

***REPORT ON THE ACHIEVEMENTS OF
THE FACULTY OF PHARMACY FOR
THE YEAR 2013***

REPORT ON THE ACHIEVEMENTS OF THE FACULTY OF PHARMACY FOR THE YEAR 2013

- Issued by: University of Ljubljana, the Faculty of Pharmacy
Aškerčeva cesta 7, Ljubljana
- Edited by: Prof. Borut Božič, PhD and Judita Merjasec BSc Org.
- Contributions collected by: Judita Merjasec, BSc Org.
- Cover design: Camera d.o.o.
- Cover image: The following is relevant for the quality of studies: a good study program, good students, good professors and suitable conditions. The newly equipped laboratories on the Tržaška cesta road enable students to acquire knowledge and skills in a safe environment (the UL FFA archive, photography by Branka Matjašič).
- Printed by: OFSA d.o.o., Ljubljana
250 copies
Ljubljana, April 2014

ISSN: 1408-4066

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The bibliography is divided by department chairs and classified by:

- *Independent works and textbooks*
- *Scientific papers and professional publications*
- *Inviting lectures*
- *Patents*

The detailed bibliography according to Cobiss system is accessible on the Faculty of Pharmacy website.

FOREWORD

Dear readers,

I am glad you have decided to take a look at the Report on the achievements of the Faculty of Pharmacy at the University of Ljubljana for the year 2013. The document has been published regularly since 1993, which is more than 20 years. The emphasis of the content have changed over time but there has always been a purpose to show our best achievements of the past year. Last year it was also officially specified in the renewed Faculty Rules that the document is combination of quality report and yearbook.

The changes of the Rules did not include key changes because the previous Rules have functioned well for almost two decades. However, a significant expansion of staff has taken place since their formulation and this brought with it increased complexity of relations and also a slightly different understanding of quality. Therefore the changes in the structure of certain bodies, a clearer definition of authority and the defined and rounded off information paths reflect the commitment to the dynamics of quality in the following way: plan – do – check – act. We are not interested anymore in how good we are in specific fields only, and what we have achieved, but rather what is still there to achieve and where our challenges are. Thus one of the important decisions last year was to “hold a mirror up before us”. We decided on an external institutional evaluation of our operations.

It may not seem logical that we dealt with the issue of quality at a time when the resource allocated for work are dwindling and the conditions in which we work are getting worse. Quality does not come cheap and the crisis, which is strongly felt in higher education, affects the quality of pedagogical and research work. The internal reserves are not sufficiently abundant to compensate for the shortages since we recruited and spent our resources rationally even before the crisis. However, quality is not a concern that should only be addressed during good times when there is enough money. It is always the appropriate time to face the commitment to quality. The successes achieved can be a good encouragement and boost for work in the future. Unfortunately, they can lead to self-complacency and passivity. Dissatisfaction with the present conditions can present a drive towards improvement but it can also stifle activity. Hence, the quality achieved is not decided only by its creators since quality is linked to meeting the expectations of users and the users of higher education services are not uniformly defined. They include secondary school students enrolling on courses, students attending lectures and graduate students entering the labour market. Furthermore, this also includes the providers of funds for pedagogical, research and professional activities. And let us not forget the potential employers of

the graduates. Finally, there is the wider community as the recipient of the services rendered by the employed graduates.

So where do we at the Faculty of Pharmacy stand regarding this? Quality has two sides: one is the internal side expressed through self-reflection, things we do and how we do them; the other is the external side that covers the formal systems for ensuring quality including evaluations, certifications and accreditations. The former is a constant process that was only strengthened in the last year at the Faculty of Pharmacy. The latter is at the institutional level reflected by our decision on evaluation, and at the international level in our role in the European project “ Quality assurance in European pharmacy education and training”. But all in all, quality begins with an individual. It is the way we have been functioning for years and this was what we set out in the Rules last year.

A handwritten signature in blue ink, appearing to read 'B. Božič', with a horizontal line extending from the end of the signature.

*Prof. Borut Božič, PhD
Dean*

1 PRESENTATION OF THE FACULTY

The fundamental obligations of every university and their faculties are the following: the creation, transfer and maintenance of knowledge. Besides innovation and research, this also includes efficient teaching and maintaining historical memory related to the profession. The Faculty of Pharmacy was established in 1995, but this did not happen from scratch. The university study of pharmacy has been conducted comprehensively in Ljubljana since 1960. However, the first forms of study of basic pharmaceutical knowledge already existed during the years 1946 to 1949. Various forms of education for pharmacists in Slovenian area are considerably older. The education of pharmacists and the introduction of the doctrine of beneficent work in the pharmaceutical field developed in the 17th and 18th centuries on the territory of Slovenia because the Pharmaceutical code for the Duchy of Carniola was established in the year 1710. In the nineteenth century, the pharmacists who were working on the territory of the present-day Slovenia were educated at the universities in Vienna, Graz and Padova, and later also at the University of Zagreb. The comprehensive study of pharmacy was formed at the Department of Pharmacy at the Faculty of Natural Sciences and Technology, from which the Faculty of Pharmacy was later established. All that history is interwoven into the present day Faculty of Pharmacy. Without any nostalgic feelings towards the past, but rather as an awareness of the branched root system from which can stem a huge tree with a vast canopy. The latter is represented by the diversity in the research work, where every leaf, every individual counts. At the same time it represents involvement in the pedagogical work through internal connections, just as the crown of the tree is connected with twigs and branches and the flow of sap from the roots to the very last leaf.

The Faculty of Pharmacy declared itself as a scientific and research oriented pedagogical institution. It is not a formal orientation but it shapes us on a day-to-day basis. It is a way of work. Moreover, we are ranked at the top of the list at the University of Ljubljana according to the number of publications in scientific journals, the number of quotations, the number of projects in cooperation with the economy sector. This way of work and thinking is also woven into the study programs. The central program of pharmacy is constantly renewed and upgraded, as well as subject to changes: it was changed from a 4-year course into a 4.5-year one and then into a harmonised 5-year one with additional practical training instead of internship, and lastly into a 5-year Bologna study program. In this way the studies lasts for a period that was suggested as early as 1946 although without the half-year practical training. The studies are continued in the doctoral program of Biomedicine, which is performed in the framework of the Doctoral school of the University involving more faculties and joined institutes. All the students of the Faculty can reach the doctoral degree through the study programs – first and second cycle laboratory medicine, cosmetology and industrial pharmacy – but at the same time they are employable in accordance with the program they finished. The scientific approach during the study period also develops critical thinking and flexibility so that the graduates know their way around the atypical environments of their profession. This is of extreme importance nowadays due to the severe economic conditions on the one hand and the demands for constant flexibility and innovation on the other. The basic aim of the Faculty of Pharmacy is to provide quality education and professional and scientific training for graduates who are aware of the ethical principles and can perform demanding work independently at pharmacies, in the pharmaceutical industry in all four fundamental segments (R&D, production, analytics, marketing and sales), hospital pharmacies, clinical biochemical and other medical laboratories, control and analysis laboratories, research institutions, educational organisations, national and regulatory bodies and elsewhere where work and the presence of the professionals from the wider field of pharmacy, laboratory medicine, medical and cosmetic product safety is necessary to increase safety and health care.

The mission of the Faculty of Pharmacy is built on people who are aware of our personal vision in the framework of the higher education institution:

1. The development, planning and carrying out of higher education at all three levels, the education and training of staff for performing scientific, developmental and professional work in the wider fields of pharmacy and laboratory medicine.
2. Planning and performing scientific and research-based work in the wider scope of pharmacy, clinical biomedicine and broader natural science fields in connection with domestic and foreign scientific institutions.
3. Taking care of professional activities in the field of health and healthcare services in the framework of the pharmaceutical and laboratory activities, performing professional and developmental work for the requirements of the pharmaceutical and cosmetic industry, governmental institutions and the promotion of the pharmaceutical industry in the Republic of Slovenia and abroad.

As part of the University of Ljubljana, the Faculty of Pharmacy builds its reputation, integrity and development on the basis of the excellence, effectiveness and ethical stance of the students and teachers. We build on the long-term tradition of the pharmaceutical experience in the Slovenian and wider locale. However, our focus is directed towards the future.

The vision of the Faculty of Pharmacy is to contribute by helping to shape the future and at the same time remain an academic educational and research institution that is open to the world, responsive and responsible and that can be recognized among the European faculties of pharmacy by creating and spreading scientific knowledge and acting for the welfare of Slovenian citizens, general development and in this way strengthening the national identity.



WHAT IS THE ORGANISATION OF THE FACULTY OF PHARMACY?

Internally the faculty is divided into the following organisational units: the management, 6 department chairs, the faculty registry and the institute of pharmacy. In the framework of the chairs and the institute, there are the following organisational subunits: the infrastructural centre, the authorised laboratory and specialized subunits or centres.

The department chairs form the core of the pedagogical, scientific and research, developmental and professional work at the faculty. At the same time they also form a connective element of the research work that is underway in the framework of the individual chairs, as well as within research groups, research project groups and research program groups. The latter forms of operation are not organisational units of the faculty and are related to the needs and possibilities in obtaining resources for research work through tenders, as well as to the demands for establishing connections in interdisciplinary groups regarding individual research issues.

The Chair of Clinical Biochemistry

For the successful diagnosis of illness, it is crucial to know its causes, which are the subject of research at the chair for clinical biochemistry. Treatment cannot be successful and safe until the cause of the illness and its symptoms are known. Within clinical biochemistry, which is the widest area of laboratory medicine, the causes and consequences of changed concentrations or molecular changes to a substance in the body can be established. Those substances that are urgently necessary for the correct functioning of the organism or substances that are degradation products define the organism state. Changes at the molecular level predict the change in the physiological state of the organism, which leads to illness in most examples. Clinical biochemistry studies the changes at the level of the genes – genomics, transcriptions – transcriptomics, proteins – proteomics and the metabolism products – metabolomics.

Pharmacogeonomics uses knowledge involving the genome in various segments of pharmaceutical science. Changes in the structure and expression of genes are studied and it is established whether they cause the formation of different proteins or a change in the quantities of proteins that can lead to the development of sickness. When the cause is known, the target search for new effective medicines can start and the most suitable can be chosen. A knowledge of the genes that take part in pathophysiological mechanisms is the basis for the development of potential gene medicines. Our research activity also goes in the opposite direction, thus from known medicine to the person. How a person will accept a medicine is predicted by analysis of the gene record. In the field of tumorigenesis and apoptosis, answers to questions are sort using genetic technologies and we want to know why a specific cell becomes malignant and which of the molecules in the process of transformation into tumour cell could become the target for a new medicine. The laboratory diagnostics of immunological disorders and hypersensitivity represent a linkage between the areas of clinical biochemistry and immunology, the lesson of which is performed within the chair, the narrower research work in this field is directed at the molecular grounds of autoimmunology. By studying the autoimmunology mechanisms, we can establish why the immunological defence system makes the mistake and works against its own organism. The chair also contains the laboratory for molecular diagnostics – KKB. This is a medical laboratory with a work permit by the Ministry for Health of RS.

The Chair of Pharmaceutical Biology

The chair for pharmaceutical biology deals with research into medicines of natural origin (herbal, biotechnological and cellular) and their targets. It develops the analysis methods for checking the identity and quality of herbs and it establishes how to get the most qualitative medical herbs. It identifies the biological active substances in the herbs and researches the biological effectiveness of the healthy substances in herbs and fungi that haven't been used for medical treatment yet, and in this way it is searching for the promising new medicines.

With the development of genetic engineering, the possibility of acquiring new healthy effects from a recombinant origin has spread. For these purposes, we use the modern techniques of pharmaceutical biotechnology to research medical herbs and recombinant medicines, and thus proteins that are identical to human ones, but produced in fermenters. Using special molecular biological techniques (transplanting the biological combinatorial libraries), the peptides and proteins of the completely new structures with the desired biological effect are developed. Using the methods of molecular and cellular biology, we also research the molecular mechanisms of the formation and progression of cancer, antitumor response, arteriosclerosis, obesity, neurodegenerative and other illnesses, with the purpose of defining the most important targets for therapeutic and diagnostic functionality.

The Chair of Pharmaceutical Chemistry

At the chair of pharmaceutical chemistry, we prepare molecules with new beneficial effects on the basis of validated targets. We plan the new molecules using modern computer methods according to the structure of their binding place or on the grounds of 3D similarity with known biologically active molecules. Further chemical synthesis follows and the result is the desired compounds. At the moment we are preparing new enzyme blockers, which take part in the process of blood clotting; compounds that block the biosynthesis of the bacterial cell wall, compounds with antitumor functionality and compounds with an effect on the immune system. The molecules are evaluated biologically and toxicologically and are optimized on the basis of the relationship between the structure and their characteristics. In collaboration with the pharmaceutical industry, we also develop the new synthesis methods and patent independent procedures of medically effective synthesis.

The Chair of Pharmaceutical Technology

The chair for pharmaceutical technology operates pedagogy and research in the performance and evaluation of classical pharmaceutical forms and progressive supply systems. It is directed towards the challenges of how the synthesized substance, which can be a classical low molecular compound or biomacromolecular with known physical and chemical and pharmacodynamical characteristics, can be inbuilt into a pharmaceutical form suitable for the definite method of application. Through the choice of the corresponding helper substances and technological procedures, a pharmaceutical form with the desired characteristics is produced and is evaluated using the most developed techniques, among which are atomic force microscopy, nanoindentation, rheometry, inverse gas chromatography, photon correlation spectroscopy, dynamic differential calorimetry and methods based on the biological evaluation of the resulting formulations in vitro, i.e. by the use of cell cultures.

The chair covers the following research areas: preformulating research into substances and helper substances, approaches for increasing the solution and the speed of solution of the

medical substances (cocrystals, solid dispersions, nanosuspensions, lipid-based systems...) the development of solid pharmaceutical forms (granules, pelettes, pills, minipills, microcapsules), semi-solid and liquid dispersal systems (micro and nano emulsions, liquid crystals, hydrogels) and modern (nano) supplying systems for controlled or directed release (liposomes, nanoparts, nanocapsules and nanofibre). The essential novelty for this chair are the nanotechnological approaches and the production of nanomedicines, both for academic use and for use in industry, as well as nano supply systems and solid pharmaceutical forms with modified releasing.

The Chair of Biopharmaceutics and Pharmacokinetics

When a biologically active molecule (substance) is created, that doesn't mean that we have a medicine. The substance must be delivered in the corresponding amount and speed to the place of action (into the tissue, organ or organ system) in the body where, after contact with the enzyme or receptor, it initiates the effect (for example decreasing the blood pressure, decreasing the cholesterol level, preventing an asthma attack). For this purpose, we incorporate them into a delivery system by which the speed of the processes is controlled and responsible for the performance, strength and effect duration. If we have a pill for pre-oral application with adopted releasing, we must assure, that after its ingestion, the process of release in the digestive system will take place so that suitable absorption into the central blood circulation will be assured. The substance should be decommissioned as little as possible at this stage and most of it should arrive where it is needed and eliminated from there as slowly as possible. At our faculty, we developed laboratory methods by which we incorporate substances into delivery systems (microcapsules, microspheres). We research the release of the substances from the delivery systems, we research the absorption of the substances by the digestive system and we research the distribution and degradation of the substances in the body.

Research at the level of laboratory tests are urgently needed, because only in this way can we define the influence of biological and technological factors on the stated processes.

When enough data is collected, the stated processes are mathematically described and we predict the concentrations of the substances in the different organs and their effects using computer-supported methods. The latest ones depend on the dose, type of delivery system, method of delivery (for example dosing, injection into a vein, inhalation into the lungs), genetic predispositions and the functioning of the organs of secretion (kidneys, liver). In this way we less burden on animal and human test subjects in the various phases of the development and testing of medicines, we arrive at the final results faster, and we also get instructions for the performance of new laboratory tests.

Our research is essential for transforming a substance into a medicine, which must have the best functionality with the least possible undesired effects.

The Chair of Social Pharmacy

At the chair for social medicine, we study the influences of medicinal effects on modern people and society. We deal first of all with control of the arrival on the market and in the patient's hands. We use natural scientific methods of research in our work but they are very often blended with the sociological methods. Within pharmacoepidemiology, we follow the security and effectiveness of medicines on a greater number of people – at the level of the population; through pharmacoconomics we lighten the costs points of medicine use. We are especially interested in research into pharmaceutical activities at the pharmacy level.

With the programs involving the so called pharmaceutical care, which are firstly evaluated through our research, we try to improve the quality of life of patient. For this purpose, we use modern information-communicative methods. Within the chair for social pharmacy we research the domestic characteristics and international regulations that regulate the area of medicine and pharmaceuticals. In this way, we contribute to the formation of new legislation and introducing the highest standards into daily practice.

Registry

The secretary office of the faculty is an organisational unit that takes care of the organisational, legal and management questions and processes, that performs professional-administrative work in the financial, accounting, staff, study and research areas, in the area of informatics, for the library and for maintaining immobilities, the environment and equipment for performing the national program of higher education study and the national program of science-research activities. The secretary office of the faculty performs managing-administrative and financial economics tasks in connection with the market activity of faculty.

As well as the described formal organisation, the organisation culture of all employees is important. With such an approach as a whole, the Faculty of pharmacy of the University of Ljubljana has sufficiently adapted to the challenges of the area of research work and stable enough for performing pedagogical obligations. In this way, we unite the modern approaches of pedagogical and scientific-research work in the education of contemporary experts in the area of pharmacy work, the pharmacy industry, laboratory medicine, cosmetology in the regulatory systems and distribution systems and also in the basic and applicative research and education.

(Chapter I was prepared by B.Božič, D.Černe, S.Kreft, S.Gobec, M.Gašperlin, A.Kristl, M.Kos.)

2 THE FACULTY OF PHARMACY IN 2013

The Faculty of pharmacy educates experts who are qualified to work and manage sustainable development in the area of pharmacy, cosmetology and clinical biochemistry. Its activity is:

- Education at the undergraduate and postgraduate level.
- Basic, applicative and developing research in the field of natural science and technology.
- Professional participation, technical testing, analysing, advising etc.

Its seat is in Ljubljana, Aškerčeva street 7, telephone number: 01 47 69 500, no. fax: 01 42 58 031, address for e-mail: tajnistvo@ffa.uni-lj.si, ID number 1626973, tax number: SI 11690682, homepage: <http://www.ffa.uni-lj.si>

MANAGEMENT AND FACULTY REGISTRY

/according to the data at the time of compiling the report/

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Vice Dean for Education:

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Vice Dean for Scientific Research:

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Vice Dean for International Cooperation:

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Management Secretary:

Lidija Ribič, buss. sec. /substituted by Katja Verdelj, BA Ethn./
tel.: 01 47 69 509, e-mail: tajnistvo@ffa.uni-lj.si

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Tel: 01 47 69 506, e-mail: referat@ffa.uni-lj.si

Research referate:

Judita Merjasec, B. Sc. (Administrative Sciences) .

Tel: 01 47 69 641, e-mail: r-r@ffa.uni-lj.si

Library:

Leader: Borut Toth, Prof. Phil. and Social.

Tel: 01 47 69 548, e-post: knjiznica@ffa.uni-lj.si

IT service:

Leader Tanja Gregorič, B. Sc. (Organisational Informatics)

Tel: 01 47 69 613 e-mail: rc@ffa.uni-lj.si

Technical maintenance service:

tel.: 01 47 69 500

CHAIRS OF THE FACULTY OF PHARMACY***The Chair of Biopharmaceutics and Pharmacokinetics:***

Head Prof. Albin Kristl, Ph.D., M. Sc. Pharm.

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The Chair of Pharmaceutical Biology:

Head: Prof. Samo Kreft, Ph.D., M. Sc. Pharm.

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The Chair of Pharmaceutical Chemistry:

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Head of the molecular diagnostics laboratory: Prof. Janja Marc Ph.D., M. Sc. Pharm., EurClinChem

The Chair of Social Pharmacy:

Head Assoc. Prof. Mitja Kos, Ph.D., M. Sc. Pharm.

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FACULTY BODIES

The Senate of the Faculty of Pharmacy	President:	Prof. Borut Božič, PhD
Academic assembly	President:	Prof. Marija Sollner Dolenc, PhD
Administrative board	President:	Prof. Julijana Kristl, PhD
Student council	President:	Luka Kosec
Committees:		
Habilitation committee	President:	Prof. Marija Bogataj, PhD
Awards committee	President:	Prof. Albin Kristl, PhD
Study committee	President:	Assoc. Prof. Aleš Obreza, PhD
Doctoral study committee	President:	Assoc. Prof. Aleš Obreza, PhD
R&D committee	President:	Prof. Irena Mlinarič Raščan, PhD
Quality and accreditation committee	President:	Assist.Prof. Bojan Doljak, PhD
Professional issues committee	President:	Assoc. Prof. Mitja Kos, PhD
Foreign education recognition committee	President:	Assoc. Prof. Aleš Obreza, PhD
IT committee	President:	Tanja Gregorič

STUDY PROGRAMS

The educational activity at FFA is based on more than 50 years of constant development of the pedagogical competences of the teachers, which results in highly scientific and research qualified diplomants in the fields of pharmacy, laboratory biomedicine and cosmetology, who are appreciated and very employable on the market.

UNDERGRADUATE AND POSTGRADUATE STUDY PROGRAMS OF THE FACULTY OF PHARMACY:

- Pharmacy, uniform master's study program (EMFAR).
- Laboratory biomedicine, university study program (S1LBM).
- Cosmetology, university study program (S1KOZ).
- Industrial pharmacy, postgraduate master's degree study program (S2INF).
- Laboratory biomedicine, postgraduate master's degree study program (S2LBM).
- Pharmacy university study program (UPF), additional year.
- Biomedicine, interdisciplinary doctoral study program (line Pharmacy, line Clinical biochemistry and Laboratory biomedicine, line Toxicology).
- Biomedicine, old postgraduate program for achieving the title of master of pharmaceutical sciences or postgraduate program for achieving the title of doctor in the areas of Pharmacy and Clinical biochemistry.

-
- All the courses are regular.
 - At all the study programs in the number of places for enrollment is limited.
 - The courses EMFAR, S1LBM, S1KOZ, S2LBM, S2INF and the interdisciplinary doctoral study program Biomedicine are Bologna study programs.



SPECIALISATION POSTGRADUATE STUDY:

- Pharmacy (theoretical contents are performed by FFA, carrier is the Chamber of Pharmacy of Slovenia) Areas: Formation of medicines, Analysis of medicines, Clinical pharmacy, Pharmacognosy and Pharmacy at the pharmacy.
- Medical biochemistry (theoretical contents are performed by FFA, carrier is the Chamber of laboratory medicine).

LIFELONG LEARNING:

- Laboratory biomedicine: accredited parts of the program S2LBM, Accredited three parts (each a 30 ECTS): Basic natural science biomedicine contents, General professional contents of laboratory biomedicine and Directed professional contents of laboratory biomedicine.
- Lifelong education for masters of pharmacy: The abuse of pharmaceutical products, poisoning and addiction.
- PERC Module I- Radiopharmacy, European postgraduate education (see the chapter Internationalisation in education.).
- CEMDC/ Module II - Preclinical medicine development, European postgraduate education (see the chapter Internationalisation in education).

NUMBER OF STUDENTS:

- 1516 students in all the programs of undergraduate and postgraduate study.
- The number of students in the past five years has increased by cca 100 a year, above all for the double generations of pharmaceuts (transition from the old to the new program) and the opening of new study programs (S2LBM, S2INF, SIKOZ).
- In some years in the future, a decrease in the entire number of students is expected because of the completed transition to Bologna programs and the smaller number of enrolment places (space problems, saving provisions in the higher education and science). The decrease is not in accordance with the vision of FFA and the needs of the market.

Table 2.1: The number of students on individual degrees in the 2012/2013 study year in comparison with 2011/2012.

Type of study program	2011/12	2012/13
<i>1st level</i>	242	256
<i>2nd level</i>	187	178
EMFAR + UPF	1001	972
<i>3rd level</i>	87	84
<i>specialist studies of the Chamber of Pharmacy</i>	17	18
<i>Specialist study of Medical biochemistry</i>	6	8
Total	1540	1516

Table 2.2: Growth in the total number of students in the years 2007-2012.

<i>Study year</i>	No. of students	Growth index*
<i>2007/2008</i>	1164	1.00
<i>2008/2009</i>	1282	1.10
<i>2009/2010</i>	1395	1.20
<i>2010/2011</i>	1479	1.27
<i>2011/2012</i>	1540	1.32
<i>2012/2013</i>	1516	1.30

* Growth index is shown according to the total number of students (1164) in the study year 2007/08.

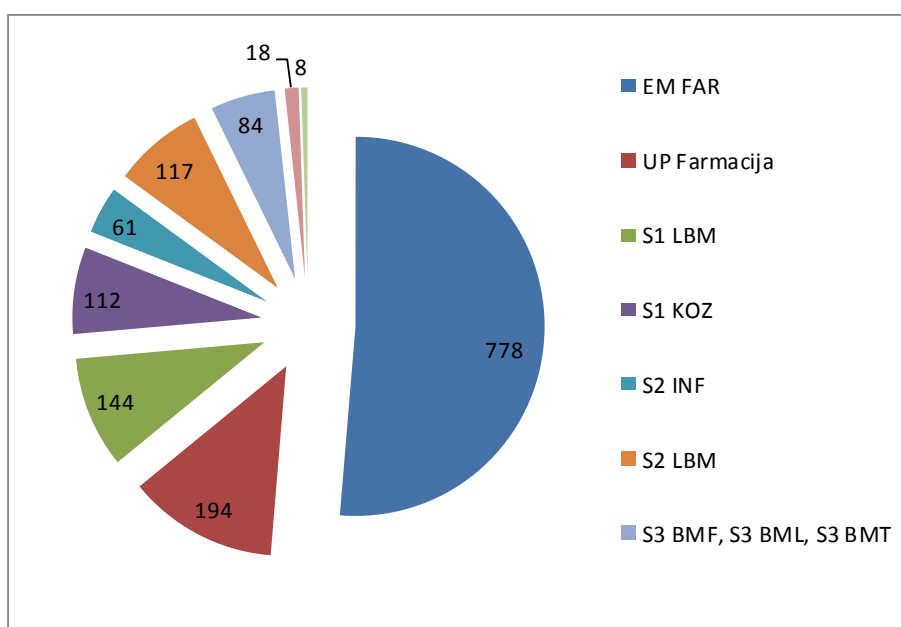


Chart 2.1: No. of students in study programs FFA 2012/13.

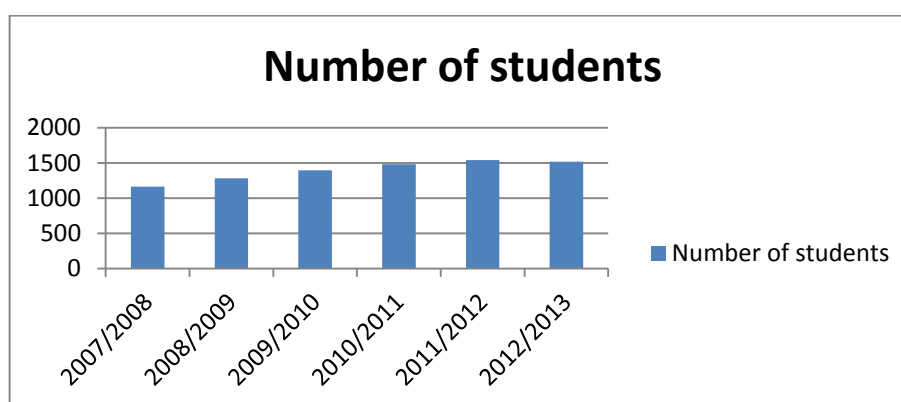


Chart 2.2: Growth in number of students at FFA from 2007 to 2013.

PRESENTATIONS OF THE STUDY PROGRAMS AND ENROLMENT:

- Interest in study in all the programs is extremely great. Courses are presented at open days and to Informative visits of interested secondary schools. The students of the Faculty of Pharmacy also take part at the presentations and printing.
- For the enrolment of diplomants, Slovenes without the Slovenian citizenship, foreign citizens and candidates for parallel study the demonstrated knowledge of the Slovene language at first enrolment is mandatory (senate decision FFA 2013). All the study programs are in Slovene, therefore a knowledge of the Slovene language is a fundamental condition for following the study obligations and for successful progress according to the program. The students from the other language regions have problems with the transition from 1. to 2. study year in all study programs . Beside the change of cultural environment, possible social problems and demanding study programs, not speaking the language is a reason for unsuccessful progress and consequent repetition and loss of status for more than 50% such candidates.
- Another condition for enrolment on EMFAR in the 2013/2014 study year remains a natural science subject in the Matura exam (required for the first time in the 2012/2013 study year). Students with the natural science subject have significantly transition easier from 1. to 2. year of study.
- Candidates who want to enrol on the study program S2LBM and who haven't achieved the corresponding competences during earlier study must, according to the Decision of the Commission for the study affairs, take the differential exam from Clinical biochemistry 1.
- More difficult conditions of enrolment – the precise definition of the programs from which students can enrol on the study program S2INF at the enrolment in the 2013/14 study year, with the purpose of maintaining the level of the achieved knowledge (the senate decision of 2013).

STUDENT TRANSITION RATE:

- The transition of students in all the study programs is very good and it deviates from the UL average.
- In the EMFAR program, the transition of the generation from 1. to 2. year is almost 90% on average in the last few years, and the cumulative transition from the first to the fifth year is on average 70%.
On the master study degrees programs S2INF, the transition remains a little worse (56.5%). The cause is above all an insufficient foreknowledge of the candidates at the time of enrolment into the first year. The effect of the sharpened entry conditions on the transition will be seen in the future.
- The causes of the high transition are the engagement of students and pedagogic workers. An important contribution is also by non-pedagogical workers who assure good working conditions (students exposed the kindness of the employees at the student office and the transition to electronic operating of the timetable).

Table 2.3: Transition between the study years in the last three school years.

Study program	2011/12	2012/13	2013/14*
EMFAR			
From 1. to 2. year	90.9 %	94.9 %	88.4 %
From 2. to 3 year	97.6 %	92.0 %	99.3 %
From 3. to 4 year	106.5%**	90.4 %	97.1 %
From 4 to 5. year	117.5%**	84.8 %	92.0 %
S1LBM			
1st to 2nd y.	67.3 %	88.4 %	110%**
2nd to 3rd y.	125.5%**	124.0%**	65.8 %
S1KOZ			
from 1st to 2nd year	75.6 %	73.2 %	87.0 %
from 2nd to 3rd y.	/	91.2 %	106.7%**
S2INF			
from 1st to 2nd y.	52 %	84.6 %	56.5 %
S2LBM			
from 1st to 2nd year	68.3 %	90.7 %	89.7 %

* The data is valid for the day 1.10.2013.** over 100% of precedence for the transition of students from the old to the Bologna study programs or the sporadic influence of students who made breaks in the study after the performed obligations.

FINISHED DIPLOMAS IN THE YEAR 2013:

- In the year 2013, the course was finished by:
 - At the 1. and 2. degree, 250 graduates (140 UPF, 35 EMFAR, 45 SILMB, 5 SI KOZ, 13S2LMB, 9S2INF, 3 VSLBM).
 - At the 3rd level, 19 graduates (4 masters of science and 15 doctors of science).
- The first students of EMFAR and S1KOZ finished their studies in the 2012/13 study year.
- The total number of finished diplomas comparable with the year before.

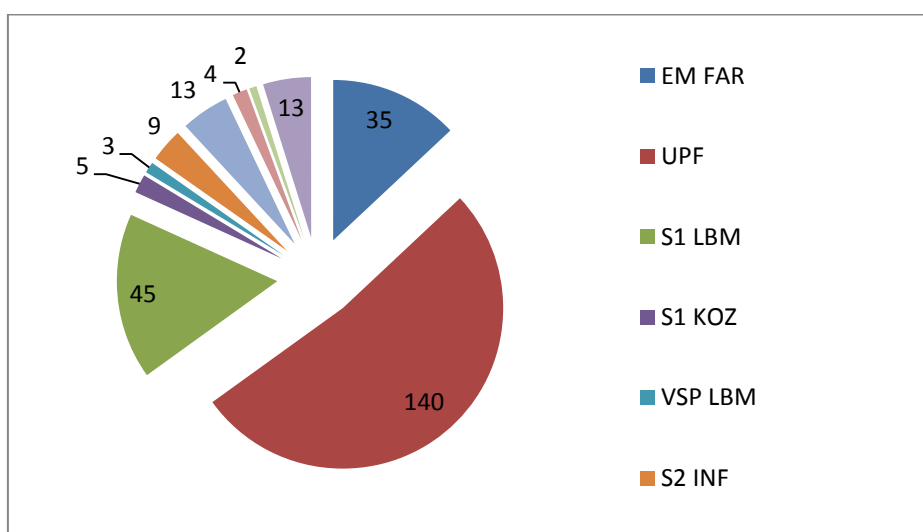


Chart 2.3: The number of graduates according to single programs in the year 2013 (from 1.1. to 31.12.2013).

Table 2.4: Comparison of completed diplomas in the year 2012 (from 1.1. to 31.12.2012 and 2013.

<i>Study program</i>	<i>2012</i>	<i>2013</i>
EMFAR	/	35
UPF	120	140
S1LBM	56	45
S1KOZ	/	5
VSPLBM	18	3
S2INF	9	9
S2LBM	12	13
Biomedicine – old master of science	5	4
Biomedicine – old program (Doct.)	3	2
Biomedicine – new program	15	13
TOTAL:	238	269

THE PERFORMANCE OF PEDAGOGICAL ACTIVITIES:

- The timetables are formed so that the students can take part in all the obligatory study content and the elective and alternative subjects they are interested in – and not only those they have chosen.
- The students especially support the writing of seminar works for the elective subjects, because they include the themes they are interested in and enable them to develop presentation skills.
- In the 2012/2013 study year, new rooms were given for use for the elective subjects in Tržaška street and this increased the quality of the pedagogical and research work, enabled the better and safer performance of exercises, but especially provided greater flexibility in the composition of timetables.
- The number of outside performers and demonstrators at the exercises remained small and limited to volunteering.

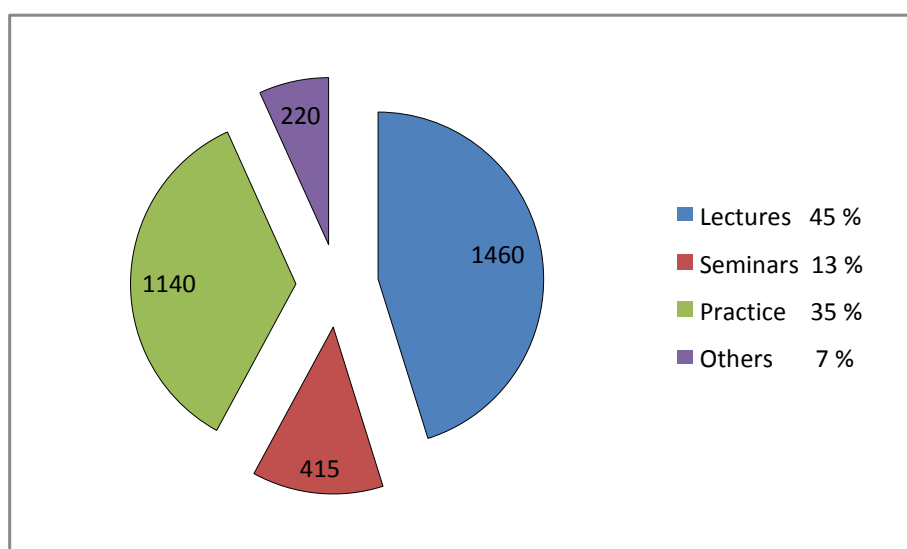


Chart 2.4: Layout of contact hours of the EMFAR study program. It is also similar to the other study programs of 1. and 2.degree.

STUDY PROGRAM REACCREDITATION:

- The year 2013 was the first of the three successive ones that are bound to the procedures of the reaccreditation of the study programs. In the year 2014, the accreditation expires for EMFAR, S1LBM and S2INF, while S1KOZ and S2LBM expire one year later.
- The process of reaccreditation is a complicated and time-consuming process for the fulfilment of badly prepared and unkind (to the users) forms of NAKVIS. The last ones do not enable the rapid entry of data, especially for curriculum and cooperating teachers, since they demand the manual entry of each item of data separately. Beside the above, the forms for reaccreditation of the study program do not include anything from which we can see how the program has developed and improved in the past. This is merely a picture of the current state with a lot of unnecessary bureaucratic data on the university and faculties, but there is nothing connected to assuring quality in the performance of the pedagogical process.
- After the difficult transition from the old to the new program after the first enforcement, the study programs at the FFA are stable. In future years (on reaccreditation), we plan on following them up and establishing possible deficiencies and measures for improvement.

SYSTEMIC AND LONG-TERM STUDY ISSUE MANAGEMENT

- The system of contact between the students and pedagogical workers on different themes:
 - Introductory meeting of the first study year students in all programs with the vice dean for the study affairs, at which they learn about the study specialities, student rights and about the ways of obtaining information during the course. The meeting was organized at a more suitable hour last time and more students could take part. ŠS FFA has provided a printed student booklet (Spatula) for all students containing basic information on the course and study order.
 - The meeting of students of a 4. study year EMFAR with the coordinator before the beginning of the practical training.
 - Regular meetings at the beginning of the study year between the lecturers of the subjects for S1LBM and S2LBM, and between the coordinators of the program and the student representatives.
 - The current meetings of the vice dean for study activity and lecturers of subjects with the representatives of the study years if there is any confusion concerning performing the study programs (the conditions of promotion, exam order, hand-outs of lectures).
 - Meetings with the vice dean for international cooperation, coordinator of the SEP (Student exchange program) and MP (Individual Mobility Project).
- Regular dealing with pedagogical problems at the Commission for the study affairs, and also at regular and extraordinary meetings of the FFA Senate.
- Placement of extracurricular activities as diploma additions:
 - Performed study practice or exchange
 - Prizes and awards of the UL and FFA
 - Activity in the bodies of the UL and FFA
 - Authorship or co-authorship of published articles in magazines with an impact factor .
- The change of conditions and promotion into a higher study year at EMFAR: based on the initiative of the students and the demands of the study institutions referring to Practical training, the conditions were changed for promotion into the 4. Study year and 5. Study year of EMFAR. Similar changes will also be necessary for other study programs of the FFA. (S1LBM, S2LBM and S2INF) due to unsuitable enrolment conditions.
- To avoid errors when checking knowledge at colloquium and at exams, the teachers and assistants have received precise written instructions especially regarding 4., 5. and 6. -

performing an exam, publishing the results at the right time and the performance of oral defences. Also in the future, new teachers will receive instructions regarding the performance of knowledge checking.

- Decreased early limitation on elective subjects to 25 students, for greater dispersion and better coverage of all the offered elective subjects and a more qualitative performance from the point of the seminar tasks. The governance of the faculty has the discretionary right to enable the performance of subjects with less than 10 enrolled students. The transition to an electronic system of placing students through an online class room and the average state in the past study years. Students are very satisfied with the system and therefore, with certain improvements, it will be used in the future as well.
- The enforcement of the anti-plagiarism program Turnitin. Teachers/mentors and students who are handing over finished works (1., 2. and 3. Degree), must act in accordance with the vice dean's instructions. Through these programs, the users will establish and check the matching of the following parts of the diploma, master's degree and doctoral works: summary, translation of the summary into English (abstract), introduction, purpose of the work, results, discussion and decisions. In this way, students and mentors will get information on any eventual excessive coverage of diploma, master's degree and doctoral works, and as authors are protected from any eventual doubts about plagiarism in their works.

PRESENTATION OF STUDY PROGRAMS AT THE FACULTY OF PHARMACY

UNIFIED MASTER'S STUDY PROGRAM PHARMACY



The unified master's study program pharmacy (300 ECTS, 10 semesters) in accordance with the demands of auxiliary Directive 2005/36/EC with the corresponding representation of the pharmaceutical, natural science, medical and other content trains the student for performing professional work and tasks anywhere at the pharmaceutical field and it also provides the basis for study continuation on a doctoral degree and is open for constant lifelong professional training. The study lasts 5 years and includes the obligatory half year

practical training in teaching institutions (public, private and hospital pharmacies) and the making and defence of master's degree work.

The possibility of choice is included in the course at three levels: alternative subjects, elective subjects offered by Faculty, including the choice of the area the master's degree work and general choice within the University. The elective contents are offered in such a spectrum that we cover all the standard areas of the narrower directions and we follow the trends of the development in the field. But we also take care to avoid too much choice so that the quality of teaching will not decrease due to the too great dispersion of students. Increased choice is also limited by time and space possibilities.

UNIVERSITY STUDY PROGRAM LABORATORY BIOMEDICINE

The renewed first cycle study program laboratory biomedicine (180 ECTS, 6 semesters) on the one hand provides a high level of direction into practical technical skills and knowledge, and on the other hand provides biomedical science/research content, through which we want to increase the possibility of employment of those graduates in the research institutions that perform biomedical research. There is a lot of research of this kind and on the care for human health and improved quality of life, and we can expect even more of it in the future. At the same time, we want to help our better students continue



education at the second and third degrees and in specialization. The possibility of choice is planned for the third cycle, when students already know not only natural science but also wider areas of laboratory biomedicine. The possibility of choice is provided in three ways: by subjects offered by FFA program, by the list of other studies at the FFA or within the UL and the general possibility of choice.

UNIVERSITY UNDERGRADUATE STUDY PROGRAM COSMETOLOGY

The first cycle study program Cosmetology is a study program that lasts 3 years and includes 180 ESTC and is the first of its kind in Slovenia. Its main purpose is to train professionals in the field of cosmetology science. Beside a basic knowledge of natural science direction, the program also offers deeper knowledge of the professional sciences of cosmetology; this means knowledge of natural and synthetic materials as ingredients of cosmetic products, cosmetic active ingredients, their desired, harmful and toxic effect, types of cosmetic product, their planning, formation and production, approaches to estimating security and effectiveness, the use of the suitable analytical methods,

control and the marketing and advertising of cosmetic products. Through a great number of elective subjects, the program deepens the knowledge of natural science and cosmetic sciences, fulfils service activities in the sense of care and maintaining the body in good condition, way of life and nutrition. As is dictated by cosmetic science and it additionally offers the social skills that follow cosmetic science like communicology, foreign languages, the psychology of perceptions, aspects of marketing and advertising etc. This program trains professionals that are competent for employment in the cosmetic industry, regulative and inspection service, representation offices with cosmetic products and in advising and marketing cosmetic products in various institutions.

MASTER'S STUDY PROGRAM LABORATORY BIOMEDICINE



The 2nd cycle master's study program Laboratory Biomedicine is a study program which lasts for 2 years and covers 120 ECTS. The fundamental goal of the program is education of highly skilled professionals (Laboratory Biomedicine Masters') for various narrow fields in laboratory medicine who will be able to quickly adapt to numerous changes and new challenges in the field of medical diagnostics of human biological materials. On finishing the studies the Laboratory Biomedicine Master will be able to conduct independent professional work in medical laboratories and will thus fill the gap that exists in the

professions of the healthcare system provided by the present University education. At the same time they will be able to perform the basic research approaches and therefore more easily and critically monitor the transfer of new technologies to practice.

MASTER'S STUDY PROGRAM INDUSTRIAL PHARMACY

The master's study (2nd cycle) of industrial pharmacy is a study program that lasts 2 years and includes a total of 120 ECTS. The professional title achieved by the graduate is master of industrial pharmacy. The basic aim that guided the FFA in the preparation of the new study program was that the graduates in natural science (chemistry, biotechnical, biotechnological and other) and technical programs (machine science, electrical engineering and other) in a finished Bologna degree can obtain the necessary pharmaceutical skills and the corresponding education of a second degree for work in the pharmaceutical industry in the field of production and medicine analyses.

This postgraduate master's degree study program and the curriculum of the planned program was created based on domestic and international experiences and the foreseen development of the domestic and foreign pharmaceutical industry. During the program, lectures are performed by domestic and foreign professors and industry experts, interactive consolidation of knowledge in the industrial environment, a discussion of examples from praxis, individual and group work and innovative solutions to presented examples.

DOCTORAL STUDY PROGRAM IN BIOMEDICINE

The postgraduate study program Biomedicine (3rd cycle) was renovated in accordance with the Bologna directives three years ago. Now it lasts 3 years, includes 180 ECTS and only involves doctoral study. Three degrees doctoral study program Biomedicine began to perform the first time by enrolment into the first year of the study year 2007/08. It is performed within the UL FFA and it covers the scientific areas of Pharmacy, Clinical biochemistry, Laboratory biomedicine and Toxicology.

STAFF AND PHYSICAL CONDITIONS AT THE FACULTY OF PHARMACY IN 2013

At the Faculty of pharmacy on 31.12.2013, 108 permanent pedagogical workers were employed (4 persons with 20% employment and 1 with 10% employment) and professional administrative and technical staff, 23 young researchers employed during the time of training or education for obtaining a doctorate degree and performing assistance work with part-time employment and 16 researchers temporarily employed in research projects (1 with 5% employment, 1 with 10% employment and 2 with 20% employment). Among the permanent employees are:

- 36 university teachers (16 regular professors, 8 associated professors and 12 assistant professors);
- University teachers (regular professors) with 20% employment;
- 33 assistants, among them 12 with the title of docent;
- 1 assistant with 10% employment;
- 1 lecturer/teacher of sports;
- 15 technical collaborators;
- 1 librarian;
- 13 professional and administrative workers and
- Technical workers (maintenance workers, receptors, cleaners).

In the year 2013, we finished the period of the double performance of programs – for the last time we performed the regular pedagogical obligations for students in the final year of the harmonized (5 years) program of Pharmacy. Now there are only the obligations of the conclusion of the diploma work left, all the contact pedagogic hours are connected to the Bologna study programs. This decreases the growth in the overall student numbers at the faculty – the transition plateau is reached at about 1500 students in all forms of education. The decrease in enrolment in recent years, which was a consequence of coping with financial, space and staff shortages, also contributes to this state. The number of employees is still too small to cover the expressed needs and norms of pedagogical, professional and research work at the faculty. Unfortunately, this number cannot be increased due to the limitations in the public sector – we felt the consequences in the past when we employed rationally and planned a gradual increase in the number of staff over a longer period of time. The formal administrative measures prevent us from performing the foreseen personnel politics. The lack of rooms is also very constant in the operation of the Faculty during recent years, but the situation changed a bit last year. At the location of MDB Square, where the faculty is co-owner of the rooms, we tried to accelerate the dialogue with the co-owners regarding floor ownership and consent for building works. Unfortunately, there were no crucial developments. But we finally equipped and began to use 960m² of rented areas of laboratories, cabinets and lecture rooms in the building of Ilirija d.d. in Tržaška street.



For a long term and more complete solution, we have prepared the document of investment identification for the project for new building in the vicinity of the new Faculty for chemistry and chemical technology. This is just a basic document that does not assure actual realization but we must start somewhere.

(Chapter 2 was prepared by: B. Božič, A. Obreza, S. Menard, T. Kadunc, Z. Gantar)

3 **PROMINENT EVENTS IN 2013**

The opening of 960 m² of newly equipped rooms in Tržaška in the premises of Ilirija d.d.



Regarding the estimated lack of space for the qualitative performance of accredited programs, the FFA has proposed in the strategic plans for long term solutions to problems a new construction within the university campus at Brdo, in mid-term perspective for searching for solutions in the vicinity of Aškerčeva. So in 2011 it made an agreement with the management of Ilirija about renting rooms, which were totally renovated by Ilirija at its own cost. In the spring of 2013, the FFA finished installing

equipment and began to fully use the lecture room, laboratories and cabinets. The whole investment by faculty was estimated at a bit less than a million Eur, which was lower in the end due to the effective leading of the project. About 6% of the equipment was covered by partners, donators and sponsors, the rest was assured by FFA from reserves, savings and market-gained financial means in the past pre-crisis years.

The rooms are meant mainly for pedagogical activity of lectures and above all for laboratory exercises, which enable at least the minimal performance of some exercises that were performed in the past in an incomplete form and with rather more suitable timetables, since pedagogical activities were earlier performed from 7.30 a.m. to 21.30 p.m. FFA still needs over 4000m² of space.



Extraordinary response to research work in the field of the pre-clinical development of anti-microbes substances

The research group of the chair for pharmaceutical chemistry, which deals with the pre-clinical development of anti-microbes substances within the project of the applicative research project ARRS (L1-4039), has published part of the results of its researches in 2012 in the important magazine in the field of pharmaceutical chemistry, the Journal of Medicinal Chemistry. The article had the title: the

Function of the D-Alanine-Alanine ligase lid loop: a molecular modelling and bioactivity study (Hrast M., Vehar B., Turk S., Konc J., Gobec S., Janežič D., J. Med. Chem. 2012 55: 5849-6856) and it was chosen in October 2013 by ARRS for the extraordinary science achievement in 2012 and was presented in public at the Jožef Stefan Institute. The presentation of the achievement was also published at Videlectures.net (http://videlectures.net/znanstveni_dosezki2012_gobec_funkcija/).

CEMDC - Module II

In September 2013, the 2. Module of the inter-university European postgraduate education (CEMDC – Cooperative European Medicine Development Course, www.cemdc.eu) was organized at the Faculty of pharmacy with the title Non-clinical pharmaceutical and early clinical development, which takes place within the harmonized program EMTRAIN (The European Medicines research Training Network <http://www.emtrain.eu>), which is encouraged and co-financed by IMI (The Innovative Medicine Initiative; <http://www.pharmatrain.eu/cpd/index/.php>). Ten European universities collaborate in this inter-university program, all the activities at FFA are managed by Prof. Irena Mlinarič-Raščan, PhD. In the intensive 4-days program in Ljubljana, 20 domestic and foreign professors and lecturers were involved, coming from the regulatory bodies and from the pharmaceutical industry. The content of the lectures was very diverse and the audience was acquainted with the different phases of development of active pharmaceutical ingredient, pharmaceutical dosage forms and finally with the development of the effective, safe and qualitative synthetic or biological / biologically similar medicine. The title of the meeting highlighted the great importance of pre-clinical testing (pharmacological and toxicological studies, studies of genotoxicity, carcinotoxicity and reproduction toxicity) and their inclusion into the scheme of medicine development. Therefore the special set of lectures was also dedicated to the critical assessment and use of the results of pre-clinical tests before the first phase of clinical testing and defining the first dose for testing on humans. There were 17 students from Slovenia and abroad which attended the intensive course.



European postgraduate education course from Radiopharmacy

In cooperation with the Clinic for nuclear medicine of the University Medical Centre in Ljubljana, the Faculty of pharmacy organized 2 weeks of European postgraduate education in radiopharmacy from 26.8. till 6.9.2013. This education is part of the European scheme of education for the acquisition of European specialization from radiopharmacy – PERC (Postgraduate European Radiopharmacy Course) and it takes place under the patronage of the European Association for nuclear medicine (EANM). The entire education is in English and is divided into three modules:



Module 1: Pharmacy (Pharmacy) Slovenia, UL FFA and the Clinic for nuclear medicine UMC.

Module 2: Radiopharmaceutical chemistry (Radiopharmaceutical chemistry), Italy, Switzerland.

Module 3: Associated subjects: France, Germany.

The first module, which was organized in Ljubljana for the seventh time, was coordinated by Prof. Irena Mlinarič Raščan, PhD, FFA and Assist. Prof. Tanja Gmeiner Stopar, PhD. The attendees at postgraduate school in 2013 were from Slovenia and abroad (28 specialists). Students learned about the basic areas of pharmacy: legislation, planning, performing analyses of different pharmaceutical dosage forms, good practices in the production of medicines, the stability of medicines, pharmacokinetics, biopharmacy, microbiology and quality assurance. The education is also an opportunity to exchange experiences gained from the everyday practical work of the participants, what was noticed in the active discussions during the lectures itself. Regarding the specific topics and previous excellent evaluations, we expect the successful continuation of the education series in the future as well.

Management professional meeting, Lek d.d. and UL FFA

On 22.5.2013, representatives of Lek visited the Faculty of pharmacy. The purpose of the meeting was to identify the crucial common points, specific knowledge and professional competences that are developed by Faculty in the pedagogical, research, development and professional areas and they are the basis for deepened cooperation in solving complex questions concerning medicine development. The team of the heads of development of Lek d.d. was led by Karin Klokkers, PhD, the manager of the Slovenia Development centre. The Faculty dean Prof. Borut Božič, PhD, accepted the delegation and presented the faculty operations and the development vision. Vice dean Prof. Irena Mlinarič-Raščan, PhD, presented the strategy of FFA placement in the field of pharmaceutical science and profession in the entire life cycle of medicine. The chair heads presented the specific competences and knowledge, which range from diagnostics and searching for biological targets through the development/discovery of substances, forming and testing medicine to pharmaceutical care for the patient. The meeting participants agreed with the idea of the meeting in direction of strengthening cooperation between Lek and FFA, especially in the field of more complex project-professional challenges.

The establishment of the EATRIS-TRI.si Centre

At the FFA, we established the Infrastructural centre for translational research in the field of the research and development of medicines, EATRIS-TRI.si (European Advanced Translational Research Infrastructure-Translational initiative Slovenia). The centre was established based on a decision of the scientific council ARRS, which at its regular 9. Meeting on 17.9.2013 accepted the decision on financing the centre with the purpose of integration into the major European infrastructure. This decision is in accordance with the Plan of development of the research infrastructures for the 2011-2020 period.



At the integration of Slovenia into the European projects of the major research infrastructures ESFRI (European Strategic Forum Research Infrastructure), the long-term strategic meaning for the development of the Slovenian research sphere was taken into consideration. The basis for the establishment of IC EATRIS was the public call for collecting suggestions for international projects of the development of the major research infrastructure (RI), in which the Republic of Slovenia should take part (13.11.2009). The FFA responded to the tender and expressed an interest in becoming a member and getting the user right in the European infrastructural consortium for applicative research EATRIS (European Advanced Translational Research Infrastructure <http://www.eatris.eu/>). The FFA's expression of interest was sent to the organizers of EATRIS net already in 2007-2008. FFA clearly defined the interest in being included as an institution in the area of the research and development of medicines and it became a member of the EATRIS network. The FFA also expressed an interest in taking over the initiative for the Slovenian centre for translational research. (TRI.si Translational Research Initiative).

The integration of Slovenia into EATRIS will enable the upgrade of the current research in the education and training of the European pharmacy, introducing the concepts of transitional, translational biomedicine, which will enable faster adaptation to the new world trends and contribute to competitiveness of the Slovenian pharmaceutical industry. Access to the research equipment will enable Slovenian researchers to achieve the top results in the field of pharmaceutical science, clinical biomedicine, medicine and biotechnology and the equal integration into international projects.

Prof. Aleš Mrhar, PhD, co-editor of the thematic number of the magazine European Journal of Pharmaceutical Science

The thematic issue of the magazine European Journal of Pharmaceutical Science (Vol.50 Iss.1, 27.Septemner 2013 pgs. 1-158, IF 2012=2,987) was issued with the guest editors Jelena Filipović Grčić, Aleš Mrhar and Hans Junginger with the title Emerging Nanopharmaceuticals for Non-parental

Application routes publishing the selected articles, which were presented in the form of oral contributions at the 9. Central European symposium, the president of which was Prof. Aleš Mrhar, PhD. This was very successful also for the researchers from our faculty, for five articles were chosen from the thematic issue, three from the chair for pharmaceutical technology and two from the chair for bio pharmacy and pharmacokinetics. This achievement represents an excellent starting point for the organization of the 10. Jubilee Central-European symposium on pharmaceutical technology, which is organized by Faculty of pharmacy of the University of Ljubljana in cooperation with the Slovenian Pharmaceutical Association in September 2014 in Portorož.

European project Quality assurance in European pharmacy education and training

Within the project Assurance of quality in education and training of European pharmacists, the FFA took on the function of the regional manager for the Eastern Europe (countries of EU and EHEA). The half million eur project is financed by EACEA through the EU Erasmus program of lifelong learning. The aim is to establish a network of faculties that perform pharmaceutical programs, to analyse the existing systems of the assurance of quality and to form starting points for the common European platform of competence system of assurance of quality on the field of education, which in the final phase is important for patient security (<http://eafponline.eu/projects/phar-ga/>).

AWARDS AND RECOGNITIONS OF THE FELLOWS OF THE FACULTY OF PHARMACY

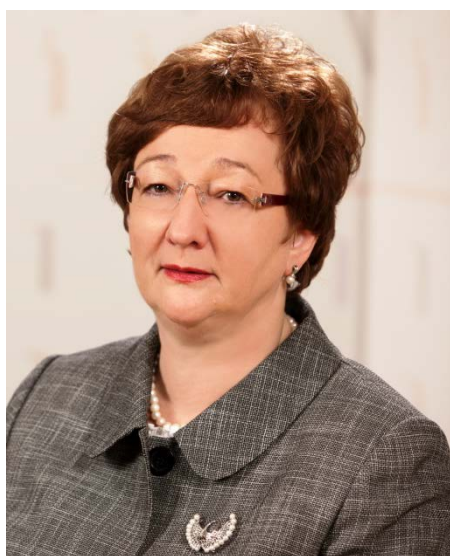
Prof. Janko Kos, PhD, recipient of the Zois prize in 2013 for the top achievements in research of the functioning of proteolytic enzymes and their regulation



Prof. Janko Kos, PhD, is the regular professor of pharmaceutical biochemistry at the Faculty of Pharmacy of the University of Ljubljana and head of the Department for biotechnology at the Jožef Stefan Institute. The scientific-research work of Professor. Kos includes pharmaceutical biotechnology and biochemistry. His narrower research fields are research of proteolysis enzymes in malign, immune and neurodegenerative processes, research of syntheses and natural inhibitors and delivery systems for the input of medicines. Especially significant is his research of proteolytic enzyme cathepsin X, which is present in the immune cells, neurons and some tumour cells. Professor Kos and his collaborators have discovered more targets of cathepsin X, such as integrins, gamma-enolase and profilin-1, the influence of cathepsin X on these targets has significant physiological influences. The increased concentration of cathepsin X causes the formation of membrane nanopipes,

which enable the transfer of messages between the cells in the form of ions, components of the cell surface and inside cells vesicles. Silencing the expression or the inhibition of cathepsin X activity greatly decreases the adhesion and migration of immune and tumour cells, but increases the regeneration of neuron cells and the formation of neurites. These establishments confirm cathepsin X as an important therapeutic target and therefore the research work of prof. Kos is, alongside research of the roles of proteases in physiological processes, also directed into searching and preparing proteases inhibitors and other compounds, which were of use in research covering cancer treatment, neuro-degenerative and autoimmune sicknesses.

Prof. Julijana Kristl, PhD, recipient of the Golden plaque of the University of Ljubljana for extraordinary merits in the development of science, pedagogical or artistic creation of the university and for strengthening its reputation



Prof. Julija Kristl, PhD, is the regular professor of pharmaceutical technology at the Faculty of Pharmacy of the University of Ljubljana. She is one of the founders of the science area of pharmaceutical nanotechnology including the study of the modern nano-supply systems of substances, nano-medicines and their influence on cells structures. She is the carrier of the patent for a procedure for the production of nano parts (2005), co-author of three patent applications and author or co-author of over 140 original science and 30 review articles. She successfully publishes all her science findings in magazines with a high impact factor, some of them representing breakthroughs in certain areas. 1495 pure citations and a high h-index prove the extraordinary response to her works. She successfully transmits the achievements of her science work to students on various study degrees. She was the mentor to 13 doctorate students, 10 master's degree

students, 3 specializations and 94 graduations. Under her mentorship, students received 10 Krka

prizes and 3 Prešeren prizes. She is the author and co-author of seven single chapters in monographs, eighth monographs and student books with reviews, seven other learning books and 16 professional and other articles, which demonstrates her wide scope in the transfer and giving of knowledge at different levels - from science perfection to the lay public.

Within the University, she used her organizational skills to take on managing and leading functions: in 1991-1995 she was leader of the then named Department for pharmacy at FNT, in 1997-1999 and 2003-2005 she was head of the chair for pharmaceutical technology, in 1999-2003 she was the dean of Faculty of Pharmacy from 2005-2009 and in-2013 she was pro-rector for educational activity at the University of Ljubljana. In the wider area she was a member of Council for science and technology of the RS (2001-2005), a member of the Health Council (2002-2005 and from 2012 on), a coordinator of the EU project Galenos Euro-PhD and Advanced Drug Delivery (2004-2008), a member of the supervising Council of Krka d.d. Novo mesto (from 1991 on) and a member of the organizational committees of the biennial Central European congresses from pharmaceutical technology and elsewhere. In all her obligations and duties, she has been devoted to her field, the University of Ljubljana and to her teaching. With her international work (membership in international corporations, membership in editorial offices of international magazines, cooperation with recognized and established scientists in the field of pharmaceutical technology and nano-technology) she also spreads the reputation of the Faculty of Pharmacy of the University of Ljubljana in Europe and around the world.

Prizes of the Student Council of the University of Ljubljana for the best pedagogues in 2013 were received by Prof. Marija Bogataj; PhD, Assoc. Prof. Saša Baumgartner, PhD and Assist. Janja Zupan, PhD

Assoc. Prof. Saša Baumgartner, PhD, can present lecture material on pharmaceutical technology in an interesting, understandable and clear way. She communicates with students in the form of questions, the answers to which are also additional expanded on by her. The material for her lectures is always available at the right time. She is an excellent lecturer and has correct and friendly contact with her students. Her organization in the field of the international exchange also confirms the above-mentioned virtues so she deserves the prize for "the best" pedagogue.

Prof. Marija Bogataj, PhD, is an excellent lecturer. She presents the lecture material clearly and understandably to her students. She also encourages her students to think and cooperate. Her lectures are very well attended due to her pleasant method of explanation, resulting in good results in the exams. She is always prepared to answer questions from students and she makes an effort to ensure that the students memorise the lecture material as soon as possible and are able to cope with it. Because of all these virtues, she really deserves the prize for "the best" pedagogue.

Assist. Janja Zupan, PhD, demonstrates her extensive knowledge with her explanations of theoretical grounds, which she delivers to her students with great pleasure. She motivates them in an effective way, encourages them to think, connect and understand the lecture material. In the practical work, she gives clear and useful instructions. When working, she smiles and she is friendly, which has a positive influence on the atmosphere in the laboratory. With her authority and determination, she never supports laziness and always rewards enthusiasm. In her way of work, she always enables students the corresponding preparation on colloquium, which reflects in the high average estimation of the students.

The prize for the best assistant should be a confirmation and encouragement for work with the students.

The prize of the Student council of the University of Ljubljana for the best non-pedagogical workers in 2013 was received Mateja Terčič

Since her arrival, Mateja Terčič has brought a new positive and laughing face to the student's office. She bravely fights with the problems of the students (no matter how unusual), even outside her

working time. She strongly simplified the reservations of lecture rooms with the transition to an electronic timetable.

Anja Pišlar, PhD, is the recipient of the prize for extraordinary doctoral work in the field of chemistry and related doctrines.



The Institute of Chemistry granted the Pregl award to Anja Pišlar, PhD, on Friday, 6. December, 2013 for her extraordinary doctoral work entitled "Regulation of the neurotrophic activity of gamma-enolase with proteolytical enzymes and its significance for neurodegenerative illnesses", which she performed under the mentorship of Prof. Janko Kos, PhD and co-mentor Assist. Prof. Nataša Obermajer, PhD.

Anja Pišlar, PhD was studying within her doctoral work the functioning of gamma-enolase in neuron cells in the dependence of cathepsin X on functioning cysteine carboxypeptidase. The neurotrophic functioning of

gamma-enolase shows the C-terminal of the molecule and this can be the target of cathepsin X. Anja Pišlar, PhD researched the molecular mechanisms of this regulation. She discovered that the proteolytic splitting of the C-terminal prevents the binding of gamma-enolase at the transfer protein gamma sintrofin. In this way, gamma-enolase does not come over from cytoplasm on the plasmatic membrane and it does not strengthen the signal paths, which are started by neurotrophic growth factors. The neuro-protective role of gamma enolase and the pathological functioning of cathepsin X was also proved in mice models of Alzheimer and Parkinson's disease by her. The known mechanism of the neurotrophic functioning of gamma-enolase and also the role of cathepsin X in neurodegenerative processes enable the use of active peptides, which copy the C-terminal of gamma-enolase and the inhibitors of cathepsin X in the protection of neurons, this represents a new step in the development of substances for the treatment of neurodegenerative illnesses.

The prestigious award of The Slovenian Science Foundation was granted to the editors and authors of the publication Contemporary phytotherapy – use of medical plants supported by evidence: Samo Kreft, Nina Kočevar, Damjan Janeš, Borut Štrukelj, Mojca Lunder, Aleš Mlinarič, Andreja Novak, Andrej Umek, Rade Injac, Petra Slanc, Jernej Kristl, Bojan Doljak, Katja Stojilkovski, Aleš Berlec, Jerica Sabotič, Igor Glavač.

The prestigious award of The Slovenian Science Foundation "Prometej znanosti" for excellence in communication for 2013 was granted to the editors and authors The Contemporary phytotherapy – use of medical plants supported by evidence: Samo Kreft, Nina Kolčevar, Damjan Janeš, Borut Štrukelj, Mojca Lunder, Aleš Mlinarič, Andreja Novak, Andrej Umek, Rade Injac, Petra Slanc, Jernej Kristl, Bojan Doljak, Katja Stojilkovska, Aleš Berlec, Jerica Sabotič, Igor Glavač. The granting of the awards took place on the yearly Thanksgiving day of the Slovenian Science Foundation, 16.1.2014.

Contemporary phytotherapy is a professional book about medical plants that acquaints the professional and lay public about the numerous possibilities offered by treatment using medical plants. It acquaints the public with the results of the latest research, with clinical practice and with tradition in this field. The book was published in May 2013 in 2000 copies, which sold out in half a year. The second edition was printed in November 2013. The publisher of book is The Slovenian Pharmaceutical Association.

Prof. Franc Vrečar, PhD was the co-author of two innovations that received the golden award of The Chamber of Commerce of Dolenjska and Bela Krajina for 2013

Krka innovation covers entire solutions in the development of two-layer tablets for the treatment of high blood pressure. The new process includes more incremental inventive solutions for the synthesis of two healing substances, and the preparation and cleaning of the final substance. Inventive solutions for the pharmaceutical product are protected by patent applications. They enabled Krka to launch the product before the majority of generic producers.

ZLATO PRIZNANJE

DVOPLASTNE TABLETE S KOMBINACIJO ZDRAVILNIH UČINKOVIN ZA ZDRAVLJENJE POVIŠANEGA KRVNEGA TLAKA

PODJETJE: KRKA, d. d., Novo mesto

AVTORJI: Polona Bukovec, mag. Andrej Ferlan, Sebastjan Kastelic, Dušan Krašovec, Gregor Ritlop, dr. Gregor Sedmak, mag. Sandra Urek Blatnik, Simon Vintar, dr. Franc Vrečar, dr. Silvo Zupančič, dr. Rok Zupet

KRATEK OPIS INOVACIJE

Sodobna terapija bolezní, posebej kroničnih, vedno bolj temelji na polimedikaciji, tj. uporabi več zdravil hkrati. Za doseglo najboljšega možnega terapevtskega učinka sta ključna sodelovanje bolnikov in pravičen režim jemanja predpisanih zdravil. Številna bolezenska stanja zahtevajo standardne kombinacije zdravil oz. zdravilnih učinkovin, kar se je izražalo v naraščajočem trendu uporabe fiksnih kombinacij več zdravilnih učinkovin v eni farmacevtski obliki, npr. tableti. V primeru fizikalne oz. kemijske nezdružljivosti zdravilnih učinkovin oz. sestavin takšne farmacevtske oblike se najpogosteje uporabljajo t. i. večplastne tablete, v kateri so nezdružljive, a nujne sestavine ločene v posameznih plasteh tablete.

Predlagana inovacija združuje dva vidika inovativnih rešitev, implementiranih v končni farmacevtski izdelek. Inovacija temelji na eni strani na več inventivnih rešitvah na področju sinteze ene od zdravilnih učinkovin ter razvoja formulacije in postopka izdelave farmacevtske oblike, ki zagotavlja hitro in zanesljivo sproščanje zdravilne učinkovine. Inovacija na drugi strani vključuje tudi inventivne rešitve izdelave dvoplastne tablete, v kateri sta zdravilni učinkovini fizično ločeni, s čimer je zagotovljena njuna kemijska stabilnost.

Inventivne rešitve pri sintezi in izolaciji zdravilne učinkovine ter formulaciji in izdelavi farmacevtskega izdelka so zaščitene z več patentnimi prijavi in podeljenim patentom.

Omenjene rešitve so omogočile trženje tega farmacevtskega izdelka pred vstopom večine konkurentov na trg in hkrati njegovo večjo konkurenčnost zaradi nižjih proizvodnih stroškov.



ZLATO PRIZNANJE

STABILNA VODNA FORMULACIJA, KI VSEBUJE V VODI TEŽKO TOPNO UČINKOVINO

PODJETJE: KRKA, d. d., Novo mesto

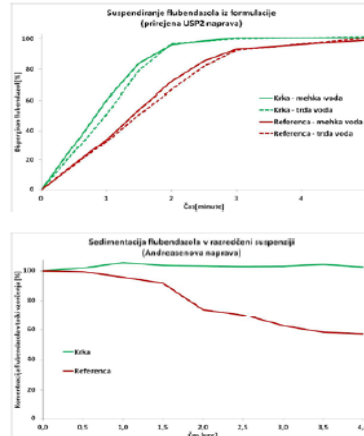
AVTORJI: dr. Ivan Gobec, Ivanka Kolenc, mag. Andrejka Kramar, mag. Denise Leskovar, Helena Princ, dr. Darko Uršič, dr. Franc Vrečer

KRATEK OPIS INOVACIJE

Okužbe živali, zlasti domačih in farmskih, s črevesnimi zajedavci so vir stalne nevarnosti za prenos okužb na ljudi. Zmanjšujejo tudi imunsko odpornost in rast, kar je še posebej pomembno pri živalih, namenjenih za hrano.

Inovativna formulacija zagotavlja izvrstno fizikalno-kemijsko stabilnost, ki je ključna pri enakomernem odmerjanju zdravila živalim. Zdravilo je zato kakovostno, varno, učinkovito, patentno neodvisno in tudi stroškovno učinkovito.

Pravočasna pridobitev dovoljenja za promet, temelječega na patentno neodvisni formulaciji, je omogočila zelo uspešno lansiranje zdravila, saj je bila KRKA prva generična proizvajalka, ki je tako zdravilo poslala na trg, s čimer si je zagotovila velik tržni delež.



NEWLY APPOINTED PROFESSORS AT THE FACULTY OF PHARMACY, UNIVERSITY OF LJUBLJANA, IN 2013



Prof. Janez Kerč, PhD was born in 1962 at Podrečje near Domžale. In 1981 he finished secondary school at Bežigrad and enrolled to study pharmacy at the Faculty for natural science and technology of the University of Ljubljana. He graduated in 1987, continued with a master degree (MSci) study of pharmacy, which he completed in 1990. In 1995 he successfully defended his doctoral dissertation at the same faculty.

From 1988 on, he has been employed at Lek, the factory of pharmaceutical and chemical products, where he is today a leader of the group in the field of pharmaceutical development, Sandoz Research centre, Slovenia. In 2008 he was taking postgraduate study at the Free University in Berlin, Department of Pharmacy, Pharmaceutical Technology, Biopharmaceutics & NutriCosmetics in Germany.

Since 2006, Prof. Janez Kerč, PhD has been additionally employed at UL Faculty of Pharmacy as a higher science

collaborator, and since 2012 as a higher education study professor as well. As a discoverer and coordinator, he cooperated with the research groups in Switzerland, France, Germany and Hungary. He cooperates in applicative research projects co-financed by ARRS, the Ministry of Economy, development and technology and the European 7th Frame research program.

He is an active member of the Slovenian Pharmaceutical Association, where he was the president of the supervision committee for the 4th mandate period; he is also a member of the American Association of Pharmaceutical Scientists and the Controlled Release Society. He regularly takes part in the organizational and science committees of SFD meetings and in other conferences at the national and international level.

In 1985, he was awarded for his research work by Krka award, in 1999 the Minaric prize and in 2007 the Novartis VIVA Leading Scientists Award.

As a co-author he has published 39 scientific articles, of which 25 are in journals indexed by SCI, and three chapters in monographs and he is the author or co-author of 27 patent applications and patents. His science area includes preformulation research of therapeutic effects, steps to improve solubility, solid pharmaceutical forms with controlled release and new delivery systems. He has over 400 clear citations, he is the co-author of the university study book, mentor of 17 diploma works and 4 master's degrees, co-mentor of 2 and mentor of 1 doctoral work.

Professor Janez Kerč has successfully and actively been included in the preparation and performance of the new master's degree study program in Industrial pharmacy at the Faculty of Pharmacy. As a lecturer, lecturer and co-lecturer of the subjects and mentor and co-mentor, he takes part in the undergraduate united master's study of Pharmacy, master's degree study of Industrial pharmacy and doctoral study of Biomedicine.

Professor Janez Kerč was elected at the University Ljubljana in 1992 as an assistant, in 1997 as assistant professor, in 2007 as associated professor and in February 2013 as a regular professor in the field of pharmaceutical technology.

FACULTY OF PHARMACY RESEARCH DAY

Let's celebrate science

Science is young and impetuous,
It is mature and wise,
It is mind and courage,
It is prayer and work,
Let's celebrate it.

The research day under the tagline Let's Celebrate Science took part on December 4, 2013. With this festival event, the Faculty celebrates the Week of the University of Ljubljana festival. The research day was organized in three parts. The morning section was intended to focus on the most important science achievements by the young collaborators of the UL FFA, which were prepared in the form of lectures by the dean and winners for 2013. The introductory speaker of this section was the recognized researcher Prof. Roman Jerala, PhD with the lecture The Planned Modularity for the New Molecular Structures and Management of Cells.



The other part was devoted to presenting praises and awards to UL FFA students. The afternoon of the festival day was devoted to the winners of the UL FFA. The solemn lecture entitled The Sum of Many Small Challenges and Successes will be our Future was given by Prof. Julijana Kristl, PhD, award winner of the golden plaque of the UL.

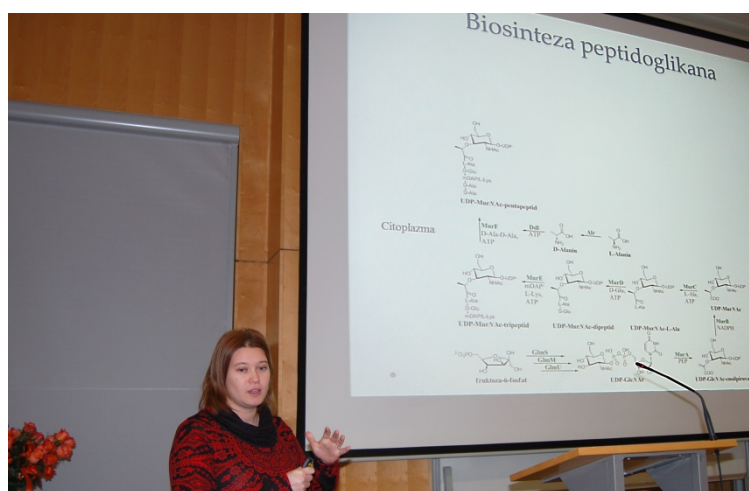


It was continued by presenting The Dean and Faculty Prešeren awards and the celebration of the newly awarded staff. The Dean's awards are granted to young researchers or graduates of the UL FFA who, in the past period, as first or leading authors, published works in a magazine with a high factor of influence or in a magazine placed among the upper 10% of magazines in the individual field and who have in this way contributed to the development of pharmaceutical science and area. The Dean of the UL FFA, Prof. Borut Božič, PhD, granted the plaque to the winners.

DEAN'S AWARDS FOR 2013

WERE GRANTED TO:

MARTINA HRAST, for the science article entitled: "The Function of Flap Loop D-alanine:D-alanine Ligase", published in the magazine Journal of Medicinal Chemistry.



EVA TAVČAR BENKOVIĆ for the science article entitled: "Isolation, Analysis and Structures of Phototoxic Fagopyring from Buckwheat", published in the magazine Food Chemistry.



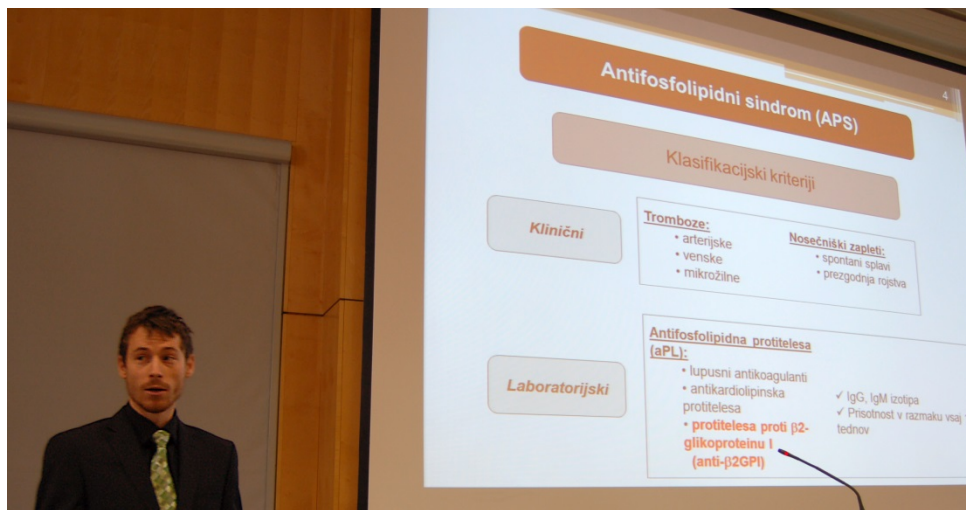
IZIDOR SOSIČ for the science article entitled: “The Development of New Inhibitors of Cathepsin B- Using Structure Supported Planning for the Study of the Relation between Structure and Functionality in the Derivates of Nytrosolin” published in the magazine Journal of Medical Chemistry.



PETER NADRAH for the science article entitled: “The Functionalization of Mezzo-Porous Silicate Parts for the Controlled Release of the Effective Substances” published in the magazine Applied Materials and Interfaces.



ANDREJ ARTENJAK for the science article entitled: “High Avidity Antibodies anti-[beta]- Glycoprotein I Antibodies Activate Human Coronary Artery Endothelial Cells and Trigger Peripheral Blood Mono-Nuclear Cell Migration” published in the magazine European Journal of Inflammation.



TINA UKMAR for the science article entitled: “Interactions with the Pore Walls Regulate the Transport of Molecules in Mezzo Porous Materials” published in the magazine Journal of Materials Chemistry.

PREŠEREN AWARDS FOR THE YEAR 2013



The Prešeren University award for 2013 was granted to:

JAKA KODELA for the work entitled: Planning and Synthesis of N, N-Dialcyl Analogues Dipeptide D-Glu-Mezzo DAP with Potential Immunomodulatoric Functioning (mentor: Assist. Prof. Žiga Jakopin, PhD).

The Faculty Prešeren awards for 2013 were granted to:

DAVID HAJŠEK for the work entitled: Test System For Defining Of Affinity Of Antagonists Of Receptor DC-SIGN In Vitro (mentor: Assoc. Prof. Marko Anderluh, PhD).

TONI HAZDOVAC for the work entitled: The Planning and Synthesis of Acilated Derivates of Dipeptide D-Glu-Mezzo-DAP with Potential Immunomodulatoric Functioning (mentor Asist.Prof. dr. Žiga Jakopin, PhD).

DAMIJAN KNEZ for the work entitled: The Synthesis of New Cianotiophenic Inhibitors of the Bacterium Enzyme MurF (mentor Prof. Stanislav Gobec, PhD, co-mentor: Asist. Martina Hrast, PhD).

MANCA OGRIČ for the work entitled: Looking for Binding Places for Transcription Factors Included in the Expressing of the Gene RANKL in Osteoblast Cell Cultures (mentor: Prof. Janja Marc, PhD, co-mentor: Asist. Vid Mlakar, PhD).

BILJANA TEMOVA for the work entitled: The Optimization of the Production of Half-Measure Nano Parts with Super-Paramagnetic Iron Oxide and In Vitro Evaluation of the Cell Response. (Mentor Asist.Prof. Petra Kocbek, PhD).

FACULTY OF PHARMACY AWARDS FOR THE YEAR 2013

32 Faculty of Pharmacy awards were awarded in 2013.

Awards of the Faculty are awards granted to graduates who, during their study, currently progressed and achieved all the study obligations (except diploma) not later than one year after completing the full-time study program with an average mark of 8.75 or more.

The faculty award consists of a plaque and a material prize.

The award winners of the Faculty of Pharmacy for 2013 are:

▪ UP PHARMACY AWARDS

Breznik Barbara
Dolenc Martina
Einfalt Tomaž
Gasparini Mariša
Gašperlin Maruša
Hrovat Klemen
Humar Polona
Jordan Nika
Knez Damijan
Kregar Sabina

Makovec Tilen
Meško Maja
Mihorko Andrej
Potrč Tanja
Reisman Katja
Sušnik Maja
Tratnik Vesna
Zupančič Špela
Žiberna Tjaša

▪ UN LABORATORY BIOMEDICINE AWARDS

Komljenović Staša
Mikerevič Tjaša
Novoselc Klara Tereza

Vidmar Maša
Žužek Barbara

▪ UN COSMETOLOGY AWARDS

Štirn Mateja

▪ INDUSTRIAL PHARMACY MASTER'S DEGREE AWARDS

Založnik Živa

▪ LABORATORY BIOMEDICINE MASTER'S DEGREE AWARDS

Kos Špela
Malavašič Tina
Ogrič Manca
Prunk Mateja



FACULTY OF PHARMACY COMMENDATIONS FOR 2013

In 2013 more than 170 commendations were granted by the Faculty of Pharmacy.

FACULTY COMMENDATIONS are awards received by the best students in a single study year. EM Pharmacy, UN Laboratory biomedicine, UN Cosmetology, postgraduate master's degree study in the Industrial pharmacy, postgraduate master's degree study in Laboratory biomedicine. The conditions for receiving this award are current study progress and an average mark 8.75 or more in all the study obligations in the mentioned study year, regardless of the conditions for advancement into the higher study year. The commendation consists of a certificate.

The following are the recipients of commendations:

- **1st STUDY YEAR EM PHARMACY, 2012/13**

Alič Neža	Pelicon Veronika
Bole Enej	Perko Tina
Brunec Sara	Plavec Tina Vida
Češarek Urška	Potočnik Manca
Dolšak Ana	Senior Emanuela
Grobin Andrej	Starič Sabina
Hajšek Karmen	Steiner Tjaša
Herlah Tjaša	Štekar Ana Carolina
Kapš Petra	Šterman Andrej
Kolar Manca	Štukelj Jernej
Kotnik Maja	Šučur Tatjana
Krajnc Ema	Temeljotov Ana
Kramberger Katja	Trpin Neža
Markoja Uroš	Videc Danijel
Mramor Sandra	Zore Matej
Nemec Sebastjan	Zupančič Maja
Novak Doroteja	

- **2nd STUDY YEAR EM PHARMACY, 2012/13**

Čatić Sabrina	Pisanec Gašper
Frelih Tjaša	Podgoršek Katja
Gantar Kaja	Ratek Gregor
Guzelj Samo	Schiffner Eva Shannon
Hribernik Nives	Skok Žiga
Jakoš Tanja	Stopinšek Mateja
Jereb Rebeka	Strah Nina
Jeromel Aljaž	Šrot Luka
Kajtna Jacqueline	Tibaut Maja
Kosmač Anita	Trogar Urška
Kosmač Ina	Urnaut Urška
Malešič Nina	Valenta Marina
Nemec Katarina	Zajec Špela
Pahor Nika	

- **3rd STUDY YEAR EM PHARMACY, 2012/13**

Aubreht Matevž
Bergant Kaja
Bergoč Tamara
Erklavec Urška
Gregorc Anja
Jug Urška
Knuplež Eva

Lokošek Primož
Pohlen Mitja
Rakovec Tea
Rozman Petruša
Smodiš Domen
Strasner Sara

- **4th STUDY YEAR EM PHARMACY, 2012/13**

Blagotinšek Špela
Brcar Tjaša
Bunc Marko
Cotman Andrej Emanuel
Dominković Nikola
Gartnar Mana
Gerželj Urška
Gornik Tjaša
Grašič Sabina
Hočever Keli
Homec Kristina
Kacin Kristina

Koren Eva
Kotar Anita
Krivec Karmen
Mirtič Janja
Prikeržnik Marcel
Redenšek Sara
Repas Jernej
Stančev Sara
Šijanec Nataša
Temova Žane
Trampuž Marko
Vidovič Gregor

- **1st STUDY YEAR UN LABORATORY BIOMEDICINE, 2012/13**

Cigoj Mateja
Glavič Marjetka
Herceg Anja
Kajtna Tomaž

Kuhar Tina
Mehle Katja
Svetličič Maja
Žmuc Anja

- **2nd STUDY YEAR UN LABORATORY BIOMEDICINE, 2012/13**

Avbelj Judita
Božič Darja
Jošić Danijela

Mejač Anja
Pušnik Žan
Tomažin Martina

- **3rd STUDY YEAR UN LABORATORY BIOMEDICINE, 2012/13**

Ercegovič Rot Ana
Glavič Dragica
Grkman Barbara
Kern Barbara
Komljenović Staša
Lesar Ida

Mikerevič Tjaša
Novoselc Klara Tereza
Slapšak Andreja
Trdin Ajda
Vidmar Maša

1st STUDY YEAR UN COSMETOLOGY, 2012/13

Fuhrmann Sara Kimm
Grum Tjaša
Jazbec Anja
Jevnikar Elizabeta

Koprivnik Sara
Planinšek Parfant Timeja
Pušnik Mojca

- **2nd STUDY YEAR UN COSMETOLOGY, 2012/13**

Brezovar Laura
Hafner Špela
Kramberger Urška
Kravos Klara
Pirnat Vesna

Seljak Lea
Štepic Barbara
Unkovič Ana
Zager Dea

- **3rd STUDY YEAR UN COSMETOLOGY, 2012/13**

Avbelj Maja
Murkovič Maja
Schaffer Matej

Škufca Sandra
Toporiš Janja

- **1st STUDY YEAR LABORATORY BIOMEDICINE MASTER'S PROGRAM, 2012/13**

Golob Barbara
Klun Jurka
Kokalj Katarina
Kuret Tadeja

Pavlovič Ana
Švigelj Anja
Ulaga Blanka

- **2nd STUDY YEAR LABORATORY BIOMEDICINE MASTER'S PROGRAM, 2012/13**

Čas Teja
Kernjak Slak Mateja
Kos Špela
Malavašič Tina

Ogrič Manca
Prunk Mateja
Trobec Tadeja

- **2nd STUDY YEAR INDUSTRIAL PHARMACY MASTER'S PROGRAM, 2012/13**

Založnik Živa
Kumperščak Monika
Sušek Urška
Sajovic Lea

KRKA PRIZE HOLDERS IN THE YEAR 2013



Krka prizes for special achievements in the field of research work

Kukec Simon (mentor: Franc Vrečer, co-mentor Rok Dreu): Research of the agglomeration of carvedilol with melts in swirling layers, COBISS, SI-ID: 3553393.

Krka prizes for research work

Brulc Katarina (mentor: Jožko Cesar, co-mentor Anica Pečavar): Inter-process analytics for synthesis following 1-hydroxy -3,5-dimetilodamantan with gas chromatography, COBISS.SI-ID: 3554673.

Grohar Tina (mentor Samo Kreft): Separation and identification of flavonoids in polyethylene glycol extract from the bark of the silver fir (*Abies alba*), COBISS.SI-ID: 3554929).

Hrast Martina (mentor Stanislav Gobec): Planning and synthesis of the inhibitors Igaz Mur and D-alanine –D-alanine ligase, COBISS.SI-ID: 3553649.

Korasa Klemen (mentor: Franc Vrečer, co-mentor: Grega Hudovornik: Study of the use of measurements in the device for subsequent pellet coating COBISS.SI-ID 3555185.

Lemovec Ana (mentor: Alenka Zvonar): Development of a self-micro-emulsifying system based on Gelucire* 44/14 and its conversion into a solid pharmaceutical form. COBISS.SI-ID: 3555441.

Levičnik Neža (mentor: Tomaž Bratkovič, co-mentor Nada Udovič Knežević): Experiment in isolating recombinant protein from inclusion cells with a combination of the surface active substance sarkosil. Tritan X-100 and CHAPS, COBISS-SI-ID: 3556721.

Rošic Romana (mentor Julijana kristl, co-mentor Saša Baumgartner): The planning, production and estimation of biocompatible nanofibres with the method of electrostatics rotation, COBISS.SI-ID: 3553953.

Snoj Tina (mentor Saša Baumgartner): The influence of inbuilt hydrophilic substances at the prolonged release of pentoxilin from matrix pills made of polyvinyl acetate and Polyvinylpyrrolidone 4:1, COBISS.SI-ID: 3555953.

Trstenjak Uroš: (mentor Danijel Kikelj, co-mentor Janez Ilaš): The planning, synthesis and estimation of new inhibitors of factor Xa and antagonists GPIIb/IIIa in potential dual antithrombotic effects, COBISS.SI-ID: 3554161.

Vehovec Tanja (mentor Aleš Obreza, co-mentor Andrej Gartner): Influence on the functionality of connected and other characteristics of microcrystal cellulose on the stability profile of active substances, COBISS.SI-ID: 3554417.

Žerdonen Nika (mentor Saša Baumgartner, co-mentor Franc Vrečer): Studying electrolyte influence on the rheological characteristics of carragenan hydrogels and on the release of pentoxilifilina from carragenan matrix pills, COBISS.SI-ID: 3556465.

(Chapter 3 was prepared by: B. Božič, A. Obreza, S. Baumgartner, I. Mlinarič Raščan, D. Černe, S. Kreft, S. Gobec, M. Gašperlin, A. Kristl, M. Kos, T. Kadunc, Z. Gantar)

SPORT ACHIEVEMENTS

In the 2012/13 study year, students of the UL FFA achieved some remarkable results on the sports field in the championships of the University of Ljubljana and in state and international competitions. The most resounding results were achieved in the field of handball, where the girls achieved first and boys second place in the University handball league, which was the first time in the history of the competition.

UNIVERSITY SPORTS:

VOLLEYBALL

Students (girls) 1. place UOL: Sara Vidovič, Maja Bratož, Nika Zidarič, Ana Apat, Špela Zakšek, Maja Zakšek, Vesna Jug, Kristina Kacin, Lea Ješe, Tia Grgičević, Kattarina Mehle, Monika Čančar, Nina Štravs, Petra Srdič.

MVP UOL: Sara Vidovič, FFA



VOLLEYBALL:

Students (boys) 2. place UOL: Matjaž Sušec, Aleš Žula, Boris Brus, Rok Hrovat, Jani Jamnik, Andrej Artenjak, Tim Rahne, Gašper Vrhunc

FUTSAL

Students, (boys) 5-8 place UFL: Miha Belak, Klemen Božič, Klemen Jerman, Mensud Omerović, Mitja Pišlar, Boris Pucko, Anže Rupnik, Izidor Sosić, Matej Staus, Aleš Žula



KOŠARKA

Students: (boys) 13 – 14 place UKL: Žiga Jeraj, Aleš Svete, Domen Kutoša, Gregor Hertl, Jure Loboda, Martin Grosek, Matjaž Weiss, Nejc Golob, Blaž Robnik

SWIMMING

Team 3. Place FFA

Relay men: 2. place: Alen Godec, Jan Breznikar, Peter Grutschreiber, Anže Pavlič

Relay mixed 2. Place: Alen Godec, Jan Breznikar, Iza Blagajac, Mateja Stopinšek

Backstroke swimming 3. place: Mateja Stopinšek

Breaststroke swimming: 3. place: Mateja Stopinšek

Dolphin: 7. place: Alen Godec



CHESS:

Students: 1. place: Jure Borišek

Employed 2. place: Robert Rožkar

BEACH VOLLEYBALL

2. place: Tia Grgičević, Katarina Mehle

6. place: Sara Vidovič, Petra Ropret



ATHLETICS: team 6.place FFA

Running 400 m 2. place: Jan Breznikat

Running 100 m 5. place: Jan Breznikar

Running 100 m: 11. place: Odan Planinšek

Running 3000 m: 1. place: Tina Čačilo

Jump in the height: 2. place: Maja Ana Strnad



SAVATE

5. place: Barbara Sokolović

TABLE TENNIS: team 6. place

4. place: Katja Šapek

5.– 8. place: Dejan Lamešič

Students of the FFA with the status of professional sportsman were also successful in national and international competitions in the field of sports. Some of the more extraordinary results:

ATHLETICS: Maruška Mišmaš

- 2. place at the European Youth Competition in Riefi 20.7.2013 in the discipline 3000 m with hurdles (state membership record)
- 3. place at the European Championship in cross among junior sportswomen in Belgrade



ATHLETICS: Mitja Lindič

- Classification in European junior membership, European competition in Tampera (FIN).
 - 1. place at the Athletics championship of Slovenia for 400 m and 400 m with hurdles,
 - 1. place for junior members at the state competition 100 – 400 m with hurdles.
- Participation in the team European competition for members (400 m with hurdles and relay 4 times 400 m in Kaunas (Litva)
- 1. place at the state competition in circle running for members at 400 m in Vienna.

ATHLETICS: Kaja Gravač

- Membership state competition in the hall: 3. Place in three-jump.

ATHLETICS: Tina Čačilo

- Competition of Slovenia in road running 10 km – 3. Place
- Ljubljana half-marathon: - 3. Place

SPORTS GYMNASTICS: Andraž Lamut

- 1. place: PARALELL BARS, STATE CHAMPIONSHIP
- 3. place LONGJUMP, STATE CHAMPIONSHIP
- 3. place LONGJUMP CHAMPIONSHIP OF SLOVENIA



DANCING: Maruška Avbelj

- National championship: 2. Place step solo members, 1. Place modern formation, members,
- European championship – 1. Place modern formation, members

ALPINE SKIING: Katja Murnc

- 2012 victory at the international FIS competition in slalom
- Slalom of the international FIS competition, 16., 18., 19., 22. Place

SWIMMING Mateja Stopinšek

- 1. place (discipline 100 m backstroke) at the international competition in Žilina, Slovakia.

BASKETBALL: Urša Žibert

- Womens' basketball club Triglav: 2. Place in the first basketball league for women, members.



4 INTERNATIONAL ACTIVITY IN 2013

International activity supports the strategy of the Faculty of Pharmacy and also the wider strategy of the University of Ljubljana, where one of the main aims is the increased internationalization of the whole higher education area. We are especially aiming to increase the number of guest teachers and researches and to form a place and environment that will enable the simple involvement of exchange students in our regular programs. With the establishment of new bilateral agreements, we want to increase the mobility of students from FFA. International experiences will give them competences that will improve their competitiveness in looking for jobs. We also want to increase the number of international research projects and the further improvement of quality in that area.

The international activity at FFA can be divided into activities connected with study and activities connected with research work, but both areas are undoubtedly closely connected.

International activity at the study area

The Faculty of Pharmacy strengthened its international activity in 2013. First of all, the share of students taking part in some form of exchange abroad increased. Table: 4.1.

ERASMUS: in 2013, 51 bilateral agreements with foreign universities were postulated enabling student exchanges with the purpose of study (SMS). With a suitable study agreement, the student can undertake the obligations of a single study year abroad and the finished exams are recognized on returning. Within the ERASMUS program, it is also possible to take practical training (SMP), where the active role of the student is necessary.



Figure 4.1: ERASMUS partner universities with which the Faculty of Pharmacy has bilateral agreement

b) BASILEUS: encourages academic mobility from the countries of the West Balkans and EU; we accepted 2 students in 2013 and one of our students went to Skopje, Macedonia.

c) CEEPUS programs are intended for student exchange in Central Europe. The exchanges are possible within the CEEPUS networks or outside, when students and researchers are candidates as “free-movers”. CEEPUS (the Central European Exchange Program for University Studies) is a regional program with the aim of establishing and encouraging the mobility of students and professors between cooperating countries. At the FFA, 2 such projects took place in 2013.

- Developing a network for monitoring the impact of environmental and nutritional factors on fertility and neonatal health, which is organized by prof.dr. Marius Alexandru Moga from Transylvania University, Brasov, Romania. The faculty coordinator is Prof. Irena Mlinarič Raščan, PhD.
- Novel diagnostic and therapeutic approaches to complex genetic disorders (CII-HR-0611), which was coordinated by the University of Zagreb. The project included faculties from the partner countries of Austria, Bulgaria, Czech Republic, Croatia, Hungary, Poland, Romania, Slovakia, Slovenia, Serbia, Albania, Macedonia and Montenegro. The coordinator at the FFA was Prof. Janja Marc, PhD.

d) Programs of the world (IPSF) and European (EPSA) association of students of pharmacy, which enable shorter one month exchanges on both sides.

e) other types of mobility – shorter intensive courses.

Table 4.1: The number of our students finishing part of their study program requirements abroad and number of foreign students in exchange study programs or are regularly enrolled in the FFA in 2012/13 study year

No. of students	TOTAL	ERASMUS	BASILEUS	CEEPUS	IPSF practical training	Other exchanges	Regular enrolled students 2012/13	
							1st-2nd level	3rd level
FFA students abroad	122	93	1	4	21	3	-	-
Foreign students at FFA	90	39	2	7	12	0	23	7

On first and second study level, cca 8.7% of all regular enrolled students (or 23% more than in 2012) undertake part of their obligations abroad, or got additional competences for future work. The students were very successful at performing their obligations abroad. Most of them undertake all their required study obligations (students gain more than 98% of all enrolled ECTS) and they achieve high marks. All the data shows that our students are very successful in performing their obligations abroad, they are well prepared (good study foundations and adaptability to the other cultural habits). Obligations performed abroad are later almost entirely recognized in accordance with the previously agreed learning agreement.

As seen in Chart 4.1, the number of exchanges is increasing from year to year. We would like to highlight the good organization of FFA students who, in cooperation with the vice dean for international cooperation, organize the so called Mobility day where students get all necessary information on what kinds of mobilities are possible within the FFA. We observe that there is an increased number of students who go abroad to do their practical work (SMP). They perform research work or work in the pharmacies at the foreign institutions. Students of all study programs can take part in these exchanges, including students of Cosmetology and of Laboratory Biomedicine, who have fewer possibilities for exchanges, since it is difficult to find similar programs at foreign

Universities. We must emphasise that our students are all very successful in searching for SMP places. It must be pointed out that many mentors abroad are very satisfied with the work of our students, what is seen from written reports. Students of the FFA are aware of the fact that some of the received competences in exchanges will represent a crucial advantage when looking for a job. Two students of Cosmetology and one student of Pharmacy attended the summer school in Shanghai, China, where they learned the business culture of one of the most important economies in the world.

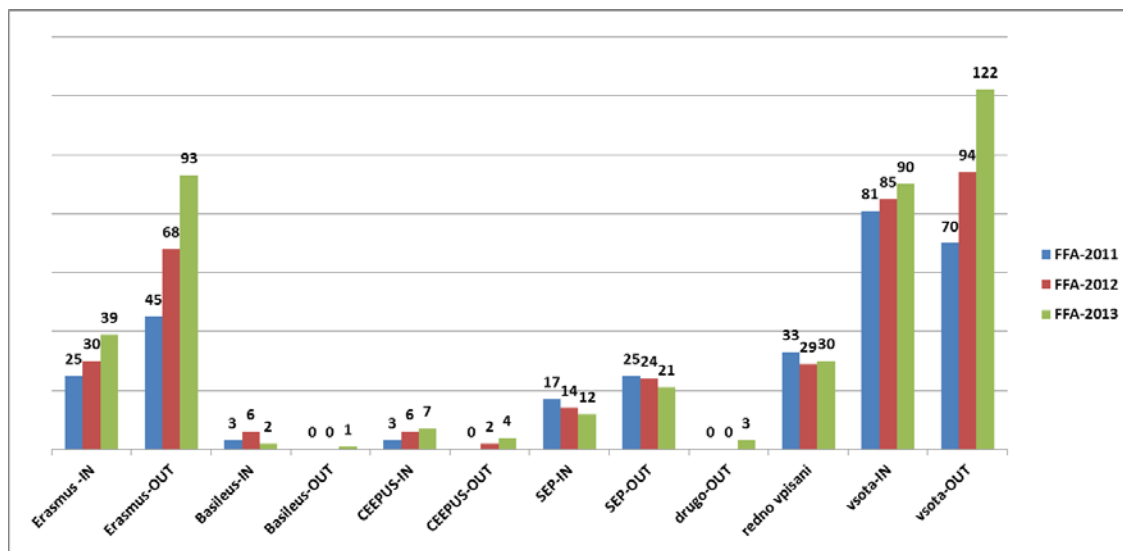


Chart 4.1: Comparison of the student number at exchanges according to different years

The number of foreign students, who are guests within the Erasmus exchanges slowly increases, while other exchanges remain at the same level as in the year 2012. (Chart 4.1). The reason for almost constant exchange numbers is performing of the whole curriculum in Slovene and economic crisis. We take care of the foreign students at FFA at different levels, from organization of laboratory exercises in English to individual consulting with the professors of the subjects in English. In English we also organize written and oral exams. Besides, the most of the study literature is in foreign language at disposal. We introduced also the tutor system for foreign students in the year 2013, which made the study to foreign students easier. We edited also the booklet of the useful information for the incoming students.

The international recognition of FFA is spread and strengthened in the international environment by the activities of teachers and researchers. These activities are shorter pedagogical or research hosting, the different presentation of research works at the conferences etc. In 2012/13 study year, 91 teachers and researchers of the FFA were active abroad in different ways:

- 11 went abroad as guest teachers and researchers.
- 14 as invited lecturers at various conferences.
- 23 as participants in conferences.
- 11 as invited lecturers at foreign universities.
- 22 took part in various meetings, where they were actively agreeing and presenting results in international project groups.
- 10 participants attended various summer schools and seminars.

At the FFA, there were 29 guest teachers and researchers in the 2012/13 year – 16 teachers and 13 researchers. The previous year there were fewer exchanges, 14 teachers and 8 researchers. Such exchanges enable the greater recognition of the FFA and the establishment of international connections.

The organization of international postgraduate education

PERC, Module 1-Pharmacy, European postgraduate education:

European postgraduate education course from Radiopharmacy is a part of the European scheme of the postgraduate education. It is one of the three theoretical units, necessary for the acquisition of the European specialization from Radiopharmacy. It is intended for pharmacists, chemists and biochemists with (at least) a completed master's degree in the mentioned fields. Education is taking place under the leadership of the European association for nuclear medicine (EANM) in English. It includes three theoretical parts (Blocks 1-3). The first block is performed by the Faculty of Pharmacy in cooperation with the Clinic for Nuclear Medicine, of the University medical centre in Ljubljana. At ULFFA activities are coordinated by Prof. Irena Mlinarič-Raščan, PhD and Assist. Prof. Tanja Gmeiner Stopar.

CEMDC, Module 2-Preclinical development of medicines, inter-university European postgraduate education

In September 2013, the 2. Module of inter-university European postgraduate education (CEMDC) was organized at the Faculty of Pharmacy. It was entitled "Non clinical pharmaceutical and early clinical development", which takes place in the set of the harmonized program Pharmatrain. 10 European universities take part at this program. Among them is also FFA and the activities here are led by Prof. Irena Mlinarič Raščan, PhD, vice dean for science-research work. On the intensive 4-day program, 20 lectures from Slovenia and abroad and professors from all the European regulative bodies and pharmaceutical industry were held, the students were from Slovenia (8), from Hungary (7) and 1 from Lithuania.

The numerous lectures were devoted to phases of the development of active pharmaceutical ingredient and finally to the development of the effective, safe and qualitative synthetic or biological/biological similar medicine. The main goal was to emphasise the importance of preclinical testing (pharmacological studies, toxicological studies of genotoxicology carcinotoxicology, and reproduction toxicology) and their inclusion in the medicine development scheme. The special set of lectures was intended for the critical assessment and use of the results of pre-clinical tests before the first phase of clinical testing and the definition of the first dose for testing on humans.

European Association of Faculties of Pharmacy

The yearly conference of the European Association of Faculties of Pharmacy (EAFP) took place in Ankara, Turkey last year. The three-day meeting enabled contact and the exchange of opinions between different members of the association, the view of different countries on the way of performing pharmacy study, and the continuation of activities within the project Pharmine Phar-QA. The central theme of the meeting was Curriculum Optimization Towards Learning Outcomes: Practical Experiences. We actively participated at the meeting, since we presented two contributions from the field of the acquisition and development of competences within specialist training in the field of radiopharmacy and laboratory biomedicine. Within the Phar-QA project (assurance of quality in training and education of pharmacists), they analysed the preliminary results of the questionnaire and the possibility of the rationalization of the questionnaire that should be used in the project; prof. Božič as coordinator presented the current state in the eastern region. Further he presented the possibility of use of the Basecamp program for managing the project.

The EAFP meeting was especially important for the FFA, because Ljubljana was officially confirmed as the location of the meeting in 2014. As part of the preparations for the conference, members of EC EAFP visited us in October 2013 and together with partners from FFA finally confirmed the contents of the meeting that will take place from May 22. to 24. 2014 entitled: Science-Based Education: Towards Better Medicines and Better Patient Care.

Conclusion

The Faculty of Pharmacy was internationally very active in 2013. The number of exchanges and bilateral agreements increased, we established the tutor system for foreign students, we successfully organized international postgraduate education and we took part in more international research projects. We can conclude that the faculty is strongly involved in international study and research activities. We are aware that it is necessary to even intensify these activities in future to improve the position of FFA within European Pharmaceutical Faculties and also increase the recognition of Slovenia.

LINKING UP WITH FOREIGN HIGHER EDUCATION INSTITUTIONS OR ORGANISATIONS

VISITING TEACHERS AT THE FFA

- Prof. Sylvie Mavel, PhD, Universite Francois, UFR de Sciences Pharmaceutiques, Tours, France.
- Prof. Hans Uwe Simon, PhD, Institute of Pharmacology Faculty of Medicine, Bern, Switzerland.
- Prof. Jerka Dumić Belamarić, PhD, Faculty of Pharmacy and Biochemistry, University of Zagreb, Croatia.
- Prof. Helena Maria, PhD, Cabral Marques, Research Institute for Medicines & Pharmaceutical Sciences. Faculty of Pharmacy, University of Lisbon, Portugal.
- Prof. Maria Beatriz da Silva Lima, PhD, Faculty of Pharmacy, University of Lisbon, Portugal.
- Prof. Ralph BASS, PhD, Berlin, Germany.
- Prof. Sandor Kerpel-Fronius, PhD, Semmelweis University, Budapest, Hungary.
- Robert Y. Young, PhD, CSC MedChem GlaxoSmithKline Stevenage, Great Britain.
- Prof. Niklas Standler, PhD, Abo Academi University Turku, Finland.
- Prof. Bode Gerd, PhD, University of Gottingen, Germany.
- Prof. Gabor L. Kovacs, PhD, Medicine faculty, University of Pécs, Hungary.
- Prof. Sergio Todde, PhD, Universita di Milano-Bicocca, Italy.
- Prof. Clemens Decristofono, PhD, University Medical Centre Innsbruck, Austria.
- Prof. Desiree Vendrig, PhD, Teva, Netherlands.
- Prof. Gerrit Westera, University Medical Center, Zuerich, Switzerland.
- Prof. Thijs Kroon, PhD, GE, Netherlands.

VISITING RESEARCHERS AT FFA

- Ivana Aleksić, Faculty of Pharmacy, University of Belgrade, R. Serbia.
- Assist. Prof. Nataša Bogovac –Stsnojević, PhD, University of Belgrade, R. Serbia.
- Assist. Prof. Jelena Kotur-Stevuljević, PhD, University of Belgrade, R. Serbia.
- Daris Grzić, Faculty of Pharmacy, University of Sarajevo, BIH.
- Delpine Patin, Institute de Biochemie et Biophysique Moleculaire et Cellulaire, Orsay, France.
- Helene Barreteau, Institut de Biochemie et Biophysique et Cellulaire Orsay, France.
- Didler Blanat, PhD, Institut de Biochemie et Biophysique et Cellulaire Orsay, France.
- Edina Vranić, PhD, Faculty of Pharmacy, University of Sarajevo, BIH.
- Sofija Stanković. Faculty of Pharmacy, University of Szeged, Hungary.
- Assist. Tamas Savany, Faculty of Pharmacy, University of Szeged, Hungary.
- Robert Y. Young, PhD, CSC MedGlaxoSmithKline Stevenage, Great Britain.
- Assist. Milica Miljković, Faculty of Pharmacy, University of Belgrade, R. Serbia.
- Alisa Ivanenko, Novosibirsk University, Russia.

TEACHERS AND COLLABORATORS AT THE HOSTING, VISIT OR TRAINING ABROAD

a) Teachers, assistants

- Prof. Stanko Srčić, PhD, Faculty of Pharmacy, University of Belgrade, R. Serbia.
- Prof. Mirjana Gašperlin, PhD, Faculty of Pharmacy, University of Belgrade, R. Serbia.
- Prof. Julijana Kristl, PhD, Faculty of Pharmacy, University of Belgrade, R. Serbia.
- Prof. Darko Černe, Faculty of Pharmacy, University of Belgrade, R. Serbia.
- Ass. Prof. Saša Baumgartner, PhD, Karl-Franzens University, Graz, Austria.
- Prof. Stanislav Gobec, PhD, Institute for structural biology, IBS, Grenoble, France.
- Assist. Prof. Janez Ilaš, PhD, Eur. Commission – COST, Brussels Belgium.
- Assist. Prof. Rok Dreu, PhD, Granulation & Tableting, Glatt, Binzen, Germany.

- Prof. Samo Kreft, PhD, Annual CIS& SEE Clinical Trial, Zagreb, Croatia.
- Prof. Borut Božič, PhD, King's College London, Great Britain.
- Assist. Prof. Igor Locatelli, PhD, workshop "Indirect and Mixed Treatment Comparisons, Leicester, Great Britain.
- Assist. Andrej Janežič, workshop "Indirect and Mixed Comparisons, Leicester, Great Britain.
- Assist. Prof. Barbara Ostanek, PhD, University of Belgrade, R Serbia.
- Assist. Prof. Janez Ilaš, PhD, COST meeting, Reykjavik, Iceland.
- Prof. Marija Bogataj, PhD, visiting teacher at the University Trieste, Italy.
- Assist. Vid Mlakar, PhD, conference of ECTS, Lisbon, Portugal.
- Prof. Darko Černe, PhD, European Congress of clinical chemistry and laboratory medicine, Milano, Italy.
- Prof. Janja Marc, PhD, Assist. Simona Jurkovič Mlakar, PhD, Assist. Janja Zupanc, PhD symposium ESPT Pharmacogenomics and theranostics in practice, Firenze, Italy.
- Assist. Rok Šibanc, PhD, Assist. Ilija Ilić, PhD: Education "Efficient product characterization and processing of pharmaceutical particulate solids, Magdeburg.
- Prof. Janja Marc, PhD, congress EuroMedLab, Milano Italy.
- Prof. Stanislav Gobec, PhD, Assist. Matej Živec, PhD, project ORCHID Tres Cantes, Madrid.
- Prof. Borut Božič, PhD, Congress of the international association of pharmacists and forum of deans in the FIP organisation, Dublin, Ireland.
- Assist. Janja Omersel, PhD, European Summer School congress, Advanced proteomics, Brixen, Italy.
- Prof. Irena Mlinarič Raščan, PhD, Assist. Martina Gobec, PhD, Assist. Izidor Sosič, PhD, international Summer School – Inflammation, immunomodulation, inspiration Jongny, Switzerland.
- Prof. Danijel Kikelj, PhD, congress From medicine to botany, Budapest, Hungary.
- Prof. Danijel Kikelj, PhD, Prof. Stanislav Gobec, PhD, Assos. Prof. Lucija Peterlin Mašič, PhD, Assist. Prof. Žiga Jakopin, PhD, Assoc. Prof. Marko Anderluh, PhD, VIII Joint Meeting of medicinal Chemistry, Lubin, Poland.
- Assist. Prof. Joško Cesar, PhD, symposium PBA 2013, Bologna, Italy.
- Prof. Julijana Kristl, PhD, Graduate Course & Summer School Nanotechnology in Pharmacy and Medicine, Zagreb, Croatia.
- Prof. Stanko Srčić, PhD, Assist. Ilija Ilić, PhD, Annual Pharmaceutical Solid State Research Cluster, Lille, France.
- Prof. Julijana Kristl, PhD, conference. Clinical Nanomedicine & Targeted Medicine, Basel, Switzerland.
- Prof. Stanko Srčić, PhD, meeting "Scientific Advisory Board & Research Center for Pharmaceutical Engineering", Graz, Austria.
- Prof. Borut Božič, PhD, international congress on anti-phospholipid antibodies and 4. Latin-American congress on auto-immunity, Rio de Janeiro, Brazil.
- Prof. Stanko Srčić, PhD, visiting professor at Faculty of Pharmacy, University of Sarajevo, BIH.
- Assist. Vid Mlakar, PhD, cooperation at diploma at the Faculty of Pharmacy, University of Zagreb, Croatia.
- Assist. Prof. Nataša Karas Kuželički, PhD, Prof. Janja Marc, PhD. Assist. Irena Prodan Žitnik, PhD, Assist. Alenka Šmid: conference ESPT 2013, Lisbon, Portugal.
- Prof. Danijel Kikelj, PhD, Assist. Prof. Tihomir Tomašić, PhD, Assist. Aleš Žula, Assist. Žiga Hodnik: conference Meeting of the Paul Ehrlich MedChem Euro PhD Network, Sardinia, Italy.
- Prof. Julijana Kristl, PhD, Prof. Albin Kristl, PhD, Assoc. Prof. Saša Baumgartner, PhD, Assist. Prof. Simon Žakelj, PhD, BBBB International Conference, Athens, Greece.
- Prof. Borut Božič, PhD, Middle-European meetings of associations for immunology and allergology, Opatija, Croatia.

- Assist. Prof. Petra Kocbek, PhD, conference Spanish-Portuguese Conference on Controlled Drug Delivery, Valencia, Spain.
- Prof. Stanislav Gobec, PhD, Assist. Izidor Sosič, PhD, Assist. Roman Šink, PhD, Assist. Matej Živec, PhD, Assist. Martina Hrast, PhD, consortium of project ORCHID and INTAFAR congress, Paris, France.
- Prof. Stanko Srčič, PhD, meeting of coordinators EU LLP of project LAT-Ph, Dublin, Ireland.
- Prof. Borut Božič, PhD, meeting of partners of the European Congress PHAR QA, Brussels, Belgium.
- Assist. Matjaž Ravnikar, PhD, visiting professor at the University of Natural Researches and Life Sciences, Vienna, Austria.

b) Researchers

- Zoran Lavrič, project CONPHIRMER, Saint Louis, France.
- Assist. Martina Hrast, Institute for the structural biology, IBS Grenoble, France.
- Assist. Samo Turk, PhD, Institute for the structural biology, IBS, Grenoble, France.
- Assist. Jan Pelipenko, symposium Frontiers in polymer science, Sitges, Spain.
- Petra Zadavec, 3-month research work at the Institute for biotechnology of the Academy of Science, Prague, Czech Republic.
- Assist. Boris Brus, Institut de Biologie Structurale IBS, Grenoble, France.
- Darja Gramec, 2-month research work at the Faculty of Pharmacy, University of Helsinki, Finland.
- Dunja Urbančič, International Symposium "Purine and Pyrimidine Metabolism in Man, Madrid, Spain.
- Matej Egart, NanoMeasure Scientific Symposium 2013, Warsaw, Poland.
- Assist. Aleš Žula, Assist. Žiga Hodnik: Symposium "Marine Natural Products 2013 La Toya, Spain.
- Assist. Tijana Markovič, EUSAAT 2013 Annual Congress of EUSAAT and EUSAAT Training Course, Linz, Austria.
- Assist. Jan Pelipenko, Špela Župančič, education "Two day flow cytometry Boot Camp" Budapest, Hungary.
- Assist. Metka Kokalj, PhD, Nordic Conference on Vibrational Spectroscopy", Uppsala, Sweden.
- Assist. Jan Pelipenko, research work at the Faculty of Pharmacy, Semmelweis University, Budapest, Hungary.

Exchanges and collaborations between employed teachers, collaborators and researchers at foreign educational and research institutions in 2013 (grouped according to institutions)

- Prof. Stanko Srčič, PhD, Prof. Mirjana Gašperlin, PhD, Prof. Julijana Kristl, PhD, Prof. Darko Černe, PhD: Faculty of Pharmacy, University of Belgrade, R Serbia.
- Assoc. Prof. Saša Baumgartner, PhD: Krl Franzens Universität, Graz, Austria.
- Prof. Stanislav Gobec, Assist. Martina Hrast, PhD, Assist. Samo Turk, PhD, Assist. Boris Brus: Institute for structural biology, IBS, Grenoble, France.
- Prof. Marija Bogataj, PhD: visiting teacher at the University of Trieste, Italy.
- Prof. Stanko Srčič, PhD: visiting teacher at the Faculty of Pharmacy, University of Sarajevo, BIH.
- Assist. Matjaž Ravnikar, PhD, visiting professor at the University of Natural Resources and Life Sciences, Vienna, Austria.

- Petra Zadavec: 3-month research work at the Institute for biotechnology of Academy of Science, Prague, Czech Republic.
- Darja Gramec: 2-month research work at the Faculty of Pharmacy, University of Helsinki, Finland.
- Assist. Jan Pelipenko: research work at the Faculty of Pharmacy, Semmelweis University, Budapest, Hungary.

INTERNATIONAL STUDENT EXCHANGES IN 2013

Socrates/Erasmus exchanges:

- Number of FFA students on exchanges abroad: 93
- Number of foreign students at FFA: 39

Basileus exchanges:

- Number of FFA students on exchanges abroad: 1
- Number of foreign students at FFA: 2

CEEPUS exchanges:

- Number of FFA students on exchanges abroad: 4
- Number of foreign student at FFA: 7

SEP exchanges for 1 month

- Number of FFA students on exchanges abroad: 21
- Number of foreign student at FFA: 12

Intensive summer schools

- Number of FFA students on exchanges abroad: 3

(Chapter 4 was prepared by: S. Baumgartner, T. Kadunc)

5 RESEARCH AND PROFESSIONAL ACTIVITIES OF THE FACULTY OF PHARMACY IN THE YEAR 2013

The mission of the Faculty of Pharmacy is to act in the educational, research and professional areas, in all segments of the research, development and the use of medicines. We implement the concept of the knowledge triangle, where education connects the segments of research, innovation and healthcare. The faculty activities are portrayed on the landscape of the medicine lifecycle in the three dimensions: education, research and professional engagements. The purpose is to strengthen the areas of highest expertise and to nourish the newly developing areas. Our current priority is to strengthen the infrastructural platforms that will enable the activities in the innovative segment and support the excellent basic research.

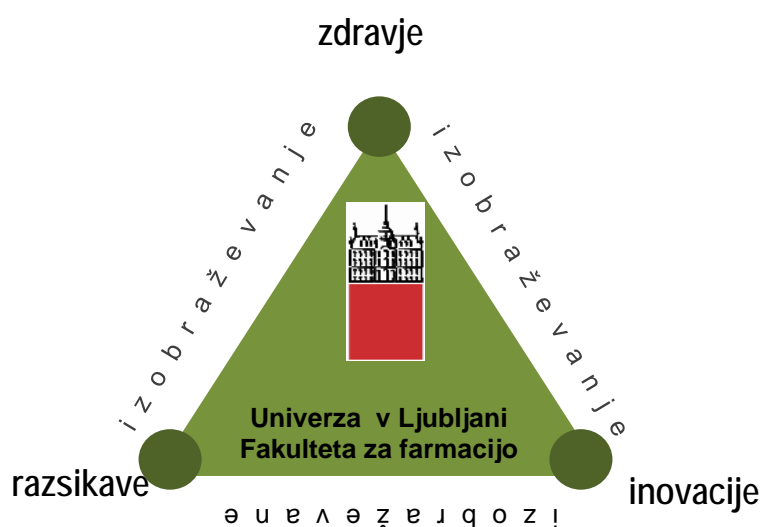


Figure 5.1: The Faculty of Pharmacy at the centre of research, innovation, and healthcare, connected by education.

The FFA is ranked among the most successful UL members in the research area. These are the results of progressive role of researchers and teachers reflected in successful projects gain and also stimulating measures accepted by the faculty, such as the organization of the FFA research day and awards presentations to young researchers for their extraordinary achievements.

We encourage the interdisciplinary and the integration in the European research area, and strive for a top level research. This is reflected in increased numbers of publications with a high citation factor.

The research is organized in four program groups and within numerous research projects. The program groups are financed from the national budget by National research agency, ARRS. In 2013, the research programs were financed in the range of 10,18 FTE. The FFA performed 12 basic research projects, 3 applicative research projects, 1 postdoctoral project, a large number of research/development industrial-based projects, European FP7 and other research projects and numerous bilateral projects.

Most of the research is carried out by faculty staff with additional 20% employment on the projects or programs, and full time 13 researchers.

FFA programs

1. Pharmaceutical technology: Design, preparation and evaluation of modern delivery systems, under the leadership of Prof. Aleš Mrhar, PhD, and researchers of the Chair of biopharmacy and pharmacokinetics, the Chair of pharmaceutical technology and the Chair of Social pharmacy. The program includes all the segments ranging from the study of the basic characteristics of active substances and excipients to the evaluation of medicines as an economic and ethical category. The main aim of the program is to develop methodologies for recognition and decrease the inter-individual variability of active substances in clinical desired and undesired effects, and in this way to increase the effectiveness of treatment. We develop process for production of desired patices, which is exploited in the planning, production and evaluation of contemporary (nano) delivery systems. This enables the transport of substances to desired location and/or intracellular uptake, as well as the protection against proteolytical enzymes and controlled release. We study the biopharmaceutical and pharmacokinetic processes after the application of the mentioned delivery systems of active substances and the stability and bio analysis of substances with the emphasis on the development of friendlier technologies. We develop new experimental models for release study and for evaluating the permeability of substances through mucosa of the digestive tract and bladder. Within the program, more types of *in vitro* models were developed for the study of the transport and metabolism of substances, also taking pharmacogenetic aspects into consideration. The developed pharmacokinetics/pharmacodynamic models enable the progress of the clinical results of medicines and searching for the causes of their variability.

2. Medicinal chemistry – drug design, synthesis and evaluation, under the leadership of Prof. Danijel Kikelj, PhD, connecting researchers of the Chair of pharmaceutical chemistry, the Chair of clinical biochemistry and the Chair of pharmaceutical biology. Rational design and discovery of innovative drug molecules in important therapeutic areas for human health remains the major long-term goal of our research program. This leading idea of our research program fits well into European and national research priorities which emphasize health benefits to the population as one of the highest values. In the current 5-year period, our interdisciplinary conceived research program, which is based on a uniform concept which comprising (i) understanding the biomolecular basis of disease and (ii) knowing the 3D structure of biological macromolecules (enzymes, receptors) involved in particular disease, will focus on (a) rational design and discovery of drug molecules exerting their action on validated biological targets, (b) their synthesis and (c) biological evaluation aiming at discovery of innovative medicines with antimicrobial, antithrombotic and antitumour activity. These groups of drugs are of paramount importance for the public health in Europe and beyond because of stressful life-style and aging population. A new paradigm of designed multiple ligands targeting two or more biological macromolecules, which has already been used in design of antithrombotic drugs with dual action in the ongoing research program, will be applied as an innovative approach also to the design of antibacterial and antitumour drugs. A constituent part of the program will be genomic research which will concentrate on studying influence of compounds, designed and prepared following the outlined concepts, on expression and interactions of proteins in the cell. This strategy will result in new innovative drug molecules and provide understanding of their complex action on protein network in the cell.

3. Pharmaceutical Biotechnology: Knowledge for Health, under the leadership of Prof. Janko Kos, PhD, connects the researchers of the Chair of pharmaceutical biology, the Chair of clinical biochemistry and the Department for biotechnology at the Jožef Stefan Institute. The research

program consists of research groups working on the fields of pharmaceutical biotechnology, functional genomics, oncological biochemistry and plant biotechnology. The changes in gene expression, concentration of translational products and phenotype of cells, tissues and organisms at normal and pathological conditions, as well as after treatment with xenobiotics, plant and biotechnological drugs represent the main topic of investigations. Studies of molecular mechanisms at pathological changes include development and progression of cancer, anti-tumor immune response, atherosclerosis, neurodegenerative changes, and diseases of the digestive tract, hyperbilirubinemia and cataract. The goal of investigations is the identification of new targets for diagnostic and therapeutic applications, selection, isolation and biosynthesis of new active compounds, the development of drug delivery systems, in particular for peptide and protein drugs and validation of new drugs in vitro and in vivo. An important part of the research is concerned with prevention and health care, focused on the preparation and action of probiotics, safe sweeteners, immunomodulators and antimicrobial and antiviral agents.

4. Clinical biochemistry: Genes, hormones and personal changes in metabolic disease, under the leadership of Prof. Janez Preželj, PhD, University Medical Centre Ljubljana and at the FFA, Chair for clinical biochemistry; the coordinator is Prof. Janja Marc, PhD. The program based on experiences and achievements in the area of clinical and laboratory research, addressing chronic metabolic disorders, such as osteoporosis, diabetes and polycystic ovary syndrome. Osteoporosis is studied at the level of the local regulators of the bone turnover. The research aim is delineate the molecular mechanisms of etiopathogenesis of osteoporosis. We aim to identify serum markers reflecting the correlation to bone tissue remodeling. We also plan research into the influence of mutations of genes affecting treatment (pharmacogenetics) and on the early discovery of persons with an increased risk of osteoporosis. In the field of diabetes, we research the phenomenon of the resistance of cells in the peripheral tissues to insulin. In patients with polycystic ovary syndrome, we are interested in the changes of the glucose transfer mechanism in adipocytes after treatment with metformine or rosiglitazone. We aim to contribute to the understanding of polycystic ovary syndrome etiopathogenesis leading towards insulin resistance.

5. Other collaborations

The researchers of the faculty also cooperate in research programs performed at other institutions - namely in Experimental biophysics of complex systems, lead by Prof. Igor Serša, PhD at the Jožef Stefan Institute, and Systemic autoimmune sicknesses, lead by Assist. Prof. Snežna Sodin Šemrl, PhD at University Medical Centre Ljubljana.

The basic research projects of ARRS:

- Inhibitors of cysteine carboxypeptidases as regulators of autoimmune and neurodegenerative processes (PI: Prof. Kos Janko, PhD).
- Design, formulation and characterization of biomimetic nanocomposite systems for effective tissue regeneration (PI: Prof. Julijana Kristl, PhD).
- Development and evaluation of radiolabelled bio-molecules for targeted radionuclide therapy and imaging of neuroendocrine tumours (coPIs; Prof. Irena Mlinarič Raščan, PhD, FFA and Prof. Jurij Fettich, PhD, UMC Ljubljana).
- Transport and RNA binding of TDP-43 and FUS - implications for ALS/FTLD spectrum of neurodegenerative disease (coPIs: Assist. Prof. Tomaž Bratkovič, PhD, FFA and Prof. Boris Rogelj, PhD, Institution BRIS).
- The role of genetic polymorphisms in treatment result and occurrence of side effects in children with cancer (coPIs: Prof. Irena Mlinarič Raščan, PhD, FFA and Assist. Prof. Janez Jazbec, PhD, UMC, Pediatric clinic).

- The influence of active transport and patients' genotypes on the therapeutic outcome of chronic myeloic leukemia (PI: Prof. Albin Kristl, PhD).
- A pharmacogenetic approach to research, diagnostics and therapy of leukaemia (PI: Prof. Irena Mlinarič Raščan, PhD).
- Genetic factors in osteoporosis (PI: Prof. Janja Marc, PhD).
- ANALYSIS OF FOLATE METABOLISM BIOMARKERS IN THE RISK ASSESSMENT FOR NEURAL TUBE DEFECTS (coPIs: Prof. Irena Mlinarič Raščan, PhD, FFA and Prof. Ksenija Geršak, PhD, UMC Ljubljana).
- Micro RNA – new diagnostic and therapeutic targets in osteoporosis (coPIs: Prof. Janja Marc, PhD, FFA and Prof. Janez Preželj, PhD, UMC Ljubljana).
- Dysregulation of TDP-43 expression in amyotrophic lateral sclerosis and frontotemporal lobar degeneration (coPIs: Assist. Prof. Tomaž Bratkovič, PhD, FFA and Prof. Boris Rogelj, PhD, Institution BRIS).
- Nitroxoline and its derivatives as new antitumour drugs (PI: Prof. Janko Kos, PhD).
- Protein engineering of recombinant probiotic lactic acid bacteria for treatment of irritative bowel disease (PI: Prof. Borut Štrukelj, PhD).

Applicative research projects of ARRS:

- Complex hyperspectral system for automatic analysis and control of pharmaceutical pellet coating processes (coPIs: Prof. Stane Srčič, PhD, FFA and Prof. Likar Boštjan, PhD, UL FE).
- Preclinical development of new antibacterial drugs (PI: Prof. Stanislav Gobec, PhD).
- Theoretical and practical Aspects of Terminology and Terminography in Connection with Internet Terminological Resources (coPIs: Assoc. Prof. Aleš Obreza, PhD, FFA and Prof. Žele Andreja, PhD, ZRC SAZU).

Postdoctoral research project

- Design, synthesis, and evaluation of new voltage-gated sodium channels modulators (PI: Assist. Prof. Nace Zidar, PhD).

The quality of the research work is reflected in the number of publications. In 2013, the researchers of the FFA published 118 original and 27 review articles and increased the number of citations. In the collaboration with the pharmaceutical industry they have filled a few patent applications. In 2011, the FFA was ranked 1st of UL for the number of citations per researcher, 7th of UL for the absolute number of publications and 3rd for the number of published articles per researcher. In 2011, the FFA contributed 8.3 % of the total number of published works of the UL (data for the year 2013 is not yet available).

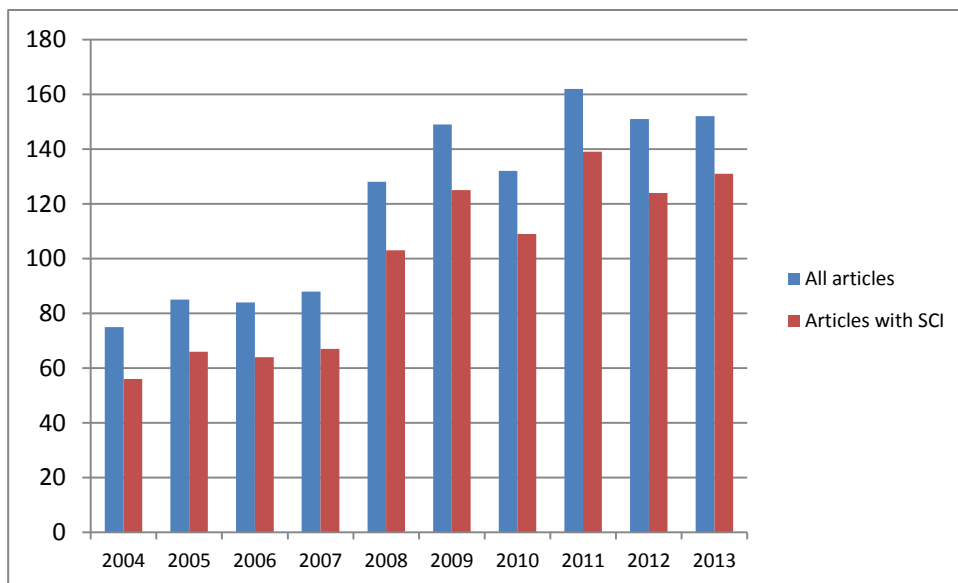


Chart 5.1: Number of scientific publications at the FFA (2004-2013).

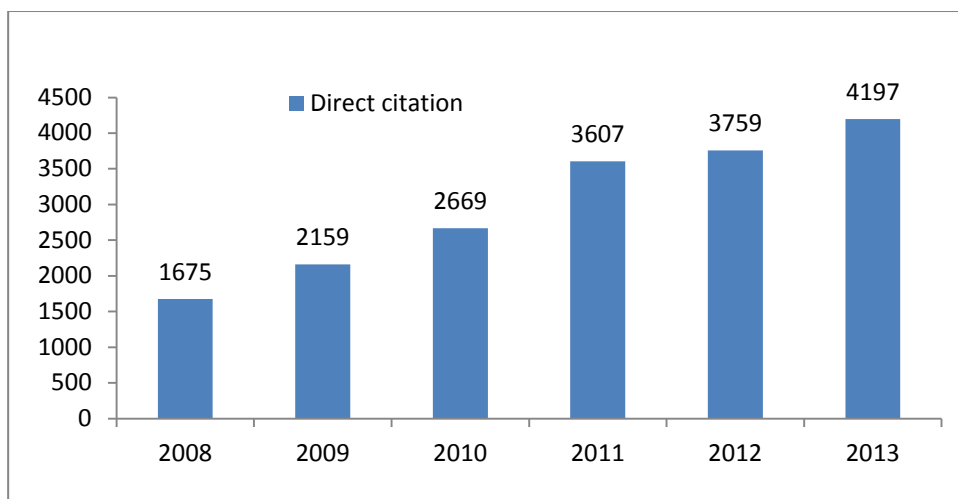


Chart 5.2: Number of pure citations at the FFA (during 2008-2013).

Decreased financing of research in Slovenia generally, led to lower number of successful approval of Young researchers grants, compared to previous years; 2013 (4), 2012 (5), 2011 (6). The reduced successfulness of the teachers-researchers of FFA at getting Young researcher's grants is undoubtedly also the consequence of the increased pedagogical burdening, which limits the research devoted time, as compared to the full time researchers at the research institutes.

Table 5.1: Presentation of research articles and citations per FTE researchers Project financed by ARRS and the EU (programs and projects).

Source of financing	year	Resources for full researchers (FTE)	No. of all research articles/FTE	No. of articles in journals with a high impact factor/FTE	No. of pure citations/FTE
	2008	12.65 ARRS 4.42 EU	3.4	2.8	40.1

ARRS and EU programs and projects MR		24.70 MR			
	2009	14.09 ARRS 3.16 EU 20.25 MR	3.8	3.2	56.4
	2010	14.67 ARRS 0.92 EU 24.60 MR	2.9	2.4	66.4
	2011	15.42 ARRS 6.33 EU 19.60 MR	3.9	3.4	86.8
	2012	17.55 ARRS 4.95 EU 20.30 MR	4.0	3.0	87.8
	2013	17.96 ARRS 8.2 EU 18.28 MR	3.4	3.0	94.4

Projects within the economy sector

For the FFA, the intensive and successful collaboration with the pharmaceutical and related companies Krka, LEK, Entrapharm, Vzajemna, Geneplanet and Arhel, AstraZeneca is typical. In the recent period, we observe that the pharmaceutical industry is increasingly interested in short term projects. This dements continues adjustment and even bigger engagement of the faculty.

Students involvement in the research work

Numerous students are engaged in the research work of the faculty, already during their studies. which they grade very positively . This kind of work increases the quality of the study, since it enables the interested students to deepen their knowledge and gain competences in field of their interest. They find it important that the pedagogical workers are active in research and thus included in the latest trends in pharmacy development. It is also recommended to include the latest discoveries in the lectures.

Projects of the 7th framework program

MAREX



Exploring Marine Resources for Bioactive Compounds: From Discovery to Sustainable Production and Industrial Applications. 19 partners from 9 European and 4 non-European countries take part in the project. The project is coordinated by Faculty of Pharmacy of the University of Helsinki, Finland, the coordinator of the project at the FFA UL is Prof. Danijel Kikelj, PhD.

ORCHID



Open Collaborative Model for Tuberculosis Lead Optimisation" (ORCHID). The aim of project is the optimization of leading compounds with anti-tuberculosis effects to a degree where they can be transferred to clinical trials. The project is coordinated by the pharmaceutical corporation GlaxoSmithCline, Diseases of the Developing World, Spain (dr. David Barros). The coordinator of the project at the UL FFA is Prof. Stanislav Gobec, PhD. Duration of the project: 2010- 2014.

European structural funds

Knowledge for the future – a new generation of life science researchers (NGRVŽ) within the framework of Operational program for Human Resources development.. The aim of the project is the



establishment of inter-generational and inter-regional cooperation between pupils, their mentors and top researchers with the purpose of getting new knowledge, the early introduction to the high level research, and awareness of ethical values.

The project deals with the development of a strategy of knowledge transfer, motivation for entrepreneurship of young pupils and the inclusion of ethical questions in the high-school curriculum. The project is coordinated by the National Institute of Chemistry, Ljubljana. Co-applicants are UL FFA, UL Faculty of arts, and 13 secondary schools. The coordinator of project at the UL FFA is Assist. Prof. Tomaž Bratkovič, PhD. The duration of the project is 2012 -2014.

Quality of the University of Ljubljana (KUL). The aim of the project is to support the development of higher education system, based on international-standards in quality assurance, which will enable and support the constant improvement of quality of Slovenian higher education. Above all, the offer of renewed study programs. The project is coordinated by the University of Ljubljana. The coordinator at the UL FFA is Assist. Prof. Bojan Doljak, PhD. The duration of project is 2013-2015.

Researchers at the beginning of their career

The aim of this project is to increase the interactions of young researches with stakeholders. This is to contribute to the higher transfer of knowledge and employability. The aim is to include the researchers at the beginning of their career into the real sector. The project, partly financed by The European commission from the European social funds and led by the Ministry of education, science and sports, stimulates Slovenian companies to include the young doctoral graduates in research activities either at the Research institutions or companies, to best contribute to the knowledge and in this way increase the competitiveness of the Slovenian economy.

The FFA got three projects, two in partnership with Lek d.d. (Assist. Martina Hrast, PhD, Assist. Uroš Trstenjak, PhD) and one project in partnership with the company Labena d.o.o. (Assist. Anja Pišlar, PhD).

Other EU projects

EPTA: EP4 receptor: potential target. The purpose of this project is to search for and evaluate the signal molecules that can cause resistance to chemotherapy, radiation and the immune regulation of cell death. The project is a collaboration with the Commission for atomic energy, France. The Co-PIs are Prof. Irena Mlinarič Raščan, PhD, FFA, and Prof. Jozo Delic, CEA. The duration of the project is 2009-2013.

COST Chemical Approaches to Targeting Drug Resistance in Cancer Stem Cells. Cooperation on this action enables connection with European researches in the field of cancer stem cells in the therapy of malignant diseases. Prof. Danijel Kikelj, PhD and Assoc. Prof. Lucija Peterlin Mašič, PhD are members of the managing committee of action COST CM1 106. The coordinator of the project at the UL FFA is the Prof. Danijel Kikelj, PhD.

Linking industry and Academia in Teaching Pharmaceutical Development and Manufacture (LIAT-Pharma). Lifelong learning program is a bilateral cooperation with College Green, Dublin. The coordinator at the FFA is Prof. Stanko Srčič, PhD.

EACEA in the program of lifelong learning.



The FFA, is a partner in the European project PHAR-QA. This is EACEA lifelong learning program. The aim is to contribute to Quality assurance in pharmacy education and training in the EU (527194-LLP-1-2012—BEERASMUS-EMGR). The FFA is a regional managing coordinator of one of the four geographic regions, including EU member other European countries, representing partners and participating faculties. The regional director is Prof. Borut Božič, PhD.

Other projects:

International cooperation took place within numerous bilateral research projects (table 5.2).

Table 5.2: *Bilateral projects FFA in 2013.*

Project title	Lecturer	Partner country
Discovering of the new anti-bacterial substances: the development of inhibitors and structural characterization of their complexes with the enzymes biosynthesis of peptidoglycan	Prof. S. Gobec, PhD	France
Synthesis, radio-labelling and biological evaluation of the fluorinated derivatives of benzovesamicole as the potential radioactive ligand markers for vesicular transfer of acetylcholine	Assoc. Prof. M. Anderluh, PhD	France
Evaluation system for delivery of curcumin regarding its absorption characteristics	Prof. A. Kristl, PhD	Norway
Synthesis and biological evaluation of the new substances based on biological active compounds from marine organisms	assoc. Prof. dr. L. Peterlin Mašič, PhD	Finland
Bacteriophages as carriers of the peptide probes for detection of leptin receptor	Assist. Prof. T. Bratkovič, PhD	China
The development of the composites of some pharmacologically effective substances and their analyses	Prof. S. Srčič, PhD	Russia
Design of tablets with the pulse release for in water difficult to dissolve substances	Prof. O. Planinšek, PhD	Bosnia and Herzegovina
Modification of the physicochemical characteristics of particles by crushing and studying of changes on the processes of tableting and mechanic characteristics of tablets	Prof. S. Srčič, PhD	Finland
Studies of polymorphism and amorphous of pharmaceutical substances with IGC and ¹⁴ N quadrupole nuclear resonance	Prof. S. Srčič, PhD	Denmark
Influence of the process parameters on the process of granulation of molten fluid-bed layers	Prof. S. Srčič, PhD	Serbia
Diagnostic value of markers for early atherosclerosis in patients with the renal failure with the chronic kidney disease	Prof. D. Černe, PhD	Serbia

Cooperation of the teachers of Faculty of Pharmacy in different bodies

University of Ljubljana - Management

- Prof. Julijana Kristl, PhD – Vice Rector until 30th September 2013

University of Ljubljana – Research and Development Work Committee

- Prof. Borut Štrukelj, PhD - President

University of Ljubljana – Committee for Master's Degree Study

- Prof. Darko Černe, PhD

University of Ljubljana – Committee for Doctoral Studies

- Prof. Julijana Kristl, PhD - since 1st October 2014
- Prof. Danijel Kikelj, PhD

University of Ljubljana – Committee for Innovation

- Prof. Odon Planinšek, PhD until 30th September 2013

University of Ljubljana – Committee for granting honorary titles and awards UL

- Prof. Julijana Kristl, PhD

University of Ljubljana – Committee for Prešeren Prizes

- Prof. Janko Kos, PhD

University of Ljubljana – Program council of Biomedicine

- Prof. Borut Božič, PhD – Vice President

University of Ljubljana – Innovation and Development Institute - Council

- Prof. Franc Vrečer, PhD
- Prof. Janko Kos, PhD

Public agency of Republic of Slovenia for medicines and medical devices – Committee for medicines I:

- Prof. Danijel Kikelj, PhD
- Prof. Aleš Krbavčič, PhD
- Prof. Aleš Mrhar, PhD
- Prof. Marija Sollner Dolenc, PhD

Public agency of Republic of Slovenia for medicines and medical devices – Committee for medicines II:

- Prof. Mirjana Gašperlin, PhD
- Prof. Samo Kreft, PhD (Vice President)
- Prof. Aleš Krbavčič, PhD (President)

Public agency of Republic of Slovenia for medicines and medical devices – Committee for homeopathic medicines

- Assoc. Prof. Aleš Obreza, PhD
- Assoc. Prof. Saša Baumgartner, PhD

Public agency of Republic of Slovenia for medicines and medical devices – Committee for medicines for use in veterinary medicine:

- Prof. Stanko Srčič, PhD – expert in the field of pharm. technology
- Assoc. Prof. Lucija Peterlin Mašič, PhD – expert in the field of pharm. chemistry

Public agency of Republic of Slovenia for medicines and medical devices – Committee for clinical testing medicine for use in humane medicine:

- Assoc. Prof. Mitja Kos, PhD

Public agency of Republic of Slovenia for medicines and medical devices – Committee for medicines for preparation of opinions to set exceptional high allowed prices of medicine:

- Assoc. Prof. Mitja Kos, PhD

Public agency of Republic of Slovenia for medicines and medical devices- Committee for pharmacopeia and preparation of the National supplement to the European pharmacopeia:

- Prof. Jelka Šmid Korbar, PhD
- Prof. Mirjana Gašperlin, PhD
- Prof. Uroš Urleb, PhD
- Assoc. Prof. Tanja Gmeiner Stopar, PhD
- Assoc. Prof. Aleš Obreza, PhD

Public agency of Republic of Slovenia for research activity – Scientific Council of the biotechnical science:

- Prof. Janko Kos, PhD

Public agency of Republic of Slovenia for research activity – Scientific Council for interdisciplinary research:

- Prof. Borut Štrukelj, PhD

Public agency of Republic of Slovenia for research activity– Scientific Council of natural mathematic science:

- Prof. Julijana Kristl, PhD

Chamber for laboratory medicine of Slovenia –Department for expert issues

- Prof. Borut Božič, PhD - President

Chamber for laboratory medicine of Slovenia – Register Committee

- Prof. Borut Božič, PhD

Chamber for laboratory medicine of Slovenia – Committee for specializations

- Prof. Darko Černe, PhD

Chamber for laboratory medicine of Slovenia – Committee for licenses and education

- Prof. Janja Marc - President

Slovenian academy of Science and Art – Slovenian pharmaceutical terminology dictionary:

- Prof. Mirjana Gašperlin, PhD
- Prof. Jelka Šmid Korbar, PhD
- Prof. Borut Božič, PhD
- Prof. Samo Kreft, PhD
- Prof. Janja Marc, PhD
- Prof. Aleš Mrhar, PhD
- Assoc. Prof. Saša Baumgartner, PhD
- Prof. Darko Černe, PhD
- Assoc. Prof. Aleš Obreza, PhD
- Assoc. Prof. Matjaž Jeras, PhD
- Assoc. Prof. Mitja Kos, PhD
- Assist. Prof. Damjan Janeš, PhD
- Assist. Prof. Mojca Lunder, PhD

National anti-doping Committee:

- Prof. Joško Osredkar, PhD - President

Ministry of Health of RS – Health council:

- Prof. Julijana Kristl, PhD

Ministry of Health of RS, Office for chemicals – Committee for expert issues in relation to cosmetic products:

- Prof. Mirjana Gašperlin, PhD

Ministry of Health of RS, Office for chemicals - Interdepartmental Sub-Committee for good laboratory practice:

- Assist. Prof. Bojan Doljak, PhD

Ministry of Health of RS – Group for coordination of implementation of the Rules on conditions that must be met by laboratories in the field laboratory medicine

- Prof. Borut Božič, PhD

Ministry of Health of RS – Expanded professional board of pharmaceutical services:

- Prof. Mirjana Gašperlin, PhD
- Prof. Aleš Mrhar, PhD
- Assoc. Prof. Aleš Obreza, PhD

Ministry of Health of RS – Expanded professional collegium for laboratory diagnostics:

- Prof. Borut Božič, PhD
- Prof. Janja Marc, PhD

Ministry of Environment and Spatial Planning –Scientific council for genetically changed organisms

- Prof. Irena Mlinarič-Raščan, PhD

Slovenian Scientific Foundation – Foundation Council

- Prof. Franc Vrečer, PhD

Slovenian Scientific Foundation – Scientific Council:

- Prof. Franc Vrečer, PhD
- Prof. Janez Kerč, PhD

Innovation and Development Institute UL – member of the IRI Council:

- Prof. Franc Vrečer, PhD

University research center Novo mesto – Committees for scientific and research activity and experimental development atURS:

- Prof. Franc Vrečer, PhD

Krka d.d. – Krka awards foundation council:

- Prof. Franc Vrečer, PhD - Scientific board president with the Foundation Council

Lek d.d. – Biocamp organizational board

- Assist. Prof. Zdenko Časar, PhD
- Prof. Janez Kerč, PhD

Slovenian pharmaceutical association

- Prof. Julijana Kristl, PhD - president of the Committee for granting association awards

Slovenian pharmaceutical association – Supervisory board:

- Prof. Janez Kerč, PhD - President

Slovenian pharmaceutical association – Issuing Council

- Prof. Franc Vrečer, PhD

Slovenian pharmaceutical association – Section for Pharmaceutical Chemistry

- Assoc. Prof. Marko Anderluh, PhD, President

Pharmacy Chamber of Slovenia – Working group for modernisation of the Rules on types, content and course of specializations for holders of master's degree in pharmacy and for unification of competences and cognitive services in pharmacy activities

- Assoc. Prof. Mitja Kos, PhD

Working group »Quality and Visibility of Training in Medicinal Chemistry«, European Federation of Medicinal Chemistry

- Assoc. Prof. Marko Anderluh, PhD, Head

INDICAR, University in Vienna, Austria

- Assoc. Prof. Marko Anderluh, PhD, external project evaluator

European Pharmacopeia Committee, EDQM:

- Prof. Uroš Urleb, PhD

Board for medicines of herbal origin, EMA:

- Prof. Samo Kreft, PhD

European Medicines Agency (EMA), Committee for registration of medicines in veterinary medicine (CVMP) :

- Prof. Stanko Srčič, PhD

European Medicines Agency (EMA), Scientific Advice Working Party (SAWP-V)

- Prof. Stanko Srčič, PhD

European Medicines Agency (EMA), expert in the field of quality of medicines for use in veterinary medicine

- Prof. Stanko Srčič, PhD

European Council, Committee for Consumer Health Protection, Cosmetics Committee (CD-P-SC) (Steering Committee)

- Prof. dr. Mirjana Gašperlin, PhD

European Organisation for Research and Treatment of Cancer (EORTC) – Expert group for receptors and biomarkers

- Prof. Janko Kos, PhD

Group for biological medicines at the European Pharmacopeia in Strasbourg:

- Assist. Prof. Tomaž Bratkovič, PhD

EC – European strategic forum for research infrastructure

- Prof. Irena Mlinarič-Raščan, PhD

Paul Ehrlich MedChem Euro-PhD Network- Council

- Prof. Danijel Kikelj, PhD - President

COST Action CM1106 Chemical Approaches to Targeting Cancer Stem cells – Management Board

- Prof. Danijel Kikelj, PhD

European Federation of Medicinal Chemistry – Assembly

- Prof. Danijel Kikelj, PhD

International network, Pharmaceutical Solid State Research Cluster (PSSRC)

- Prof. Stanko Srčič, PhD, Steering Committee member

IUIS Subcommittee for the Standardization and Quality Assessment of Immunological Diagnostics

- Prof. Borut Božič, PhD

Research Center Pharmaceutical Engineering GmbH, Graz

- Prof. Stane Srčič, PhD, Scientific Advisory Board member

European Society of Pharmacogenomics and Theranostics

- Prof. Janja Marc, PhD – secretary-general

European Federation for Laboratory Medicine - Working Group for Personalized Laboratory Medicine

- Prof. Janja Marc, PhD – member

Editorial board of the Pharmaceutical Journal

- Prof. Borut Štrukelj, PhD – editor in chief
- Assist. Prof. Tomaž Vovk, PhD – visiting editor
- Prof. Janja Marc, PhD – member of the editorial board
- Assist. Prof. Jurij Trontelj, PhD – member of the editorial board

Editorial board of the Pharmaceutics Journal

- Prof. Borut Štrukelj, PhD – editor in chief

Editorial board of the Farmakon Journal

- Prof. Marija Sollner Dolenc, PhD – editor in chief

Editorial board of the Archive for Work Hygiene and Toxicology Journal

- Prof. Marija Sollner Dolenc, PhD – associate editor
- Prof. Samo Kreft, PhD – member of the editorial board

Editorial board of the MedChemComm Journal

- Assoc. Prof. Lucija Peterlin Mašič, PhD – member of the editorial board

Editorial board of the Acta chimica slovenica Journal

- Prof. Danijel Kikelj, PhD – member of the editorial board

Editorial board of the ARKIVOC Journal

- Prof. Danijel Kikelj, PhD – member of the editorial board

Editorial board of the Current medicinal chemistry Journal

- Prof. Danijel Kikelj, PhD – member of the editorial board

Editorial board of the Macedonian Pharmaceutical Bulletin

- Assoc. Prof. Saša Baumgartner, PhD – member of the editorial board

Editorial board of the Journal of biomedical nanotechnology

- Prof. Julijana Kristl, PhD – member of the editorial board

Editorial board of the Journal of drug delivery science and technology

- Prof. Julijana Kristl, PhD – member of the editorial board

Editorial board of the Acta pharmaceutica Journal

- Prof. Stanko Srčić, PhD – member of the editorial board
- Prof. Odon Planinšek, PhD – member of the editorial board
- Prof. Janja Marc, PhD – member of the editorial board
- Prof. Danijel Kikelj, PhD – member of the editorial board

Editorial board of the Pharmaceutical Technology Europe (UK)

- Prof. Stanko Srčić, PhD – member of the editorial board

Editorial board of the Recent Patents on Drug & Delivery Formulation (USA)

- Prof. Stanko Srčić, PhD – member of the editorial board

Editorial board of the Journal of Research in Pharmaceutical Sciences (BiH)

- Prof. Stanko Srčić, PhD – member of the editorial board

Editorial board of the International journal of biomedical science

- Prof. Borut Božič, PhD – member of the editorial board

Editorial board of the Journal of the International Federation of Clinical Chemistry

- Prof. Borut Božič, PhD – member of the editorial board

Editorial board of the Biochemia medica

- Prof. Janja Marc, PhD – member of the editorial board

Editorial board of the Clinical chemistry and laboratory medicine

- Prof. Janja Marc, PhD – member of the editorial board

Editorial board of the Drug metabolism and Drug Interactions

- Prof. Janja Marc, PhD – member of the editorial board

Editorial board of the Genetics Research

- Assist. Prof. Nataša Karas Kuželički, PhD – member of the editorial board

Editorial board of the Journal of Physiology and Pharmacology

- Prof. Borut Božič, PhD – member of the scientific advisory board

Editorial board of the Journal of Pharmaceutical Health

- Assoc. Prof. Mitja Kos, PhD – member of the editorial board

Editorial board of the Zdravstveno varstvo (Healthcare) Journal

- Assoc. Prof. Mitja Kos, PhD – member of the editorial board

Editorial board of the Slovenska kardiologija (Slovenian Cardiology) Journal

- Prof. Joško Osredkar, PhD – member of the editorial board

Editorial board of the Radiology & Oncology in Frontiers in Immunology Journal

- Prof. Janko Kos, PhD – member of the editorial board

Editorial board of the Central European Journal of Biology

- Prof. Samo Kreft, PhD – associate editor

(Chapter 5 was prepared by: I. Mlinarič Raščan, D. Černe, S. Kreft, S. Gobec, M. Gašperlin, A. Kristl, M. Kos)

6 STUDENTS' REPORT ON ACHIEVEMENTS IN THE YEAR 2013

The Month of the pharmacist

The beginning of the 2013/14 study year saw the sixth Month of the pharmacist and activities took place throughout October as we presented the intensity and diversity of extracurricular activities at the Faculty of Pharmacy to the freshmen/freshwomen to make beginning of their study year easier with useful advice.

At the beginning of the study year, on October 1, 2013, we presented the possibilities of engagement besides study to the freshmen on handing over the index handing. They received information folders containing information on the study program and extracurricular activities. At the same time, the presentation of the faculty to the wider public took place in Prešeren Square and it was the part of the performance Acceptance of Freshmen of University of Ljubljana. During October, numerous activities took place at informative stalls enabling students to exchange of informal information on the course and to acquire study literature (Book fair).

The international summer pharmaceutical camps

Between July 12 and 17, the students organized the 17. International pharmaceutical camp at the Seča Center of Extracurricular Activities in Piran. This year the theme was "The strengthening of the immune system". During the international camp, diverse work methods were used such as lectures, workshops and roundtables, where we actively thought about ideas for strengthening the immune system. An important part of our job is advising patients and therefore every participant in the public campaign was tested in the role of adviser or promoter of a healthy way of life.

The professional part of program consisted of top lectures and workshops, we spent part of our time on the sociable program, which consisted of sports and sociable activities for participants. We prepared plenty of activities and events outdoors. We wanted to connect the participants and encourage them into sports with various activities and we wanted to acquaint the foreign students with Slovenian culture. We did through trips, with the help of a traditional dinner with typical Slovenian cuisine and above all by socializing with Slovenian students.

60 participants took part in the camp and they improved their knowledge of the immune system and were educated about Slovenian culture, inter cultural and mutual cooperation and they began to live healthier.

Spatula

Spatula is the magazine of the Association of Students of Pharmacy in Slovenia (the student section of the Slovenian Pharmaceutical Association), with which we inform the students of pharmacy about extracurricular activities and novelties in the world of pharmacy at the local and international levels. It is a periodical publication, the articles are published in Slovene, except for articles by foreign authors, which are published in English.

The Spatula magazine includes the following regular topics:

- professional articles,
- interviews,
- what happened at the scientific evenings,
- presentation of pharmaceutical activity in Slovenia,
- Erasmus practices,
- the study of pharmacy abroad,
- LBM section,
- news from the world of pharmacy,

- report on sports achievements,
- report on extracurricular activities,
- sudoku, masyu and a crossword puzzle,
- FFarmakoskop.

In the year 2013, 4 issues were produced.

Advising patients

This project is well-known among the students of pharmacy and also in the wider pharmaceutical public. The single competition takes place in two groups. The first group consists of a lecture on disease and a lecture on medicine. The second group is competitive and takes place at the pharmacy. The competitors compete in giving advice to an imaginary patient. The use of professional knowledge acquired from the lecture was estimated, then the performance, the suitability of the communication with the patient and the general impression. The competition is suitable for freshmen and undergraduates.

The theme in 2013 was urgent contraception. The competitors competed for attractive prizes like participation in the international summer pharmacy camp at the IPSF congress.

The small school of the clinic

This project is similar to the project Giving Advice to Patients. It concerns a lecture on a definite theme, followed by a competition. The important difference is that the competitors take on the role of a clinical pharmacist and, as well as advice, they also fill in a special form about the patient and comment on it. In collaboration with co-workers from UK Golnik, the competition took place in February 2013. The theme was asthma. We learned in detail about the actual state in the area of clinical pharmacy in Slovenia.

Volunteering at the Faculty of Pharmacy

Our humanitarian group was also active in 2013. Between April 9 and 11, the collection of old books, video cassettes, DVDs, CDs and cassettes took place at the faculty. They were brought in by students and also by some of the staff at the FFA. The collected items were sent to a Safe house for women and children who were victims of violence, Kings of the Road, within their project Old Stuff New Stuff, to a Paediatric clinic and the Alojz Šuštaršič elementary school.

In November we organized a humanitarian party. The collected money will be donated in 2014 to the Wings of Life charity for research into injuries to the spinal cord.

In December we organized the now traditional Christmas bazar, where we sold sweets, greeting cards and presents. The collected money was intended for the Brotherhood project of the Polje-Moste association of friends of the youth. All the projects succeeded excellently.

Public campaigns

- World Cancer Day – February 4
The campaign was virtual. We made a page on the Facebook network, on which we published the association profile on the day of the event. We called on the members of the association to add material themselves and we wrote also an article, which we published on the internet.

- **World Health Day – April 7**
This campaign took place on Sunday, April 7 at the Prešeren square in Ljubljana. We acquainted passers-by with the theme “Medicines and interactions”. We prepared it together with the Association of students of medicine of Slovenia and the Association of students of psychology of Slovenia within the Circle of Health (a traditional project prepared by students of medicine for the third year).
We gave the passers-by brochures with a summary of the interactions and we prepared helium balloons for the children. We made an exhibition of the dried plants that most often step into interaction with medicines (they were lent to us by the chair of the pharmaceutical biology.) The visitors were mostly older people and their response was really good. Though most of all surprised at the potential harm of the grapefruit, they were very curious about everything and asked about the exhibited drugs. Some of them told us their own experiences about negative interactions between medicines.
- **The safe use of antibiotics**
The project took place between November 18 and 22. The main aim was a public campaign (in the second part of the week) at secondary schools in Slovenia, with the purpose of warning against the dangers of developing resistance and making them aware of when the use of antibiotics is sensible and when not. At the beginning of the week, the lectures were intended for students who took part in the campaign, as well as others who were interested in the theme.

Pharma Vešč(a)

This concerns the organized training in soft skills. The project is aimed at everyone who wants to widen their horizons and develop their personality.

In 2013, we organized the two day event at ČŠOD Čebelica in Dolenja vas near Čatež. The themes of the training were motivation, project leading, communication, team building and presentation techniques. Besides professional work, there was also a social program involving meeting other students and trainers.

IPSF Student Exchange Programme

The SEP (Student exchange program) was as a program of mobility, which offers students of pharmacy the opportunity for learning pharmaceutical fields in more than 50 countries around the world, one of the larger projects in the world organized for the students of pharmacy (PSP). The program is running throughout the year and it offers students 1 to 5 month practices and experiences in the field of work in a general hospital or pharmacy, in the pharmaceutical industry, research work and work as a clinical pharmacist. Most of the practices take place during the summer months.

In 2013 the practice was undertaken by 12 foreign students in Ljubljana, Maribor and Kranj from July to September. In 2013, the Faculty of pharmacy enabled the performance of SEP practice for two students at the Chair of pharmaceutical technology, two students at the chair of social pharmacy, and one student each at the chair of pharmaceutical biology, chair of biopharmacy and pharmacokinetics and the chair of pharmaceutical chemistry. It enabled 7 places together.

The number of students interested in performing this practice is increasing from year to year. The practice was enabled to 23 of our students in 2012. In 2013, we received 45 applications. The number of students who can make the practice abroad depends on the number of students who are guests with us.

EPSA Individual Mobility Project

The EPSA individual Mobility project (IMP) is a long-term project that offers newly graduated students of pharmacy and other students of pharmacy the opportunity to get work and research

experience in all the areas of pharmaceutical science. The IMP was created to mutually connect the European pharmaceutical industry, institutions and organizations of students of pharmacy.

The IMP has the potential to unify the European countries from the aspect of the mobility of the students of pharmacy. The project offers newly graduated students and other students of faculty of pharmacy at least 6 and at most 12 month of paid traineeship in an international pharmaceutical company.

We take part with the applications at nine IMP practices this year and the same number is valid for the opened places so far.

Health care team 2013

The health care team is a yearly event and its aim is to bring students closer to the idea of the equal professional collaboration between complementary sciences (pharmacy, medicine, health care, psychology etc.). This form of patient treatment is becoming increasingly common in the thinking patterns of health care in the developed world. As, for example, clinical pharmacy in USA is much more integrated into the process of treatment than we are used to here (yet).

In 2013, the event took place on the world day of hospice and palliative care. Thus we talked about treatment and care for people with incurable diseases (most often people with cancer) to whom we can, with our present knowledge, merely facilitate their symptoms and offer them support in the last stages. In the middle lecture room of the Medicine faculty, 19 lecturers from different fields gave their lecture, including five pharmacists from the Ljubljana Oncological Institute and from the Murska Sobota General Hospital. With combined forces we proved that the complete treatment for an individual patient (especially after palliative) is only possible with the collaboration of the whole health care team, including all the health care workers and based on mutual respect.

Other projects in 2013

- **Informative days and "Informativa" fair**
- **Professional evenings** - professional evenings are lectures on a certain theme organized by the students themselves in collaboration with lecturers and guest lecturers. In this way, some themes are covered through self-initiative and we think that these must be discussed for they are not stressed enough given the shortage of time during study and in this way we significantly contribute to our own education. In 2013, we organized more professional evenings especially in the set of projects (themes: asthma, the safe use of antibiotics, palliative care),
- **Pharmacopoeia** – a virtual informative edited every month with the main purpose of informing the students of the FFA about the events at the faculty.
- **Website** – the website of the Association of students of pharmacy of Slovenia is interesting and rich in content, and the students can find the latest information on events at the faculty and also the study literature.
- **Skiing at Kanin** – we performed skiing at Kanin at the beginning of March 2013.
- **Picnic** – this was organized in May and it is the last socializing before the end of the year and before the summer exam term.
- **Healthy breakfast** – this project about healthy nutrition in collaboration with ŠOU consists of a professional lecture by prof. Kreft on dietary supplements and the stall in the ground floor of the FFA with various fruit, yoghurts and cereals.
- **Health care team** – the common project of students of pharmacy, medicine and health care that took place in October. Within this project, lectures on the theme of "palliative care" were taking place the whole week.
- **Mobility day** – a project of the FFA and the Association of students of pharmacy, Slovenia, where we presented to students the possibility of study, exchange and practice abroad (ERASMUS exchanges, ERASMUS, SEP and IMP praxes).

- **Professional/fun excursions in Munich and Salzburg**

Participation in projects

- **IPSF World Congress (Utrecht, The Netherlands, August 2013)**

At the beginning of August, the International pharmacy students federation (IPSF) organized its 59. World congress, which took place in Netherlands. The primary purpose of this 10-day socializing of pharmacy students from the whole world is the yearly session of the IPSF General Assembly, which consists of all the member national organizations of pharmacy students. The general assembly is the head organ of IPSF, where the annual reports on events in the federation are presented, decisions are made and the new executive board is elected.

While the 3 official delegates from each country take part in the assembly, lectures, workshops and training in soft skills are taking place in parallel. The IPSF congress also includes two days of symposium, which took place in 2013 for improving extracurricular activities at **Personalized medicine** (science symposium) and **Developing Pharmaceutical Care through Collaboration** (educational symposium).

15 Slovenian students took part in the congress in the Netherlands.

- **EPSA yearly congress (Catania, Italy, April 2013)**

The European pharmacy students association (EPSA) organizes the greatest event every year in spring. This is an annual congress that consists of a rich professional and social program. At this congress, delegates meet from every member organization (2 delegates per organization) for decisions and the right to vote at the official general assemblies. Both delegates also have the task of representing the interests of Slovenian pharmacy students, representing the organization of the study of pharmacy in Slovenia and look for the new ideas and possibilities for improving extracurricular activities for our students. They are informed about projects of mobility, student offers for participation in various congresses of the partners (DIA, EAHP...), options for training and possibilities for financing various projects. They also have the possibility of contacting and improving contacts with other member organizations and strengthening the collaboration with students all over Europe. Also other student participants get the possibility of contacting and participating in the professional part of the program. At the end of the congress, at the evaluation of the event, the students had the possibility of getting **points for the LLC certificate (Life-long learning certificate)**, which is granted by EPSA for participation in the professional events.

- **EPSA Summer university (Zadar, Croatia, August 2013)**

The summer university is the most informal EPSA event. This year it took place in Zadar, where the students from Europe had the opportunity to socialize and obtain new skills with the help of training and workshops about networking, the European Union, Communication etc. in a relaxed atmosphere.

- **EPSA Autumn assembly (Valencia, Spain - October 2013)**

The autumn assembly is the second largest EPSA event, where the representatives of the member organizations come together and, after half of the performed mandate, present their work and plans in advance. Two Slovenian delegates take part in the assemblies, where they represent the opinions of the Slovenian students of pharmacy and have the possibility of voting. The autumn assembly is similar to the summer congress and it combines professional and sociable parts. **The participating students also had the possibility of getting LLC points here.**

(Chapter 6 prepared by: ŠS FFA)

7 GRADUATES OF THE FACULTY OF PHARMACY IN 2013

UNIVERSITY STUDY PROGRAM COSMETOLOGY

Avbelj Maja, (mentorica Marija Sollner Dolenc): Ocena varne uporabe oksidativnih barvil za lase v kozmetičnih izdelkih = Evaluation of safe use of oxidative hair dye in cosmetic products, COBISS.SI-ID: 3505521.

Konečnik Nuša (mentorica Mirjana Gašperlin, somentorica Mirjam Gosenca): Vrednotenje antioksidativne učinkovitosti resveratrola v lamelarnih tekočih kristalih = Evaluation of antioxidant activity of resveratrol in the lamellar liquid crystal, COBISS.SI-ID: 3506289.

Simonič Nataša (mentor Žiga Jakopin, somentorica Martina Gobec): Imunološka karakterizacija nekaterih predstavnikov UV filtrov = Immunological characterization of some UV filters, COBISS.SI-ID: 3506801.

Skobe Eva (mentorica Pegi Ahlin Grabnar): Preučevanje sestave kozmetičnih izdelkov za nego občutljive kože = A study of the composition of cosmetic products for sensitive skin, COBISS.SI-ID: 3505265.

Šega Kaja (mentorica Pegi Ahlin Grabnar): Proučevanje vpliva vrste lipidov v nanosistemih na transdermalno izgubo vode in hidratacijo kože = A study of the influence of lipid type in nanosystems of transepidermal water loss and skin hydration, COBISS.SI-ID: 3506545.

UNIVERSITY STUDY PROGRAM OF LABORATORY BIOMEDICINE

Gerbec Tina (mentor Joško Osredkar): Analiza terapevtskih izjem v obdobju 2007-12 pri slovenskih vrhunskih športnikih = Analysis of therapeutic use exemptions in 2007-12 granted to Slovenian elite athletes, COBISS.SI-ID: 3480177.

Guzelj Simon (mentor Joško Osredkar): Klinični pomen spolne hormone vezočega globulina (SHBG) in testorena v serumu pri ženskah s policističnem ovarijem = Clinical importance of sex hormone-binding globulin (SHBG) and testosterone in serum of women with polycystic ovary syndrome, COBISS.SI-ID: 3487089.

Pejić Lidija (mentor Joško Osredkar): Določanje vnetnih dejavnikov prokalcitonina in C-reaktivnega proteina pri bakterijskih in virusnih infekcijah = Determination of inflammatory agents procalcitonin and C-reactive protein in bacterial and viral infections, COBISS.SI-ID: 3451249.

GRADUATES OF THE UNIVERSITY STUDY PROGRAM OF PHARMACY

Abina Mojca (mentor Rok Dreu): Izdelava in vrednotenje zrnč s pH odvisnim sproščanjem modelne učinkovine = Preparation and evaluation of granules with pH dependent release of model substance, COBISS.SI-ID 3566193.

Ahačič Rebeka (mentor Joško Osredkar): Določanje heksanoillizina, propanoillizina, ditirozina in nitrozina kot označevalcev oksidativnega stresa v urinu in amnijski tekočini nosečnic = Identification of hexanoyl-lysine, propanoyl-lysine, dytyrosine and nitrotyrosine as oxidative stress markers in urine and amniotic fluid of pregnant women, COBISS.SI-ID: 3427185.

Ajdovec Irena (mentor Rok Dreu): Ocena eksperimentalnega prostora laboratorijskega hitro vrtečega granulatorja = A design space evaluation of laboratory high shear granulator, COBISS.SI-ID: 3581809.

Aravs Maruša (mentorica Mojca Kržan, somentor Tomaž Zupanc): Zloraba centralno delujočih učinkovin kot dejavnik tveganja za samomorilno vedenje v Sloveniji v letih 2006-2010 = Central nervous drugs abuse as contributing factor for suicidal behaviour in Slovenia between years 2006 and 2010, COBISS.SI-ID: 3564401.

Avbelj Maja, (mentorica Marija Sollner Dolenc): Ocena varne uporabe oksidativnih barvil za lase v kozmetičnih izdelkih = Evaluation of safe use of oxidative hair dye in cosmetic products, COBISS.SI-ID: 3505521.

Balažek Sonja (mentorica Pegi Ahlin Grabnar): Izdelava in vrednotenje termoreverzibilnih hidrogelov za podkožno aplikacijo heparina = Preparation and characterization of thermoreversible hydrogels for subcutaneous application of heparin, COBISS.SI-ID: 3489393.

Banovec Andreja (mentor Joško Osredkar): Pomen določanja prostatno specifičnega proantigena pri bolnikih s karcinomom prostate = Diagnostic value of prostate specific proantigen in patients with prostate cancer, COBISS.SI-ID: 3450225.

Benčina Maja (mentor Samo Kreft): Optimizacija ekstrakcijskega postopka za kvantitativno analizo fagopirinov iz ajde (*Fagopyrum sp.*) = Optimization of extraction method for Fagopyrins quantifications in buckwheat (*Fagopyrum sp.*), COBISS.SI-ID: 3516785.

Benedik Marjeta (mentor Simon Žakelj): Določitev permeabilnostnih lastnosti novih zaviralcev holinesteraz na ileumu podgane in vitro = Determination of permeability properties of novel cholinesterase on rat, COBISS.SI-ID: 3569521.

Bizjak Eva (mentorica Mirjana Gašperlin): Problematika stiskanja tekočih samo(mikro)emulgirajočih sistemov v tablete = Challenges of compressing liquid self(micro)emulsifying drug delivery systems in tablet dosage form, COBISS.SI-ID: 3395441.

Böhm Jerneja (mentor Franc Vrečer, somentor Odon Planinšek): Uporaba sladkornih estrov za podaljšano sproščanje hidrofilne zdravilne učinkovine = Usage of sugar esters for sustained release of hydrophilic drug, COBISS.SI-ID: 3545969.

Bračič Maruša (mentorica Mojca Kerec Kos): Razvoj in validacija LC - MS/MS metode za določanje ramiprila in ramiprilata v plazemskih vzorcih = Development and validation of LC - MS/MS method for determination of ramipril and ramiprilat in plasma samples, COBISS.SI-ID: 3428465.

Breljih Hana (mentor Borut Božič, somentorica Saša Čučnik): Določanje specifičnosti vezave protiteles proti peptidom beta 2-glikoproteina I z encimskoimunskimi metodami = Determination of antibody binding specificity against peptides on β 2-glycoprotein I with enzyme linked immunosorbent assay, COBISS.SI-ID: 3572337.

Bukovac Maja (mentorica Saša Baumgartner): Vpliv vsebnosti vlage v izbranih pomožnih snoveh na njihovo stisljivost = The effect of moisture content on compressibility of selected excipients, COBISS.SI-ID: 3476337.

Cvek Maruša (mentor Odon Planinšek): Izdelava multiplih trdnih disperzij karvedilola pri povišani temperaturi = Formulation of multiple solid dispersions with carvedilol at elevated temperature, COBISS.SI-ID: 3396977.

Cvetan Urška (mentor Joško Osredkar, somentor Borut Božič): Klinični pomen določanja ditirozina, propanoillizina in heksanoillizina v urinu in amnijski tekočini in celotne antioksidantne aktivnosti pri nosečnicah = Clinical significance of determination of dityrosine, propanoyl-lisine and hexanoyl-lysine in urine and amniotic fluid and the overall antioxidant activity in pregnant women, COBISS.SI-ID: 3489137.

Černe Ana (mentor Zoran Grubič, somentor Sergej Pirkmajer): Molekularni mehanizmi delovanja interleukina-6 v kulturi skeletnomišičnih celic = Molecular mechanisms of interleukin-6 actions in cultured skeletal muscle cells, COBISS.SI-ID: 3478641.

Čeru Sandra (mentorica Irena Mlinarič Raščan, somentorica Martina Gobec): Vrednotenje izražanja gena atf3 po modulaciji proteasomske aktivnosti = Evaluation of atf3 gene expression after proteasome activity modulation, COBISS.SI-ID: 3449969.

Čvan Mitja (mentor Tomaž Vovk, somentor Matevž Prijatelj): Vpliv protiepileptičnih učinkovin na oksidativni stres v celični liniji limfocitov B = Oxidative stress in lymphocyte C cell line exposed to antiepileptic drugs, COBISS.SI-ID: 3399793.

Dejak Adamič Andreja (mentor Odon Planinšek, somentorica Biljana Jankovič): Izdelava kokristalov flukonazola ter vrednotenje njihovih fizikalnih in mehanskih lastnosti = Development of fluconazole cocrystals and assessment of their physical and mechanical properties, COBISS.SI-ID: 3430001.

Del Fabro Tanja (mentor Robert Roškar): Vrednotenje oksidativne stabilnosti askorbinske kisline v vodnih raztopinah, prehranskih dopolnilih in zdravilih z metodo tekočinske kromatografije visoke ločljivosti = Evaluation of oxidative stability of ascorbic acid in aqueous solutions, dietary supplements and drugs by high performance liquid chromatography, COBISS.SI-ID: 3484273.

Detiček Andreja (mentor Aleš Mrhar, somentor Mitja Lainščak): Vpliv bolnišnične obravnave na farmakoterapijo bolnikov s srčnim popuščanjem = Hospitalization and pharmacotherapy modifications in patients heart failure, COBISS.SI-ID: 3566449.

Dolanc Srečo (mentor Samo Kreft): Razvoj in optimizacija izolacije fagopirinov iz ajde = The development and optimization of isolation fagopyrins from buckwheat, COBISS.SI-ID: 3565937.

Dovnik Iztok (mentor Odon Planinšek, somentor Ilija Ilič): Izdelava in vrednotenje trdnih disperzij karvedilola v mezoporoznih nosilcih, izdelanih z metodo sušenja z razprševanjem = Preparation and characterization of carvedilol solid dispersion in mesoporous lecturers using spray drying method, COBISS.SI-ID: 3551601.

Drobnič Polona (mentorica Pegi Ahlin Grabnar): Reološko ovrednotenje termoreverzibilnih hidrogelov za podkožno aplikacijo = Rheological characterization of thermoreversible hydrogels for subcutaneous application, COBISS.SI-ID: 3487857.

Erjavec Tomaž (mentorica Julijana Kristl): Izdelava dvoplastnih nanovlaken z metodo elektrostatskega sukanja s koaksialno šobo = Preparation of two-layer nanofibers using electrospinning with coaxial nozzle, COBISS.SI-ID: 3412081.

Frankovič Maja (mentor Joško Osredkar): Klinični pomen določanja koncentracije zgodnjega prostatičnega karcinomskega antigena 2 pri bolnikih z rakom prostate = The clinical significance of determining the concentration of early prostate cancer antigen 2 in prostate cancer patients, COBISS.SI-ID: 3549041.

Galjot Tamara (mentorica Marija Sollner Dolenc): Ocena varne uporabe dišav v kozmetičnih izdelkih = Assessment of the safe use of fragrances in cosmetic products, COBISS.SI-ID: 3517297.

Gerbec Barbara (mentor Miroslav Petrovec, somentorica Mateja Poljšak-Prijatelj): Določanje norovirusnih antigenov v iztrebkih bolnikov z encimskoimunsko metodo = Detection of norovirus antigens in stool samples of patients with gastroenteritis by an enzyme immunoassay, COBISS.SI-ID: 3460209.

Gradišek Jure (mentorica Pegi Ahlin Grabnar): Sproščanje heparina iz termoreverzibilnih hidrogelov s hitosanskimi nanokompleksi = Release of heparin from thermoreversible hydrogels with chitosan nanocomplexes, COBISS.SI-ID: 3471217.

Grešak Bernarda (mentor Stanislav Gobec, somentor Izidor Sosič): Načrtovanje in sinteza benzensulfonamidov kot potencialnih zaviralcev bakterijskega encima MurF = The design and synthesis of benzensulfonamides as potential inhibitors of bacterial MurF enzyme, COBISS.SI-ID: 3411825.

Grujić Nadja (mentorica Irena Mlinarič Raščan, somentorica Martina Gobec): Vrednotenje citotoksičnih učinkov antagonistov [alfa]-adrenergičnih receptorjev = Evaluation of cytotoxic effects of [alpha]-adrenergic receptor antagonist, COBISS.SI-ID: 3412849.

Hazdovac Toni (mentor Žiga Jakopin): Načrtovanje in sinteza aciliranih derivatov dipeptida D-Glu-Mezo-DAP s potencialnim imunomodulatornim učinkom = Design and synthesis of acyl derivatives of dipeptides D-Glu-Mezo-DAP with potential immunomodulatory activity, COBISS.SI-ID: 3477617.

Herman Taja (mentor Borut Štrukelj, somentorica Ana Lenassi Zupan): Načrtovanje proteinskih analogov rekombinantnega humanega rastnega hormona = Design of protein analogs of recombinant human growth hormone, COBISS.SI-ID: 3515761.

Holc Matej (mentor Borut Štrukelj, somentorica Ann Massie): Izražanje izbranih genov v makrofagom podobnih celicah, okuženih s Theilerjevim virusom mišjega encefalomyelitisa = The expression of specific genes in Theiler's murine encephalomyelitis virus-infected macrophage-like, COBISS.SI-ID: 3446385.

Horvat Jasmina (mentorica Lucija Peterlin Mašič, somentor Tihomir Tomašič): Sintaza tiopirano[2,3-d]tiazolov in uporaba virtualnega rešetanja pri odkrivanju novih zaviralcev ligaze MurD = Synthesis of thiopyrano[2,3-d]thiazoles and the use of virtual screening for discovery of new MurD ligase inhibitors, COBISS.SI-ID: 3581297.

Hudobivnik Nina (mentor Odon Planinšek): Izdelava kokristalov z mletjem klaritromicina, hidroklorotiazida ali glibenklamida s pomožnimi snovmi = Creating co-crystals by method of grinding excipients with clarithromycin, hydrochlorothiazide or glibenclamide, COBISS.SI-ID: 3450481.

Jančar Janja (mentor Joško Osredkar): Klinični pomen določanja kromogranina A pri nevroendokrinih tumorjih = Clinical significance of determining chromogranin A in neuroendocrine tumors, COBISS.SI-ID: 3412593.

Janežič Sandra (mentor Samo Kreft): Ugotavljanje koncentracije ibotenske kisline v rdeči mušnici (*Amanita muscaria*) = Determining concentration of ibotenic acid in fly agaric mushroom (*Amanita muscaria*), COBISS.SI-ID: 3575665:

Janžekovič Aleksandra (mentor Mitja Kos, somentor Nils Keiner): Raziskava neprimerne predpisovanja zdravil ob sprejemu in odpustu pacientov na medicinsko-geriatrski kliniki v Frankfurtu na podlagi meril Priscus 2010 in Beers 2012 = Research of inappropriate prescribing at admission and discharge of patients at the Medico-geriatric clinic in Frankfurt based on the Priscus 2010 and Beers 2012 criteria, COBISS.SI-ID: 3459185.

Jarc Tina (mentor Simon Žakelj, somentorica Katja Kristan): Določitev referenčnih vrednosti permeabilnosti koeficientov za biofarmaceutsko klasifikacijo učinkovin s celičnim modelom Caco-2 = Determination of reference permeability coefficients for the biopharmaceutical classification system of active substances on Caco-2 cell model, COBISS.SI-ID: 3531377.

Jeraj Sabina (mentor Aleš Mrhar, somentorica Vesna Bizjak): Spremljanje izidov zdravljenja s protimikrobnimi zdravili na kliniki za infektivne bolezni in vročinskega stanja Univerzitetnega kliničnega centra Ljubljana = Monitoring outcomes of antimicrobial treatment at the clinic for infectious diseases and febrile illnesses of the University Medical Center Ljubljana, COBISS.SI-ID: 3479665.

Jeraj Žiga (mentorica Julijana Kristl): Vpliv topil na izdelavo polikaprolaktonskih nanovlakn z elektrostatskim sukanjem = Effect of solvents on the formation of polycaprolactone nanofibers produced by electrospinning, COBISS.SI-ID: 3524209.

Jeranče Metka (mentorica Mojca Kržan, somentor Tomaž Zupanc): Starostniki in samomorilno vedenje: zloraba alkohola in centralno delujočih učinkovin kot dejavniki tveganja v letih 2009-2011 = Suicidal behavior in the elderly: use of alcohol and centrally acting drugs as risk factors in 2009-2011, COBISS.SI-ID: 3523953.

Jovičič Ivana (mentorica Janja Marc, somentorica Simona Jurković Mlakar): Povezanost sprememb v genu GSTP1 s koncentracijami Hg^{[sup]2+} in MeHg v različnih bioloških vzorcih pri nosečnicah in novorojencih = The association between changes of the GSTP1 gene and concentration of Hg^{[sup]2+} and MeHg in different biological samples of mothers and newborns, COBISS.SI-ID: 3473777.

Jurinčič Valentina (mentorica Marija Bogataj, somentor Igor Legen): Ovrednotenje metode pretočne celice za spremljanje sproščanja težko topne učinkovine iz farmacevtske oblike s takojšnjim sproščanjem = Evaluation of the flow through cell method for monitoring the release of a poorly soluble drug from an immediate release dosage form, COBISS.SI-ID: 3427697.

Jurkovič Mihaela (mentor Joško Osredkar, somentor Rado Janša): Klinični pomen elastaze v blatu in dihalnega testa pri bolnikih s celiakijo = Clinical significance of the elastase stool test and breath test in coeliac patients, COBISS.SI-ID: 3518065.

Kavčič Mateja (mentorica Lucija Peterlin Mašič): In vitro preučevanje citotoksičnosti, estrogenosti in tvorbe reaktivnih metabolitov bisfenol A-glicidil metakrilata = In vitro evaluation of cytotoxicity, estrogenicity and reactive metabolites formation of bisphenol A-diglycidyl methacrylate, COBISS.SI-ID: 3540081.

Kitak Teja (mentor Stanko Srčič, somentor Aleksandra Dumičić): Določanje topnostnih parametrov za ibuprofen in lizinjev ibuprofenat = Determination of solubility parameters of ibuprofen and ibuprofen lysinate, COBISS.SI-ID: 3572593.

Klakočar Lidija (mentor Aleš Mrhar, somentor Jure Bračun): Etiologija okužb in spremljanje skladnosti uporabe protimikrobnih zdravil s smernicami v Splošni bolnišnici Celje = Etiologija of infections and monitoring of concordance of antimicrobial drugs use with guidelines in General hospital Celje, COBISS.SI-ID: 3527537.

Klančar Anita (mentor Simon Žakelj): Določanje privzema in znotraj celične koncentracije imatiniba v levkocitih bolnikov s kronično mieloično levkemijo = Determination of uptake and intracellular concentration of imatinib in leukocytes of patients with chronic myeloid leukemia, COBISS.SI-ID: 3565681.

Klobčar Ana (mentor Odon Planinšek): Proučevanje adhezije hidroksipropilmetilceluloznih filmskih oblog na tabletna jedra = Study of hydroxypropyl methylcellulose coatings' adhesion to tablet cores, COBISS.SI-ID: 3400561.

Kobola Vika (mentor Janez Ilaš): Sinteza analogov spumiginov kot potencialnih antitrombotičnih učinkovin = The synthesis of spumigines analogues as potential antithrombotic agents, COBISS.SI-ID: 3534193.

Kodela Jaka (mentor Žiga Jakopin): Načrtovanje in sinteza N,N-dialkilnih analogov dipeptida D-Glu-mezo-DAP s potencialnim imunomodulatornim delovanjem = Design and synthesis of N,N-dialkyl D-Glu-meso-DAP analogs with potential immunomodulatory effect, COBISS.SI-ID: 3429745.

Kojc Rok (mentorica Mojca Kržan, somentor Sergej Pirkmajer): Vpliv motene energijske presnove na privzem histamina v astrocite novorojene podgane = The impact of impaired energy metabolism on histamine uptake into neonatal rat astrocytes, COBISS.SI-ID: 3551857.

Komperšak Aleksandra (mentor Janez Kerč, somentor Miha Homar): Oblikovanje liofilizatov z dobro pretočnostjo in stisljivostjo = Design of lyophilisates with good flowability and compressibility, COBISS.SI-ID: 3428209.

Kopač Janez (mentor Odon Planinšek): Načrtovanje in izdelava plaščnih tablet z dvojno kinetiko sproščanja = Development and formulation of compression coated tablets with double release kinetics, COBISS.SI-ID: 3425393.

Korasa Klemen (mentor Franc Vrečer): Študija uporabnosti meritev "v napravi" za spremljanje procesa oblaganja pelet = The study of in-line measurement applicability in monitoring of pellet coating process, COBISS.SI-ID: 3424881.

Kos Špela (mentorica Irena Mlinarič Raščan, somentorica Damjana Rozman): Vloga Cyp51 v biosintezi holesterola pri miših in preslikava na človeka = Role of Cyp51 in mice cholesterol biosynthesis and reflection to humans, COBISS.SI-ID: 3476593.

Koser Polona (mentor Borut Božič, somentor Joško Osredkar): Povezanost aktivnosti antioksidativnih encimov superoksid-dismutaze in glutation-peroksidaze z različnimi značilnostmi nosečnice in otroka = Relationship of antioxidant enzymes superoxyde dismutase and glutathione peroxidase activity with different characteristics of pregnant woman and her child, COBISS.SI-ID: 3552369.

Kosmač Urška (mentorica Janja Marc, somentorica Simona Jurković Mlakar): Povezanost sprememb v genu GPX1 s koncentracijami Hg[^{sup}]2+ in MeHg pri nosečnicah in prenatalno izpostavljenih otrocih = Association between GPX1 gene variants and concentrations of Hg[^{sup}]2+ and MeHg in pregnant women and prenataly exposed children, COBISS.SI-ID: 3488369.

Kotnik Tadej (mentor Aleš Mrhar): Razvoj informacijskega portala o zdravilih in njegova uporaba v lekarniški farmaciji = Drug information portal development and its use in community pharmacy, COBISS.SI-ID: 3425649.

Kovačič Sašo (mentor Aleš Mrhar, somentorica Alenka Premuš Marušič): Ocena trombopofilakse pri kirurških bolnikih s pljučno embolijo in globoko vensko trombozo v Splošni bolnišnici Murska Sobota = Evaluation of tromboprophylaxis in surgical patients with pulmonary embolism and deep vein thrombosis in Murska Sobota General Hospital, COBISS.SI-ID: 3420017.

Krajnc Evelin (mentorica Irena Mlinarič Raščan, somentor Hans-Uwe Simon): Mehanizmi gibanja mitohondrijev ob aktivaciji nevtrofilcev = Mitochondria in neutrophils: regulation of their localization, COBISS.SI-ID: 3450737.

Kramarič Valerija (mentorica Mirjana Gašperlin, somentorica Mirjam Gosenca): Vrednotenje stabilnosti in antioksidativne učinkovitosti resveratrola v samomikromemulgirajočih sistemih = Evaluation of stability and antioxidant efficiency of resveratrol in selfmicroemulsifying drug delivery systems, COBISS.SI-ID: 3544689.

Kranjc Eva (mentor Odon Planinšek): Proučevanje adsorpcije karvedilola na porozni silicijev dioksid iz različnih organskih topil = Studying adsorption of carvedilol on porous silicon dioxide from different organic solvents, COBISS.SI-ID: 3517553.

Krese Urška (mentor Joško Osredkar, somentor Rok Accetto): Določanje renina in aldosterona v različnih bioloških vzorcih in vloga renina pri arterijski hipertenziji = Determination of renin and aldosterone in different biological samples and role of renin in arterial hypertension, COBISS.SI-ID: 3477361.

Kus Grilanc Tea (mentor Robert Roškar): Razvoj nove analizne metode za določanje acetilsalicilne kisline in njena aplikacija na področju stabilnosti = Development of a new analytical method for acetylsalicylic acid determination and its application in stability, COBISS.SI-ID: 3545201.

Lah Mihael (mentorica Saša Baumgartner, somentorica Biljana Janković): Vpliv ionske moči raztopin na mehanske lastnosti ksantanskih verig in na nabrekanje tablet = Influence of ionic strength of solutions on the mechanical properties of xanthan chains and on swelling tablets, COBISS.SI-ID: 3522417.

Lamešič Sandra (mentor Borut Božič, somentorica Jasna Omersel): Vrednotenje encimskoimunske metode za določanje neustrezno glikoziliranih imunoglobulinov razreda A = Evaluation of enzyme-linked immunosorbent assay for the determination of aberrantly glycosylated immunoglobulins class, COBISS.SI-ID: 3519089.

Lapajne Anja (mentor Mitja Kos, somentorica Cvetka Bačar Bole): Ovrednotenje ravnanja z zdravili na oddelkih Psihiatrične bolnišnice Idrija = Evaluation of medication handling at the wards of the Psychiatric Hospital Idrija, COBISS.SI-ID: 3412337.

Lemovec Ana (mentorica Alenka Zvonar): Razvoj samo-mikroemulgirajočega sistema na osnovi Gelucire 44/14 in njegova pretvorba v trdno farmacevtsko obliko = The development of a self-microemulsifying system based on Gelucire 44/14 and its transformation into a solid dosage form, COBISS.SI-ID: 3399537.

Lokar Anita (mentor Joško Osredkar, somentor Klemen Španinger): Vpliv intenzivnosti treninga biatloncev na spremembo profila eritropoetina v urinu in nekaterih krvnih parametrov = Impact of biathlon training intensity on the modification of erythropoietin isoforms and haematological parameters, COBISS.SI-ID: 3549553.

Lukan Katja (mentorica Metoda Lipnik Štangelj, somentorica Simona Rajtar Osredkar): Določanje na semikarbazid občutljive aminooksidaze v tkivih morskega prašička in vpliv metformina na njeno encimsko aktivnost = Identification of semicarbazide-sensitive amine oxidase in guinea pig tissues and the effect of metformin on its enzymatic activity, COBISS.SI-ID: 3476849.

Malavašič Nataša (mentor Joško Osredkar, somentor Elizabeta Božnar Alič): Klinični pomen določanja izbranih biokemičnih in seroloških markerjev pri diagnostiki infektivne mononukleoze = Clinical significance of determination some of the biochemical markers in diagnostic of infectious mononucleosis, COBISS.SI-ID: 3394929.

Mandić Jelena (mentorica Mirjana Gašperlin, somentorica Mirjam Gosenca): Vrednotenje citotoksičnosti tekočih kristalov za dermalno uporabo na celičnih linijah keratinocitov in fibroblastov = Cytotoxicity evaluation of liquid crystals from dermal application on keratinocyte and fibroblast cell lines, COBISS.SI-ID: 3459697.

Marin Luka (mentor Stanislav Gobec, somentor Izidor Sosič): Načrtovanje in sinteza novih derivatov 8-hidroksi-5-nitrokinolina in 4-nitrofenola kot inhibitorjev katepsina B = The design and synthesis of new derivatives of 8-hydroxy-5-nitroquinoline and 4-nitrophenol as inhibitors of cathepsin B, COBISS.SI-ID: 3531121.

Masilo Katja (mentorica Mojca Lunder): Izbor peptidnih ligandov stafilokoknega proteina A iz bakteriofagnih peptidnopredstavitvenih knjižnic = Selection of ligands of staphylococcal protein A from phage-displayed peptide libraries, COBISS.SI-ID: 3395697.

Matelič Ana (mentor Tomaž Bratkovič): Kartiranje epitopov nevtralizacijskih protiteles proti kemokinu CCL2 = Epitope mapping of neutralizing antibodies against chemokine CCL2, COBISS.SI-ID: 3450993.

Meglič Sandi (mentor Joško Osredkar, somentor Rado Janša): Vrednotenje diagnostične uporabnosti dihalnega testa pri eksokrini insuficienci trebušne slinavke = A breath test in the assessment of exocrine pancreatic insufficiency: evaluation of diagnostic value, COBISS.SI-ID: 3517809.

Miler Amadeja (mentorica Saša Baumgartner, somentorica Mojca Urška Mikac): Vpliv različnih medijev na topnost pentoksifilina, debelino gelske plasti in sproščanje iz tablet na osnovi ksantana = The influence of different media on solubility of pentoxifylline, gel-layer thickness and dissolution from tablets based on xanthan, COBISS.SI-ID: 3458673.

Mitrović Ana (mentor Janko Kos, somentorica Bojana Mirkovič): Vpliv selektivnega zaviranja katepsina B v tumorskih celicah na razgradnjo zunajceličnega matriksa in tumorsko invazijo = Influence of selective inhibition of cathepsin B in tumor cells on extracellular matrix degradation and tumor invasion, COBISS.SI-ID: 3484017.

Močilnikar Barbara (mentor Aleš Mrhar, somentorica Lorna Zadavec Zaletel): Kasne posledice na srcu po zdravljenju Hodgkinove bolezni v adolescenci = Late consequences on the heart after the treatment of Hodgkin's disease in the adolescence, COBISS.SI-ID: 3427441.

Nabergoj Makovec Urška (mentor Aleš Mrhar, somentorica Natalie Medlicott): Vrednotenje zdravljenja neonatalne hiperglikemije z insulinom na intenzivnem oddelku za novorojenčke v bolnišnici v Dunedinu = Evaluation of insulin treatment of neonatal hyperglycemia at the neonatal intensive care unit at Dunedin Hospital, COBISS.SI-ID: 3395953.

Novak Ana (mentorica Julijana Kristl): Izdelava in vrednotenje urejenih nanovlaken iz polivinilalkohola z metodo elektrostatskega sukanja = Preparation and evaluation of aligned electrospun poly(vinyl) alcohol nanofibers, COBISS.SI-ID: 3517041.

Novak Maša (mentorica Mojca Kržan): Vpliv telemetilhistamina na privzem in sproščanje histamina v astrocite podgane v normalnih razmerah in po odtegnitvi kisika in hraniv = The effect of telemethylhistamine on histamine uptake and release into rat astrocytes in normal conditions and after oxygen and glucose deprivation, COBISS.SI-ID: 3396209.

Oberstar Špela (mentorica Helena Podgornik): Priprava DNA-sond za fluorescenčno hibridizacijo in situ = Construction of DNA probes for fluorescent in situ hybridization, COBISS.SI-ID: 3527281.

Obolnar Simona (mentor Joško Osredkar): Vpliv višinskih priprav in bivanja v višinski sobi na koncentracijo biokemičnih parametrov profesionalnih športnikov = The effect of altitude training and accommodation in an altitude room on the concentrations of biochemical parameters in professional athletes, COBISS.SI-ID: 3395185.

Panker Tinka (mentorica Marija Sollner Dolenc): Določanje učinka nekaterih bisfenolov in parabenov na androgenske in glukokortikoidne receptorje = Determination of the effects of some bisphenols and parabens on the androgen and glucocorticoid receptors, COBISS.SI-ID: 3419505.

Peganc Anka (mentor Tomaž Vovk): Analiza bisoprolola v plazmi s tekočinsko kromatografijo: razvoj in validacija metode = Determination of bisoprolol in human plasma by liquid chromatography: analytical method development and validation, COBISS.SI-ID: 3400049.

Pekošak Aleksandra (mentor Žiga Jakopin): Načrtovanje in sinteza zaviralcev proteina NOD1 z indolnim skeletom = Design and synthesis of indole scaffold-based NOD1 protein inhibitors, COBISS.SI-ID: 3481201.

Peterle Maja (mentor Joško Osredkar, somentorica Nataša Debeljak): Določanje eritropoetina z izoelektričnim fokusiranjem pri alpinistih, izpostavljenih različnim nadmorskim višinam = Erythropoietin determination in alpinists exposed to diverse altitudes using isoelectric focusing, COBISS.SI-ID: 3483761.

Počič Andraž (mentor Samo Kreft): Vpliv matrikov vzorca na analizo standarda hipericina in ekstraktov šentjanževke s tekočinsko kromatografijo visoke zmogljivosti = Influence of sample's matrix on analysis of hypericin standard and St. John's wort extracts with high-performance liquid chromatography, COBISS.SI-ID: 3459441.

Podkrižnik Boštjan (mentor Tomaž Vovk): Razvoj bioanalizne metode za določanje plazemskih koncentracij etopozida s tekočinsko kromatografijo visoke ločljivosti in fluorescenčno detekcijo = Development of a bioanalytical method for determining etoposide levels in human plasma using high performance liquid chromatography with fluorescent detection, COBISS.SI-ID: 3521649.

Pokorny Igor (mentor Robert Roškar): Določanje askorbinske in dehidroaskorbinske kisline v trdnih farmacevtskih oblikah z metodo tekočinske kromatografije visoke ločljivosti = Determination of ascorbic and dehydroascorbic acid in solid pharmaceutical forms by high-resolution liquid chromatography method, COBISS.SI-ID: 3483505.

Popović Niko (mentor Joško Osredkar, somentor Rado Janša): Analiza nabora predpisanih zdravil pri bolnikih s hepatocelularnim karcinomom = Drug treatment analysis in patients with hepatocellular carcinoma, COBISS.SI-ID: 3476081.

Portir Barbara (mentor Samo Kreft): Razlikovanje vrst jegličev (*Primula elatior* in *Primula veris*) na podlagi fitokemijskih analiz = The differentiation of primrose species (*Primula elatior* and *Primula veris*) based on phyto-chemical analysis, COBISS.SI-ID: 3521393.

Požek Ana (mentor Damjan Janeš, somentor Aleš Obreza): Izolacija pačulola, sinteza derivatov 4-terc-butilcikloheksanola in njihovo olfaktorno vrednotenje = Isolation of patchoulol, synthesis of 4-tert-butylcyclohexanol derivatives and olfactory evaluation, COBISS.SI-ID: 3527793.

Preglav Ana (mentorica Mojca Kerec Kos): Vpliv mikrosfer s hitosanom na barierne lastnosti stene sečnega mehurja = Influence of chitosan microspheres on barrier properties of urinary bladder wall, COBISS.SI-ID: 3478385.

Ramovš Blanka (mentorica Alenka Zvonar): Vpliv polisaharidnega nosilca na proces izdelave in lastnosti trdnih samo-mikroemulgirajočih sistemov = The influence of polysaccharide lecturer on manufacturing process and of solid-microemulsifying drug delivery systems, COBISS.SI-ID: 3581553.

Rijavec Nika (mentor Mitja Kos): Ovrednotenje vpliva sprememb zakonodaje v obdobju 2007-2012 na najvišje dovoljene cene zdravil v Republiki Sloveniji = Evaluation of the impact of legislative changes in the period from 2007 to 2012 on the highest allowed prices of medicinal products in the Republic of Slovenia, COBISS.SI-ID: 3446641.

Robnik Blaž (mentor Tomaž Vovk, somentorica Irena Mlinarič Raščan): Vrednotenje označevalcev oksidativnega stresa v celicah, izpostavljenih protiepileptičnim učinkovinam = Evaluation of oxidative stress biomarkers in cells, exposed to antiepileptic agents, COBISS.SI-ID: 3519345.

Rožman Eva (mentor Odon Planinšek): Izdelava in vrednotenje trdnih disperzij karvedilola s polietilenglikolom in mezoporoznim silikatom = Formulation and evaluation of multiple solid dispersion of carvedilol with polyethylene glycol and mesoporous silicate, COBISS.SI-ID: 3545713.

Rugelj Maruša (mentorica Mojca Kržan, somentor Janez Mavri): Vpliv devterirane vode na vezavne lastnosti histaminskega receptorja H2 v izoliranih membranah astrocitov podgane = The influence of heavy water binding characteristics of histamine H2 receptor in newborn rat astrocyte membranes, COBISS.SI-ID: 3560305.

Selič Monika (mentorica Mojca Kerec Kos): Ocena ledvične funkcije s pomočjo kontrastnega sredstva joheksola pri bolnikih s kroničnim srčnim popuščanjem = Assessment of renal function with contrast media agent iohexol in patients with chronic heart failure, COBISS.SI-ID: 3542385.

Simonič Darka Maša (mentor Borut Božič, somentorica Saša Čučnik): Določanje avidnosti protiteles proti peptidom beta 2-glikoproteina I s kaotropno encimsko imunsko metodo = Determination of antibody avidity against peptides of β 2-glycoprotein I with chaotropic enzyme-linked immunosorbent assay, COBISS.SI-ID: 3575409.

Slapar Tamara (mentorica Saša Baumgartner, somentor Roland Bodmeier): Vpliv granulirane tekočine in veziva na farmacevtsko tehnološke lastnosti ogrodnih tablet = The influence of granulation fluid and binder on pharmaceutical-technological properties of matrix pellets, COBISS.SI-ID: 3534705.

Srpan Katja (mentorica Irena Mlinarič Raščan, somentor Nicolas Ugolin): Izbor specifičnih scFv fragmentov za E-kadherin iz bakteriofagne predstavitvene knjižnice = Selection of E-cadherin specific scFv fragments from a phage-displayed peptide library, COBISS.SI-ID: 3488113.

Sršen Anja (mentorica Eva Ružič Sabljic): Primerjava dveh metod za dokaz borelijskih protiteles v serumu = Comparison of two methods for the detection of Borrelia antibodies in serum, COBISS.SI-ID: 3459953.

Stare Klavdija (mentorica Irena Mlinarič Raščan): Povezanost polimorfizmov v genih za inozintrifosfat-pirofosfatazo in glicin-N-metiltransferazo z izidom zdravljenja otroške akutne limfoblastne levkemije = Polymorphisms in inosine triphosphate pyrophosphatase and glycine N-methyltransferase in association with therapy outcomes in childhood acute lymphoblastic leukemia, COBISS.SI-ID: 3401585.

Stipanič Ana (mentorica Mirjana Gašperlin): Vrednotenje samomikroemulgirajočih sistemov z metodo in vitro lipolize = Evaluation of self-emulsifying systems employing in vitro lipolysis method, COBISS.SI-ID: 3488881.

Strmčnik Martina (mentor Joško Osredkar, somentorica Jelka Lindič): Povezava med označevalci okvare tubulnega delovanja in oceno velikosti glomerulne filtracije = Correlation between markers of tubular function and estimation of the glomerular filtration rate, COBISS.SI-ID: 3523697.

Sušec Anja (mentorica Mirjana Gašperlin, somentorica Nataša Faganeli): Vpliv antidepresivov na oskrbo pooperativne rane pri ortopedskih bolnikih = The impact of antidepressants on wound healing in orthopedic surgery patients, COBISS.SI-ID: 3515505.

Svete Aleš (mentor Žiga Jakopin): Načrtovanje in sinteza potencialnih zaviralcev giraze z 1,3,4-oksadiazolnim ogrodjem = Design and synthesis of potential 1,3,4-oxadiazole-scaffold based DNA gyrase inhibitors, COBISS.SI-ID: 3547249.

Svoljšak Katja (mentor Janko Kos, somentorica Neli Hevir): Ugotavljanje prisotnosti encimov za detoksifikacijo estrogenkinonov pri raku endometrija = Determination of presence of estrogen quinone detoxification enzymes in endometrial cancer, COBISS.SI-ID: 3446897.

Šantej Marko (mentor Rok Dreu, somentor Ilija Ilić): Ocena eksperimentalnega prostora laboratorijskega hitro vrtečega granulatorja s štirilitrsko posodo = Design space evaluation of laboratory high-shear granulator with four liter mixing bowl, COBISS.SI-ID: 3565169.

Šenica Petra (mentor Simon Žakelj, somentor Luka Peternel): Permeabilnost fluorescentno označenega dekstrana, rodamina 123 in enalaprilata v različnih delih izoliranega črevesja podgane in vitro = Permeability of fluorescently labelled dextran, rhodamin 123 and enalaprilate in different regions of isolated rat intestine in vitro, COBISS.SI-ID: 3399281.

Šetina Zala (mentorica Mirjana Gašperlin): In vitro vrednotenje sproščanja resveratrola iz trdnih samomikroemulgirajočih sistemov = In vitro evaluation of resveratrol release from solid selfmicroemulsifying drug delivery systems, COBISS.SI-ID: 3487601.

Šket Aleš (mentor Janko Kos, somentorica Tea Lanišnik Rižner): Ugotavljanje prisotnosti proteinov AKR1B1 in AKR1B10 pri raku endometrija = Detection of proteins AKR1B1 and AKR1B10 in endometrial cancer, COBISS.SI-ID: 30586073.

Šlenc Jasna (mentor Janko Kos, somentorica Jerica Sabotič): Vpliv za sefarozo specifičnih lektinov iz gobe meglenke (*Clitocybe nebularis*) na celično linijo U937 = The effect of sepharose-specific lectins from clouded agaric (*Clytocybe nebularis*) on cell line U937, COBISS.SI-ID: 3544945.

Šlibar Špela (mentorica Barbara Ostanek): Vpliv polimorfizmov A388G in T521C v genu za AOTP1B1 na nekonjugirano hiperbilirubinemijo pri novorojenčkih = Influence of OATP1B1 polymorphisms A388G and T521C on unconjugated hyperbilirubinemia in neonates, COBISS.SI-ID: 3419761.

Špile Marjeta (mentor Damjan Janeš): Analiza za aromo pomembnih hlapnih spojin in maščobnokislinske sestave arganovega olja = Analysis of volatile compounds important for the aroma of argan oil and its fatty acid composition, COBISS.SI-ID: 3548273.

Šteger Katja (mentor Iztok Grabnar): Populacijski farmakokinetični model aktivnega metabolita leflunomida in vrednotenje vpliva genskih polimorfizmov v njegovi presnovi z randomizacijskim testom = A population pharmacokinetic model of the active metabolite of leflunomide and evaluation of the influence of genetic polymorphisms and its metabolism with randomization test, COBISS.SI-ID: 3545457.

Šteinfelser Maja (mentor Damjan Janeš): Analiza za aromo pomembnih hlapnih spojin in maščobnokislinske sestave olja iz semen granatnega jabolka = Analysis of volatile compounds important for the aroma of argan oil and its fatty acid composition, COBISS.SI-ID: 3564657.

Tamše Maruša (mentorica Mojca Kerec Kos, somentor Jurij Trontelj): Razvoj in validacija analizne metode za sočasno kvantifikacijo propranolola, bisoprolola, midazolama in ramiprilata v krvnem madežu = Development and validation of analytical method for simultaneous quantification of propranolol, bisoprolol, midazolam and ramiprilat in dried blood spot, COBISS.SI-ID: 3548529.

Terčelj Matic (mentor Samo Kreft, somentor Matjaž Ravnikar): Taksonomska identifikacija endofitskih gliv s pomočjo nukleotidnega zaporedja jedrne ribosomske DNA = Taxonomic identification of endophytic fungi using nucleotide sequence of nuclear ribosomal DNA, COBISS.SI-ID: 3549297.

Tičar Erik (mentor Robert Rožkar, somentor Jurij Trontelj): Razvoj in validacija metode za določanje remifentanila v krvnih madežih popkovnične krvi = Development and validation of method for determination of remifentanyl in dried blood spots of umbilical cord blood, COBISS.SI-ID: 3548785.

Tomsič Jasna (mentor Damjan Janeš): Ugotavljanje maščobnokislinske sestave svežih in starih kokošjih jajc iz različnih virov z uporabo plinske kromatografije = Determination of fatty acid composition of fresh and aged chicken eggs from different sources using gas chromatography, COBISS.SI-ID: 3425137.

Tušek Vida (mentor Simon Žakelj, somentor Luka Peternel): Nefelometrično določanje vpliva pomožnih snovi na obarjanje izbranih učinkovin = Nephelometric detection of the excipient mediated inhibition of drug precipitation, COBISS.SI-ID: 3575153.

Varl Tjaša (mentorica Mojca Kerec Kos, somentorica Brigita Mavsar): Protimikrobna zaščita pred okužbami pri operativnih posegih zaradi zloma kolka v Splošni bolnišnici Jesenice = Antibiotic prophylaxis in hip fracture surgery in Jesenice General Hospital, COBISS.SI-ID: 3582065.

Vidovič Sara (mentorica Saša Baumgartner, somentorica Polona Smrdel): Proučevanje vpliva vrste škroba in laktoze na lastnosti tablet izdelanih z direktnim tabletiranjem = The influence of starch and lactose on properties of tablets prepared by direct compression, COBISS.SI-ID: 3560561.

Zagoršek Zrna Vladka (mentor Joško Osredkar): Klinični pomen določanja koncentracije proste maščobne kisline vezočega proteina kot zgodnjega označevalca srčnega infarkta = The clinical significance of determining the concentration of free fatty acid binding protein as an early marker of acute myocardial infarction, COBISS.SI-ID: 3515249.

Zakšek Maja (mentorica Mojca Kržan, somentor Janez Mavri): Računalniško modeliranje kvantne narave vezave histamina na histaminski H₂-receptor = Computer modelling of quantum nature of histamine binding to histamine H₂ receptor, COBISS.SI-ID: 3518321.

Zgonc Ana (mentor Janko Kos, somentorica Urša Pečar Fonovič): Vpliv zaviralcev klitocipina in makrocipina na aktivnost katepsina X, izraženega v kvasovki = Influence of inhibitors clitocypin and macrocypin on the activity of cathepsin X, expressed in yeast, COBISS.SI-ID: 3533169.

Zinrajh David (mentor Darko Černe): Proučevanje izražanja gena za fosfatidiletanolamin-N-metiltransferazo v nedrobnoceličnem pljučnem rakavem tkivu = Study of phosphatidylethanolamine N-methyltransferase gene expression in non-small cell lung cancer tissue, COBISS.SI-ID: 3471473.

Zorc Anže (mentorica Mojca Kržan, somentor Janez Mavri): Vpliv devterirane vode na vezavne in funkcionalne lastnosti astrocitnega histaminskega receptorja H₂ = The influence of deuterium oxide on binding and functional characteristics of histamine H₂ receptor in astrocytes, COBISS.SI-ID: 5206554.

Zupanc Neža (mentor Simon Žakelj): Optimizacija metod za določanje znotrajceličnega privzema imatiniba v granulocite = Optimization of methods for determination of intracellular uptake of imatinib into granulocytes, COBISS.SI-ID: 3552113.

Zupančič Alenka (mentorica Marija Bešter-Rogač, somentorica Saša Baumgartner): Vpliv različnih dodanih snovi na fizikalno-kemijske lastnosti raztopin polivinilalkohola = Influence of various added salts of the physical-chemical properties of poly (vinylalcohol) solution, COBISS.SI-ID: 3487345.

Zupančič Ožbej (mentor Branko Stanovnik): Sinteza nekaterih heterocikličnih sistemov iz 3-(dimetilamino)enaminonov ter določanje njihove strukture in reaktivnosti = Synthesis of some heterocyclic systems from 3-(dimethylamino)enaminones, determination of their structure and reactivity, COBISS.SI-ID: 3485041.

Žibert Marija (mentor Samo Kreft, somentor Gorazd Drevenšek): Akutni učinki izvlečka navadne jelke (*Abies alba* Mill.) na ishemično/reperfuzijske okvare srca in sposobnost razširitve torakalne aorte pri podganah = Acute effect of silver fir (*Abies alba* Mill.) extract on ischemia/reperfusion injury in isolated rat heart and vasorelaxant effect in rat thoracic aorta, COBISS.SI-ID: 3458929.

Žmavc Anja (mentorica Alenka Zvonar): Določanje aktivnosti pankreatina ter in vitro lipolize na lipidih osnovanih sistemov s pH-stat metodo = The determination of the pancreatic activity and in vitro lipolysis of the lipid-based systems with the pH-stat method, COBISS.SI-ID: 3427953.

UNIFIED MASTER'S STUDY PROGRAM OF PHARMACY

Bertoncelj Valentina (mentorica Petra Kocbek): Razvoj nanovlaken z rastnimi dejavniki in njihov vpliv na celični odziv in vitro = Formulation of nanofibers with growth factors and their effect on cell response in vitro, COBISS.SI-ID: 3524977.

Breznik Barbara (mentor Janko Kos, somentorica Bojana Mirković): Postavitev in karakterizacija modelov tumorske invazije in vitro s pomočjo celične linije U-87 = Establishment and characterization of in vitro tumour invasion models using the cell line U-87, COBISS.SI-ID: 3490417.

Dragovan Rok (mentor Odon Planinšek): Proučevanje sproščanja štirih modelnih zdravilnih učinkovin iz poroznega silicijevega dioksida = Studying release of four model drugs from porous silicon dioxide, COBISS.SI-ID: 3583857.

Einfalt Tomaž (mentor Odon Planinšek): Amorphisation methods and investigation for the amorphous state of clarithromycin = Metode amorfizacije in preučevanje amorfnega stanja klaritromicina, COBISS.SI-ID: 3475825.

Gasparini Mariša (mentor Tomaž Bratkovič): Priprava rekombinantnega pomožnega bakteriofaga za izražanje reporterskega proteina na površini virusnih delcev = Design of a recombinant helper phage for reporter protein display on the surface of viral particles, COBISS.SI-ID: 3584113.

Gašperlin Maruša (mentor Borut Štrukelj, somentor Matjaž Ravnikar): Razvoj oligonukleotidov za razvoj nove metode za zdravljenje luskavice s pomočjo protismiselne DNA = Development of oligonucleotides for the development of a new method for psoriasis treatment using antisense DNA technology, COBISS.SI-ID: 3525233.

Hajdinjak Urška (mentorica Barbara Ostanek): Analiza polimorfizmov V89L in A49T v genu SRD5A2 pri bolnikih z benigno hiperplazijo prostate = Analysis of polymorphisms V89L and A49T in the SRD5A2 gene with benign prostatic hyperplasia patients, COBISS.SI-ID: 3564913.

Hudobreznik Tanja (mentorica Mojca Kerec Kos, somentorica Andreja Čufar): Izbrani vidiki kakovosti predpisovanja zdravil z nizkomolekularnimi heparini v Univerzitetnem kliničnem centru Ljubljana = Selected perspectives on prescribing quality of medicines with low-weight heparins at the University Medical Centre Ljubljana, COBISS.SI-ID: 3549809.

Jerič Irenej (mentor Borut Štrukelj, somentor Matjaž Ravnika): Razvoj nove metode za vnos oligonukleotidov v sesalske celice s pomočjo kemoporacije = Development of new method for oligonucleotide insertion into mammalian cells by using chemoporation, COBISS.SI-ID: 3525745.

Jordan Nika (mentorica Pegi Ahlin Grabnar, somentor Matjaž Ravnika): Izdelava in vrednotenje hitosanskih nanodelcev za vnos oligonukleotidov v kožne celice = Production and evaluation of chitosan nanoparticles for oligonucleotide delivery into skin cells, COBISS.SI-ID: 3583089.

Kac Andreja (mentor Borut Božič, somentorica Elizabeta Božnar Alič): Primerjava dveh izvedb encimsko - imunske metode za določanje okultne krvi v blatu = Comparison of two modification of enzyme - immuno method for the determination occult blood in feces, COBISS.SI-ID: 3570033.

Kenda Sara (mentor Aleš Mrhar, somentorica Marjetka Stefančič): Ovrednotenje farmacevtskih intervencij pri pacientih s polifarmakoterapijo v Splošni bolnišnici >>Dr. Franca Derganca<< Nova Gorica = Evaluation of pharmaceutical intervention in patients with polypharmacy in the General Hospital >>Dr. Franc Derganc<< Nova Gorica, COBISS.SI-ID: 3583345.

Knez Damijan (mentor Stanislav Gobec, somentorica Martina Hrast): Sinteza novih cianotiofenskih zaviralcev bakterijskega encima MurF = Synthesis of new cyanothiophene inhibitors of bacterial MurF, COBISS.SI-ID: 3484529.

Kukenberger Nina (mentor Simon Žakelj): Vpliv nekaterih dejavnikov na privzem imatiniba v levkocite = The influence of several factors on the imatinib uptake and retention in the leukocytes, COBISS.SI-ID: 3525489.

Kuželj Maja (mentor Albin Kristl, somentorica Katja Berginc): Literaturni pregled in analiza podatkov o prehranskih dopolnilih s probiotičnimi kulturami na slovenskem tržišču = Literature overview and analysis of data relating to food supplements with probiotic cultures in Slovenian market, COBISS.SI-ID: 3484785.

Lešnik Samo (mentor Stanislav Gobec, somentor Janez Konc): Načrtovanje, razvoj in testiranje računalniškega programa za 2D in 3D virtualno reševanje na osnovi liganda = Development and evaluation of a computer program for 2D and 3D ligand based virtual screening, COBISS.SI-ID: 3489905.

Lužar Katja (mentorica Saša Baumgartner): Optimizacija sestave plavajočih tablet na osnovi ksantana z vgrajenim amoksicilinom za zdravljenje okužb s *Helicobacter pylori* = Optimization of floating xanthan tablets composition with incorporated amoxicilin for the treatment of *Helicobacter pylori* infection, COBISS.SI-ID: 3482993.

Marolt Katarina (mentorica Alenka Zvonar): Pretvorba tekočega samo-mikroemulgirajočega sistema v trdno obliko z metodo sušenja z razprševanjem = Transformation of liquid self-microemulsifying system in a hard form with spray drying method, COBISS.SI-ID: 3575921.

Radin Kristina (mentor Tomaž Bratkovič): Vrednotenje sposobnosti vezave peptidov, izoliranih iz bakteriofagnih peptidnopredstavitvenih knjižnic, na polistiren = Assessment of binding ability of peptides, isolated phagedisplayed peptide libraries, on polystyrene, COBISS.SI-ID: 3516017.

Saje Katja (mentor Stanislav Gobec, somentor Izidor Sosič): Sinteza novih hidroksamskih kislin kot potencialnih zaviralcev MurD = Synthesis of novel hydroxamic inhibitors of MurD, COBISS.SI-ID: 3511665.

Stanković Kristina (mentorica Mojca Kerec Kos): Optimizacija priprave hitosanskih mikrosfer za aplikacijo v sečni mehur = Optimization of chitosan microspheres for application into urinary bladder, COBISS.SI-ID: 518833.

Suljaković Sabina (mentor Albin Kristl, somentorica Katja Berginc): Razvoj in uporaba in vitro modela za vrednotenje liposomov s kurkuminom za vaginalno aplikacijo = Development and application of an in vitro model for evaluation of liposomes with curcumin for vaginal delivery, COBISS.SI-ID: 3524721.

Sušnik Maja (mentorica Marija Bogataj): Vrednotenje vpliva parametrov sistema s steklenimi kroglicami na sproščanje natrijevega diklofenakata = Evaluation of the influence of glass bead system's parameters on the diclofenac sodium release, COBISS.SI-ID: 3560817.

Šen Metka (mentor Aleš Mrhar, somentorica Cvetka Bačar Bole): Principi uporabe antipsihotikov pri bolnikih s shizofrenijo, shizotipsko in blodnjavo motnjo v Psihiatrični bolnišnici Idrija = Principles of antipsychotics use in patients with schizophrenia, schizotypal and delusional disorder in Psychiatric Hospital Idrija, enoviti magistrski študij farmacije, COBISS.SI-ID: 3576433.

Šibanc Matej (mentor Bojan Doljak, somentor Samo Turk): Proučevanje aktivnega mesta katepsina X s programi za molekulsko modeliranje = Study of cathepsin X's active site with programs for molecule modelling, COBISS.SI-ID: 3564145.

Trdan Leja (mentorica Marija Sollner Dolenc): Sinteza 4-(benziloksi) anilinskih derivatov klatrodina = Synthesis of 4-(benzyloxy) aniline derivatives of the clathrocin, COBISS.SI-ID: 3516273.

Vajdič Nina (mentor Marko Anderluh): Sinteza cianotiofenskih zaviralcev MurF s potencialnim protimikrobnim delovanjem = Synthesis of cyanothiophene inhibitors of MurF ligases with potential antibacterial activity, COBISS.SI-ID: 3526001.

Vučko Sara (mentor Tihomir Tomašič): Sinteza in biološko vrednotenje glicerolomanozidov kot potencialnih antagonistov lektinov DC-sign in FimH = Synthesis and biological evaluation of glycerolomannosides as potential antagonists of lectins DC-sign and FimH, COBISS.SI-ID: 3468401.

Zajc Peter (mentor Matej Sova): Sinteza in vrednotenje pirimidino gvandinskih antagonistov Toll-u podobnega receptorja = Synthesis and evaluation of pyrimidino guanidine antagonists of Toll-like receptor 4, COBISS.SI-ID: 3572849.

Zavaloka Helena (mentorica Julijana Kristl, somentorica Romana Rošic): Preučevanje nanovlaken iz polivinilalkohola kot dostavnih sistemov za nesteroidne antirevmatike = Investigation of polyvinil alcohol nanofibers as drug delivery systems for nonsteroidal anti-inflammatory drugs, COBISS.SI-ID: 3576177.

Zgaga Petra (mentor Matej Sova): Sinteza hidroksietilaminskih in gvanidinskih antagonistov Toll-u podobnega receptorja 4 = Synthesis of hydroxyethylamine and guanidine Toll-like receptor 4 antagonists, COBISS.SI-ID: 3530865.

Zorec Tomaž Mark (mentor Rok Dreu): Numerično modeliranje in eksperimentalno vrednotenje aerosola v Wursterjevi komori = Numerical modeling and experimental characterization of nozzle spray within the Wurster chamber, COBISS.SI-ID: 3576689.

Zupančič Špela (mentorica Petra Kocbek, somentor Satyanarayana Somaravapu): Izdelava in vrednotenje nanodostavnega sistema s kurkuminom za inhaliranje = Formulation and characterization of curcumin loaded nanodelivery system for inhalation, COBISS.SI-ID: 3516529.

Žerovnik Špela (mentor Aleš Mrhar, somentor Mitja Kos): Ovrednotenje tveganja potencialnih interakcij protimikrobnih zdravil s sočasno predpisanimi zdravili na ambulantni ravni v Sloveniji = Evaluation of risk of potential drug interaction between antibacterials and other concomitantly prescribed drugs at the outpatient level in Slovenia, COBISS.SI-ID: 3583601.

MASTER'S STUDY PROGRAM OF INDUSTRIAL PHARMACY

Bolha Matevž (mentor Odon Planinšek): Vpliv pogojev mletja s krogličnim mlinom na fizikalno-kemijske lastnosti različnih vrst laktoze = Influence of ball-milling conditions on physical and chemical properties of different lactose types, COBISS.SI-ID: 3397489.

Brulc Katarina (mentor Joško Cesar, somentorica Anica Pečavar): Medprocesna analitika za spremljanje sinteze 1-hidroksi-3,5-dimetiladamantana s plinsko kromatografijo = Inprocess analysis for monitoring 1-hydroxy-3,5-dimethyladamantane synthesis with gas chromatography, COBISS.SI-ID: 3468145.

Cunk Anita (mentorica Marija Sollner Dolenc): Varna uporaba sladil v farmacevtskih izdelkih registriranih v Republiki Sloveniji = Safe use of sweeteners in pharmaceuticals registered in the Republic of Slovenia, COBISS.SI-ID: 3490673.

Kert Špela (mentor Joško Cesar): Sinteza in izolacija reduciranih derivatov progesterona = Synthesis and isolation reduced products of progesterone, COBISS.SI-ID: 3546993.

Malačič Sara (mentor Stane Srčič): Študija termičnih in mehanskih lastnosti sladkornih talin = Study of thermal and mechanical characteristic of sugar melts, COBISS.SI-ID: 3397233.

Sabo Stefan (mentor Damjan Janeš): Analiza vsebnosti omega-3 maščobnih kislin v prehranskih dopolnilih = Analysis of omega-3 fatty acids contents in dietary supplements, COBISS.SI-ID: 3546225.

Sajovic Lea (mentor Danijel Kikelj): Sinteza potencialnih tetrahidrokinazolinskih zaviralcev DNA giraze B = Synthesis of potencial tetrahydroquinazoline inhibitors of DNA gyrase B, COBISS.SI-ID: 3582577.

Sevnik Tina (mentor Marko Anderluh, somentor Urban Švajger): Testni sistem za določanje zaviralnega delovanja antagonistov receptorja DC-sign in vitro = Assay for determining inhibitory activity of DC-sign antagonists in vitro, COBISS.SI-ID: 3511409.

Ucman Vesna (mentor Franc Vrečer): Optimizacija metode tankoplastne kromatografije za kvantitetno vrednotenje vsebnosti sorodnih substanc v zdravilni učinkovini in farmacevtskem izdelku

= Optimization of thin layer chromatography method for quantitative determination of related substances content in the selected active substance in pharmaceutical product, COBISS.SI-ID: 3413617.

MASTER'S STUDY PROGRAM OF LABORATORY BIOMEDICINE

Bohar Mojca (mentor Tomaž Vovk): Vpliv fizične vadbe konj na nastanek reaktivnih dušikovih spojin in oksidativnih poškodb = Influence of physical exercising of the horses on the reactive nitrogen species and oxidative damage, COBISS.SI-ID: 3518577.

Dvoršak Ksenija (mentor Janez Mravljak): Superoksid dismutazna aktivnost stabilnih nitroksidnih radikalov = Superoxide dismutase like activities of stable nitroxide free radicals, COBISS.SI-ID: 3483249.

Ficko Maja (mentor Matjaž Jeras): Analiza subteloernih preureditev pri otrocih in mladostnikih z razvojnim zaostankom in idiopatsko duševno manjzvitostjo = Subtelomeric rearrangements analysis in children and adolescents with developmental delay and idiopathic mental retardation, COBISS.SI-ID: 3561073.

Gruden Kristina (mentorica Barbara Ostanek): Vpliv polimorfizmov H63D, S65C in C282Y v genu HFE na mineralno kostno gostoto = Influence of polymorphisms H63D, S65C in C282Y in HFE gene on bone mineral density, COBISS.SI-ID: 3524465.

Kikelj Neža (mentor Janko Kos, somentor Tadej Čepeljnik): Preverjanje zmožnosti analiznih metod za zaznavo sprememb pri monoklonskem protitelesu, izpostavljenem stresnim razmeram = Verification of the capability of analytical methods to determine changes in monoclonal antibody exposed to stress conditions, COBISS.SI-ID: 3475569.

Kuzman Jasna (mentor Janez Mravljak): Določanje superoksid dismutazne aktivnosti izbranim spojinam z aminskimi, oksimskimi, hidroksilaminskimi ali nitroksidnimi skupinami = Determination of superoxide dismutase like activities of selected compounds containing amin, oxime, hydroxylamine or nitroxide groups, COBISS.SI-ID 3400305.

Mendez Andrijana (mentorica Janja Marc, somentorica Blanka Vidan-Jeras): Analiza alelnega polimorfizma in haplotipskih povezav genov HLA I. in II. razreda v slovenski populaciji = Analysis of the HLA class I. and II. genes polymorphism and haplotype associations in Slovenian population, COBISS.SI-ID: 3561329.

Ogrič Manca (mentorica Janja Marc, somentor Vid Mlakar): Iskanje vezavnih mest za transkripcijske dejavnike, vpletene v izražanje gena RANKL v osteoplastnih celičnih kulturah = Characterization of transcription factors binding sites, involved in regulation of RANKL expression in osteoblast like cells, COBISS.SI-ID: 3473265.

Poniž Helena (mentor Iztok Grabnar): Vrednotenje učinkovitosti zdravljenja okužb ortopedskih vsadkov z vankomicinom in vpliv biokemičnih parametrov na njegove farmakokinetične lastnosti = Evaluation of vancomycin effectiveness in periprosthetic joint infections and the influence of biochemical parameters on its pharmacokinetic profile, COBISS.SI-ID: 3414129.

Tomc Jana (mentorica Marija Sollner Dolenc, somentor Joan M. Llobet Mallafrà): Vrednotenje vedenja zarodkov rib zebrič izpostavljenih metilenendioksimetamfetaminu = Evaluation of larval zebrafish behavior after exposure to methylenedioxyamfetamine, COBISS.SI-ID: 3419249.

Valh Pintar Renata (mentor Borut Božič, somentorica Pika Meško Brguljan): Vrednotenje stopnje hemolize pri meritvah kalija v krvnih serumih in vzorcih za plinsko analizo = Evaluation of the degree of hemolysis in measurements of potassium in serum samples and for gas analysis, COBISS.SI-ID: 3582833.

Varga Sara (mentor Iztok Grabnar, somentor Edvard Pirnat): Napovedovanje absorbirane doze sevanja ^{131}I pri bolnikih z Basedowovo boleznijo z nelinearnim modeliranjem mešanih učinkov = Prediction of absorbed radiation dose of ^{131}I in patients with Basedow's disease by nonlinear mixed-effect modeling, COBISS.SI-ID: 3473521.

Žakelj Melita (mentor Peter Černelč, somentor Tadej Pajič): Ocena določitve aktivnosti, koncentracije in protiteles proti metaloproteazi ADAMTS13 v citratni plazmi bolnikov s trombotično mikroangiopatijo = Assessment of the determination of activity, concentration and antibodies against ADAMTS13 metaloprotease in citrated plasma in patients with thrombotic microangiopathy, COBISS.SI-ID: 3550065.

SCIENTIFIC MASTER'S PROGRAM

Koprivec Furlan Eva (mentor Borut Štrukelj, somentor Rade Injac): Ugotavljanje organoprotektivnosti fulerenola po peroralni in intraperitonealni aplikaciji in vivo pri terapiji z doksorubicinom pri prašičih = Investigation of organoprotective effects of oral and intraperitoneal application of fullereneol in vivo during doxorubicine therapy on small pigs, COBISS.SI-ID: 3511921.

Saksida Vuk Katja (mentor Aleš Mrhar): Primerjalna analiza modelov plačevanja lekarniških storitev iz naslova javnih sredstev = A comparative analysis of remuneration models for pharmaceutical services, COBISS.SI-ID: 3418993.

Svetic Branka (mentorica Ivica Avberšek Lužnik, somentorica Irena Prodan Žitnik): Proučevanje vpliva izbranih polimorfizmov v genih za ADH in HTR1B na tveganje za nastanek sindroma odvisnosti od alkohola ter povezanost polimorfizmov ADH z obstoječimi biokemičnimi kazalci alkoholizma = Investigation of the influence of selected polymorphisms in genes for ASDH and HTR1B on the risk of alcohol dependence and the relationship of ADH polymorphisms with well established biochemical markers for alcoholism, COBISS.SI-ID: 3537777.

Žitko Krhin Mojca (mentor Iztok Grabnar, somentorica Katja Zaletel): Vpliv nadomestnega zdravljenja z L-tiroksinom na razmerje med prostim tiroksinom in prostim trijodtironinom pri bolnikih s Hashimotovim tiroiditisom = The influence of L-thyroxin replacement therapy on free thyroxine to free triiodothyronine ratio in patients with Hashimoto's thyroiditis, COBISS.SI-ID: 3561585.

DOCTORS OF SCIENCE

Artenjak Andrej (mentor Borut Božič, somentorica Saša Čučnik): Vpliv visoko avidnih protiteles proti β 2-glikoproteinu I in oksidativno spremenjenih naravnih protiteles na človeške endotelijske celice koronarne arterije, gojene in vitro = Influence of high avidity anti- β 2-glycoprotein I antibodies and oxidatively modified natural antibodies on human coronary artery endothelial cells grown in vitro, COBISS.SI-ID: 269011968.

Bošković Marija (mentor Iztok Grabnar): Vloga vitamina E in omega-3 polinenasičenih maščobnih kislin pri omejevanju oksidativnih poškodb pri zdravljenju shizofrenije s haloperidolom: doktorska disertacija = The role of vitamin E and omega-3 polyunsaturated fatty acids in reducing oxidative damage in schizophrenia treated with haloperidol, COBISS.SI-ID: 266896896.

Ham Zoran (mentor Uroš Urleb): Raziskave in priprava novih trdnih oblik zdravilnih učinkovin = Research and preparation of new solid forms of active pharmaceutical ingredients, COBISS.SI-ID: 266556160.

Hrast Martina (mentor Stanislav Gobec): Načrtovanje in sinteza inhibitorjev ligaz Mur in D-alanil-D-alanine ligaze = Design and synthesis of Mur ligases and D-alanine: D-alanine ligase, COBISS.SI-ID: 3430257.

Klančar Uroš (mentorica Saša Baumgartner, somentor Igor Legen): Razvoj fiziološko relevantnih metod preskusa raztapljanja hidrofiličnih ogrodnih tablet z uporabo farmakopejskih naprav ter njihovih modifikacij = Development of the physiologically relevant dissolution tests for evaluation of hydrophilic matrix tablets using pharmacopoeial apparatuses and their modifications, COBISS.SI-ID: 267110400.

Kovač Mitja (mentor Marko Anderluh, somentorica Sylvie Mavel): Sinteza in in vitro vrednotenje fluoriranih derivatov benzovesamikola kot potencialnih radioaktivno označenih ligandov za vezikularni prenašalec acetilholina = Synthesis and in vitro characterization of fluorinated benzovesamicol derivatives as potential radioligands for the vesicular acetylcholine transporter, COBISS.SI-ID: 3413873.

Kralj Eva (mentor Albin Kristl, somentor Simon Žakelj): Vpliv aktivnega transporta imatiniba na uspešnost zdravljenja kronične mieloične levkemije = The influence of imatinib active transport on the therapeutic outcome of chronic myeloid leukemia, COBISS.SI-ID: 271092224.

Lavrič Zoran (mentor Stane Srčič, somentor Zvonko Trontelj): Uporaba [zgoraj] 14N jedrske kvadrupolne resonance za proučevanje polimorfizma farmacevtskih učinkovin = Application of [above] 14N nuclear quadrupole resonance to the study of solid state of active pharmaceutical ingredients, COBISS.SI-ID: 269348096.

Nadrah Peter (mentor Odon Planinšek, somentor Miran Gaberšček): Funkcionalizacija poroznih silikatnih delcev za nadzorovano sproščanje učinkovin = Functionalization of porous silica particles for controlled release of drugs, COBISS.SI-ID: 267996416.

Petruševska Marija (mentor Uroš Urleb, somentor Luka Peternel): Uvedba novih visoko zmogljivih eksperimentalnih metod za določitev in izboljšanje topnosti zdravilnih učinkovin = Development and implementation of high-throughput experimentation methods in characterizing and improving solubility of poorly soluble drugs, COBISS.SI-ID: 268849920.

Pišlar Anja (mentor Janko Kos, somentorica Nataša Obermajer): Uravnavanje nevrotrofične aktivnosti [gamma]-enolaze s proteolitičnimi encimi in pomen pri neurodegenerativnih boleznih = Regulation of neurotrophic activity of [gamma]-enolase by proteolytic enzymes and role in neurodegenerative diseases, COBISS.SI-ID: 266232832.

Rošic Romana (mentorica Julijana Kristl, somentorica Saša Baumgartner): Načrtovanje, izdelava in vrednotenje biokompatibilnih nanovlaken z metodo elektrostatskega sukanja = Design, formulation and evaluation of biocompatible nanofibres by electrospinning, COBISS.SI-ID: 266227712.

Schmidt Jan (mentorica Lucija Peterlin Mašič): In vitro preučevanje nastajanja reaktivnih metabolitov izbranih okoljskih estrogenov in njihovih analogov = In vitro investigation of reactive metabolite formation from selected environmental oestrogens and their analogs, COBISS.SI-ID: 269016320.

Torkar Ana (mentor Janko Kos, somentorica Tamara Lah Turnšek): Razvoj selektivnih inhibitorjev katepsina L = Development of selective cathepsin L inhibitors, COBISS.SI-ID: 267692800.

Trstenjak Uroš (mentor Danijel Kikelj, somentor Janez Ilaš): Načrtovanje, sinteza in vrednotenje novih inhibitorjev faktorja Xa in antagonistov GPIIb/IIIa kot potencialnih dualnih antitrombotičnih učinkovin = Design, synthesis and biological evaluation of new inhibitors of factor Xa and GPIIb/IIIa antagonists as potential dual antithrombotic compounds, COBISS.SI-ID: 267004416.

(Chapter 7 was prepared by: B. Toth)

8 SCIENCE AND RESEARCH ACTIVITY

CHAIR FOR BIOPHARMACY AND PHARMACOKINETICS

Self studies

Bogataj Marija, Mrhar Aleš, Kerec Kos Mojca, Trontelj Jurij, Vovk Tomaž, Pišlar Mitja, Vrečer Franc: Biopharmacy with pharmacokinetics: study book for students of 4. Study year of the Unified master's degree study of pharmacy and the students of the 1. Study year of Master's degree study of industrial pharmacy.-(El.book) Ljubljana Faculty of Pharmacy, 2013 COBISS.SI-ID:270034688.

Ilaš Janez, Žakelj Simon: Instrumental analysis in cosmetics, exercises and seminars; university study program Cosmetology.-Ljubljana: Faculty of Pharmacy, 2013, COBISS.SI-ID: 269523968.

ObrezaAleš, Humar Marjeta,Šmid-Korbar Jelka, Janeš Damjan,Razinger-Mihovec Barbara, Frankic Darja, Kosirnik Breda,Lunder Mojca, Jeras Matjaž, Marc Janja, Gašperlin Mirjana, Baugartner Saša, Kos Mitja, Mrhar ales, Černe Darko,Švajger Branka, Hribar Maruša, Tomazin Evgen, Božič Borut, Marinka Petra, Kreft Samo, Vučko Mole Simona: Pharmaceutical terminology dictionary (Collection Dictionaries), Ljubljana: Publishing house ZRC, 2013, COBISS.SI-ID: 268204800.

Roškar Robert: Packaging and stability, exercises of stability of medicines: university study program Cosmetology: (El. book) Ljubljana: Faculty for pharmacy, 2013, COBISS.SI-ID: 269999616.

Roškar Robert: Exercises of stability of medicines: unified master's degree study of pharmacy.-(El. book), Ljubljana, Faculty for pharmacy 2013, CONISS.SI-ID: 270051328.

Scientific and professional publications

Berginc Katja, Kristl Albin: The mechanisms responsible for garlic - drug interactions and their in vivo relevance.- *Current Drug Metabol.*, 2013, 14, 1, pp. 90-101, COBISS.SI-ID: 3091057.

Bošković Marija, Vovk Tomaž, Saje Marko, Goričar Katja, Dolžan Vita, Kores-Plesničar Blanka, Grabnar Iztok: Association of SOD2, GPX1, CAT, and TNF genetic polymorphisms with oxidative stress, neurochemistry, psychopathology, and extrapyramidal symptoms in schizophrenia.- *Neurochem. Res.*, 2013, 38, 2, pp. 433-442, COBISS.SI-ID: 3363697.

Bošković Marija, Grabnar Iztok, Terzič Tea, Kores-Plesničar Blanka, Vovk Tomaž: Oxidative stress in schizophrenia patients treated with long-acting haloperidol decanoate.- *Psychiatry Res.*, 2013, 210, 3, pp. 761-768, COBISS.SI-ID: 3507825.

Erman Andreja, Kerec Kos Mojca, Žakelj Simon, Resnik Nataša, Romih Rok, Veranič Peter: Correlative study of functional and structural regeneration of urothelium after chitosan-induced injury.- *Histochem. Cell Biol.*, 2013, 140, 5, pp. 521-531, COBISS.SI-ID: 30654169.

Grošelj Mateja, Mrhar Aleš, Zidarn Mihaela, Košnik Mitja: Prepoznavanje in zdravljenje bolnikov s sumom na preobčutljivost za penicilinske antibiotike = Identification and treatment of patients with suspected penicillin allergy.- *Zdravn. Vestn.*, 2013, 82, 2, pp. 80-85, COBISS.SI-ID: 3428721.

Hasa Dritan, Perissutti Beatrice, Dall'acqua Stefano, Chierotti Michele Remo, Gobetto Roberto, Grabnar Iztok, Cepek Cinzia, Voinovich Dario: Rationale of using Vinca minor Linne dry extract phytocomplex as a vincamine's oral bioavailability enhancer.- *Europ. J. Pharm. Biopharm.*, 2013, 84, 1, pp. 138-144, COBISS.SI-ID: 3367281.

Hurler Julia, Žakelj Simon, Mravljak Janez, Pajk Stane, Kristl Albin, Schubert Rolf, Škalko-Basnet Nataša: The effect of lipid composition and liposome size on the release properties of liposomes-in-hydrogel.- *Int. J. Pharm.*, 2013, 456, 1, pp. 49-57, COBISS.SI-ID: 3508081.

Jaklič Alenka, Collins Carol J., Mrhar Aleš, Sorrow Mohamed L., Sandmaier Brenda M., Bemer Meagan J., Locatelli Igor, Mccune Jeannine S.: High prevalence of potential drug interactions affecting mycophenolic acid pharmacokinetics in nonmyeloablative hematopoietic stem cell transplant recipients.- *Int. J. Clin. Pharmacol. Therap.*, 2013, 51, 9, pp. 711-717, COBISS.SI-ID: 3489649.

Jovanović Marija, Sokić Dragoslav, Grabnar Iztok, Vovk Tomaž, Prostran Milica, Vučićević Katarina, Miljković Branislava: Population pharmacokinetics of topiramate in adult patients with epilepsy using nonlinear mixed effects modelling. – *Eur. J. Pharm. Sci.*, 2013, 50, 3-4, pp. 282-289, COBISS.SI-ID: 3491185.

Kerec Kos Mojca: Glukozamin - kritičen pogled z vidika delovanja in biološke uporabnosti = Glucosamine - a critical review of its efficacy and bioavailability.- *Farm. Vestn.*, 2013, 64, 2, pp. 118-123, COBISS.SI-ID: 3472497.

Klein Sandra, Garbacz Grzegorz, Pišlar Mitja, Locatelli Igor, Liu Chong, Weitschies Werner, Siegmund Werner, Mrhar Aleš, Bogataj Marija: The role of individual gastric emptying of pellets in the prediction of diclofenac in vivo dissolution.- *J. Contr. Rel.*, 2013, 166, 3, pp. 286-293, COBISS.SI-ID: 3370609.

Kralj Eva, Žakelj Simon, Trontelj Jurij, Pajič Tadej, Preložnik-Zupan Irena, Černelč Peter, Ostanek Barbara, Marc Janja, Kristl Albin: Monitoring of imatinib targeted delivery in human leukocytes.- *Eur. J. Pharm. Sci.*, 2013, 50, 1, pp. 123-129, COBISS.SI-ID: 3441521.

Martinc Boštjan, Vovk Tomaž: A simple high-throughput method for determination of antiepileptic analogues of [gamma]-aminobutyric acid in pharmaceutical dosage forms using microplate fluorescence reader.- *Chem. Pharm. Bull.*, 2013, 61, 10, pp. 1009-1014, COBISS.SI-ID: 3490929.

Naveršnik Klemen, Mrhar Aleš: Cost-effectiveness of a novel e-health depression service.- *Telemed. J. E-health*, 2013, 19, 1, pp. 110-116, COBISS.SI-ID: 1520476.

Perme Tina, Mali Senja, Vidmar Ivan, Gvardijančič Diana, Blumauer Robert, Mishaly David, Grabnar Iztok, Nemeč Gregor, Grošek Stefan: Prolonged prostaglandin E1 therapy in a neonate with pulmonary atresia and ventricular septal defect and the development of antral foveolar hyperplasia and hypertrophic pyloric stenosis.- *Uppsala J. Med. Sci.*, 2013, 118, 2, pp. 138-142, COBISS.SI-ID: 708524.

Radivojša Maja, Grabnar Iztok, Ahlin Grabnar Pegi: Thermoreversible in situ gelling poloxamer-based systems with chitosan nanocomplexes for prolonged subcutaneous delivery of heparin: Design and in vitro evaluation.- *Eur. J. Pharm. Sci.*, 2013, 50, 1, pp. 93-101, COBISS.SI-ID: 3418737.

Režonja Renata, Knez Lea, Čufer Tanja, Mrhar Aleš: Oral treatment with etoposide in small cell lung cancer - dilemmas and solution.- *Radiol. Oncol.*, 2013, 47, 1, pp. 1-13, COBISS.SI-ID: 3405937.

Roškar Robert: Interakcije zdravil za zdravljenje revmatičnih bolezni = Interactions between drugs for treatment of rheumatic diseases.- *Farm. Vestn.*, 2013, 64, 4, pp. 281-287, COBISS.SI-ID: 3522161.

Schmidt Jan, Kotnik Petra, Trontelj Jurij, Knez Željko, Peterlin-Mašič Lucija: Bioactivation of bisphenol A and its analogs (BPF, BPAF, BPZ and DMBPA) in human liver microsomes.- *Toxicol. in Vitro*, 2013, 27, 4, pp. 1267-1276, COBISS.SI-ID: 3408497.

Trobec Katja, Kerec Kos Mojca, Haehling Stephan, Springer Jochen, Anker Stefan D., Lainščak Mitja: Pharmacokinetics of drugs in cachectic patients: a systematic review.- *PloS one*, 2013, 8, 11, art. no. e79603, COBISS.SI-ID: 3547505.

Žakelj Simon, Berginc Katja, Roškar Robert, Kraljič Bor, Kristl Albin: Do the recommended standards for in vitro biopharmaceutical classification of drug permeability meet the "passive transport" criterion for biowaivers?.- *Current Drug Metabol.*, 2013, 14, 1, pp. 21-27, COBISS.SI-ID: 3232881.

Visiting lectures

Bogataj Marija: Biopharmaceutical characteristics of the more unified pharmaceutical forms.- V. 25. symposium of Section of pharmaceutical technologists challenges of micro and mini delivery systems. micro pellets, pellets and mini tablets: bulletin of lectures: PIC Lek, Ljubljana, Thursday June 13, 2013, Ljubljana Slovenian Pharmaceutical Association, 2013, pag. 40-48, COBISS.SI-ID: 3481713.

Drofenik Polonca, Grabnar Iztok: Adaptation of doses at renal failure.-V.Golnik symposium September 26,2013. Clinical pharmacy: coordination of treatment with medicines: Golnik symposium, September 26, 2013. The bulletin of contributions. Golnik; University clinic for lung diseases and allergies, Golnik: University in Ljubljana, Faculty of pharmacy 2013, pp. 13-24, COBISS.SI.ID:3523185.

Jovanović Marija, Sokić Dragoslav, Grabnar Iztok, Vovk Tomaž, Prostran Milica, Vučičević Katarina, Miljkovič Branislava: Effect of carbamazepine daily dose on topiramate clearance - population modelling approach.- V: The PAGE 2013 meeting, Twenty-second meeting, 11-14 June, 2013, Glasgow, Scotland. 2013, Scotland Twenty-second meeting, 11-14 June, 2013, PAGE 2013, 1 pp., COBISS.SI-ID: 3486577.

Marc Janja, Žakelj Simon: Drug transporters and imatinib pharmacogenomics.- V: Post-Congress Satellite Meeting, Pharmacogenomics and theranostics in practice, Florence, Italy, 24 May, 2013. Post-Congress Satellite Meeting, Pharmacogenomics and theranostics in practice, Florence, Italy, 24 May, 2013, in cooperation with the European Society of Pharmacogenomics and Theranostics: abstracts, (Drug Metabolism and drug interactions, 2013, Vol. 28, no. 1), Berlin; Boston: de Gruyter, 2013, pp. A3-A4, COBISS.SI-ID: 3460465.

Marc Janja, Trdan Lušin Tina, Mrhar Aleš, Trontelj Jurij, Ostanek Barbara: Drug transporters and pharmacogenomics of raloxifene.- V: Second ESPT Conference "Pharmacogenomics: From Cell to Clinic, Lisbon, September 26-28, 2013.- Congress abstracts, (Drug metabolism and drug interactions, Vol. 28, iss. 3), Berlin; Boston: de Gruyter, 2013, pp. A21-A22, COBISS.SI-ID: 3540593.

Milosheska D., Grabnar Iztok, Pirnat Edvard, Tomše P., Stopar Tanja, Hojker Sergej: Prediction of patient-specific therapeutic activity of radioiodine in patients with graves' disease based on population modelling of turnover following administration of diagnostic activity.- V: 5th International BBBB Conference, 26-28 September 2013, Athens, Greece: book of abstracts: from drug discovery and formulation strategies (design-synthesis and preclinical testing, delivery systems, nanotechnology, biopharmaceuticals, biosimilars, BCS, BDDCS, generics-bioequivalence): to pharmacokinetics-pharmacodynamics (metabolism, transporters, pharmacogenomics, biomarkers, drug therapy, individualized therapy, biotherapeutics, PK/PD modeling), 2013, pp. 110-111, PP135, COBISS.SI-ID: 3530609.

Mrhar Aleš: Clinical pharmacy: condition in Slovenia September 2013, and achievements in the past year.-V: Golnik symposium 2013. Golnik September 26, 2013 Clinical pharmacy: coordination of treatment with medicines: Golnik symposium 2013, September 26, 2012: University clinic for lung disease and allergies Golnik: University in Ljubljana, Faculty for pharmacy, 2013, pag. 5-8, COBISS.SI-ID:3522929.

Žakelj Simon, Kralj Eva, Trontelj Jurij, Kristl Albin: Imatinib intracellular uptake in leukocytes: method for determination and correlation with treatment success.- V: 5th International BBBB Conference, 26-28 September 2013, Athens, Greece: book of abstracts: from drug discovery and formulation strategies (design-synthesis and preclinical testing, delivery systems, nanotechnology, biopharmaceuticals, biosimilars, BCS, BDDCS, generics-bioequivalence): to pharmacokinetics-pharmacodynamics (metabolism, transporters, pharmacogenomics, biomarkers, drug therapy, individualized therapy, biotherapeutics, PK/PD modeling), 2013, pp. 30, COBISS.SI-ID: 3536497.

Lectures and contributions at conferences

Mrhar Aleš, Tršinar Maja: The Role of pharmacist in the medical team at treatment with medicines.- V: Cancer of colon and rectum: lecture bulletin: medical TEAM 2012. 9-11 October 2012 , Ljubljana: Roche, 2013, pp. 9-15, COBISS.SI-ID:3429489.

Mrhar Aleš, Knez Lea, Jančar Petra, Pavšar Helena, Bončina Karmen: Coordination of treatment with medicine. V: Safe use of medicine: bulletin of contributions, Ljubljana: Slovenian medical association, Section for clinical toxicology , 2013, pp. 134-138, COBISS.SI-ID 3387761.

Nagelj Kovačič Nataša, Mrhar Aleš: Didrogesteron and preventing of abortion - pharmacodynamical and pharmacokinetics aspects: V: Bulletin of contributions , Ljubljana,

Association for ambulatory gynecology - Slovenian Medical Association, 2013, pp. 17-21, COBISS.SI-ID: 3388017.

CHAIR FOR PHARMACEUTICAL BIOLOGY

Self studies

Bratkovič Tomaž, Molek Peter, Kraševc Nada, Mori Jerneja, Gaber Rok, Andrejc Darjan, Doles Tibor, Božič Sabina, Lainšček Duško, Husić Muharem, Kreft Samo, Kočevar Glavač Nina, Stojilkovski Katja, Mlinarič Aleš, Injac Rade, Novak Andreja, Doljak Bojan, Štrukelj Borut, Slanc Petra, Umek Andrej, Lunder Mojca, Kristl Jernej, Janeš Damjan, Berlec Aleš, Sabotič Jerica, Glavač Igor: Contemporary phytotherapy: use of medicinal plants supported by evidence.- 2., supplemented ed., Ljubljana: Slovenian pharmaceutical association, 2013, 703 p., COBISS.SI-ID: 269969664.

Injac Rade, Prijatelj Matevž, Štrukelj Borut: Fullerenol nanoparticles: toxicity and antioxidant activity.- V: Oxidative stress and nanotechnology : methods and protocols, (Methods in Molecular Biology, vol. 1028), New York: Humana Press, 2013, pp. 75-100, COBISS.SI-ID: 3469169.

Kreft Samo, Kočevar Glavač Nina, Stojilkovski Katja, Mlinarič Aleš, Injac Rade, Novak Andreja, Doljak Bojan, Štrukelj Borut, Slanc Petra, Umek Andrej, Lunder Mojca, Kristl Jernej, Janeš Damjan, Berlec Aleš, Sabotič Jerica, Glavač Igor: Contemporary phytotherapy: use of medicinal plants supported by evidence.- Ljubljana: Slovenian pharmaceutical association, 2013, 692 p., COBISS.SI-ID: 266260736.

Lunder Mojca, Bratkovič Tomaž, Molek Peter, Vodnik Miha: Biotechnology in cosmetology: exercise scrip.- Ljubljana: Faculty of Pharmacy, Chair for pharmaceutical biology, 2013, COBISS.SI-ID: 3562609.

Obreza Aleš, Humar Mateja, Šmidt-Korbar Jelka, Janeš Damjan, Razinger-Mihovec Barbara, frankič Darja, Kosirnik Breda, Lunder Mojca, Jeras Matjaž, Marc Janja, Gašperlin Mirjana, Baumgartner Saša, Kos Mitja, Merhar Aleš, Černe Darko, Vučko Mole Simona: Pharmaceutical terminology dictionary, (collection Dictionaries) , Ljubljana, Publishing house ZRC, 2013, COBISS.SI-ID:268204800.

Scientific and professional publications

Aničin Aleksandar, Gale Nina, Šmid Alojz, Kos Janko, Stojan Primož: Expression of stefin A is of prognostic significance in squamous cell carcinoma of the head and neck.- *Europ. Arch. of Oto-Rhino-L.* 2013, 270, 12, pp., 3143-3151, COBISS.SI-ID: 1533051.

Berlec Aleš, Malovrh Tadej, Zdravec Petra, Steyer Andrej, Ravnikar Matjaž, Sabotič Jerica, Poljšak-Prijatelj Mateja, Štrukelj, Borut. Expression of a hepatitis A virus antigen in *Lactococcus lactis* and *Escherichia coli* and evaluation of its immunogenicity.- *App. Microbiology Biot.*, 2013, 97, 10, pp. 4333-4342, COBISS.SI-ID: 3398769.

Berlec Aleš, Štrukelj Borut: Current state and recent advances in biopharmaceutical production in *Escherichia coli*, yeasts and mammalian cells.- *J. Ind. Microbiol. & Biot.*, 2013, 40, 3-4, pp. 257-274, COBISS.SI-ID: 3399025.

Budič Maruška, Sabotič Jerica, Meglič Vladimir, Kos Janko, Kidrič Marjetka: Characterization of two novel subtilases from common bean (*Phaseolus vulgaris* L.) and their responses to drought.- *Plant Physiol. Biochem.*, 2013, 62, pp. 79-87, COBISS.SI-ID: 26305831.

Emeršič Andreja, Pirtošek Zvezdan, Štempelj Mateja, Štrukelj Borut: Zdravljenje Alzheimerjeve bolezni = Treatment of Alzheimers disease.- *Farm. Vestn.*, 2013, 64, 3, pp. 202-207, COBISS.SI-ID: 26967591.

Janeš Damjan: Sodobna uporaba zdravilnih rastlin v Evropski uniji = Modern use of medicinal herbs in EU.- *Farm. Vestn.*, 2013, 64, p. 2, pp. 91-93, COBISS.SI-ID: 3453041.

Jevnikar Zala, Rojnik Matija, Jamnik Polona, Doljak Bojan, Pečar Fonović Urša, Kos Janko: Cathepsin H mediates the processing of talin and regulates migration of prostate cancer cells.- *J. Biolog. Chem.*, 2013, 288, pp. 2201-2209, COBISS.SI-ID: 3390321.

Kočevar Glavač Nina, Stojilkovski Katja. Klinične raziskave v fitoterapiji = Clinical trials in phytotherapy. - *Farm. Vestn.*, 2013, 64, 2, pp. 112-117, COBISS.SI-ID: 3453297.

Kopitar Andreja Nataša, Skvarč Miha, Tepeš Bojan, Kos Janko, Ihan Alojz: Helicobacter pylori susceptible/resistant to antibiotic eradication therapy differ in the maturation and activation of dendritic cells.- *Helicobacter*, 2013, 18, 6, pp. 444-453, COBISS.SI-ID: 30736857.

Kralj Slavko, Rojnik Matija, Kos Janko, Makovec Darko: Targeting EGFR-overexpressed A431 cells with EGF-labeled silica-coated magnetic nanoparticles.- *J. Nanopart. Res.*, 2013, 15, 5, pp. 1666-1-1666-11, COBISS.SI-ID: 26704935.

Kreft Samo, Janeš Damjan, Kreft Ivan: The content of fagopyrin and polyphenols in common and tartary buckwheat sprouts.- *Acta Pharm.*, 2013, 63, 4, pp. 553-560, COBISS.SI-ID: 3577457.

Lunder Mojca, Žiberna Lovro, Janič Miodrag, Jerin Aleš, Skitek Milan, Šabovič Mišo, Drevenšek Gorazd: Low-dose atorvastatin, losartan, and particularly their combination, provide cardiovascular protection in isolated rat heart and aorta.- *Heart Vessels*, 2013, 28, 2, pp. 246-254, COBISS.SI-ID: 3436657.

Magister Špela, Kos Janko: Cystatins in immune system.- *J. Cancer*, 2013, 4, 1, pp. 45-56, COBISS.SI-ID: 3379313.

Pečar Fonović Urša, Jevnikar Zala, Kos Janko: Cathepsin S generates soluble CX3CL1 (fractalkine) in vascular smooth muscle cells.- *Biol. Chem.*, 2013, 394, 10, pp. 1349-1352, COBISS.SI-ID: 3503729.

Pečar Fonović Urša, Jevnikar Zala, Rojnik Matija, Doljak Bojan, Fonović Marko, Jamnik Polona, Kos Janko: Profilin 1 as a target for cathepsin X activity in tumor cells.- *PloS one*, 2013, 8, 1, pp. 1-9, e53918, COBISS.SI-ID: 3375217.

Pišlar Anja, Kos Janko: C-terminal peptide of [gamma]-enolase impairs amyloid-β-induced apoptosis p75^{sup}(NTR) signaling.- *Neuromol. Med.*, 2013, 15, 3, pp. 623-635, COBISS.SI-ID: 3492209.

Pišlar Anja, Glavan Gordana, Obermajer Nataša, Živin Marko, Schliebs Reinhard, Kos Janko: Neuroprotective role of [gamma]-enolase in microglia in a mouse model of Alzheimer's disease is regulated by cathepsin X.- *Aging Cell*, 2013, 12, 4, pp. 604-614, COBISS.SI-ID: 3441265.

Skvarč Miha, Štubljar David, Kopitar Andreja Nataša, Jeverica Samo, Tepeš Bojan, Kos Janko, Ihan Alojz: Inhibition of cathepsin X enzyme influences the immune response of THP-1 cells and dendritic cells infected with Helicobacter pylori.- *Radiol. Oncol.*, 2013, 47, 3, pp. 258-265, COBISS.SI-ID: 30765785.

Sosič Izidor, Mirković Bojana, Arenz Katharina, Stefane Bogdan, Kos Janko, Gobec Stanislav: Development of new cathepsin B inhibitors: combining bioisosteric replacements and structure-based design to explore the structure-activity relationships of nitroxoline derivatives.- *J. Med. Chem.*, 2013, 56, 2, pp. 521-533, COBISS.SI-ID: 3370865.

Softić Adaleta, Begić Lejla, Halilbašić A., Vižin Tjaša, Kos Janko: The predictive value of cystatin C in monitoring of B non-Hodgkin lymphomas: relation to biochemical and clinical parameters.- *ISRN Oncol., (Online)*, 2013, 2013, art. ID 752792, COBISS.SI-ID: 3521137.

Stojilkovski Katja, Kočevar Glavač Nina, Kreft Samo, Kreft Ivan: Fagopyrin and flavonoid contents in common, Tartary, and cymosum buckwheat.- *J. Food Comp. Anal.*, 2013, 32, 2, pp. 126-130, COBISS.SI-ID: 7794297.

Šmid Ida, Gruden Kristina, Buh Gašparič Meti, Koruza Katarina, Petek Marko, Pohleven Jure, Brzin Jože, Kos Janko, Žel Jana, Sabotič Jerica: Inhibition of the growth of Colorado potato beetle larvae by macrocypins, protease inhibitors from the parasol mushroom.- *J. Agricult. Food Chem.*, 2013, 61, 51, pp. 12499-12509, COBISS.SI-ID: 27291431.

Štrukelj Borut: Pljučne bolezni in cigarete: ali trošarina pokrije zdravljenje? = Lung diseases and smoking: does excise duty cover all health expences?.- *Farm. Vestn.*, 2013, 64, 2, pp. 146-150, COBISS.SI-ID: 3464561.

Vodnik Miha, Molek Peter, Štrukelj Borut, Lunder Mojca: Peptides binding to the hunger hormone ghrelin.- *Horm. Metab. Res.*, 2013, 45, 5, pp. 372-377, COBISS.SI-ID: 3398513.

Zapotoczna Marta, Jevnikar Zala, Miajlović Helen, Kos Janko, Foster Timothy J: Iron regulated surface determinant B (IsdB) promotes Staphylococcus aureus adherence to and internalization by non-phagocytic human cells.- *Cell. Microbiol.*, 2013, 15, 6, pp. 1026-1041, COBISS.SI-ID: 3379569.

Visiting lectures

Berovič Marin, Habijanič Jožica, Švagelj Mirjan, Gerbec Blaž, Boh Bojana, Plankl Mojca, Wraber-Herzog Branka, Kreft Samo: Production of pharmaceutical compounds of medicinal fungi in bioreactors: [sekcijsko predavanje].- V: Slovenski kemijski dnevi 2013, Maribor, 10. in 12. september 2013, Zbornik povzetkov referatov s posvetovanja, Maribor, 2013, pp. 117-118, COBISS.SI-ID: 1631535.

Božič Biljana, Lončar Goran, Vižin Tjaša, Radojičić Zoran, Popović Brkić Vera, Kos Janko: New potential role of cystatin C in elderly males with chronic heart failure.- V: 7th Conference on Experimental and Translational Oncology, Portorož, Slovenia, April, 20-24, 2013, Book of abstracts, Ljubljana: Association of Radiology and Oncology, 2013, pp. 67, COBISS.SI-ID: 3438961.

Brus Boris, Sosič Izidor, Turk Samo, Košak Urban, Pišlar Anja, Mirković Bojana, Stojan Jure, Kos Janko, Gobec Stanislav: Development of new-multi-target-directed ligands as potential anti-Alzheimer agents.- V: VIIIth Joint Meeting on Medicinal Chemistry, June 30-July 4 2013, Lublin, 2013, pp. ML-V, COBISS.SI-ID: 3494001.

Jevnikar Zala, Mirković Bojana, Pečar Fonović Urša, Rojnik Matija, Kos Janko: Cysteine cathepsins in macrophage invasion: roles in protrusive podosomes.- V: 7th Conference on Experimental and Translational Oncology, Portorož, Slovenia, April, 20-24, 2013, Book of abstracts, Ljubljana: Association of Radiology and Oncology, 2013, pp. 71, COBISS.SI-ID: 3439217.

Lunder Mojca, Vodnik Miha, Štrukelj Borut: Peptide modulators of hunger hormone ghrelin.- V: 10th Meeting of the Slovenian Biochemical Society with International Participation, Ljubljana, Slovenia, September 15-18, 2013, Book of abstracts, Ljubljana: Slovenian Biochemical Society, 2013, pp. 41, COBISS.SI-ID: 3530353.

Mirković Bojana, Markelc Boštjan, Butinar Miha, Sosič Izidor, Gobec Stanislav, Vasiljeva Olga, Turk Boris, Čemažar Maja, Serša Gregor, Kos Janko: Nitroxoline impairs the processes of cancer progression in in vitro and in vivo tumour models.- V: 7th Conference on Experimental and Translational Oncology, Portorož, Slovenia, April, 20-24, 2013, Book of abstracts, Ljubljana: Association of Radiology and Oncology, 2013, pp. 83, COBISS.SI-ID: 3443057.

Pišlar Anja, Kos Janko: Role of [gamma] enolase in neuronal development and degeneration: regulation by cysteine protease cathepsin X.- V: 10th Meeting of the Slovenian Biochemical Society with International Participation, Ljubljana, Slovenia, September 15-18, 2013, Book of abstracts, Ljubljana: Slovenian Biochemical Society, 2013, pp. 58, COBISS.SI-ID: 3513969.

Sabotič Jerica, Renko Miha, Avanzo Caglič Petra, Bleuler-Martinez Silvia, Brzin Jože, Künzler Markus, Turk Dušan, Kos Janko: Versatility of β -trefoil inhibitors from mushrooms.- V: 10th Meeting of the Slovenian Biochemical Society with International Participation, Ljubljana, Slovenia, September 15-18, 2013, Book of abstracts, Ljubljana: Slovenian Biochemical Society, 2013, pp. 34, COBISS.SI-ID 3530097.

Sosič Izidor, Mirković Bojana, Arenz Katharina, Stefane Bogdan, Kos Janko: Structure-based design of new cathepsin B inhibitors.- V: 7th Conference on Experimental and Translational Oncology, Portorož, Slovenia, April, 20-24, 2013, Book of abstracts, Ljubljana: Association of Radiology and Oncology, 2013, pp. 84, COBISS.SI-ID: 3443313.

Sosič Izidor, Mirković Bojana, Markelc Boštjan, Butinar Miha, Vasiljeva Olga, Turk Boris, Čemažar Maja, Serša Gregor, Kos Janko, Gobec Stanislav: Nitroxoline and its derivatives impair the processes of cancer progression in in vitro and in vivo tumour models.- V: Inflammation, Immunomodulation, Inspiration: 12th International Summer School, August 4 - 6, 2013, 1 pp., COBISS.SI-ID 3498353.

Vižin Tjaša, Christensen Ib Jarle, Nielsen Hans Jørgen, Kos Janko: Cathepsin X in serum from patients with colorectal cancer has a prognostic and predictive value.- V: 7th Conference on Experimental and Translational Oncology, Portorož, Slovenia, April, 20-24, 2013, Book of abstracts, Ljubljana: Association of Radiology and Oncology, 2013, pp. 64, COBISS.SI-ID: 3438705.

Lectures and contributions at conferences

Beović Bojana, Pirš Mateja, Kreft Samo, Müller-Premru Manica: An attempt to control Klebsiella pneumonia –EBSL productive bacteria in University Medical Center Ljubljana.-V:infections connected with medical care, bulletin (srečanja) meeting (Medical views, Medicinski razgledi) Supplement, year. 52 6, Ljubljana: medical views, 2013, pp. 109-117, COBISS.SI-ID: 31026393.

Patents

Štrukelj Borut, Kreft Samo, Janeš Damjan, Kočevar Glavač Nina, Tavčar Eva, Slokar Marko, Zaloker Ante, Grilc Viktor, Mirt Ivan, Cerovečki Željko: Complex of antioxidative extract from bark of fir tree with cyclodextrines: number 23862, Ljubljana: Institution RS for intellectual propriety, 29.3.2013, COBISS.SI-ID: 3470705.

Štrukelj Borut, Kreft Samo, Janeš Damjan, Kočevar Glavač Nina, Tavčar Eva, Slokar Marko, Zaloker Ante: Liquid rafinated antioxiditive extract from firm bark and procedure for its obtaining, number 23867, Ljubljana Institution RS for intellectual propriety, 29.3.2013, COBISS.SI-ID: 3470961.

CHAIR FOR PHARMACEUTICAL CHEMISTRY

Self studies

Ilaš Janez, Žakelj Simon: Instrumental analysis in cosmetics: exercises and seminars, university study program Cosmetology.- Ljubljana, Faculty of Pharmacy, 2013, COBISS.SI-ID: 269523968.

Obreza Aleš, Humar Marjeta, Šmid-Korbar Jelka, Janeš Damjan, Razinger-Mihovec Barbara, Frankič Darja, Kosirnik Breda, Lunder Mojca, Jeras Matjaž, Marc Janja, Gašperlin Mirjana, Baumgartner Saša, Kos Mitja, Mrhar Aleš, Černe Darko, Švajger Branka, Hribar Maruša, Tomazin Evgen, Božič Borut, Marinko Petra, Kreft Samo, Vučko Mole Simona: Pharmaceutical terminology dictionary, (Collection Dictionaries), Ljubljana, Publishing house ZRC, 2013, COBISS.SI-ID: 268204800. Scientific and professional publications

Anderluh Marko: Synthesis of celecoxib in the undergraduate organic chemistry or medicinal chemistry laboratories; conventional vs. microwave heating.- *The Chemical Educator*, 2013, 18, pp. 155-158, COBISS.SI-ID: 3499377.

Beranič Nataša, Stefane Bogdan, Brus Boris, Gobec Stanislav, Lanišnik-Rižner Tea: New enzymatic assay for the AKR1C enzymes.- *Chem.-Biol. Interact.*, 2013, 202, 1/3, COBISS.SI-ID: 30357465.

Fic Anja, Žegura Bojana, Sollner Dolenc Marija, Filipič Metka, Peterlin-Mašič Lucija: Mutagenicity and DNA damage of bisphenol A and its structural analogs = Mutagenost in poškodbe DNA povzročene z bisfenolom A in njegovimi strukturnimi analogi.- *Arh. Hig. Rada Toksikol.*, 2013, 64, 2, pp. 189-200, COBISS.SI-ID: 3437937.

Fic Anja, Peterlin-Mašič Lucija, Sollner Dolenc Marija: Biološki označevalci in njihova uporaba pri razvoju in zagotavljanju varnosti zdravil = Biomarkers and their use in drug safety assessment.- *Farm. Vestn.*, 2013, 64, 1, pp. 57-63, COBISS.SI-ID: 3436401.

Frlan Rok: Zaviralci ureaze = Urease inhibitors.- *Farm. Vestn.*, 2013, 64, 3, pp. 218-226, COBISS.SI-ID: 3501169.

Gazvoda Martin, Beranič Nataša, Turk Samo, Burja Bojan, Kočevar Marijan, Lanišnik-Rižner Tea, Gobec, Stanislav, Polanc Slovenko: 2, 3-Diarylpropenoic acids as selective non-steroidal inhibitors of type-5 17 β -hydroxysteroid dehydrogenase (AKR1C3).- *Eur. J. Med. Chem.*, 2013, 62, 1, pp. 89-97, COBISS.SI-ID: 36421381.

Gosenca Mirjam, Mravljak Janez, Gašperlin Mirjana, Obreza Aleš: The design, synthesis, and antioxidant activity of amphiphilic oximes and amidoximes.- *Acta Chim. Slov.*, 2013, 60, 2, pp. 310-322, COBISS.SI-ID: 3475313.

Hervé Mireille, Kovač Andreja, Cardoso Cécile, Patin Delphine, Brus Boris, Barreteau Hélène, Mengin-Lecreulx Dominique, Gobec Stanislav, Blanot Didier: Synthetic tripeptides as alternate substrates of murein peptide ligase (Mpl).- *Biochimie*, 2013, 95, 6, pp. 1120-1126, COBISS.SI-ID: 3374961.

Hodnik Žiga, Tomašič Tihomir, Peterlin-Mašič Lucija, Chan Fiona, Kirby Robert W., Madge David J., Kikelj Danijel: Novel state-dependent voltage-gated sodium channel modulators, based on marine alkaloids from *Agelas* sponges.- *Eur. J. Med. Chem.*, 2013, 70, pp. 154-164, COBISS.SI-ID: 3505777.

Hrast Martina, Turk Samo, Sosič Izidor, Knez Damijan, Randall Christopher P., Barreteau Hélène, Contreras-Martel Carlos, Dessen Andréa, O'Neill Alex J., Mengin-Lecreulx Dominique, Blanot Didier, Gobec Stanislav: Structure-activity relationships of new cyanothiophene inhibitors of the essential peptidoglycan biosynthesis enzyme MurF.- *Eur. J. Med. Chem.*, 2013, 66, pp. 32-45, COBISS.SI-ID: 3452785.

Hurler Julia, Žakelj Simon, Mravljak Janez, Pajk Stane, Kristl Albin, Schubert Rolf, Škalko-Basnet Nataša: The effect of lipid composition and liposome size on the release properties of liposomes-in-hydrogel.- *Int. J. Pharm.*, 2013, 456, 1, pp. 49-57, COBISS.SI-ID: 3508081.

Ilić Miloš, Dunkel Petra, Ilaš Janez, Chabielska Ewa, Zakrzaska Agnieszka, Mátyus Péter, Kikelj Danijel: Towards dual antithrombotic compounds - Balancing thrombin inhibitory and fibrinogen GPIIb/IIIa binding inhibitory activities of 2,3-dihydro-1,4-benzodioxine derivatives through regio- and stereoisomerism.- *Eur. J. Med. Chem.*, 2013, 62, pp. 329-340, COBISS.SI-ID: 3391601.

Jakopin Žiga: Murabutide revisited: a review of its pleiotropic biological effects.- *Current Med. Chem.*, 2013, 20, 16, pp. 2068-2079, COBISS.SI-ID: 3435121.

Jakopin Žiga, Gobec Martina, Kodela Jaka, Hazdovac Toni, Mlinarič-Raščan Irena, Sollner Dolenc Marija: Synthesis of conformationally constrained [γ]-D-glutamyl-meso -diaminopimelic acid derivatives as ligands of nucleotide-binding oligomerization domain protein 1 (Nod1).- *Eur. J. Med. Chem.*, 2013, 69, pp. 232-243, COBISS.SI-ID: 3506033.

Jukič Marko, Đorđević Aleksandra, Lazarević Jelena, Gobec Martina, Šmelcerović Andrija, Anderluh Marko: Antimicrobial activity and cytotoxicity of some 2-amino-5-alkylidene-thiazol-4-ones.- *Mol. Divers.*, 2013, 17, 4, pp. 773-780, COBISS.SI-ID: 3500145.

Kastelic Jože, Kikelj Danijel, Leban Ivan, Lah Nina: Fluconazole-malonic acid (1/1).- *Acta Crystallogr., Section E, Structure Reports Online*, 2013, vol. E69, part 3, pp. o378-o379, COBISS.SI-ID: 3417201.

Kejžar Anja, Gobec Stanislav, Plemenitaš Ana, Lenassi Metka: Melanin is crucial for growth of the black yeast *Hortaea werneckii* in its natural hypersaline environment.- *Fungal Biol.*, 2013, 117, 5, pp. 368-379, COBISS.SI-ID: 3441009.

Kikelj Danijel: Sodobna sintezna zdravila za zdravljenje astme = Modern synthetic drugs for treatment of asthma.- *Farm. Vestn.*, 2013, 64, 2, pp. 129-136, COBISS.SI-ID: 3441777.

Kolšek Katra, Sollner Dolenc Marija, Mavri Janez: Computational study of reactivity of bisphenol A-3,4-quinone with deoxyadenosine and glutathione.- *Chem. Research Toxicol.*, 2013, 26, 1, pp. 106-111, COBISS.SI-ID: 3363185.

Kovač Mitja, Anderluh Marko, Vercouillie Johnny, Guilloteau Denis, Emond Patrick, Mavel Sylvie: Aromatic fluoro-de-triazonation with boron trifluoride diethyl etherate under non-protic acid conditions.- *Journal Fluor. Chem.*, 2013, 147, pp. 5-9, COBISS.SI-ID: 3384689.

Kovač Mitja, Mavel, Sylvie, Anderluh, Marko: 18F-labeled aryl-tracers through direct introduction of [18F]fluoride into electron-rich arenes.- *Curr. Org. Chem.*, 2013, 17, 23, pp. 2921-2935, COBISS.SI-ID: 3472241.

Majce Vita, Ruane Karen M., Gobec Stanislav, Roper David I: Crystallization and preliminary X-ray analysis of a UDP-MurNAc-tripeptide D-alanyl-D-alanine-adding enzyme (PaMurF) from *Pseudomonas aeruginosa*.- *Acta Crystallogr., Section F, Structural Biology and Crystallization Communications*, 2013, F69, 5, pp. 503-505, COBISS.SI-ID: 3479921.

Mravljak Janez, Ojsteršek Tadej, Pajk Stane, Sollner Dolenc Marija: Coumarin-based dual fluorescent spin-probes.- *Tetrahedron Lett.*, 2013, 54, 38, pp. 5236-5238, COBISS.SI-ID: 3497585.

Novak Ana, Testen Ana, Bezenšek Jure, Grošelj Uroš, Hrast Martina, Kasunič Marta, Gobec Stanislav, Stanovnik Branko, Svete Jurij: Synthesis of pyrazolo[1,2-a]pyrazole-based peptide mimetics.- *Tetrahedron*, 2013, 69, 32, pp. 6648-6665, COBISS.SI-ID: 36732421.

Petruševska Marija, Urleb Uroš, Peternel Luka: Evaluation of a high-throughput screening method for the detection of the excipient-mediated precipitation inhibition of poorly soluble drugs.- *Assay Drug Dev. Tech.*, 2013, 11, 2, pp. 117-129, COBISS.SI-ID: 1533020.

Petruševska Marija, Homar Miha, Petek Boštjan, Resman Aleksander, Kocjan Darko, Urleb Uroš, Peternel Luka: Hydroxypropyl methylcellulose mediated precipitation inhibition of sirolimus: from a screening campaign to a proof-of-concept human study.- *Mol. Pharm.*, 2013, 10, 6, pp. 2299-2310, COBISS.SI-ID: 1533276.

Ruane Karen M., Lloyd Adrian J., Dowson Christopher G., Barreteau Hélène, Boniface Audrey, Dementin Sébastien, Blanot Didier, Mengin-Lecreulx Dominique, Gobec Stanislav, Dessen Andréa, Roper David I.: Specificity determinants for lysine incorporation in *Staphylococcus aureus* peptidoglycan as revealed by the structure of a MurE enzyme ternary complex.- *J. Biol. Chem.*, 2013, 288, 46, pp. 33439-33448, COBISS.SI-ID: 3563377.

Sajko Sara, Sollner Dolenc Marija: Vzroki in posledice pomanjkanja vitamina D = Causes and consequences of vitamin D deficiency.- *Medicinski Razgledi*, 2013, 52, št. 1, pp. 29-48, COBISS.SI-ID: 3393393.

Schmidt Jan, Kotnik Petra, Trontelj Jurij, Knez Željko, Peterlin-Mašič Lucija: Bioactivation of bisphenol A and its analogs (BPF, BPAF, BPZ and DMBPA) in human liver microsomes.- *Toxicol. Vitro*, 2013, 27, 4, pp. 1267-1276, COBISS.SI-ID: 3408497.

Slana Marko, Sollner Dolenc Marija: Environmental risk assessment of antimicrobials applied in veterinary medicine : a field study and laboratory approach.- *Environmen. Toxicol. Pharmacol.*, 2013, 35, 1, pp. 131-141, COBISS.SI-ID: 3363441.

Sosič Izidor, Mirković Bojana, Arenz Katharina, Stefane Bogdan, Kos Janko, Gobec Stanislav: Development of new cathepsin B inhibitors: combining bioisosteric replacements and structure-based design to explore the structure-activity relationships of nitroxoline derivatives.- *J. Med. Chem.*, 2013, 56, 2, pp. 521-533, COBISS.SI-ID: 3370865.

Sova Matej, Žižak Željko, Stanković Jelena, Prijatelj Matevž, Turk Samo, Juranić Zorica, Mlinarič-Raščan Irena, Gobec Stanislav: Cinnamic Acid derivatives induce cell cycle arrest in carcinoma cell lines.- *Med. Chem.*, 2013, 9, 5, pp. 633-641, COBISS.SI-ID: 3492977.

Starkl Katarina, Mravljak Janez: Zdravljenje in preprečevanje malarije = Antimalarial therapy and prophylaxis.- *Farm. Vestn.*, 2013, 64, 5, pp. 371-379, COBISS.SI-ID: 27315495.

Šink Roman, Barreteau Hélène, Patin Delphine, Mengin-Lecreux Dominique, Gobec Stanislav, Blanot Didier: MurD enzymes: some recent developments.- *Biomol. Concepts*, 2013, 4, 6, pp. 539-556, COBISS.SI-ID: 3520881.

Škedelj Veronika, Perdih Andrej, Brvar Matjaž, Kroflič Ana, Dubbée Vincent, Savage Victoria, O'Neill Alex J., Šolmajer Tomaž, Bešter-Rogač Marija, Blanot Didier, Hugonnet Jean-Emmanuel, Magnet Sophie, Arthur Michel, Mainardi Jean-Luc, Stojan Jure, Zega Anamarija: Discovery of the first inhibitors of bacterial enzyme D-aspartate ligase from *Enterococcus faecium* (Asl [sub] fm).- *Eur. J. Med. Chem.*, 2013, 67, pp. 208-220, COBISS.SI-ID: 5274906.

Švajger Urban, Brus Boris, Turk Samo, Sova Matej, Hodnik Vesna, Anderluh Gregor, Gobec Stanislav: Novel toll-like receptor 4 (TLR4) antagonists identified by structure- and ligand-based virtual screening.- *Eur. J. Med. Chem.*, 2013, 70, pp. 393-399, COBISS.SI-ID: 3538289.

Tomašič Tihomir, Hartzoulakis Basil, Zidar Nace, Chan Fiona, Kirby Robert W., Madge David J., Peigneur Steve, Tytgat Jan, Kikelj Danijel: Ligand- and structure-based virtual screening for clathrocin-derived human voltage-gated sodium channel modulators.- *J. Chem. Info. Model.*, 2013, 53, 12, pp. 3223-3232, COBISS.SI-ID: 3577713.

Tomašič Tihomir, Peterlin-Mašič Lucija: Prospects for developing new antibacterials targeting bacterial type IIa topoisomerases.- *Curr. Med. Chem.*, 2013, 14, 1, pp. 130-151, COBISS.SI-ID: 3579761.

Trstenjak Uroš, Ilaš Janez, Kikelj Danijel: Low molecular weight dual inhibitors of factor Xa and fibrinogen binding to GPIIb/IIIa with highly overlapped pharmacophores.- *Eur. J. Med. Chem.*, 2013, 64, pp. 302-313, COBISS.SI-ID: 3440241.

Trstenjak Uroš, Ilaš Janez, Kikelj Danijel: Studies towards the synthesis of alkyl N-(4-nitrophenyl)-3/2-oxomorpholine-2/3-carboxylates.- *Helv. Chim. Acta*, 2013, 96, 11, pp. 2160-2172, COBISS.SI-ID: 3555697.

Trstenjak Uroš, Ilaš Janez, Kikelj Danijel: Synthesis of alkyl N -(4-nitrophenyl)-3/2-oxomorpholine-2/3-carboxylates by rhodium(II) acetate catalyzed O-H and N-H carbene insertion.- *Tetrahedron Lett.*, 2013, 54, 26, pp. 3341-3343, COBISS.SI-ID: 3440497.

Turk Samo, Hrast Martina, Sosič Izidor, Barreteau Hélène, Mengin-Lecreux Dominique, Blano Didier, Gobec Stanislav: Biochemical characterization of MurF from *Streptococcus pneumoniae* and the identification of a new MurF inhibitor through ligand-based virtual screening.- *Acta Chim. Slov.*, 2013, 60, 2, pp. 294-299, COBISS.SI-ID: 3477105.

Žula Aleš, Kikelj Danijel, Ilaš Janez: 2-aminoimidazoles in medicinal chemistry.- *Mini Rev. Med. Chem.*, 2013, 13, 3, pp. 1921-1943, COBISS.SI-ID: 3556209.

Visiting lectures

Baumgartner Saša, Obreza Aleš: FRC - kako pomembne so spremembe v monografiji in kako se je monografija uveljavila v industriji = FRC - how important are changes in the monograph and how it was implemented in pharmaceutical industry.- V: Zbornik prispevkov, Ljubljana: Javna agencija RS za zdravila in medicinske pripomočke, 2013, pp. 27-30, COBISS.SI-ID: 3533937.

Brus Boris, Sosič Izidor, Turk Samo, Košak Urban, Pišlar Anja, Mirković Bojana, Stojan Jure, Kos Janko, Gobec Stanislav: Development of new-multi-target-directed ligands as potential anti-Alzheimer agents.- V: VIIIth Joint Meeting on Medicinal Chemistry, June 30-July 4 2013, Lublin, pp. ML-V, COBISS.SI-ID: 3494001.

Gobec Martina, Švajger Urban, Obreza Aleš, Mlinarič-Raščan Irena: N-amidinopiperidine based proteasome inhibitor preserves dendritic cell functionality.- V: Inflammation, Immunomodulation, Inspiration: 12th International Summer School, August 4 - 6, 2013, Jongny, 1 pp., COBISS.SI-ID: 3498097.

Gobec Stanislav, Brožič Petra, Turk Samo, Konc Janez, Janežič Dušanka, Lanišnik-Rižner Tea: Discovery of selective inhibitors of AKR1C3 as potential anticancer agents.- V: 7th Conference on Experimental and Translational Oncology, Portorož, Slovenia, April, 20-24, 2013, Book of abstracts, Ljubljana: Association of Radiology and Oncology, 2013, pp. 82, COBISS.SI-ID: 3442801.

Jakopin Žiga: Rational design of NOD2 agonists as potential immunomodulators.- V: VIIIth Joint Meeting on Medicinal Chemistry, June 30-July 4 2013, Lublin, pp. ML-XV, COBISS.SI-ID: 3494257.

Mirković Bojana, Markelc Boštjan, Butinar Miha, Sosič Izidor, Gobec Stanislav, Vasiljeva Olga, Turk Boris, Čemažar Maja, Serša Gregor, Kos Janko: Nitroxoline impairs the processes of cancer progression in in vitro and in vivo tumour models.- V: 7th Conference on Experimental and Translational Oncology, Portorož, Slovenia, April, 20-24, 2013, Book of abstracts, Ljubljana: Association of Radiology and Oncology, 2013, pp. 83, COBISS.SI-ID: 3443057.

Sosič Izidor, Mirković Bojana, Arenz Katharina, Stefane Bogdan, Kos Janko: Structure-based design of new cathepsin B inhibitors.- V: 7th Conference on Experimental and Translational Oncology, Portorož, Slovenia, April, 20-24, 2013.- Book of abstracts, Ljubljana: Association of Radiology and Oncology, pp. 84, COBISS.SI-ID: 3443313.

Sosič Izidor, Mirković Bojana, Markelc Boštjan, Butinar Miha, Vasiljeva Olga, Turk Boris, Čemažar Maja, Serša Gregor, Kos Janko, Gobec Stanislav: Nitroxoline and its derivatives impair the processes of cancer progression in in vitro and in vivo tumour models.- V: Inflammation, Immunomodulation, Inspiration: 12th International Summer School, August 4 - 6, 2013, Jongny, 2013, 1 pp., COBISS.SI-ID: 3498353.

Lectures and contributions at conferences

Ilaš Janez: Abuse of prescription medicines: opioid analhetics, sedatives, sleeping pills and stimulants.- V: Abuse of pharmaceutical products: poisoning and addiction:: professional education , Ljubljana, Faculty of Pharmacy, 2013, pp. 23-34, COBISS.SI-ID: 3462001.

Peterlin-Mašič Lucija: Dangerous combination and trends of abuse of medicines and new drugs - Abuse of pharmaceutical products: poisoning and addiction: professional education, Ljubljana: Faculty of Pharmacy, 2013, pp. 35-46, COBISS.SI-ID: 3462257.

CHAIR FOR PHARMACEUTICAL TECHNOLOGY

Self studies

Baumgartner Saša, Zvonar Alenka: Cosmetic products I: exercises and theoretical basis: university study program Cosmetology.- Ljubljana: Faculty of Pharmacy, 2013, 148 pp., COBISS.SI-ID: 270070016.

Belič Aleš, Škrjanc Igor, Zupančič-Božič Damjana, Vrečer Franc: Optimisation of compression parameters with AI-based mathematical models.- V: Formulation tools for pharmaceutical development, (Woodhead Publishing series in biomedicine, no. 44, Oxford: Woodhead Publishing, 2013, pp. 229-261, COBISS.SI-ID: 10103124.

Gosenca Mirjam, Ahlin Grabnar Pegi, Kocbek Petra: exercises of nanotechnology in cosmetology.- Ljubljana: Faculty of Pharmacy, 2013, 40 pp., COBISS.SI-ID: 3486065.

Obreza Aleš, Humar Marjeta, Šmid-Korbar Jelka, Janeš Damjan, Razinger-Mihovec Barbara, Frankič Darja, Kosirnik Breda, Lunder Mojca, Jeras Matjaž, Marc Janja, Gašperlin Mirjana, Baumgartner Saša, Kos Mitja, Mrhar Aleš, Černe Darko, Švajger Branka, Hribar Maruša, Tomazin Evgen, Božič Borut, Marinko Petra, Kreft Samo, Vučko Mole Simona: Pharmaceutical terminological dictionary /Collection Dictiobaries), Ljubljana: Publishing house ZRC, 2013, COBISS.SI-ID: 268204800.

Vranič Edina, Planinšek Odon, Srčič Stanko: Pharmaceutical technology:pre- formulation studies – solid pharmaceutical forms.- Sarajevo: Pharmaceutica faculty, 2013, X, 325 pp., COBISS.SI-ID: 3434865.

Scientific and professional publications

Banovec Martin, Planinšek Odon, Vrečer Franc: Mechanical and adhesive properties of HPMC films: influence of different coating compositions (Part 1).- *Pharm. Ind.*, 2013, 75, 9, pp. 1502-1508, COBISS.SI-ID: 3550321.

Banovec Martin, Planinšek Odon, Vrečer Franc: Mechanical and adhesive properties of HPMC films: influence of different coating compositions (Part 2).- *Pharm. Ind.*, 2013, 75, 10, pp. 1675-1680, COBISS.SI-ID: 3550577.

Čerpnjak Katja, Zvonar Alenka, Gašperlin Mirjana, Vrečer Franc: Lipid-based systems as a promising approach for enhancing the bioavailability of poorly water-soluble drugs.- *Acta Pharm.*, 2013, 63, 4, pp. 427-445, COBISS.SI-ID: 3579505.

Devjak Novak Sabina, Kuhelj Vesna, Vrečer Franc, Baumgartner Saša: The influence of HPMC viscosity as FRC parameter on the release of low soluble drug from hydrophilic matrix tablets.- *Pharm. Dev. Technol.*, 2013, 18, 2, pp. 343-347, COBISS.SI-ID: 3084145.

Gosenca Mirjam, Mravljak Janez, Gašperlin Mirjana, Obreza Aleš: The design, synthesis, and antioxidant activity of amphiphilic oximes and amidoximes.- *Acta Chim. Slov.*, 2013, 60, 2, pp. 310-322, COBISS.SI-ID: 3475313.

Gosenca Mirjam, Bešter-Rogač Marija, Gašperlin Mirjana: Lecithin based lamellar liquid crystals as a physiologically acceptable dermal delivery system for ascorbyl palmitate.- *Eur. J. Pharm. Sci.*, 2013, 50, 1, pp. 114-122, COBISS.SI-ID: 3440753.

Ilić Ilija, Janković Biljana, Šibanc Rok, Dreu Rok, Srčič Stanko: Deformation properties of pharmaceutical excipients determined using an in-die and out-die method.- *Int. J. Pharm.*, 2013, 446, 1-2, pp. 6-15, COBISS.SI-ID: 3407985.

Isailović Bojana D., Kostić Ivana T., Zvonar Alenka, Đorđević Verica B., Gašperlin Mirjana, Nedović Viktor, Bugarski Branko M: Resveratrol loaded liposomes produced by different techniques.- *Innov. Food Sci. Emer. Techn.*, 2013, 19, pp. 181-189, COBISS.SI-ID: 3436145.

Janković Biljana, Škarabot Miha, Lavrič Zoran, Ilić Ilija, Mušević Igor, Srčič Stanko, Planinšek Odon: Consolidation trend design based on Young's modulus of clarithromycin single crystals.- *Int. J. Pharm.*, 2013, 454, 1, pp. 324-332, COBISS.SI-ID: 3491697.

Janković Biljana, Pelipenko Jan, Škarabot Miha, Mušević Igor, Kristl Julijana: The design trend in tissue-engineering scaffolds based on nanomechanical properties of individual electrospun nanofibers.- *Int. J. Pharm.*, 2013, 455, 1/2, pp. 338-347, COBISS.SI-ID: 3491953.

Klančar Uroš, Markun Boštjan, Baumgartner Saša, Legen Igor: A novel beads-based dissolution method for the in vitro evaluation of extended release HPMC matrix tablets and the correlation with the in vivo data.- *AAPS PharmSci*, 2013, 15, 1, pp. 267-277, COBISS.SI-ID: 3359601.

Kocbek Petra, Kralj Slavko, Erdani-Kreft Mateja, Kristl Julijana: Targeting intracellular compartments by magnetic polymeric nanoparticles.- *Eur. J. Pharm. Sci.*, 2013, 50, 1, pp. 130-138, COBISS.SI-ID: 3437169.

Kristl Julijana, Teskač Karmen, Erdani-Kreft Mateja, Janković Biljana, Kocbek Petra: Intracellular trafficking of solid lipid nanoparticles and their distribution between cells through tunneling nanotubes.- *Eur. J. Pharm. Sci.*, 2013, 50, 1, pp. 139-148, COBISS.SI-ID: 3439729.

Luštrik Matevž, Šibanc Rok, Srčič Stanko, Perpar Matjaž, Žun Iztok, Dreu Rok: Characteristics of pellet flow in a Wurster coater draft tube utilizing piezoelectric probe.- *Powder Technol.*, 2013, 235, february, pp. 640-651, COBISS.SI-ID: 3357553.

Lužnik Janko, Pirnat Janez, Jazbinšek Vojko, Lavrič Zoran, Srčič Stanko, Trontelj Zvonko: The influence of pressure in paracetamol tablet compaction on ¹⁴N nuclear quadrupole resonance signal.- *Appl. Magn. Reson.*, 2013, 44, 6, pp. 735-743, COBISS.SI-ID: 3404145.

Maver Uroš, Bele Marjan, Jamnik Janko, Gaberšček Miran, Planinšek Odon: A fast and simple method for preparation of calcium carbonate-drug composites for fast drug release.- *Mater. Res. Bull.*, 2013, 48, 1, pp. 137-145, COBISS.SI-ID: 5120026.

Nadrah Peter, Maver Uroš, Jemec Anita, Tišler Tatjana, Bele Marjan, Dražič Goran, Benčina Mojca, Pintar Albin, Planinšek Odon, Gaberšček Miran: Hindered disulfide bonds to regulate release rate of model drug from mesoporous silica.- *ACS Applied Materials & Interfaces*, 2013, 5, 9, pp. 3908-3915, COBISS.SI-ID: 26701351.

Nadrah Peter, Porta Fabiola, Planinšek Odon, Kros Alexander, Gaberšček Miran: Poly(propylene imine) dendrimer caps on mesoporous silica nanoparticles for redox-responsive release: smaller is better.- *PCCP. Physical Chemistry Chemical Physics*, 2013, 15, 26, pp. 10740-10748, COBISS.SI-ID: 5234714.

Pelipenko Jan, Kocbek Petra, Janković Biljana, Rošic Romana, Baumgartner Saša, Kristl Julijana: The topography of electrospun nanofibers and its impact on the growth and mobility of keratinocytes.- *Eur. J. Pharm. Biopharm.*, 2013, 84, 2, pp. 401-411, COBISS.SI-ID: 3339121.

Pelipenko Jan, Kristl Julijana, Janković Biljana, Baumgartner Saša, Kocbek Petra: The impact of relative humidity during electrospinning on the morphology and mechanical properties of nanofibers.- *Int. J. Pharm.*, 2013, 456, 1, pp. 125-134, COBISS.SI-ID: 3496561.

Perpar Matjaž, Luštrik Matevž, Dreu Rok, Srčič Stanko, Žun Iztok: Estimating coating quality parameters on the basis of pressure drop measurements in a Wurster draft tube.- *Powder Technol.*, 2013, 246, pp. 41-50, COBISS.SI-ID: 3453553.

Radivojša Maja, Grabnar Iztok, Ahlin Grabnar Pegi: Thermoreversible in situ gelling poloxamer-based systems with chitosan nanocomplexes for prolonged subcutaneous delivery of heparin: Design and in vitro evaluation.- *Eur. J. Pharm. Sci.*, 2013, 50, 1, pp. 93-101, COBISS.SI-ID: 3418737.

Reven Sebastjan, Homar Miha, Peternel Luka, Kristl Julijana, Žagar Ema: Preparation and characterization of tablet formulation based on solid dispersion of glimepiride and poly(ester amide) hyperbranched polymer.- *Pharm. Dev. Technol.*, 2013, 18, 2, pp. 323-332, COBISS.SI-ID: 3075697.

Rošic Romana, Pelipenko Jan, Kristl Julijana, Kocbek Petra, Bešter-Rogač Marija, Baumgartner Saša: Physical characteristics of poly (vinyl alcohol) solutions in relation to electrospun nanofiber formation.- *Eur. Polymer J.* 2013, 49, 2, pp. 290-298, COBISS.SI-ID: 3362417.

Rošic Romana, Kocbek Petra, Pelipenko Jan, Kristl Julijana, Baumgartner Saša: Nanofibers and their biomedical use.- *Acta Pharm.*, 2013, 63, 4, pp. 295-304, COBISS.SI-ID: 3534961.

Sovány Tamás, Papós Kitty, Kása Peter jr., Ilić Ilija, Srčič Stanko, Pintyé-Hodi Klára: Application of physicochemical properties and process parameters in the development of a neural network model for prediction of tablet characteristics.- *AAPS PharmSciTech*, 2013, 14, 2, pp. 511-516, COBISS.SI-ID: 3403889.

Šibanc Rok, Srčič Stanko, Dreu Rok: Numerical simulation of two-phase flow in a Wurster coating chamber and comparison with experimental results.- *Chem. Eng. Sci.*, 2013, 99, pp. 225-237, COBISS.SI-ID: 3474033.

Visiting lectures

Baumgartner Saša, Mikac, Urška Sepe Ana, Kocbek Petra, Bešter-Rogač Marija, Rošic Romana, Pelipenko Jan, Kristl Julijana: Investigation of polymer molecular structure enables understanding of dosage form drug delivery.- V: 5th International BBBB Conference, 26-28 September 2013, Athens, Greece: book of abstracts: from drug discovery and formulation strategies (design-synthesis and preclinical testing, delivery systems, nanotechnology, biopharmaceuticals, biosimilars, BCS, BDDCS, generics-bioequivalence): to pharmacokinetics-pharmacodynamics (metabolism, transporters, pharmacogenomics, biomarkers, drug therapy, individualized therapy, biotherapeutics, PK/PD modeling), 2013, pp. 5, COBISS.SI-ID: 3536753.

Baumgartner Saša, Obreza Aleš: FRC - kako pomembne so spremembe v monografiji in kako se je monografija uveljavila v industriji = FRC - how important are changes in the monograph and how it was implemented in pharmaceutical industry.- V: Bulletin of contributions], Ljubljana: public agency RS for medicines in medical devices, 2013, pp. 27-30, COBISS.SI-ID: 3533937.

Ilič Ilija: Tabletiranje pelet.- V: 25. Symposium of section of pharmaceutical technicians., challenges of micro and mini delivery systems: micropellets, pellets and mini tablets: Bulletin of lectures: PIC Lek, Ljubljana, Thursday 13th June 2013, Ljubljana: Slovenian Pharmaceutical Association, 2013, pp. 99-109, COBISS.SI-ID: 3482225.

Pelipenko Jan, Kocbek Petra, Zupan Janja, Kristl Julijana: Investigation of electrospun nanofibers and their influence on cell growth.- V: 5th International BBBB Conference, 26-28 September 2013, Athens, Greece: book of abstracts: from drug discovery and formulation strategies (design-synthesis and preclinical testing, delivery systems, nanotechnology, biopharmaceuticals, biosimilars, BCS, BDDCS, generics-bioequivalence): to pharmacokinetics-pharmacodynamics (metabolism, transporters, pharmacogenomics, biomarkers, drug therapy, individualized therapy, biotherapeutics, PK/PD modeling), 2013, pp. 13-14, COBISS.SI-ID: 3528305.

Srčič Stanko: Prednosti in izzivi mikropellet ter pelet = Benefits and challenges of (micro)pellets.- V: 25.th Symposium of section of pharmaceutical technicians, challenges micro and mini delivery systems: micro pellets, pellets and mini pellets: bulletin of lectures: PIC Lek, Ljubljana, Thursday 13th June, 2013, Ljubljana: Slovenian Pharmaceutical Association, 2013, pp. 8-22, COBISS.SI-ID: 3481457.

Šibanc Rok: More important analysis techniques of pellets evaluation.- V: 25th Symposium of section of pharmaceutical technicians: challenges of micro and mini delivery systems: micro pellets, pellets and mini tablets: bulletin of lectures: PIC Lek, Ljubljana, Thursday, 13th June, 2013 Ljubljana, Slovenian pharmaceutical association, 2013, pp. 86-98, COBISS.SI-ID: 3481969.

Lectures and contributions at conferences

Mikac Urška, Baumgartner Saša, Sepe Ana, Kristl Julijana: MRI study of hydrophilic xanthan tablets with incorporated model drug.- V: Proceedings of the 11th International Bologna Conference Magnetic Resonance in Porous Media (MRPM 11), September 2012, Surrey, UK, (Diffusion fundamentals, 2013, Vol. 18, no. 2, 2013), Leipzig: J. Kärger c/o University of Leipzig, Faculty of Physics and Earth Science, 2013, vol. 18, no. 2, pp. 1-5, COBISS.SI-ID: 27280423.

Rošic Romana, Pelipenko Jan, Kristl Julijana, Kocbek Petra, Bešter-Rogač Marija, Baumgartner Saša: Prediction of the electrospun nanofiber morphology based on the physical characteristics of the polymer solutions.- V: Austrian - Slovenian Polymer Meeting - ASPM 2013, 3-5 April 2013, Bled, Slovenia, The proceedings of the Austrian - Slovenian Polymer Meeting 2013, pp. 226-227, COBISS.SI-ID: 3474545.

Patents

Pavli Matej, Dreu Rok, Baumgartner Saša, Planinšek Odon, Pišek Robert, Vrečer Franc, Urbinc Miha: Quetiapine composition: patent no. EP 2262486 B1.- Munich: The European Patent Office, 02.01.2013, 17 pp., COBISS.SI-ID: 3378545.

Zupančič Silvo, Sedmak Gregor, Vrečer Franc: Process for the preparation of telmisartan: EP 2443094 B1, 2013-03-20, European Patent Office, 2013, 22 pp., COBISS.SI-ID: 3502193.

CHAIR FOR CLINICAL BIOCHEMISTRY

Self studies

Ambrožič Aleš, Božič Borut, Čučnik Saša, Gašperšič Nataša, Hočevar Alojzija, Huzjan Barbka, Jevtič Vladimir, Kastelic-Klasinc Cvetka, Golja Mojca, Kveder Tanja, Lestan Boris, Logar Dušan, Perdan-Pirkmajer Katja, Plešivčnik-Novljan Martina, Praprotnik Sonja, Rainer Saša, Rotar Žiga, Rozman Blaž, Šipek-Dolničar Alenka, Tomšič Matija, Žlebič Jože: Reumatological manual for family doctor: electronical source, 5.supplemented edition, El. book, Ljubljana: Revma.net, 2013, COBISS.SI-ID: 266577920.

Obreza Aleš, Humar Marjeta, Šmid-Korbar Jelka, Janeš Damjan, Razinger-Mihovec Barbara, Frankič Darja, Kosirnik Breda, Lunder Mojca, Jeras Matjaž, Marc Janja, Gašperlin Mirjana, Baumgartner Saša, Kos Mitja, Mrhar Aleš, Černe Darko, Švajger Branka, Hribar Maruša, Tomazin Evgen, Božič Borut, Marinko Petra, Kreft Samo, Vučko Mole Simona: Pharmaceutical terminology dictionary (Collection Dictionaries), Ljubljana: Publishing house ZRC, 2013, COBISS.SI-ID: 268204800.

Scientific and professional publications

Artenjak Andrej, Koželj Mateja, Lakota Katja, Čučnik Saša, Božič Borut, Sodin-Šemrl Snežna: High avidity anti-[beta]2-glycoprotein I antibodies activate human coronary artery endothelial cells and trigger peripheral blood mononuclear cell migration.- *Eur. J. Inflamm.*, 2013, 11, 2, pp. 385-396, COBISS.SI-ID: 30790361.

Atkinson Jeffrey, Rombaut Bart, Sánchez Pozo Antonio, Rekkas Dimitrios, Veski Peep, Hervonen Jouni, Božič Borut, Skowron Agnieszka, Mircioiu Constantin: A description of the European Pharmacy Education and Training Quality Assurance Project.- *Pharmacy - A Journal of Pharmacy Education and Practice*, 2013, 1, 1, pp. 3-7, COBISS.SI-ID: 3457393.

Dragojevič Jana, Zupan Janja, Haring Gregor, Herman Simon, Komadina Radko, Marc Janja: Triglyceride metabolism in bone tissue is associated with osteoblast and osteoclast differentiation: a gene expression study.- *J. Bone Miner. Metabol.*, 2013, 31, 5, pp. 512-519, COBISS.SI-ID: 3433585.

Jakopin Žiga, Gobec Martina, Kodela Jaka, Hazdovac Toni, Mlinarič-Raščan Irena, Sollner Dolenc Marija: Synthesis of conformationally constrained [γ]-D-glutamyl-meso-diaminopimelic acid derivatives as ligands of nucleotide-binding oligomerization domain protein 1 (Nod1).- *Eur. J. Med. Chem.*, 2013, 69, pp. 232-243, COBISS.SI-ID: 3506033.

Jukič Marko, Đorđević Aleksandra, Lazarević Jelena, Gobec Martina, Šmelcerović Andrija, Anderluh Marko: Antimicrobial activity and cytotoxicity of some 2-amino-5-alkylidene-thiazol-4-ones.- *Mol. Diver.*, 2013, 17, 4, pp. 773-780, COBISS.SI-ID: 3500145.

Kralj Eva, Žakelj Simon, Trontelj Jurij, Pajič Tadej, Preložnik-Zupan Irena, Černelč Peter, Ostanek Barbara, Marc Janja, Kristl Albin: Monitoring of imatinib targeted delivery in human leukocytes.- *Eur. J. Pharm. Sci.*, 2013, 50, 1, 2013, pp. 123-129, COBISS.SI-ID: 3441521.

Lakota Katja, Mrak-Poljšak Katjuša, Božič Borut, Tomšič Matija, Sodin-Šemrl Snežna: Serum amyloid A activation of human coronary artery endothelial cells exhibits a neutrophil promoting molecular profile.- *Microvasc. Res.*, 2013, 90, pp. 55-63, COBISS.SI-ID: 3578993.

Lunder Mojca, Drevenšek Gorazd, Černe Marko, Marc Janja, Janić Miodrag, Šabovič Mišo: Treatment with low-dose atorvastatin, losartan, and their combination increases expression of vasoactive-related genes in rat aortas.- *J. Cardiovasc. Pharmacol. Ther.*, 2013, 18, 2, pp. 177-183, COBISS.SI-ID: 993452.

Mirjanić-Azarić Bosa, Rizzo Manfredi, Sormaz Ljubomir, Stojanović Darja, Uletović Snežana, Sodin-Šemrl Snežna, Lakota Katja, Artenjak Andrej, Marc Janja, Černe Darko: Atorvastatin in stable angina patients lowers CCL2 and ICAM1 expression: Pleiotropic evidence from plasma mRNA analyses.- *Clin. Biochem.*, 2013, 46, 15, pp. 1526-1531, COBISS.SI-ID: 3507569.

Osredkar Joško: Podeljevanje terapevtskih izjem slovenskim športnikom v obdobju 2007-2011 = Therapeutic use exemption granting to Slovenian athletes in the period 2007-2011.- *Zdravn. Vestn.*, 2013, 82, 4, pp. 255-265, COBISS.SI-ID: 3456113.

Ostaneek Barbara, Marc Janja: Osteoporosis pharmacogenomics: recent insights and future perspectives.- *Pharmacogenomics*, 2013, 14, 5, pp. 451-454, COBISS.SI-ID: 3448177.

Pajič Tadej, Marc Janja, Preložnik-Zupan Irena: Kronična mieloična levkemija = Chronic myeloid leukemia.- *Farm. Vestn.*, 2013, 64, 5, pp. 343-353, COBISS.SI-ID: 27314727.

Pawlas Natalia, Horvat Milena, Krsnik Mladen, Mazej Darja, Osredkar Joško, Snoj Tratnik Janja: Cadmium, mercury and lead in the blood of urban women in Croatia, the Czech Republic, Poland, Slovakia, Slovenia, Sweden, China, Ecuador and Morocco.- *Int. J. Occup. Med. Env., Health*, 2013, 26, 1, pp. 58-72, COBISS.SI-ID: 26626343.

Podgornik Helena, Sok Mihael, Kern Izidor, Marc Janja, Černe Darko: Lipoprotein lipase in non-small cell lung cancer tissue is highly expressed in a subpopulation of tumor-associated macrophages.- *Path. Res. Pract.*, 2013, 209, 8, pp. 516-520, COBISS.SI-ID: 993964.

Rozman Urška, Fijan Sabina, Šostar-Turk Sonja, Mlakar Vid: Real-time polymerase chain reaction for quantitative assessment of common pathogens associated with healthcare-acquired infections on hospital textiles.- *Text. Res. J.* 2013, 83, 19, pp. 2032-2041, COBISS.SI-ID: 1913252.

Sova Matej, Žižak Željko, Stanković Jelena, Prijatelj Matevž, Turk Samo, Juranić Zorica, Mlinarič-Raščan Irena, Gobec Stanislav: Cinnamic Acid derivatives induce cell cycle arrest in carcinoma cell lines.- *Med. Chem.*, 2013, 9, 5, pp. 633-641, COBISS.SI-ID: 3492977.

Suhadolc Kristina, Sešek-Briški Alenka, Osredkar Joško: Teoretične osnove [zgoraj](13)C dihalnih testov = Theoretical basics [sup](13)C breath test.- *Farm. Vestn.*, 2013, 64, 3, pp. 227-235, COBISS.SI-ID: 27312167.

Švajger Urban, Jeras Matjaž: Celično zdravljenje s tolerogenimi dendritičnimi celicami - vzročno zdravljenje avtoimunskih bolezni = Tolerogenic dendritic cell therapy - causal treatment of autoimmune diseases.- *Zdravn. Vestn.*, 2013, 82, 1, pp. 47-54. COBISS.SI-ID: 3402097.

Trošt Rupnik Alijana, Pajek Jernej, Guček Andrej, Osredkar Joško, Kovač Damjan, Bren Andrej, Klančič Dimitrij, Saksida Silvana, Rus Igor, Globokar Mateja, Drozg Andrej, Lešnik Marjeta, Plešivčnik Zala, Ekart Robert, Kralj Lopert, Simona Lindič Jelka: Influence of renin-angiotensin-aldosterone system-blocking drugs on peritoneal membrane in peritoneal dialysis patients.- *Ther. Apher. Dial.*, (Online), 2013, 17, 4), pp. 425-230, COBISS.SI-ID: 983980.

Van beers, Joyce J. B. C., Schwarte Carla M., Stammen-Vogelzangs Judith, Oosterink Els, Božič Borut, Pruijn Ger J. M.: The rheumatoid arthritis synovial fluid citrullinome reveals novel citrullinated epitopes in apolipoprotein E, myeloid nuclear differentiation antigen, and β -actin.- *Arthritis Rheum.*, 2013, 65, 1, pp. 69-80, COBISS.SI-ID: 3578737.

Zupan Janja, Van't Hof Rob J., Vindišar Franci, Haring Gregor, Trebše Rihard, Komadina Radko, Marc Janja: Osteoarthritic versus osteoporotic bone and intra-skeletal variations in normal bone: Evaluation with [micro]CT and bone histomorphometry.- *J. Orthop. Res.*, 2013, 31, 7, pp. 1059-1066, COBISS.SI-ID: 3393137.

Zupan Janja, Jeras Matjaž, Marc Janja: Osteoimmunology and the influence of pro-inflammatory cytokines on osteoclasts.- *Biochemia medica*, 2013, 23, 1, pp. 43-63, COBISS.SI-ID: 3391857.

Žigon Polona, Čučnik Saša, Ambrožič Aleš, Kveder Tanja, Sodin-Šemrl Snežna, Rozman Blaž, Božič Borut: Detection of antiphosphatidylserine/prothrombin antibodies and their potential diagnostic value.- *Clin. Dev. Immunol.*, (Online), 2013, Article ID 724592, COBISS.SI-ID: 3578481.

Visiting lectures

Gobec Martina, Švajger Urban, Obreza Aleš, Mlinarič-Raščan Irena: N-amidinopiperidine based proteasome inhibitor preserves dendritic cell functionality.- V: Inflammation, Immunomodulation, Inspiration: 12th International Summer School, August 4 - 6, 2013, Jongny. 1 pp., COBISS.SI-ID: 3498097.

Marc Janja: Pharmacogenomics for safer and effective treatment, -V: Recognition and treatment of gynecologic disease and states: bulletin of contributions, professional practice of master's degree persons, Ljubljana, 2013. Ljubljana, Pharmacy Chamber of Slovenia, pp. 141-150, COBISS.SI-ID: 3417457.

Marc Janja, Preželj Janez, Mencej Bedrač Simona: System medicine and new diagnostic and pharmacogenetic markers of osteoporosis.- V: Casym Training Event Systems Medicine of Multifactorial Disorders Workshop & Tutorial and 8th CFGBC Symposium, Ljubljana, 12-15 June 2013, Book of abstracts, Ljubljana: Faculty of Medicine, 2013, pp. 18, COBISS.SI-ID: 3475057.

Marc Janja, Trdan Lušin Tina, Mrhar Aleš, Trontelj Jurij, Ostanek Barbara: Drug transporters and pharmacogenomics of raloxifene.- V: Second ESPT Conference "Pharmacogenomics: From Cell to Clinic" Lisbon, September 26-28, 2013, Congress abstracts, (Drug metabolism and drug interactions, Vol. 28, iss. 3), Berlin; Boston: de Gruyter, 2013, pp. A21-A22, COBISS.SI-ID: 3540593.

Marc Janja, Žakelj Simon: Drug transporters and imatinib pharmacogenomics.- V: Post-Congress Satellite Meeting, Pharmacogenomics and theranostics in practice, Florence, Italy, 24 May, 2013. Post-Congress Satellite Meeting, Pharmacogenomics and theranostics in practice, Florence, Italy, 24 May, 2013, in cooperation with the European Society of Pharmacogenomics and Theranostics: abstracts, (Drug Metabolism and drug interactions, Vol. 28, no. 1), Berlin; Boston: de Gruyter, 2013, pp. A3-A4, COBISS.SI-ID: 3460465.

Milosheska D., Grabnar Iztok, Pirnat Edvard, Tomše P., Stopar Tanja, Hojker Sergej: Prediction of patient-specific therapeutic activity of radioiodine in patients with graves' disease based on population modelling of turnover following administration of diagnostic activity.- V: 5th International BBBB Conference, 26-28 September 2013, Athens, Greece: book of abstracts: from drug discovery and formulation strategies (design-synthesis and preclinical testing, delivery systems, nanotechnology, biopharmaceuticals, biosimilars, BCS, BDDCS, generics-bioequivalence) : to pharmacokinetics-pharmacodynamics (metabolism, transporters, pharmacogenomics, biomarkers, drug therapy, individualized therapy, biotherapeutics, PK/PD modeling), 2013, pp. 110-111, PP135, COBISS.SI-ID: 3530609.

Ostanek Barbara, Marc Janja: Vloga farmakogenomike v posamezniku prilagojenem zdravljenju osteoporoze = The role of pharmacogenomics in personalised treatment of osteoporosis.- V: Monografija IV. osteoloških dnevov z mednarodno udeležbo, Maribor: Univerzitetni klinični center, 2013, pp. 263-271, COBISS.SI-ID: 3541617.

Pelipenko Jan, Kocbek Petra, Zupan Janja, Kristl, Julijana: Investigation of electrospun nanofibers and their influence on cell growth.- V: 5th International BBBB Conference, 26-28 September 2013, Athens, Greece: book of abstracts: from drug discovery and formulation strategies (design-synthesis and preclinical testing, delivery systems, nanotechnology, biopharmaceuticals, biosimilars, BCS, BDDCS, generics-bioequivalence): to pharmacokinetics-pharmacodynamics (metabolism, transporters, pharmacogenomics, biomarkers, drug therapy, individualized therapy, biotherapeutics, PK/PD modeling), 2013, 13-14, OP017, COBISS.SI-ID: 3528305.

Zupan Janja, Marc Janja: Osteoimunologija in osteorevmatologija: prepletenost skeletnega in imunskega sistema = Osteoimmunology and osteorheumatology: interconnection between skeletal and immune system.- V: Monografija IV. osteoloških dnevov z mednarodno udeležbo, Maribor: Univerzitetni klinični center, 2013, pp. 247-255, COBISS.SI-ID: 3541361.

Lectures and contributions at conferences

Mlakar Vid, Marc Janja: Biologija metastaz v kostnem tkivu = Biology of bone metastatic disease.- V: Metastatic disease, celje, General and learning hospital, 2013, pp. 11-15, COBISS.SI-ID: 3559281.

Osredkar Joško: Substances on the list of prohibited substances and processes in sports. V: Abuse of pharmaceutical products: poisoning and addition, professional education, Ljubljana: Faculty of Pharmacy, 2013, pp. 47-76, COBISS.SI-ID: 3462513.

Ostanek Barbara: Seaving methods for finding of changes of nucleoloid sequence.- V: 26. Professional meeting Terme Olimia, Hotel Sotelia, Podčetrtek, 12th and 13th April 2013, Bulletin of

lectures, Ljubljana: Hematologic Association of laboratory technicians , 2013, f. 4-5, COBISS.SI-ID: 3434353.

Urbančič Dunja, Šmid Alenka, Karas Kuželički Nataša, Tamm R., Metspalu Andres, Mlinarič-Raščan Irena: Thiopurine metabolism: a connection between TPMT activity and folate-methionine cycle.- V: 15th International Symposium on Purine and Pyrimidine Metabolism in Man, 9-13 June 2013, Madrid, Spain: program & abstracts, pp. 60-61, COBISS.SI-ID: 3482737.

CHAIR FOR SOCIAL PHARMACY

Self studies

Obreza Aleš, Humar Marjeta, Šmid-Korbar Jelka, Janeš Damjan, Razinger-Mihovec Barbara, Frankič Darja, Kosirnik Breda, Lunder Mojca, Jeras Matjaž, Marc Janja, Gašperlin Mirjana, Baumgartner Saša, Kos Mitja, Mrhar Aleš, Černe Darko, Švajger Branka, Hribar Maruša, Tomazin Evgen, Božič Borut, Marinko Petra, Kreft Samo, Vučko Mole Simona: Pharmaceutical terminology dictionary (Collection Dictionaries), Ljubljana: Publishing house ZRC, 2013, COBISS.SI-ID: 268204800. Scientific and professional publications

Čufar Andreja: Vpliv farmacevtske oblike zdravila na farmakokinetiko učinkovin = Impact of pharmaceutical dosage forms on pharmacokinetics of drugs.- *Med. Razgl.*, 2013, 52, supl. 1, pp. 27-32, COBISS.SI-ID: 3428977.

Galeša Mojca, Laptoš Tomislav, Čufar Andreja: Obnovljivi recepti - vloga lekarniškega farmacevta pri obravnavi bolnikov z zdravili, predpisanimi na obnovljive recepte = Repeat dispensing prescription - the role of the community pharmacist in managing medication use.- *Med. Razgl.*, 2013, 52, supl. 1, pp. 33-38, COBISS.SI-ID: 720300.

Jaklič Alenka, Collins Carol J., Mrhar Aleš, Sorrow Mohamed I., Sandmaier Brenda M., Bemer Meagan J., Locatelli Igor, Mccune Jeannine S.: High prevalence of potential drug interactions affecting mycophenolic acid pharmacokinetics in nonmyeloablative hematopoietic stem cell transplant recipients.- *Int. J. Clin. Pharmacol. Therap.*, 2013, 51, 9, pp. 711-717, COBISS.SI-ID: 3489649.

Klein Sandra, Garbacz Grzegorz, Pišlar Mitja, Locatelli Igor, Liu Chong, Weitschies Werner, Siegmund Werner, Mrhar Aleš, Bogataj Marija: The role of individual gastric emptying of pellets in the prediction of diclofenac in vivo dissolution.- *J. Control. Rel.*, 2013, 166, 3, pp. 286-293, COBISS.SI-ID: 3370609.

Kos Mitja: Farmacevtske kognitivne storitve osnovane na pregledu zdravil = Pharmaceutical cognitive services based on medication review.- *Farm. Vestn.*, 2013, 64, 2, pp. 151-155, COBISS.SI-ID: 3464305.

Kos Mitja, Locatelli Igor: Limitations of the study "Cost-effectiveness of tick-borne encephalitis vaccination in Slovenian adults".- *Vaccine*, 2013, 31, 23, pp. 2601., COBISS.SI-ID: 3393905.

Locatelli Igor, Trček Janja, Kos Mitja: Stroškovna učinkovitost zdravil za zdravljenje astme in alergij = Cost-effectiveness of drugs for asthma treatment.- *Farm. Vestn.*, 2013, 64, 2, pp. 143-145, COBISS.SI-ID: 3488625.

Locatelli Igor: Časovni potek resnih neželenih učinkov verapamila = Time course of serious adverse effects of verapamil.- *Farm. Vestn.*, 2013, 64, 1, pp. 33-38, COBISS.SI-ID: 3436913.

Locatelli Igor, Trček Janja, Kos Mitja: Stroškovna učinkovitost zdravil za zdravljenje astme in alergij = Cost-effectiveness of drugs for asthma treatment.- *Farm. Vestn.*, 2013, 64, 2, pp. 143-145, COBISS.SI-ID: 3488625.

Nerat Tomaž, Kos Mitja: Burden of type 2 diabetes from the healthcare payer perspective in Slovenia = Breme sladkorne bolezni tipa 2 s stališča plačnika zdravstvenega varstva v Sloveniji. – *Zdrav. Varstvo*, 2013, 52, 3, pp. 162-180, COBISS.SI-ID: 2925541.

Obreli - Neto Paulo Roque, Régis Leira Pereira Leonardo, Molino Guido Camilo, De Oliveira Baldoni André, Marušič Srečko, Pereira De Lyra-Júnior, Divaldo Luis De Almeida, Kelsen Montolezi Pazete, Ana Claudia, Dutra Do Nascimento, Janaina, Kos Mitja, Giroto Edmarlon, Cuman Roberto, Kenji Nakamura: Use of simulated patients to evaluate combined oral contraceptive dispensing practices of community pharmacists.- *PLoS one*, Dec. 2013, 8, 12, COBISS.SI-ID: 3570545.

Peklar Jure, Henman Martin Charles, Richardson Kathryn, Kos Mitja, Kenny Rose Anne: Food supplement use in the community dwelling population aged 50 and over in the Republic of Ireland.- *Complement. Ther. Med.*, 2013, 21, 4, pp. 333-341. COBISS.SI-ID: 3492465.

Visiting lectures

Galeša Mojca, Laptoš Tomislav, Čufar Andreja: renewable prescription: role of pharmacy pharmacist at patient treatment with medicines, prescribed at the renewable prescription.- Visiting lecture at the professional meeting of family medicine doctors, 16. Schrott Days, 15th and 16th March 2013, Ljubljana. 2013, COBISS.SI-ID: 720556.

Lectures and contributions at conferences

Čufar Andreja: Dietary supplements - food or medicines? - V: Food of the modern man between alternative and profession: bulletin of lectures, Ribno pri Bledu, 7th March 2013.- Kranj: Association of nurses, midwives, and medical technicians of Gorenjska, 2013, pp. 17-20, COBISS.SI-ID: 3429233.

Čufar Andreja: Biological and related biological medicines – ethical perspective of a hospital pharmacist.- V: Symposium of the Clinical pharmacists section, Ljubljana, 2013.- bulletin of the symposium referats, UMC Ljubljana, 5th December 2013 = Challenges in the field of biological medicines, Ljubljana: Slovenian pharmaceutical association, 2013, pp. 18-20, COBISS.SI-ID: 3599985.

(Chapter 8 was prepared by: B. Toth)