcl-2
Mentor: doc. dr. Izidor Sosič

Matej Novak: Sinteza in vrednotenje fluoroforov s fenoksazinskimi in kumarinskimi skeleti, primernih za fluorescenčno mikroskopijo membran s stimulirano emisijo
Mentor: doc. dr. Stane Pajk

Nika Osel: Razvoj stabilnosti indikativnega analiznega pristopa za vrednotenje laktoferina.
Mentor: izr. prof. dr. Robert Roškar

Iza Pekle Simonič: Ovrednotenje migracijskih in alostimulacijskih sposobnosti dendritičnih celic, gojenih v prisotnosti lizata alogenskih trombocitov
Mentor: izr. prof. dr. Urban Švajger

Kaja Zorjan: Klinično ovrednotenje psihofarmakoterapevtskih intervencij farmacevta svetovalca pri starejših bolnikih s polifarmakoterapijo v Pomurju
Mentor: doc. dr. Matej Štuhec

RECIPIENTS OF PREŠEREN AWARDS

UNIVERSITY OF LJUBLJANA'S PREŠEREN AWARDS

Anže Meden: Design and synthesis of tryptophan-based butyrylcholinesterase inhibitors

Supervisor: Assoc. Prof. Dr. Uroš Grošelj, Co-supervisor: Prof. Dr. Stanislav Gobec

FACULTY OF PHARMACY PREŠEREN AWARDS

Aleša Bricelj: Načrtovanje in sinteza himernih razgrajevalcev proteina bcl-2
Supervisor: Assist. Prof. Dr. Izidor Sosič

Matej Novak: Synthesis and evaluation of fluorophores with phenoxazine and coumarin scaffolds applicable for stimulated emission depletion microscopy of membranes
Supervisor: Assist. Prof. Dr. Stane Pajk

Nika Osel: Development of a stability indicating analytical approach for evaluation of lactoferrin.
Supervisor: Assoc. Prof. Dr. Robert Roškar

Iza Pekle Simonič: Evaluation of migratory and allostimulatory potential of dendritic cells cultured in the presence of allogeneic platelet lysate
Supervisor: Assoc. Prof. Dr. Urban Švajger

Kaja Zorjan: Clinical evaluation of a pharmacist consultant`s psychopharmacological interventions in elderly patients treated with polypharmacotherapy in Pomurje region
Supervisor: Assist. Prof. Dr. Matej Štuhec

PRIZNANJA FAKULTETE

Priznanja fakultete prejmejo absolventi, ki so v času študija tekoče napredovali (niso pavzirali ali ponavljali letnika) ter pri vseh študijskih obveznostih (razen diplome), opravljenih najpozneje v obdobju enega leta od vpisa absolventskega staža, dosegli povprečno oceno 9,00 ali več.

Enoviti magistrski študijski program Farmacija /
Fast-track master's program in pharmacy:

Bedek Naja
Bohinec Špela
Cetin Sandra
Dragar Črt
Firer Monika
Grilc Nina Katarina
Gubič Špela
Hiti Luka
Huzjak Tilen
Kogovšek Eva
Kokot Maja
Marovič Nina
Meden Anže
Nemec Alja
Vodir Nejc

Magistrski študijski program Industrijska farmacija /
Master's program in industrial pharmacy:

Breznik Marko
Čerček Urša
Kalčič Špela
Kolenc Blažka
Kuret Klara
Oblak Blaž
Petrovič Fras Tonja
Triler Karin Veronika

FACULTY OF PHARMACY RECOGNITIONS

Faculty of Pharmacy Awards are given to those graduates who have shown significant progress and completed all their study obligations (except graduation) with an average mark of 9.00 or more (out of 10) within one year after enrolling into the extra year of studying.

Magistrski študijski program Laboratorijska biomedicina /
Master's program in laboratory biomedicine:

Črepinšek Klementina
Draškovič Tina
Koderman Maruša
Mezgec Klemen
Pirnat Aljaž
Primc Alja
Radež Manca
Roudi Samantha
Zupančič Maruša

Univerzitetni študijski program Kozmetologija /
Bachelor's program in cosmetology:

Janežič Nina

Univerzitetni študijski program Laboratorijska biomedicina /
Bachelor's program in laboratory biomedicine

Mlakar Tjaša
Oder Blaž
Srpčič Anja
Škrobar Klara
Štucin Neža
Vehovec Lara

Diplomanti UL FFA / UL FFA 2019 graduates

4 Seznam diplomantov
List of graduates

DIPLOMANTI NA FAKULTETI ZA FARMACIJO V LETU 2019
2019 GRADUATES AT THE FACULTY OF PHARMACY

UNIVERZITETNI ŠTUDIJSKI PROGRAM KOZMETOLOGIJA

UNIVERSITY STUDY PROGRAMME OF COSMETOLOGY

Ait Si Mohamed Amel
Bistan Katarina
Caf Anja
Černila Manca
Durić Ines
Faganel Tina
Gojčič Mojca
Hauptman Nastja
Hodulak Antea
Hren Anja
Jakaj Sara
Janežič Nina
Jereb Sara
Jud Laura
Jug Ana
Kastelic Saša
Klemenčič Pocajt Tjaša
Korošec Sara
Krampelj Betka
Krošelj Ana
Lipovnik Anja
Marovt Tajda
Nabernik Urša
Plut Taja
Podvratnik Kaja
Selan Tajka
Sila Tjaša
Sladič Vila Lidija
Smodiš Sindy
Sonc Lea
Stojnić Neli
Škufca Petja

ENOVITI MAGISTRSKI ŠTUDIJSKI PROGRAM FARMACIJA

UNIFORM MASTER'S STUDY PROGRAMME OF PHARMACY

Alič Neža
Auguštin Barbara
Bačič Bianka
Bedek Naja
Benčina Lea
Benko Anja
Bevk Andraž
Bionda Gregor
Blaženski Anja
Blaževič Iva
Božič Ula
Brčan Tina
Brežan Meta
Bricelj Aleša
Brišnik Vita
Buzeti Uroš
Cajhen Anja
Cetin Sandra
Čadež Nika
Debenjak Tina
Debevc Špela
Dolenc Maša
Dragar Črt
Drnovšek Urška
Esih Hana
Ferlič Anja
Flegar Ines
Fridrih Nina
Gaál Enikő Éva
Gabrič Alen
Glavač Kaja
Godec Alan
Gogova Liljana
Gomboc Eva
Gorenc Nejc
Gubič Špela
Hajšek Karmen
Hertl Gregor
Horvat Maruša
Hostnik Sergeja
Ivanova Simona
Jalšovec Antonija
Jazbinšek Santina
Jerebic Štefan
Jurić Luka
Jus Špela
Kastelic Aljaž
Kavčič Primož
Kerčmar Tina
Kerin Jurij

Klemenc Irma Hermina
Klemenčič Mojca
Kocmur Petra
Kočevar Marko
Kodila Katja
Kokot Maja
Koprivnikar Krajnc Martin
Korošec Aljoša
Košutić Maja
Kovačević Sanja
Krajnc Ema
Kramarič Sabina
Kreft Klemen
Krištofelc Nina
Križman Tina
Lah Lea
Lajnšček Laura
Leban Kaja
Leskovar Mateja
Lindič Mitja
Lozar Janja
Lukić Maja
Lukovnjak Tadej
Luzar Nika
Maček Katja
Marčič Maja
Marič Gregor
Marko Andreja
Marovič Nina
Meden Anže
Mežnaršič Eva
Mlakar Maja
Murnc Katja
Novak Matej
Očko Sara
Očko Dejan
Osel Nika
Pečovnik Maruša
Pekle Simonič Iza
Perko Anja
Pertoci Vesna
Petek Andrej
Pokovec Eva
Prašnikar Eva
Praunseis Eva
Praznik Ajda
Prešern Anja
Prijon Špela
Prosen Petra
Pušnik Anja
Ravnikar Karmen
Rode Danaja
Sever Ana
Sinjur Anja
Skvarča Anja
Slemenšek Tjaša
Sočan Vesna
Sterle Maša
Stojanovski Monika
Strle Maja
Subašič Dimitrij
Svetič Sandi
Šenica Sabina
Šmon Špela
Šopar Katja
Štagar Nina
Štajnfelzer Andreja
Štefan Manca
Šušteršič Špela
Tratenšek Armando
Turk Saša
Turšič Aleš
Tuta Nika
Učakar Tjaša
Urbančič Tilen
Vek Nataša
Velimirović Eva
Verbič Klara
Vidic Tjaša
Vidmar Lea
Vidović Anja
Viler Tina
Virant Monika
Vižintin Urška
Vogrinec Urška
Voh Žana
Vokič Nina
Zajec Živa
Zidar Anže
Zorjan Kaja
Zupan Anja
Zver Patricija
Žgajnar Damjan
Žitnik May
Žižek Julija
Žnidaršič Tina

MAGISTRSKI ŠTUDIJSKI PROGRAM INDUSTRIJSKA FARMACIJA

MASTER'S STUDY PROGRAMME OF INDUSTRIAL PHARMACY

Adamič Anja
Bordon Gregor
Brec Tina
Duszová Alena
Gačnik Ana
Gartnar Neža
Gorjup Nana
Horvat Andreja
Hribernik Špela
Janežič Valerija
Javornik Janez
Kalan Jasna
Kavčič Vita
Konečnik Katja
Kozjek Tina
Križman Kaja
Lombergar Neja
Mehle Katarina
Močnik Roner Maša
Mrak Polona
Pirnat Saša
Plaznik Nejc
Sebanc Peter
Simšič Tilen
Soklič Karina
Subotić Iva
Štrancar Tjaša
Turk Nataša
Utroša Svetlana
Vrhovec Anja
Zaletel Nina
Zorko Zala

MAGISTRSKI ŠTUDIJSKI PROGRAM LABORATORIJSKA BIOMEDICINA

MASTER'S STUDY PROGRAMME OF LABORATORY BIOMEDICINE

Barovič Darja
Bizjak Anja
Brozić Nikolina
Cverlin Romana
Debevec Nuša
Draščič Sara
Forster Monika
Jerković Olga
Kozjek Eva
Levstek Tina
Mastinšek Marisa
Mezgec Klemen
Müller Ema
Novak Eva
Osterman Elza
Peternel Aleks
Pirnat Aljaž
Planina Medin Luka
Poženel Laura
Rojnik Tamara
Sedlar Nataša
Sukič Staša
Škafar Nives
Vajdič Nastja
Vidic Blaž
Vrščaj Lucija Ana
Weiss Maja

DOKTORSKI ŠTUDIJSKI PROGRAM BIOMEDICINA

DOCTORAL STUDY PROGRAMME OF BIOMEDICINE

Doktorati s področja farmacevtskih znanosti / Doctors of Pharmaceutical Sciences

Benedetto Tiz Davide (mentor Nace Zidar, somentor Danijel Kikelj): Razvoj novih N-fenilpirolamidov kot zaviralcev DNA-giraze in topoizomeraze IV = Discovery of novel N-phenylpyrrolamides as inhibitors of DNA gyrase and topoisomerase IV, COBISS.SI-ID: 4726641.

Detiček Andreja (mentor Locatelli Igor, somentor Kos Mitja): Umeščanje in dostop pacientov do inovativnih zdravil za zdravljenje redkih bolezni v Sloveniji = Reimbursement decision-making and patient access of innovative medicines for rare diseases in Slovenia, COBISS.SI-ID: 301427968.

Grmaš Jernej (mentor Rok Dreu, somentor Rade Injac): Vrednotenje kritičnih parametrov kakovosti pršil za nos in vitro = Evaluation of critical quality attributes of nasal sprays in vitro, COBISS.SI-ID: 301716480.

Korasa Klemen (mentor Franc Vrečer): Vrednotenje uporabnosti orodij procesne analizne tehnologije pri spremljanju filmskega oblaganja pelet = Assessing the applicability of process analytical technology tools in pellet film coating process, COBISS.SI.ID: 301415424.

Miklavžin Ana (mentorica Julijana Kristl, somentorica Mateja Cegnar): Načrtovanje, izdelava in vrednotenje polielektrolitnih nanodelcev za peroralno dostavo proteinskih učinkovin = Design, formulation and evaluation of polyelectrolyte nanoparticles for peroral delivery of therapeutic proteins, COBISS.SI-ID: 298838528.

Rozman Peterka Tanja (mentor Uroš Urleb): Proučevanje stabilnosti slabo topne makrolidne učinkovine v heterogenih farmacevtskih sistemih = Stability evaluation of poorly water-soluble macrolide drug in heterogeneous pharmaceutical systems, COBISS.SI-ID: 300441344.

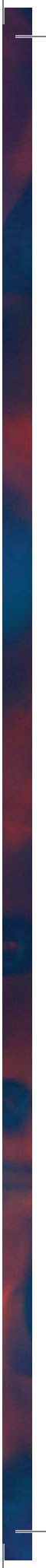
Sočan Aljaž (mentorica Tanja Gmeiner, somentor Urban Švajger): Razvoj in vrednotenje novih postopkov za radiooznačevanje krvotvornih matičnih celic = Development and evaluation of novel approaches for radiolabelling of haematopoietic stem cells, COBISS.SI-ID: 302985472.

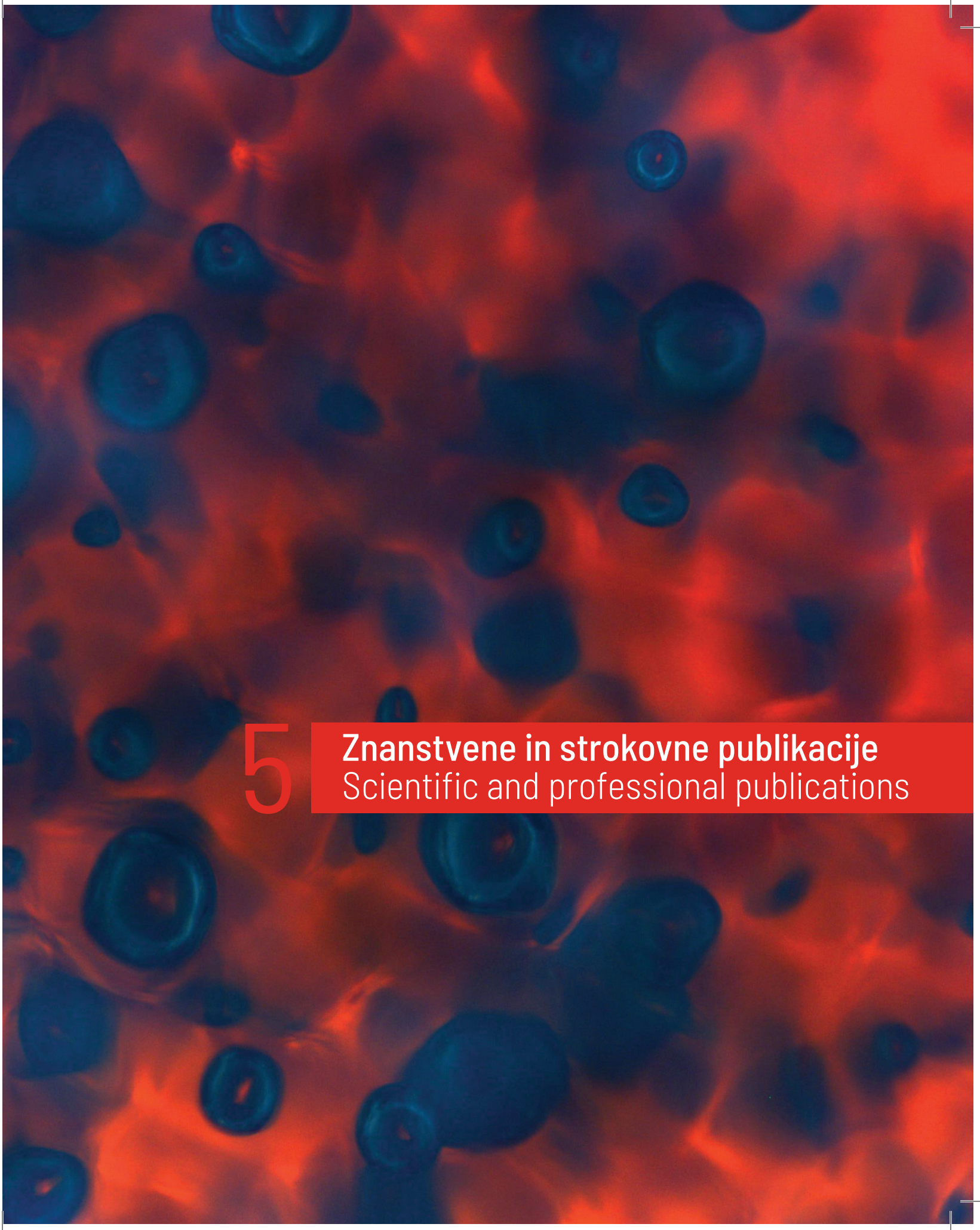
Tibaut Tjaša (mentorica Marjana Novič, somentor Marko Anderluh): Načrtovanje zaviralcev bakterijskih avtolitičnih encimov N-acetil glukozaminidaz = Design of inhibitors of bacterial autolytic enzymes N-acetyl glucosaminidases, COBISS.SI-ID: 300519680.

Doktorati s področja Klinična biokemija in Laboratorijska biomedicina/
Doctors in the fields of Clinical Biochemistry and Laboratory Biomedicine

Kodrič Klemen (mentorica Janja Marc): Vpliv izbranih transkripcijskih dejavnikov iz družine SOX in c-MYB na uravnavanje izražanja gena RANKL v kostnih celicah pri osteoporozi = Influence of selected transcription factors from the SOX family and c-MYB in regulation of RANKL gene expression in bone cells in osteoporosis, COBISS.SI-ID: 302178816.

Prunk Mateja (mentor Janko Kos): Vloga cistatina F in cisteinskih katepsinov pri delovanju citotoksičnih limfocitov T = Role of cystatin F and cysteine cathepsins in the function of cytotoxic T lymphocytes, COBISS.SI-ID: 299697920.





5 Znanstvene in strokovne publikacije
Scientific and professional publications

KATEDRA ZA BIOFARMACIJO IN FARMAKOKINETIKO

DEPARTMENT OF BIOPHARMACY AND PHARMACOKINETICS

Dall'acqua Stefano, Grabnar Iztok, Verardo Roberto, Klaric Enio, Marchionni Luigi, Luidy-Imada Eddie, Sut Stefania, Agostinis Chiara, Bulla Roberta, Perissutti Beatrice, Voinovich Dario: Combined extracts of Echinacea angustifolia DC. and Zingiber officinale Roscoe in softgel capsules: pharmacokinetics and immunomodulatory effects assessed by gene expression profiling.- Phytomedicine, 2019, 65, str. 1-11, COBISS.SI-ID: 4794481.

Dragar Črt, Potrč Tanja, Nemec Sebastjan, Roškar Robert, Pajk Stane, Kocbek Petra, Kralj Slavko: One-pot method for preparation of magnetic multi-core nanocarriers for drug delivery.- Materials, 2019, 12, 3, str. 540-1-540-14, COBISS.SI-ID: 32095527.

Gramec Darja, Carino Adriana, Trontelj Jurij, Troberg Johanna, Distrutti Eleonora, Marchianò Silvia, Tomašič Tihomir, Zega Anamarija, Finel Moshe, Fiorucci Stefano, Peterlin-Mašič Lucija: Endocrine activities and adipogenic effects of bisphenol AF and its main metabolite.- Chemosphere, 2019, 215, str. 870-880, COBISS.SI-ID: 4620401.

Gramec Darja, Trontelj Jurij, Troberg Johanna, Tomašič Tihomir, Zega Anamarija, Finel Moshe, Peterlin-Mašič Lucija: Data on biosynthesis of BPAF glucuronide, enzyme kinetics of BPAF glucuronidation, and molecular modeling.- Data in brief, 2019, 22, str. 977-986, COBISS.SI-ID: 4650609.

Habjanič Nina, Lužar - Stiffler Vesna, Kerec Kos Mojca, Grabnar Darja: Efficacy of calcipotriol-betamethasone ointment in patients with mild to moderate plaque psoriasis: subgroup analyses.- Dermatology, 2019, 235, 6, str. 501-508, COBISS.SI-ID: 4786289.

Hribar Melita, Trontelj Jurij, Berglez Sandra, Bevc Alenka, Kuščer Lovro, Diaci Janez, Legen Igor: Design of an innovative advanced gastric simulator.- Dissolution Technologies, 2019, 26, 4, str. 20-29, COBISS.SI-ID: 1482846.

Jereb Rebeka, Opara Jerneja, Legen Igor, Petek Boštjan, Bajc Aleksander, Žakelj Simon, Kristl Albin: PBPK absorption modeling of food effect and bioequivalence in fed state for two formulations with crystalline and amorphous forms of BCS 2 class drug in generic drug development.- AAPS PharmSciTech, 2019, 20, 2, str. 1-10, COBISS.SI-ID: 1454174.

Kerec Kos Mojca, Veranič Peter, Erman Andreja: Poly-L-lysine as an effective and safe desquamation inducer of urinary bladder epithelium.- Polymers, 2019, 11, 9, 1506, str. 1-14, COBISS.SI-ID: 4789617.

Lampič Kristina, Trontelj Jurij, Prosen Helena, Drobne David, Šmid Alenka, Vovk Tomaž: Determination of 6-thioguanine and 6-methylmercaptopurine in dried blood spots using liquid chromatography-tandem mass spectrometry: method development, validation and clinical application.- Clinica Chimica Acta, 2019, 499, str. 24-33, COBISS.SI-ID: 4780913.

Petrica Demetrij, Žnidaršič Tina, Kerec Kos Mojca: Analiza farmacevtske obravnave bolnikov ob odpustu iz Univerzitetnega rehabilitacijskega inštituta Republike Slovenije - Soča = Analysis of pharmaceutical care at the discharge from University rehabilitation institute, Republic of Slovenia - Soča.- Farmacevtski vestnik, 2019, 70, 5, str. 337-344, COBISS.SI-ID: 4858737.

Sibinovska Nadica, Žakelj Simon, Kristan Katja: Suitability of RPMI 2650 cell models for nasal drug permeability prediction.- European Journal of Pharmaceutics and Biopharmaceutics, 2019, 145, str. 85-95, COBISS.SI-ID: 1518174.

Štuhec Matej, Bratović Nika, Mrhar Aleš: Impact of clinical pharmacist's interventions on pharmacotherapy management in elderly patients on polypharmacy with mental health problems including quality of life: a prospective non-randomized study.- Scientific reports, 2019, 9, art. 16856, str. 1-8, COBISS.SI-ID: 4850289.

Temova Rakuša Žane, Roškar Robert, Klančar Anita, Trdan Lušin Tina, Faganeli Nataša, Grabnar Iztok, Mrhar Aleš, Kristl Albin, Trontelj Jurij: Fast and simple LC-MS/MS method for rifampicin quantification in human plasma.- International Journal of Analytical Chemistry, 2019, str. 1-7, COBISS.SI-ID: 4670321.

Veseli Ardita, Žakelj Simon, Kristl Albin: A review of methods for solubility determination in biopharmaceutical drug characterisation.- Drug development and Industrial Pharmacy, 2019, 45, 11, str. 1717-1724, COBISS.SI-ID: 4781169.

Zdovc Jurij, Petre Maja, Pišlar Mitja, Repnik Katja, Mrhar Aleš, Vogrin Matjaž, Potočnik Uroš, Grabnar Iztok: Downregulation of ABCB1 gene in patients with total hip or knee arthroplasty influences pharmacokinetics of rivaroxaban: a population pharmacokinetic-pharmacodynamic study.- European Journal of Clinical Pharmacology, 2019, 75, 6, str. 817-824, COBISS.SI-ID: 4671089.

KATEDRA ZA FARMACEVTSKO BIOLOGIJO

DEPARTMENT OF PHARMACEUTICAL BIOLOGY

Božić Biljana, Lončar Goran, Vižin Tjaša, Radojičić Zoran, Popović Brkić Vera, Kos Janko: Relationship of high circulating cystatin C to biochemical markers of bone turnover and bone mineral density in elderly males with a chronic heart failure: Povezanost povećanog cirkulišućeg cistatina C i biohemijskih markera metabolizma kosti i mineralne koštane gustine kod starijih muškaraca sa hroničnom srčanom insuficijencijom insuficijencijom.- Journal of Medical Biochemistry, 38, 1, str. 53-62, COBISS.SI-ID: 4502385.

Knez Damijan, Sosič Izidor, Pišlar Anja, Mitrović Ana, Jukič Marko, Kos Janko, Gobec Stanislav: Biological evaluation of 8-Hydroxyquinolines as multi-target directed ligands for treating Alzheimer's disease.- Current Alzheimer Research, 2019, 16, 9, str. 801-814, COBISS.SI-ID: 4835441.

Kokalj Meta, Ziherl Primož, Šiber Antonio: Topology of dividing planar tilings: mitosis and order in epithelial tissues.- Physical Review. E., 2019, 100, 1, str. 012410-1 - 012410-15, COBISS.SI-ID 4766577.

Lineva Anna, Tavčar Benković Eva, Kreft Samo, Kienzle Ellen: Remarkable frequency of a history of liver disease in dogs fed homemade diets with buckwheat = Auffällige Häufung von Lebererkrankungen bei Hunden, die mit hausgemachten Rationen mit Buchweizen ernährt werden.- Tierärztliche Praxis, Ausgabe Kleintiere, Heimtiere, 2019, 47, 4, str. 242-246, COBISS.SI-ID: 4775537.

Lunder Mojca, Roškar Irena, Hošek Jan, Štrukelj Borut: Silver fir (Abies alba) extracts inhibit enzymes involved in blood glucose management and protect against oxidative stress in high glucose environment.- Plant Foods for Human Nutrition, 2019, 74, 1, str. 47-53, COBISS.SI-ID: 4626801.

Meden Anže, Knez Damijan, Jukič Marko, Brazzolotto Xavier, Gršič Marija, Pišlar Anja, Zahirović Abida, Kos Janko, Nachon Florian, Svete Jurij, Gobec Stanislav, Grošelj Uroš: Tryptophan-derived butyrylcholinesterase inhibitors as promising leads against Alzheimer's disease.- Chemical Communications, 2019, 55, 26, str. 3765-3768, COBISS.SI-ID: 1538148547.

Mirjanić-Azarić Bosa, Vasic Novak, Černe Darko, Kos Janko, Bogavac-Stanojević Nataša: Plasma cathepsin S is associated with high-density lipoprotein cholesterol and bilirubin in patients with abdominal aortic aneurysms: Povezanosti plazmatskog katepsina S sa holesterolom lipoproteina visoke gustine i bilirubinom kod pacijenata sa aneurizmom abdominalne aorte.- Journal of Medical Biochemistry, 2019, 38, 3, str. 268-275, COBISS.SI-ID: 4637297.

Mitrović Ana, Kljun Jakob, Sosič Izidor, Uršič Matija, Meden Anton, Gobec Stanislav, Kos Janko, Turel Iztok: Organoruthenated nitroxoline derivatives impair tumor cell invasion through inhibition of cathepsin B activity.- Inorganic Chemistry, 2019, 58, 18, str. 12334-12347, COBISS.SI-ID: 4769905.

Pečar Fonović Urša, Perišić Milica, Zidar Nace, Lenarčič Brigita, Kos Janko: The carboxypeptidase activity of cathepsin X is not controlled by endogenous inhibitors.- Acta Chimica Slovenica, 2019, 65, 1, str. 58-61, COBISS.SI-ID: 4648561.

Plavec Tina Vida, Štrukelj Borut, Berlec Aleš: Screening for new surface anchoring domains for Lactococcus lactis.- Frontiers in Microbiology, 2019, 10, 13 str., COBISS.SI-ID: 32563239.

Prunk Mateja, Perišić Milica, Sabotič Jerica, Švajger Urban, Kos Janko: Increased cystatin F levels correlate with decreased cytotoxicity of cytotoxic T cells.- Radiology and Oncology, 2019, 53, 1, str. 57-68, COBISS.SI-ID: 34218969.

Prunk Zdravković Tanja, Zdravković Bogdan, Zdravković Marko, Dariš Barbara, Lunder Mojca, Ferk Polonca: In vitro study of the influence of octocrylene on a selected metastatic melanoma cell line.- Giornale Italiano di Dermatologia e Venereologia, 2019, 154, 2, str. 197-204, COBISS.SI-ID: 512736824.

Sabotič Jerica, Renko Miha, Kos Janko: Beta - trefoil protease inhibitors unique to higher fungi.- Acta Chimica Slovenica, 2019, 66, 1, str. 28-36, COBISS.SI-ID: 4700785.

Simčič Saša, Berlec Aleš, Stopinšek Sanja, Štrukelj Borut, Orel Rok: Engineered and wild-type L. lactis promote anti-inflammatory cytokine signalling in inflammatory bowel disease patient's mucosa.- World Journal of Microbiology & Biotechnology, 2019, 35, 3, str. 45-1-45-9, COBISS.SI-ID: 4678769.

Stojilkovski Katja, Uranič Ahačič Nataša, Kolar Darja, Kreft Samo: Simple method for the determination of polysaccharides in herbal syrup.- Journal of Carbohydrate Chemistry, 2019, 37, 7-8, str. 431-441, COBISS.SI-ID: 4670065.

Škedelj Veronika, Pečar Fonović Urša, Molek Peter, Magnet Sophie, Mainardi Jean-Luc, Blanot Didier, Gobec Stanislav, Stojan Jure, Zega Anamarija: Kinetic mechanism of Enterococcus faecium D-aspartate ligase. Biochimie, 2019, 158, str. 217-223, COBISS.SI-ID: 4668785.

Tršinar Bojan, Kreft Samo: Effect of saw palmetto extract on erectile dysfunction and libido in patients with lower urinary tract symptoms because of benign prostatic obstruction.- Journal of Applied Research on Medicinal and Aromatic Plants, 2019, 2, 1, str. 1-6, COBISS.SI-ID: 4812145.

Zahirović Abida, Štrukelj Borut, Korošec Peter, Lunder Mojca: Epitope mapping of major ragweed allergen Amb a 1.- Acta Chimica Slovenica, 2019, 66, 1, str. 37-44, COBISS.SI-ID: 4584049.

Zahirović Abida, Koren Ana, Kopač Peter, Štrukelj Borut, Korošec Peter, Lunder Mojca: Identification of bee venom Api m 1 IgE epitopes and characterization of corresponding mimotopes.- The journal of allergy and clinical immunology, 2019, 143, 2, str. 791-794.e5, COBISS.SI-ID: 2048372849.

Zdravković Bogdan, Prunk Zdravković Tanja, Zdravković Marko, Štrukelj Borut, Ferk Polonca: The influence of nano-TiO2 on metabolic activity, cytotoxicity and ABCB5 mRNA expression in WM-266-4 human metastatic melanoma cell line.- JBUON, 2019, 24, 1, str. 338-346, COBISS.SI-ID: 854691.

Zidarič Nika, Kreft Samo: The information for the dosing of medicinal products in different age intervals is ambiguous.- Therapeutic innovation & regulatory science, 2019, 53, 4, str. 506-511, COBISS.SI-ID: 4638321.

KATEDRA ZA FARMACEVTSKO KEMIJO

DEPARTMENT OF PHARMACEUTICAL CHEMISTRY

Anderluh Marko, Kocić Gordana, Tomovć Katarina Kocić Hristina, Smwecerović Andrija: DPP-4 inhibition: a novel therapeutic approach to the treatment of pulmonary hypertension?.- Pharmacology & therapeutics, 2019, 201, str. 1-7, COBISS.SI-ID: 4712561.

Benedetto Tiz, Davide, Skok Žiga, Durcik Martina, Tomašič Tihomir, Peterlin-Mašič Lucija, Ilaš Janez, Zega Anamarija, Draskovits Gábor, Revesz, T., Nyerges József Ákos, Pál Csaba, Durante Cruz Cristina, Tammela Päivi, Žigon Dušan, Kikelj Danijel, Zidar Nace: An optimised series of substituted N-phenylpyrrolamides as DNA gyrase B inhibitors.- European Journal of Medicinal Chemistry, 2019, 167, str. 269-290, COBISS.SI-ID: 4686961.

Bergant Loboda Kaja, Janežič Matej, Valjavec Katja, Sosič Izidor, Pajk Stane, Štampar Martina, Žegura Bojana, Gobec Stanislav, Filipič Metka, Perdih Andrej: Structure-guided optimization of 4,6-substituted-1,3,5-triazin-2(1H)-ones as catalytic inhibitors of human DNA topoisomerase liαIIα.- European Journal of Medicinal Chemistry, 2019, 175, str. 330-348, COBISS.SI-ID: 6615834.

Bonandi Elisa, Foschi Francesca, Marucci Cristina, Dapiaggi Federico, Sironi Maurizio, Pieraccini Stefano, Christodoulou S. Michael, De Asís Balaguer Francisco, Fernando Díaz J., Zidar Nace, Passarella Daniele: Synthesis of thicolchicine - based conjugates investigation towards bivalent tubulin/microtubules binders.- ChemPlusChem, 2019, 84, 1, str. 98-102, COBISS.SI-ID: 4657777.

Bondžić Bojan P., Džambaski Zdravko, Kolarević Ana, Đorđević Aleksandra, Anderluh Marko, Smelcerović Andrija: Synthesis and DNase I inhibitory properties of new benzocyclobutane-2,5-diones.- Future Medicinal Chemistry, 2019, 11, 18, str. 2415-2426, COBISS.SI-ID: 4789105.

Božič Borut, Obreza Aleš, Atkinson Jeffrey: Pharmacy practice and education in Slovenia.- Pharmacy - A Journal of Pharmacy Education and Practice, 2019, 7, 1, str. 1-12. COBISS.SI-ID: 4657521.

Brovč Ema Valentina, Pajk Stane, Šink Roman, Mravljak Janez: Comparison of the NMR and the acid value determination methods for quality control of input polysorbates.- Acta Chimica Slovenica, 2019, 66, 4, str. 934-943, COBISS.SI-ID: 4819313.

Campos Ludmila E., Garibotto Francisco M., Angelina Emilio, Kos Jiri, Tomašič Tihomir, Zidar Nace, Kikelj Danijel, Gonec Tomas, Marvanová P., Mokry Petr: Searching new structural scaffolds for BRAF Inhibitors. An integrative study using theoretical and experimental techniques.- Bioorganic Chemistry, 2019, 91, str. 1-19, COBISS.SI-ID: 4757361.

Cotman Andrej Emanuel, Lozinšek Matic, Wang Baifan, Stephan Michel, Mohar Barbara: Trans-Diastereoselective Ru(II)-catalyzed asymmetric transfer hydrogenation of [alpha]-acetamido benzocyclic ketones via dynamic kinetic resolution.- Organic letters, 2019, 21, 10, str. 3644-3648, COBISS.SI-ID: 32332327.

Decuyper Lena, Magdalenić Katarina, Verstraete Marie, Jukič Marko, Sosič Izidor, Sauvage Eric, Amoroso Ana, Verlaine Olivier, Joris Bernard, Gobec Stanislav, D'hooghe Matthias: Alpha-unsaturated 3-amino-1-carboxymethyl-β-lactams as bacterial PBP inhibitors: synthesis and biochemical assessment.- Chemistry: A European Journal, 2019, 25, 70, str. 16128-16140, COBISS.SI-ID: 4822897.

Depetter Yves, Geurs Silke, Franceus Jorick, Knez Damijan, Desmet Tom, De Bosscher Karolien, Wever De Olivier, Gobec Stanislav, D'hooghe Matthias: Synthesis of indoline-based benzhydroxamic acids as potential HDAC6 inhibitors.- ChemistrySelect, 2019, 4, 42, str. 12308-12312, COBISS.SI-ID: 4848753.

Dolšak Ana, Švajger Urban, Lešnik Samo, Konc Janez, Gobec Stanislav, Sova Matej: Selective Toll-like receptor 7 agonists with novel chromeno[3,4-d]imidazol-4(1H)-one and 2-(trifluoromethyl)quinoline/ quinazoline-4-amine scaffolds.- European Journal of Medicinal Chemistry, 2019, 179, str. 109-122, COBISS.SI-ID: 34389209.

Dragar Črt, Potrč Tanja, Nemec Sebastjan, Roškar Robert, Pajk Stane, Kocbek Petra, Kralj Slavko: One-pot method for preparation of magnetic multi-core nanocarriers for drug delivery.- Materials, 2019, 12, 3, str. 540-1-540-14, COBISS.SI-ID: 32095527.

Fedorowicz Joanna, Sączewski Jarosław, Konopacka Agnieszka, Waleron Krzysztof, Lejnowski Dawid, Ciura Krzesimir, Tomašič Tihomir, Skok Žiga, Savijoki Kirsi, Morawska,Małgorzata: Synthesis and biological evaluation of hybrid quinolone-based quaternary ammonium antibacterial agents.- European Journal of Medicinal Chemistry, 2019, 179, str. 576-590, COBISS.SI-ID: 4747121.

Frlan Rok, Hrast Martina, Gobec Stanislav: Application of the N-dibenzyl protective group in the preparation of betabeta -lactam pseudopeptides.- Molecules, 2019, 24, 7, str. 1-15, COBISS.SI-ID: 4699761.

Gramec Darja, Carino Adriana, Trontelj Jurij, Troberg Johanna, Distrutti Eleonora, Marchianò Silvia, Tomašič Tihomir, Zega Anamarija, Finel Moshe, Fiorucci Stefano, Peterlin-Mašič Lucija: Endocrine activities and adipogenic effects of bisphenol AF and its main metabolite.- Chemosphere, 2019, 215, str. 870-880, COBISS.SI-ID: 4620401.

Gramec Darja, Trontelj Jurij, Troberg Johanna, Tomašič Tihomir, Zega Anamarija, Finel Moshe, Peterlin-Mašič Lucija: Data on biosynthesis of BPAF glucuronide, enzyme kinetics of BPAF glucuronidation, and molecular modeling.- Data in brief, 2019, 22, str. 977-986, COBISS.SI-ID: 4650609.

Gramec Darja, Tomašič Tihomir, Sollner Dolenc Marija, Peterlin-Mašič Lucija, Zega Anamarija: Evaluation of endocrine activities of ellagic acid and urolithins using reporter gene assays.- Chemosphere, 2019, 220, str. 706-713, COBISS.SI-ID: 4654961.

Habič Anamarija, Mattick John S., Calin George Adrian, Krese Rok, Konc Janez, Kunej Tanja: Genetic variations of ultraconserved elements in the human genome.- Omics a Journal Of Integrative Biology, 2019, 23, 11, str. 549-559, COBISS.SI-ID: 4319624.

Hercog Klara, Maisanaba Hernández Sara, Filipič Metka, Sollner Dolenc Marija, Kač Lidija, Žegura Bojana: Genotoxic activity of bisphenol A and its analogues bisphenol S, bisphenol F and bisphenol AF and their mixtures in human hepatocellular carcinoma (HepG2) cells.- Science of the Total Environment, 2019, 687, str. 267-276, COBISS.SI-ID: 5092943.

Higgs Josefina, Wasowski Cristina, Marcos Alejandra, Jukič Marko, Paván Carlos Humberto, Gobec Stanislav, Pinto Felicitas De Tezanos, Colettis Natalia, Marder Mariel Nora: Chalcone derivatives: synthesis, in vitro and in vivo evaluation of their anti-anxiety, anti-depression and analgesic effects.- Heliyon, 2019, 5, 3, str. 1-35, COBISS.SI-ID: 4757617.

Hrast Martina, Rožman Kaja, Ogris Iza, Škedelj Veronika, Patin Delphine, Sova Matej, Barreteau Hélène, Gobec Stanislav, Golič Grdadolnik Simona, Zega Anamarija: Evaluation of the published kinase inhibitor set to identify multiple inhibitors of bacterial ATP-dependent mur ligases.- Journal of Enzyme Inhibition and Medicinal Chemistry, 2019, 34, 1, str. 1010-1017, COBISS.SI-ID: 4715633.

Jakopin Žiga, Corsini Emanuela: THP-1 cells and pro-inflammatory cytokine productionTHP-1 Cells and pro-inflammatory cytokine production: an in vitro tool for functional characterization of NOD1/NOD2 antagonists.- International Journal of Molecular Sciences, 2019, 20, 17, str. 1-11, COBISS.SI-ID: 4770417.

Jismy Badr, Akssira Mohamed, Knez Damijan, Guillaumet Gérald, Gobec Stanislav, Abarbri Mohamed: Efficient synthesis and preliminary biological evaluations of trifluoromethylated imidazo[1,2-a]pyrimidines and benzimidazo[1,2-a]pyrimidines.- New Journal of Chemistry, 2019, 43, 25, str. 9961-9968, COBISS.SI-ID: 4738929.

Jukič Marko, Hrast Martina, Patin Delphine, Ogorevc Eva, Barreteau Hélène, Gobec Stanislav,: Virtual screening approach and biochemical evaluation on MurB: Chemical Data Collections, 2019, 24, str. 1-8, COBISS.SI-ID: 4814449.

Jukič Marko, Rožman Kaja, Sova Matej, Barreteau Hélène, Gobec Stanislav: Anthranilic acid inhibitors of undecaprenyl pyrophosphate synthase (UppS), an essential enzyme for bacterial cell wall biosynthesis.- Frontiers in Microbiology, 2019, 9, str. 1-9, COBISS.SI-ID: 4662385.

Knez Damijan, Sosič Izidor, Pišlar Anja, Mitrović Ana, Jukič Marko, Kos Janko, Gobec Stanislav: Biological evaluation of 8-Hydroxyquinolines as multi-target directed ligands for treating Alzheimer's disease.- Current Alzheimer Research, 2019, 16, 9, str. 801-814, COBISS.SI-ID: 4835441.

Kores Katarina, Lešnik Samo, Bren Urban, Janežič Dušanka, Konc Janez: Discovery of novel potential human targets of resveratrol by inverse molecular docking.- Journal of Chemical Information and Modeling, 2019, 59, 5, str. 2467-2478, COBISS.SI-ID: 22207510.

Kralj Juran, Bolje Aljoša, Stupin Polančec Darija, Steiner Ivana, Gržan Tena, Tupek Ana, Stojanović Nikolina, Hohloch Stephan, Urankar Damijana, Osmak Maja, Sarkar Biprajit, Brozović Anamaria, Košmrlj Janez: Half-sandwich Ir(III) and Os(II) complexes of pyridyl-mesoionic carbenes as potential anticancer agents.- Organometallics, 2019, 38, 21, str. 4082-4092, COBISS.SI-ID: 1538414787.

Kolarević Ana, Pavlović Aleksandra N., Djordjević Aleksandra, Lazarević Jelena, Savic Sasa, Kocic Gordana, Anderluh Marko, Smelcerović Andrija: Rutin as deoxyribonuclease I inhibitor.- Chemistry & Biodiversity, 2019, 16, 5, str. 1-9, COBISS.SI-ID: 4686193.

Kolarič Anja, Novak Doroteja, Weiss Matjaž, Hrast Martina, Zdovc Irena, Anderluh Marko, Minovski Nikola: Cyclohexyl amide-based novel bacterial topoisomerase inhibitors with prospective GyrA-binding fragments.- Future Medicinal Chemistry 2019, 11, 9, str. 935-945, COBISS.SI-ID: 6626586.

Lillsunde Katja-Emilia, Tomašič Tihomir, Schult Philipp, Lohmann Volker, Kikelj Danijel, Tammela Päivi: Inhibition of hepatitis C replication by targeting the molecular chaperone Hsp90 - synthesis and biological evaluation of 4,5,6,7-tetrahydrobenzo[1, 2-d]thiazole derivatives.- ChemMedChem, 2019, 14, 3, str. 334-342, COBISS.SI-ID: 4649585.

Meden Anže, Knez Damijan, Jukič Marko, Brazzolotto Xavier, Gršič Marija, Pišlar Anja, Zahirović Abida, Kos Janko, Nachon Florian, Svete Jurij, Gobec Stanislav, Grošelj Uroš: Tryptophan-derived butyrylcholinesterase inhibitors as promising leads against Alzheimer's disease.- Chemical Communications, 2019, 55, 26, str. 3765-3768, COBISS.SI-ID: 1538148547.

Mitrović Ana, Kljun Jakob, Sosič Izidor, Uršič Matija, Meden Anton, Gobec Stanislav, Kos Janko, Turel Iztok: Organoruthenated nitroxoline derivatives impair tumor cell invasion through inhibition of cathepsin B activity.- Inorganic Chemistry, 2019, 58, 18, str. 12334-12347, COBISS.SI-ID: 4769905.

Možina Štefan, Iskra Jernej: Aerobic oxidation of secondary alcohols with nitric acid and iron(III) chloride as catalysts in fluorinated alcohol.- Journal of organic chemistry, 2019, 84, 22, str. 14579-14586, COBISS.SI-ID: 1538460355.

Mravljak Janez, Jakopin Žiga: Iron-binding and anti-fenton properties of novel amino acid-derived cyclic imide dioximes.- Antioxidants, 2019, 8, 10, str. 1-12, COBISS.SI-ID: 4819569.

Pajk Stane, Garvas Maja, Štrancar Janez: Fluorescent membrane probes based on a coumarin-thiazole scaffold.- Acta Chimica Slovenica, 2019, 66, 3, str. 668-674, COBISS.SI-ID: 4745585.

Pajk Stane, Majaron Hana, Novak Matej, Kokot Boštjan, Štrancar Janez: New coumarin- and phenoxazine-based fluorescent probes for live-cell STED nanoscopy.- European biophysics journal, 2019, 48, 5, str. 485-490, COBISS.SI-ID: 4683633.

Pečar Fonović Urša, Perišić Milica, Zidar Nace, Lenarčič Brigita, Kos Janko: The carboxypeptidase activity of cathepsin X is not controlled by endogenous inhibitors.- Acta Chimica Slovenica, 2019, 65, 1, str. 58-61, COBISS.SI-ID: 4648561

Proj Matic, Sosič Izidor, Gobec Stanislav: Synthesis and NMR spectroscopic assignment of chlorinated benzimidazole-2-thione derivatives.- Tetrahedron Letters, 2019, 60, 39, str. 1-5, COBISS.SI-ID: 4768113.

Robnik Blaž, Likozar Blaž, Wang Baifan, Stanić Ljubin T., Časar Zdenko: Understanding and kinetic modeling of complex degradation pathways in the solid dosage form: the case of saxagliptin.- Pharmaceutics, 2019, 11, 9, str. 1-21, COBISS.SI-ID: 1505886.

Rozman Peterka Tanja, Trdan Lušin Tina, Bergles Jure, Ham Zoran, Grahek Rok, Urleb Uroš: Forced degradation of tacrolimus and the development of a UHPLC method for impurities determination.- Acta Pharmaceutica, 2019, 69, 3, str. 363-380, COBISS.SI-ID: 1498718.

Scarpino Andrea, Bajusz Dávid, Proj Matic, Gobec Martina, Sosič Izidor, Gobec Stanislav, Ferenczy György G., Keserü M. György: Discovery of immunoproteasome inhibitors using large-scale covalent virtual screening.- Molecules, 2019, 24, 14, str. 1-12, COBISS.SI-ID: 4765297.

Shannon Schiffrer Eva, Sosič Izidor, Šterman Andrej, Mravljak Janez, Mlinarič-Raščan Irena, Gobec Stanislav, Gobec Martina: A focused structure-activity relationship study of psoralen-based immunoproteasome inhibitors.- MedChemComm, 2019, 10, 11, str. 1958-1965, COBISS.SI-ID: 4787313.

Steinebach Christian, Sosič Izidor, Lindner Stefanie, Bricelj Aleša, Kohl Franziska, Ng Yuen Lam Dora, Monschke Marius, Wagner Karl G., Krönke Jan, Gütschow Michael: A MedChem toolbox for cereblon-directed PROTACs.- MedChemComm, 2019, 10, 6, str. 1037-1041, COBISS.SI-ID: 4723057.

Škedelj Veronika, Pečar Fonović Urša, Molek Peter, Magnet Sophie, Mainardi Jean-Luc, Blanot Didier, Gobec Stanislav, Stojan Jure, Zega Anamarija: Kinetic mechanism of Enterococcus faecium D-aspartate ligase. Biochimie, 2019, 158, str. 217-223, COBISS.SI-ID: 4668785.

Urbančič Dunja, Kotar Anita, Šmid Alenka, Jukič Marko, Gobec Stanislav, Martensson Lars, Plavec Janez, Mlinarič-Raščan Irena: Methylation of selenocysteine catalysed by thiopurine S methyltransferase.- Biochimica et Biophysica Acta (G). General subjects, 2019, 1863, 1, str. 182-190, COBISS.SI-ID: 4616561.

Zidar Nace, Macut Helena, Tomašič Tihomir, Peterlin-Mašič Lucija, Ilaš Janez, Zega Anamarija, Tammela Päivi, Kikelj Danijel: New N-phenyl-4,5-dibromopyrrolamides as DNA gyrase B inhibitors.- MedChemComm, 2019, 10, 6, str. 1007-1017, COBISS.SI-ID: 4724337.

KATEDRA ZA FARMACEVTSKO TEHNOLOGIJO

DEPARTMENT OF PHARMACEUTICAL TECHNOLOGY

Anko Maja, Bjelošević Maja, Planinšek Odon, Trstenjak Uroš, Logar Manca, Ahlin Grabnar Pegi, Brus Boris: The formation and effect of mannitol hemihydrate on the stability of monoclonal antibody in the lyophilized state.- International journal of Pharmaceutics, 2019, 564, str. 106-116, COBISS.SI-ID: 4708977.

Bunc Marko, Hanning Saram, Prieto Jose M., Kristl Julijana, Orlu Gul Mine: Characterisation of an in vitro aged cell culture model.- Farmacia, 2019, 67, 2, str. 240-247, COBISS.SI-ID: 4698993.

Dragar Črt, Potrč Tanja, Nemec Sebastjan, Roškar Robert, Pajk Stane, Kocbek Petra, Kralj Slavko: One-pot method for preparation of magnetic multi-core nanocarriers for drug delivery.- Materials, 2019, 12, 3, str. 540-1-540-14, COBISS.SI-ID: 32095527.

Gosenca Matjaž Mirjam, Škarabot Miha, Gašperlin Mirjana, Janković Biljana: Lamellar liquid crystals maintain keratinocytes' membrane fluidity: an AFM qualitative and quantitative study.- International Journal of Pharmaceutics, 2019, 572, str.1-11, COBISS.SI-ID: 4853873.

Grmaš Jernej, Lužar - Stiffler Vesna, Dreu Rok, Injac Rade: A novel simulation-based approach for comparing the population against average bioequivalence statistical test for the evaluation of nasal spray products on spray pattern and droplet size distribution parameters.- AAPS PharmSciTech, 2019, 20, 1, str. 1-14, COBISS.SI-ID: 4655217.

Grmaš Jernej, Dreu Rok, Injac Rade: Analytical challenges of spray pattern method development for purposes of in vitrobioequivalence testing in the case of a nasal spray product.- Journal of Aerosol Medicine and Pulmonary Drug Delivery, 2019, 32, 4, str. 200-212, COBISS.SI-ID: 4702833.

Korasa Klemen, Vrečer Franc: A study on the applicability of multiple process analysers in the production of coated pellets.- International Journal of Pharmaceutics, 2019, 560, str. 261-271, COBISS.SI-ID: 4678001.

Mandić Jelena, Luštrik Matevž, Vrečer Franc, Gašperlin Mirjana, Zvonar Pobirk Alenka: Solidification of carvedilol loaded SMEDDS by swirling fluidized bed pellet coating.- International Journal of Pharmaceutics, 2019, 566, str. 89-100, COBISS.SI-ID 4721009.

Maver Uroš, Milojević Marko, Štos Jan, Andrenšek Samo, Planinšek Odon: Matrix tablets for controlled release of drugs incorporated using capillary absorption.- AAPS PharmSciTech, 2019, 20, 2, str. 1-9, COBISS.SI-ID: 512879672.

Mikac Urška, Sepe Ana, Gradišek Anton, Kristl Julijana, Apih Tomaž: Dynamics of water and xanthan chains in hydrogels studied by NMR relaxometry and their influence on drug release.- International Journal of Pharmaceutics, 2019, 563, str. 373-383, COBISS.SI-ID: 32280871.

Mirtič Janja, Balažic Helena, Zupančič Špela, Kristl Julijana: Effect of solution composition variables on electrospun alginate nanofibers: response surface analysis.- Polymers, 2019, 11, 4, str. 1-20, COBISS.SI-ID: 4704625.

Preskar Maja, Vrbanec Tomislav, Vrečer Franc, Šket Primož, Plavec Janez, Gašperlin Mirjana: Solubilization of ibuprofen for freeze dried parenteral dosage forms.- Acta Pharmaceutica, 2019, 69, 1, str. 17-32, COBISS.SI-ID: 4625265.

Škrlec Katja, Zupančič Špela, Prpar Mihevc Sonja, Kocbek Petra, Kristl Julijana, Berlec Aleš: Development of electrospun nanofibers that enable high loading and long-term viability of probiotics.- European Journal of Pharmaceutics and Biopharmaceutics, 2019, 136, str. 108-119, COBISS.SI-ID: 32049703.

Štukelj Jernej, Svanbäck Sami, Kristl Julijana, Strachan Clare J., Yliruusi Y.: Image-based investigation : biorelevant solubility α -, and γ -indomethacin.- Analytical Chemistry, 2019, 91, 6, str. 3997-4003, COBISS.SI-ID: 4683889.

Štular Danaja, Šobak Matic, Mihelčič Mohor, Šest Ervin, German Ilić Ilija, Jerman Ivan, Simončič Barbara, Tomšič Brigita:

Proactive release of antimicrobial essential oil from a "Smart" cotton fabric.- Coatings, 2019, 9, 4, str. 1-18, COBISS.SI-ID: 3594608.

Trontelj Zvonko, Lužnik Janko, Pirnat Janez, Jazbinšek Vojko, Lavrič Zoran, Srčič Stanko: Polymorphism in sulfanilamide : 14N nuclear quadrupole resonance study.- Journal of Pharmaceutical Sciences, 2019, 108, 9, str. 2865-2870, COBISS.SI-ID: 4762737.

Tršan Mateja, Seme Katja, Srčič Stanko: The environmental monitoring in hospital pharmacy cleanroom and microbiota catalogue preparation.- Saudi Pharmaceutical Journal, 2019, 27, 4, str. 455-462, COBISS.SI-ID: 4673137.

Tršan Mateja, Seme Katja, Srčič Stanko: The ATP bioluminescence method an alternative approach for monitoring cleanliness in hospital pharmacy cleanrooms.- Farmacia, 2019, 67, 6, str. 1011-1017, COBISS.SI-ID: 4866161.

Vidovič Sara, Horvat Matej, Bizjak Alan, Planinšek Odon, Petek Boštjan, Burjak Mateja, Peternel Luka, Parojčić Jelena, Đuriš Jelena, Ibrić Svetlana, Janković Biljana: Elucidating molecular properties of kappa-carrageenan as critical material attributes contributing to drug dissolution from pellets with a multivariate approach.- International Journal of Pharmaceutics, 2019, 566, str. 662-673, COBISS.SI-ID: 4728945.

Vovk Matej, Planinšek Odon, German Ilić Ilija, Šernek Milan: Characterization of industrial aluminum trihydrate-filled poly(methyl methacrylate) composite powder.- Journal of Adhesion Science and Technology, 2019, 33, 23, str. 2517-2534, COBISS.SI-ID: 4767601.

Zupančič Špela, Škrlec Katja, Kocbek Petra, Kristl Julijana, Berlec Aleš: Effects of electrospinning on the viability of ten species of lactic acid bacteria in poly(ethylene oxide) nanofibers.- Pharmaceutics, 2019, 11, 9, str. 1-14, COBISS.SI-ID: 4790897.

Zupančič Špela, Casula Luca, Rijavec Tomaž, Lapanje Aleš, Luštrik Matevž, Fadda Anne Maria, Kocbek Petra, Kristl Julijana: Sustained release of antimicrobials from double-layer nanofiber mats for local treatment of periodontal disease, evaluated using a new micro flow-through apparatus.- Journal of Controlled Release, 2019, 316, str. 223-235, COBISS.SI-ID: 4838257.

KATEDRA ZA KLINIČNO BIOKEMIJO

DEPARTMENT OF CLINICAL BIOCHEMISTRY

Borbone Fabio, Rosolen Valentina, Mariuz Marika, Parpinel Maria, Casetta Anica, Krsnik Mladen, Osredkar Joško, Mazej Darja, Snoj Tratnik Janja, Neubauer David, Kodrič Jana, Horvat Milena: Prenatal mercury exposure and child neurodevelopment outcomes at 18 months: results from the Mediterranean PHIME.- International Journal of Hygiene and Environmental Health, 2019, 222, 1, str. 9-21, COBISS.SI-ID: 4559217.

Božič Borut, Obreza Aleš, Atkinson Jeffrey: Pharmacy practice and education in Slovenia.- Pharmacy - A Journal of Pharmacy Education and Practice, 2019, 7, 1, str. 1-12. COBISS.SI-ID: 4657521.

Čamernik Klemen, Mihelič Anže, Mihalič Rene, Marolt Darja, Janež Andrej, Trebše Rihard, Marc Janja, Zupan Janja: Skeletal-muscle-derived mesenchymal stem/stromal cells from patients with osteoarthritis show superior biological properties compared to bone-derived cells.- Stem Cell Research, 2019, 38, str. 1-12, COBISS.SI-ID: 4717937.

Dolšak Ana, Švajger Urban, Lešnik Samo, Konc Janez, Gobec Stanislav, Sova Matej: Selective Toll-like receptor 7 agonists with novel chromeno[3,4-d]imidazol-4(1H)-one and 2-(trifluoromethyl)quinoline/ quinazoline-4-amine scaffolds.- European Journal of Medicinal Chemistry, 2019, 179, str. 109-122, COBISS.SI-ID: 34389209.

Fabjan-Vodušek Vesna, Kumer Kristina, Osredkar Joško, Verdenik Ivan, Geršak Ksenija, Premru-Sršen Tanja: Correlation between uterine artery Doppler and the sFlt-1/PlGF ratio in different phenotypes of placental dysfunction.- Hypertension in Pregnancy, 2019, 38, 1, str. 32-40, COBISS.SI-ID: 4642417.

Ferjan Simona, Jensterle Sever Mojca, Oblak Tjaša, Prodan Žitnik Irena, Marc Janja, Goričar Katja, Dolžan Vita, Janež Andrej: An impaired glucagon-like peptide-1 response is associated with prediabetes in polycystic ovary syndrome with obesity.- Journal of International Medical Research, 2019, 47, 10, str. 4691-4700, COBISS.SI-ID: 4810865.

Karas Kuželički Nataša, Prodan Žitnik Irena, Gurwitz David, Llerena G. Adrian, Cascorbi Ingolf, Visvikis-Siest Sophie, Simmaco Maurizio, Ansari Marc, Pazzagli Mario, Di Resta Chiara, Brandslund Ivan, Schwab Matthias, Lunshof E. Jeantine, Vermeersch Pieter, Dedoussis George, Flordellis S. Christodoulos, Fuhr Uwe, Stingl Julia C., Van Schaik Ron HN, Manolopoulos Vangelis G., Marc Janja: Pharmacogenomics education in medical and pharmacy schools:conclusions of a global survey.- Pharmacogenomics, 2019, 20, 9, str. 643-657, COBISS.SI-ID: 4758897.

Kodrič Klemen, Zupan Janja, Kranjc Tilen, Komadina Radko, Mlakar Vid, Marc Janja, Lovšin, Nika: Sex-determining region Y (SRY) attributes to gender differences in RANKL expression and incidence of osteoporosis.- Experimental and Molecular Medicine, 2019, 51, 8, str. 1-16, COBISS.SI-ID: 4766321.

Kumar Jagarlamudi Kiran, Zupan Mojca, Kumer Kristina, Fabjan Teja, Hlebič Gregor, Eriksson Staffan, Osredkar Joško, Smrkolj Tomaž: The combination of AroCell TK 210 ELISA with Prostate Health Index or prostate - specific antigen density can improve the ability to differentiate prostate cancer from noncancerous conditions.- The Prostate, 2019, 79, 8, str. 856-863, COBISS.SI-ID: 4686449.

Lakota Katja, Švec Tinka, Kveder Tanja, Sodin-Šemrl Snežna, Žigon Polona, Ambrožič Aleš, Ogrič Manca, Markez Sanja, Božič Borut, Tomšič Matija, Čučnik Saša: Autoantibodies against dsDNA measured with nonradioactive Farr assay-an alternative for routine laboratories.- Clinical Rheumatology, 2019, 38, 2, str. 353-359, COBISS.SI-ID: 33943513.

Lampič Kristina, Trontelj Jurij, Prosen Helena, Drobne David, Šmid Alenka, Vovk Tomaž: Determination of 6-thioguanine and 6-methylmercaptopurine in dried blood spots using liquid chromatography-tandem mass spectrometry: method development, validation and clinical application.- Clinica Chimica Acta, 2019, 499, str. 24-33, COBISS.SI-ID: 4780913.

Mirjanić-Azarić Bosa, Vasic Novak, Černe Darko, Kos Janko, Bogavac-Stanojević Nataša: Plasma cathepsin S is associated with high-density lipoprotein cholesterol and bilirubin in patients with abdominal aortic aneurysms: Povezanosti plazmatskog katepsina S sa holesterolom lipoproteina visoke gustine i bilirubinom kod pacijenata sa aneurizmom abdominalne aorte.- Journal of Medical Biochemistry, 2019, 38, 3, str. 268-275, COBISS.SI-ID: 4637297.

Osredkar Joško, Gosar David, Maček Jerneja, Kumer Kristina, Fabjan Teja, Finderle Petra, Šterpin Saša, Zupan Mojca, Jekovec-Vrhovšek Maja: Urinary markers of oxidative stress in children with autism spectrum disorder (ASD).- Antioxidants, 2019, 8, 6, str. 1-15, COBISS.SI-ID: 4741233.

Prunk Mateja, Perišić Milica, Sabotič Jerica, Švajger Urban, Kos Janko: Increased cystatin F levels correlate with decreased cytotoxicity of cytotoxic T cells.- Radiology and Oncology, 2019, 53, 1, str. 57-68, COBISS.SI-ID: 34218969.

Shannon Schiffrer Eva, Sosič Izidor, Šterman Andrej, Mravljak Janez, Mlinarič-Raščan Irena, Gobec Stanislav, Gobec Martina: A focused structure-activity relationship study of psoralen-based immunoproteasome inhibitors.- MedChemComm, 2019, 10, 11, str. 1958-1965, COBISS.SI-ID: 4787313.

Snoj Tratnik Janja, Falnoga Ingrid, Mazej Darja, Kocman David, Fajon Vesna, Jagodic Marta, Stajnko Anja, Trdin Ajda, Šlejkovec Zdenka, Jeran Zvonka, Osredkar Joško, Sešek-Briški Alenka, Krsnik Mladen, Kobal Alfred Bogomir, Kononenko Lijana, Horvat Milena: Results of the first national human biomonitoring in Slovenia: trace elements in men and lactating women, predictors of exposure and reference values.- International Journal of Hygiene and Environmental Health, 2019, 222, 3, str. 563-582, COBISS.SI-ID: 4685169.

Sočan Aljaž, Petrik Miloš, Kolenc-Peitl Petra, Krošelj Marko, Rangger Christine, Nový Zbyšek, Švajger Urban, Gmeiner Tanja, Decristoforo Clemens: On-cartridge preparation and evaluation of 68Ga-, 89Zr- and 64Cu-precursors for cell radiolabelling.- Nuclear Medicine and Biology, 2019, 71, str. 23-31, COBISS.SI-ID: 6031276.

Švajger Urban, Rožman Primož: Synergistic effects of interferon-[gamma] and vitamin D3 signaling in induction of ILT-3[sup] highPDL-1[sup]high tolerogenic dendritic cells.- Frontiers in immunology, 2019, 10, str. 1-16, COBISS.SI-ID: 34566873.

Trdin Ajda, Snoj Tratnik Janja, Mazej Darja, Fajon Vesna, Krsnik Mladen, Osredkar Joško, Prpić Igor, Špirić Zdravko, Petrović Oleg, Marc Janja, Neubauer David, Kodrič Jana, Kobal Alfred Bogomir, Barbone Fabio, Falnoga Ingrid, Horvat Milena: Mercury speciation in prenatal exposure in Slovenian and Croatian population - PHIME study.- Environmental research multidisciplinary journal of environmental sciences, ecology, and public health, 2019, 177, str. 108627-1-108627-10, COBISS.SI-ID: 32549415.

Urbančič Dunja, Kotar Anita, Šmid Alenka, Jukič Marko, Gobec Stanislav, Martensson Lars, Plavec Janez, Mlinarič-Raščan Irena: Methylation of selenocysteine catalysed by thiopurine S methyltransferase.- Biochimica et Biophysica Acta (G). General subjects, 2019, 1863, 1, str. 182-190, COBISS.SI-ID: 4616561.

Vukašinović Aleksandra, Kotur Stevuljević Jelena, Mlakar Vid, Sopić D. Miron, Cvetković Zorica, Petković R. Miloš, Kalimanovska Spasojevič Vesna, Bogavac Stanojević Nataša, Ostanek Barbara: Telomerase stability and evaluation of real-time telomeric repeat amplification protocol.- Scandinavian Journal of Clinical and Laboratory Investigation, 2019, 79, 3, str. 188-193, COBISS.SI-ID: 4707185.

Zimet Zlatko, Bilban Marjan, Osredkar Joško, Poljšak Borut, Fabjan Teja, Kumer Kristina: Three day environmental exposure may trigger oxidative stress development and provoke adaptive response resulting in altered antioxidant activity.- Iranian Journal of Public Health, 2019, 48, 7, str. 1284-1291, COBISS.SI-ID: 4741489.

Zupan Janja, Vrtačnik Peter, Cör Andrej, Haring Gregor, Weryha Georges, Visvikis-Siest Sophie, Marc Janja: VEGF-A is associated with early degenerative changes in cartilage and subchondral bone.- Growth Factors, 2019, 36, 5-6, str. 263-273, COBISS.SI-ID: 4674417.

KATEDRA ZA SOCIALNO FARMACIJO

DEPARTMENT OF SOCIAL PHARMACY

Janžič Urška, Knez Lea, Janžič Andrej, Čufer Tanja: Time to access to novel anticancer drugs and the correlation with ESMO-Magnitude of Clinical Benefit Scale in Slovenia.- Expert review of pharmacoeconomics & outcomes research, 2019; 19, 6, str. 717-723, COBISS.SI-ID: 2048596337.

Štuhec Matej, Lukić Petar, Locatelli Igor: Efficacy, acceptability, and tolerability of lisdexamfetamine, mixed amphetamine salts, methylphenidate, and modafinil in the treatment of attention-deficit hyperactivity disorder in adults.- The Annals of Pharmacotherapy, 2019, 53, 2, str. 121-133, COBISS.SI-ID: 4562033.

INŠTITUT ZA FARMACIJO

INSTITUT FOR PHARMACY

Benedetto Tiz, Davide, Skok Žiga, Durcik Martina, Tomašič Tihomir, Peterlin-Mašič Lucija, Ilaš Janez, Zega Anamarija, Draskovits Gábor, Revesz, T., Nyerges József Ákos, Pál Csaba, Durante Cruz Cristina, Tammela Päivi, Žigon Dušan, Kikelj Danijel, Zidar Nace: An optimised series of substituted N-phenylpyrrolamides as DNA gyrase B inhibitors.- European Journal of Medicinal Chemistry, 2019, 167, str. 269-290, COBISS.SI-ID: 4686961.

Gramec Darja, Carino Adriana, Trontelj Jurij, Troberg Johanna, Distrutti Eleonora, Marchianò Silvia, Tomašič Tihomir, Zega Anamarija, Finel Moshe, Fiorucci Stefano, Peterlin-Mašič Lucija: Endocrine activities and adipogenic effects of bisphenol AF and its main metabolite.- Chemosphere, 2019, 215, str. 870-880, COBISS.SI-ID: 4620401.

Gramec Darja, Trontelj Jurij, Troberg Johanna, Tomašič Tihomir, Zega Anamarija, Finel Moshe, Peterlin-Mašič Lucija: Data on biosynthesis of BPAF glucuronide, enzyme kinetics of BPAF glucuronidation, and molecular modeling.- Data in brief, 2019, 22, str. 977-986, COBISS.SI-ID: 4650609.

Gramec Darja, Tomašič Tihomir, Sollner Dolenc Marija, Peterlin-Mašič Lucija, Zega Anamarija: Evaluation of endocrine activities of ellagic acid and urolithins using reporter gene assays.- Chemosphere, 2019, 220, str. 706-713, COBISS.SI-ID: 4654961.

Grmaš Jernej, Lužar - Stiffler Vesna, Dreu Rok, Injac Rade: A novel simulation-based approach for comparing the population against average bioequivalence statistical test for the evaluation of nasal spray products on spray pattern and droplet size distribution parameters.- AAPS PharmSciTech, 2019, 20, 1, str. 1-14, COBISS.SI-ID: 4655217.

Grmaš Jernej, Dreu Rok, Injac Rade: Analytical challenges of spray pattern method development for purposes of in vitrobioequivalence testing in the case of a nasal spray product.- Journal of Aerosol Medicine and Pulmonary Drug Delivery, 2019, 32, 4, str. 200-212, COBISS.SI-ID: 4702833.

Hrast Martina, Rožman Kaja, Ogris Iza, Škedelj Veronika, Patin Delphine, Sova Matej, Barreteau Hélène, Gobec Stanislav, Golič Grdadolnik Simona, Zega Anamarija: Evaluation of the published kinase inhibitor set to identify multiple inhibitors of bacterial ATP-dependent mur ligases.- Journal of Enzyme Inhibition and Medicinal Chemistry, 2019, 34, 1, str. 1010-1017, COBISS.SI-ID: 4715633.

Jereb Rebeka, Opara Jerneja, Legen Igor, Petek Boštjan, Bajc Aleksander, Žakelj Simon, Kristl Albin: PBPK absorption modeling of food effect and bioequivalence in fed state for two formulations with crystalline and amorphous forms of BCS 2 class drug in generic drug development.- AAPS PharmSciTech, 2019, 20, 2, str. 1-10, COBISS.SI-ID: 1454174.

Shannon Schiffrer Eva, Sosič Izidor, Šterman Andrej, Mravljak Janez, Mlinarič-Raščan Irena, Gobec Stanislav, Gobec Martina: A focused structure-activity relationship study of psoralen-based immunoproteasome inhibitors.- MedChemComm, 2019, 10, 11, str. 1958-1965, COBISS.SI-ID: 4787313.

Sočan Aljaž, Petrik Miloš, Kolenc-Peitl Petra, Krošelj Marko, Rangger Christine, Nový Zbyšek, Švajger Urban, Gmeiner Tanja, Decristoforo Clemens: On-cartridge preparation and evaluation of 68Ga-, 89Zr- and 64Cu-precursors for cell radiolabelling.- Nuclear Medicine and Biology, 2019, 71, str. 23-31, COBISS.SI-ID: 6031276.

Škedelj Veronika, Pečar Fonović Urša, Molek Peter, Magnet Sophie, Mainardi Jean-Luc, Blanot Didier, Gobec Stanislav, Stojan Jure, Zega Anamarija: Kinetic mechanism of Enterococcus faecium D-aspartate ligase. Biochimie, 2019, 158, str. 217-223, COBISS.SI-ID: 4668785.

Urbančič Dunja, Kotar Anita, Šmid Alenka, Jukič Marko, Gobec Stanislav, Martensson Lars, Plavec Janez, Mlinarič-Raščan Irena: Methylation of selenocysteine catalysed by thiopurine S methyltransferase.- Biochimica et Biophysica Acta (G). General subjects, 2019, 1863, 1, str. 182-190, COBISS.SI-ID: 4616561.

Vidmar Maša, Grželj Jasna, Mlinarič-Raščan Irena, Geršak Ksenija, Sollner Dolenc Marija: Medicines associated with folate-homocysteine-methionine pathway disruption.- Archives of toxicology, 2019, 93, 2, str. 227-251, COBISS.SI-ID: 4642929.

Vrbanac Helena, Krese Ana: The influence of different mechanical stress on the release properties of HPMC matrix tablets in sucrose-NaCl media.- Journal of drug delivery science and technology, 2019, 54, str. 1-11, COBISS.SI-ID: 1554270.

Zidar Nace, Macut Helena, Tomašič Tihomir, Peterlin-Mašič Lucija, Ilaš Janez, Zega Anamarija, Tammela Päivi, Kikelj Danijel: New N-phenyl-4,5-dibromopyrrolamides as DNA gyrase B inhibitors.- MedChemComm, 2019, 10, 6, str. 1007-1017, COBISS.SI-ID: 4724337.

UPORABLJENE KRATICE / ABBREVIATIONS

ARRS/Javne agencije za raziskovalno dejavnost Republike Slovenije

ARTE/Advanced Regenerative Therapies Ecosystem

CEEPUS/Central European Exchange Program for University Studies

CELSA/Center European Leuven Strategic Alliance

COST/European CO-operation in Science and Technology

DPPO UL/Davek od dohodkov pravnih oseb Univerze v Ljubljani

DŠFS Društvo študentov farmacije Slovenije

EARMA/European Association of Research Managers and Administrators

EASA/Evropski akademiji znanosti in umetnosti

EATRIS.Slovenia/European Advanced Translational Research InfraStructure in Medicine – Translational Research Innitiative.Slovenia)

EM FAR/Enoviti magistrski študijski program Farmacija

EPSA/European Pharmaceutical Students' Association

FFA/Fakulteta za farmacijo

FTE/Full-time equivalent/ekvivalent polne zaposlitve

IJS/Inštitut Jožefa Stefana

IMI/Innovative Medicines Initiative projekta

IMMT/Inštitut za metagenomiko in mikrobne tehnologije

IPFS/International Pharmaceutical Students Federation

SEP/Student Exchange Programme

KI/Kemijski inštitut

LADME/ Liberation, Absorption Distribution Metabolism Excretion

LMD/Laboratorij za molekularno diagnostiko

MIZŠ/Ministrstvo za izobraževanje, znanost in šport

MRIC UL/Mreže raziskovalnih infrastrukturnih centrov Univerze v Ljubljani

MUL/Mobilnost slovenskih visokošolskih učiteljev

NIB/Nacionalni inštitut za biologijo

PCNE/Pharrmaceutical Care Network Europe

PSSRC/Pharmaceutical Solid State Research Cluster

PWS/ Prader-Willi syndrome

REACH/Registration, Evaluation, Authorisation and Restriction of Chemicals

RRI prostor/ Razvoj raziskovalne infrastrukture za mednarodno konkurenčnost slovenskega prostora

S1 KOZ/Univerzitetni študijski program Kozmetologija (1. stopnja)

S1 LBM/Univerzitetni študijski program Laboratorijska biomedicina (1. stopnja)/

S2 INF/Magistrski študijski program Industrijska farmacija (2. Stopnja)

S2 LBM/Magistrski študijski program Laboratorijska biomedicina (2. stopnja)

SCI/Sciences Citation Index

SFZ/Slovenska znanstvena fundacija

SNORD/Small nucleolar RNA

ŠS FFA/Študentski svet Fakultete za farmacijo Univerze v Ljubljani

ŠS SFD/Študentska sekcija slovenskega farmacevtskega društva

TDM/Therapeutic drug monitoring

UKC LJ/Univerzitetni klinični center Ljubljana

UL/Univerza v Ljubljani

UL FFA/Univerza v Ljubljani, Fakulteta za farmacijo

UL FKKT/Univerza v Ljubljani, Fakulteta za kemijo in kemijsko tehnologijo

UL FS/Univerza v Ljubljani Fakulteta za strojništvo

UL MF/Univerza v Ljubljani, Medicinska fakulteta

UPLC-HRMS/ultra-performance liquid chromatography-high resolution mass spectrometry

KAZALO SLIK

KAZALO GRAFOV

KAZALO TABEL

POROČILO O DOSEŽKIH 2019

Izdala: Univerza v Ljubljani, Fakulteta za farmacijo, Aškerčeva cesta 7, Ljubljana

Uredili: Irena Mlinarič-Raščan, Katja Višnjevec Vahčič, Judita Merjasec, Borut Toth, Lidija Mataija

Avtorji: Irena Mlinarič-Raščan, Mojca Lunder, Rok Dreu, Marko Anderluh

Mirjana Gašperlin, Nataša Karas Kuželički, Tomaž Bratkovič, Mitja Kos, Albin Kristl, Julijana Kristl, Marjeta Humar, Stanislav Gobec, Tanja Kadunc, Aleš Kolenko, Judita Merjasec, Aleš Obreza, Jaka Rotman, Katja Višnjevec Vahčič, Dušan Videmšek

Lektura: Vesna Kovač

Oblikovanje: Polona Pollak

Tisk: TISKARNA JANUŠ d.o.o., Sternadova ulica 12, 1210 Ljubljana-Šentvid

Naklada: 150 izvodov

ISSN: 1408-4066

Ni za prodajo.

Ljubljana, 2020