

The background of the slide is a collage of pharmaceutical and botanical elements. It includes several dried herb sprigs, such as rosemary and thyme, scattered across the surface. Overlaid on these are various chemical structures, including a complex polycyclic alkaloid (likely a tropane derivative), a quaternary ammonium salt, and a carboxylic acid derivative. Two glass vials with black caps are also visible, one in the upper left and another in the center. The entire image is rendered in a light, faded tone to serve as a background for the text.

***PROGRESS REPORT
OF THE FACULTY OF PHARMACY
FOR THE YEAR 2012***

Progress report of the Faculty of Pharmacy for the year 2012

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FOREWORD

Dear Reader,

The year 2012 was largely characterised by measures to reduce public finance in accordance with the law adopted in the middle of the year, but their contents failed to have the expected effects. Namely, many of the actions taken in the current year would have absolutely no impact on the financial status, while others would constitute a violation of legal commitments of the higher education system towards enrolled students or employees. Management of public higher education institutions, including the management of the Faculty of Pharmacy, invested a lot of time and energy in finding reasonable opportunities to reduce costs which coincided with attempts and desires that the quality of work would not fall below an acceptable level, and that the number of staff would not decrease to such a critical limit where we would lack the momentum to overcome the crisis. It is not that the Faculty of Pharmacy would fail to realise the difficult economic situation. It is also not about what we at the Faculty want and what the reality is, but it is a question of what legal requirements we are facing each day through the financial and legal frameworks, when we have to implement study programmes laid down by law or even the European Directive. And we implement programmes that provide employable graduates in socially relevant areas.

The school stands and falls with its teachers, education in schools is linked to the teacher. However, the existing conditions, the framework set by the society or country is of paramount importance for the enforcement of the role of the Teacher. At the university level, doing a good job is closely related to teaching, research and profession, which are the three working pillars of a university teacher. In secondary schools, even though the classrooms are all intended for education, there are biology, chemistry or history classrooms. The faculties are obviously expected to place students in whatever laboratory irrespective of which exercises are carried out. But the specification of work significantly increases at university level thus increasing the need for different equipment and a larger number of different educational facilities. This is especially pronounced in natural science and engineering and medical study programmes which include also the interdisciplinary programmes of the Faculty of Pharmacy. The less than 3m² which are available to each student at the Faculty are far from the recommended 15m². And this is not just about the standard that we can not afford, but it is about the contextually extremely important question of our development, a question of quality, and a question of study safety. The number of students in a single laboratory group practice is based on three criteria. The first criterion is quality provided through the group norms within the accreditation programme. The second is security which is based on the size of the laboratory and the number of people who can simultaneously learn under the supervision of assistants and technicians. The third, financial criterion is related to the number of hours the teaching staff spends in direct contact with students. The more students there are in a group, the fewer groups there are in the class and the lower the need for teaching and technical staff resulting in lower labour costs. Working obligations increase as working with a group of 10 students is easier, safer, and of higher quality than with a group of twenty. If we had had an optimum space of 15m² per student and adequate financial base for small, safe, and effective groups even before the crisis, then now in the middle of the crisis we could find reserves in larger groups. But at the Faculty of Pharmacy we have been witnessing the steady increase in the number of students in the last ten years despite the fact that the facilities have not expanded correspondingly. Moreover, with the legally extended study of pharmacy from 4 to 4.5, and 5 years, and the requirement of Bologna process for (yet) a greater proportion of contact hours in the form of laboratory exercises and seminars in small groups, we have been forced even without the crisis to seek internal reserves by enlarging groups, streamlining implementation, engaging demonstrators (senior students who were responsible for seamless work flow and safety at work in

larger groups). But somewhere there is a limit! Individual system (legal) "austerity" measures only additionally limit study quality assurance levels and safety at work. The number of students in a group during practice can be increased but only up to the limits imposed by space itself. Between the laboratory benches there should be 180cm spacing so that one student could work on each desk and there would still be a 60cm passage for the assistant to move around or for access to common equipment. So the laboratories would have to be from 100 to 120m² in size. But they are not. Passages between laboratory benches are significantly narrower which means we need a larger number of supervisory staff (assistants, technical assistants, demonstrators). When you restrict payment of demonstrators (student work at the faculty) the number of people attending the tutorial for safety decreases. Increased number of contact hours above the norm is not settled as overtime work for teachers, but as "overloading": the teacher does 33% more teaching and gets 15% higher salary. However, when such payment is considered as performance payment and becomes limited we would have to employ more people - which is firstly, significantly more expensive and secondly, it is systematically limited in the public sector. On the other hand, reducing the number of contact hours in an accredited programme is in conflict with legal obligations of the faculty to the enrolled students, as well as to employers because they would not get graduates with the expected and required competencies (knowledge, skills, and abilities). And let's not forget that the graduates of the Faculty of Pharmacy are employable and represent an important intellectual force to overcome the crisis: whether it be the economic sector where pharmacy plays an important part for Slovenia (and its budget) or the public sector, where pharmacists in pharmacies and hospitals with proper pharmacy and clinical pharmacy organisation can contribute their cognitive services to reduce the cost of health insurance funds; or experts of laboratory medicine who may with preventive examinations in appropriate organisation of medical laboratories help to reduce the cost of health insurance funds due to some chronic diseases related to lifestyle.

It is not enough to figure out how, despite the difficulties, we managed to overcome the year 2012. This would only mean accepting the fact that we are in the same boat only when the times are hard. In times of crisis only the strategic decisions count. Fund providers and regulators should be aware that the safety and quality of study are becoming dangerously low, that working conditions are deteriorating and that all of this can not be compensated only by ethical drive. And what is worse, as a country we are reducing the intellectual power that we need to overcome the crisis. At the Faculty of Pharmacy we are innovative and flexible, we have a vision, and for years we have not been counting the statutory overtime hours we devote to our jobs. But we also need a margin of discretion for short-term measures with long-term consequences. In 2012, we did not have enough of this.



Prof. Borut Božič, Ph.D.
Dean of the Faculty of Pharmacy

1 PRESENTATION OF THE FACULTY OF PHARMACY

"FROM THE BEGINNING OF PHARMACY IN SLOVENIA TO THE MODERN PHARMACEUTICAL PROFESSION AND SCIENCE"

Drugs and the treatment of diseases have accompanied man throughout his existence. The area of Slovenia saw the education of pharmacists and introduction of the doctrine of quality work in the pharmaceutical profession in as early as the 17th and 18th centuries, with the 1710 introduction of the Pharmaceutical code for the Duchy of Carniola. In the 19th century most pharmacists from the area of present-day Slovenia studied at the universities of Vienna, Graz, and Padova, and later also at the faculty of Zagreb. The history of undergraduate pharmaceutical education in Ljubljana began in 1946. The study programme in pharmacy was carried out in the first purpose-built building, which was designed by the architect Plečnik in 1921. After the reorganisation of study programmes, a comprehensive study programme in pharmacy was introduced in 1960 at the Faculty of Natural Sciences which included also laboratory biomedicine. In 1995, after the reorganisation of the Faculty of Natural Sciences and Technology, the independent Faculty of Pharmacy was founded. In 1999, the Faculty of Pharmacy saw the completion of the south wing and in 2005 the attic of the old part of the building was renovated. All this improved the conditions for modern pedagogical, scientific, and professional work, but it is still not sufficient for all the spatial needs of students and staff.

In addition to the rooms being renovated the same process of remodelling is evident in terms of the programmes, since keeping up with modern developments is a prerequisite for successful pedagogical, scientific, and professional work. The renewed unified masters programme of pharmacy, doctoral programme of biomedicine, undergraduate programme of laboratory biomedicine, and the new undergraduate programme of cosmetology and postgraduate programme of industrial pharmacy and laboratory biomedicine are all based on the integration of scientific research and solving practical tasks in all areas of the pharmaceutical and biomedical profession, science, and associated disciplines.

The mission of the Faculty of Pharmacy:

1. Development, planning, and implementation of higher education at all three levels, training of future professionals for conducting the most demanding scientific, development, and professional work in the fields of pharmacy and laboratory medicine.
2. Planning and implementation of scientific research work in the broader context of pharmacy, clinical biochemistry and natural sciences.
3. Care for professional activities in the fields of health and healthcare within the context of pharmaceutical activity, carrying out professional and development tasks for the needs of the pharmaceutical industry and government institutions, and promotion of the pharmaceutical profession in the Republic of Slovenia and abroad.

The primary objective of the Faculty of Pharmacy is to develop scientifically and professionally-qualified, high-quality graduates familiar with ethical principles, who can independently carry out demanding tasks in pharmacies, pharmaceutical industry in all four basic segments (research and development, production, analytics, marketing and sales), hospital pharmacies, clinical biochemical laboratories and other medical laboratories, in laboratories for control and analyses, research institutions, educational organisations, state bodies and wherever the work and presence of a pharmacist or laboratory medicine professional is required to increase health care and safety. We strive to ensure that the graduates of the Faculty of Pharmacy have equal qualifications to those of graduates of other modern, highly developed European faculties of pharmacy.

ORGANISATION OF THE FACULTY OF PHARMACY

The Faculty of Pharmacy is made up of six chairs. All chairs participate in the pedagogical processes and are involved in the formation and discovery of new active substances or drug forms within their research work, or in the detection and evaluation of disease markers.

The Chair of Biopharmacy and Pharmacokinetics

When a biologically active molecule (substance) is developed, it does not mean that a drug has been found. The substance must be delivered with the proper dosage and speed to the site of action of the body (tissue, organ, organ system), where the connection to the enzyme or receptor activates the effect (for example a fall in blood pressure, a fall in cholesterol, prevention of an asthmatic attack). For this purpose the substance is built into the delivery system with which we control the speed of the processes that are responsible for the start, the intensity, and the duration of the effect. If there is a delivery system, for example an oral sustained-release tablet, we must ensure that the process of the release in the alimentary canal enables the highest level of absorption into the main blood system. The substance should undergo minimal decomposition along the way so that most of it reaches the site of action from where it would be released as slowly as possible. For this purpose we have developed laboratory techniques by means of which we:

- Build substances into delivery systems (microcapsules, microspheres),
- Research the release of substances from delivery systems,
- Research the absorption of substances from the alimentary canal, and
- Research the distribution and decomposition of substances in the body.

Research at the level of laboratory experiments is urgently needed, since it is the only way to define the effect of biological and technological factors on the above mentioned processes.

When enough data is gathered, we mathematically describe the above mentioned processes and with computer-aided methods predict the concentration and effects of substances in different organs. The latter depend on the dosage, type of delivery system, delivery method (e.g., ingestion, vein injection, inhalation into the lungs), genetic predispositions and the function of secretory organs (kidneys, liver). In this way less reliance is placed on the testing of animals and humans in different phases of drug development and testing, final results are more quickly reached and we also get directions for performing new laboratory experiments.

Our research is the key to the transformation of a substance into a drug, which must provide the best action with minimum side effects.

The Chair of Pharmaceutical Biology

The Chair of Pharmaceutical Biology is engaged in the research of drugs of natural origin. It develops methods of analysis and quality verification of medicinal herbs and determines how to grow and where to gather top-quality medicinal herbs. By studying the biological efficacy of active substances in herbs and fungi that are not yet used for therapeutic purposes, it also searches for promising new drugs.

With the development of the techniques of genetic engineering came better possibilities for acquiring new active substances of recombinant origin. For the investigation of medicinal herbs as well as for recombinant drugs, i.e. proteins that are completely identical to human ones even though they were produced in fermentors, we use modern techniques of pharmaceutical biotechnology. Molecular biological techniques, such as biological combinatorial libraries are used for searching new chemical structures with the desired therapeutic effect. Using the methods of molecular and cellular biology we also research the molecular mechanisms of the development and progression of cancer,

anti-tumour immune response, atherosclerosis, obesity, neurodegenerative and other diseases, to identify the most important targets for therapeutic and diagnostic interventions.

The Chair of Pharmaceutical Chemistry

At the Chair of Pharmaceutical Chemistry, molecules of new active substances are prepared on the basis of validated targets. New molecules are designed by using modern computer-assisted methods based on the structure of their binding site. This is followed by a multi-stage chemical synthesis, which yields the desired compounds. We are currently preparing new enzyme inhibitors that are involved in the process of blood coagulation, compounds that inhibit the biosynthesis of a bacterial cell wall, and compound with anti-tumour action. The prepared molecules are biologically evaluated and their properties are optimised on the basis of the relation between their structure and action.

The Chair of Pharmaceutical Technology

The Chair of Pharmaceutical Technology carries out pedagogical and research work in the field of design, production, and evaluation of dosage forms. This field deals with building a synthesised substance with known pharmacodynamic properties into a dosage form. By choosing appropriate excipients and technological procedures we are able to produce a dosage form with desired properties.

Specifically, at the Chair of Pharmaceutical Technology we study the physical and chemical properties of substances and excipients develop solid dosage forms (granules, pellets, tablets), semi-solid and liquid pharmaceutical dispersion systems (macro- and micro-emulsions; gels) and new dosage forms with sustained release for targeted treatment (liposomes, nanoparticles, and nanocapsules). Nanotechnology techniques are the main new additions to the Chair.

The Chair of Clinical Biochemistry

For successful identification of diseases it is essential to know their causes. This is the subject of research at the Chair of Clinical Biochemistry. Clinical biochemistry determines the causes and consequences of the changed values of substances in the body essential for the organism to function properly. The increased or decreased values predict a change in the physiological condition of the body, which often leads to disease. We study changes in gene structure and expression, which cause the emergence of different proteins or changed quantities of individual proteins and lead towards the development of disease. Once the cause has been determined, we can start a targeted search for new and more effective drugs or choose the most suitable drug among existing ones. Knowledge of genes that are involved in pathophysiological mechanisms forms the basis for the development of potential genetic drugs.

Changes in genes are also responsible for different reactions of patients to a certain drug, so the investigation of these changes has become an important part of treatment tailored to the individual.

The Chair also works in pharmacogenomics. This is a field where genome-related knowledge is used in different segments of pharmaceutical science. In tumorigenesis and apoptosis, we use genetic technologies to search for answers to questions as to why a certain cell becomes malignant, and which of the molecules in the process of transformation into a tumour cell could be the target for a new drug. A great deal of our work focuses on the research of molecular mechanisms of cell death.

Our research activity is also carried out backwards, i.e., from a known drug to the human being. We can predict how a patient will accept a drug by means of genetic code analysis.

Laboratory diagnostics of immune-mediated diseases and hypersensitivity is the link between clinical biochemistry and immunology, which is taught at the Chair, while research in this field focuses on molecular bases of autoimmunity.

Within the Chair there is also the medical laboratory certified by the Ministry of Health of the Republic of Slovenia:

Laboratory for Molecular Diagnostics – KKB

- Prof. Janja Marc, Ph.D. (Head)

- Associate Prof. Darko Černe, Ph.D. (Deputy Head)

The Chair of Social Pharmacy

At the Chair of Social Pharmacy, we study the effect of substances on modern man and society. We mainly deal with drug control after drugs are placed on the market or reach the patient. We use the research methods of natural sciences, which are often intertwined with sociological ones. In pharmacoepidemiology we monitor drug safety and efficacy on a large number of people—in a certain population, and in pharmacoeconomics we examine the costs of drug use. We are particularly interested in the research of pharmaceutical activities in pharmacies. With the so-called pharmaceutical care programmes, which are first evaluated by our research teams, we try to improve the quality of a patient's life. To do this, we use modern information communication methods. At the Chair of Social Pharmacy, we also study the characteristics of national and international laws that regulate drugs and the pharmaceutical profession. In this way, we actively contribute to the creation of new legislation and introduction of the highest standards in everyday practice.

The Faculty of Pharmacy therefore combines the most modern approaches of pedagogical and scientific research work. The new developments introduced to higher education institutions and top research laboratories by high-tech, modern faculties are reflected also in the development strategy of the Faculty of Pharmacy in Ljubljana. We believe that the work of the Faculty of Pharmacy is an important factor in the creation of new knowledge and in the education of modern experts in the field of pharmacy, industrial pharmacy, laboratory medicine, cosmetology, regulatory bodies, in distribution systems and representative offices of foreign pharmaceutical companies as well as in pure and application-oriented research and education. We are convinced that the work and results of the Faculty of Pharmacy at the University of Ljubljana over the last years put us on a par with the most modern higher education institutions in the European Community and in the wider region. "Let science win—Scientia vinces! "

2 THE FACULTY OF PHARMACY IN 2012

The Faculty of Pharmacy educates future experts qualified for work and management of sustainable development in the fields of pharmacy including cosmetology and clinical biochemistry as well as certain parts of laboratory biomedicine. It is registered for the following activities:

- Education at undergraduate and postgraduate levels,
- Pure, application-oriented and developmental research in the field of natural science and technology,
- Professional participation, technical testing, analysis, technical support, etc.

The faculty has its headquarters at Aškerčeva cesta 7, Ljubljana, telephone number: 01 47 69 500, fax: 01 42 58 031. E-mail: tajnistvo@ffa.uni-lj.si, registration number: 1626973, tax ID number: SI11690682.

A member of the University of Ljubljana, the Faculty of Pharmacy has its official web site at: <http://www.ffa.uni-lj.si>.

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BODIES OF THE FACULTY

Senate of the Faculty of Pharmacy	Chairman:	Prof. Borut Božič, Ph.D.
Academic Board	Chairwoman:	Prof. Marija Sollner Dolenc, Ph.D.
Administrative Board	Chairwoman:	Prof. Irena Mlinarič Raščan, Ph.D.
Habilitation Board	Chairwoman:	Assoc. Prof. Marija Bogataj, Ph.D.
Committee for Prešeren and other awards	Chairman:	Prof. Albin Kristl, Ph.D.
Education Commission	Chairman:	Assoc. Prof. Aleš Obreza, Ph.D.
Scientific Research Commission	Chairwoman:	Prof. Irena Mlinarič Raščan, Ph.D.
Equipment Commission	Chairwoman:	Prof. Irena Mlinarič Raščan, Ph.D.
Quality Committee	Chairman:	Asst. Prof. Bojan Doljak, Ph.D.
Computer Commission	Chairwoman:	Tanja Gregorič, B.Sc. (Organisational Informatics)

STUDY PROGRAMMES

In the field of study at the FFA, the year 2012 was among the latest to be characterised by the transition from the old to the new Bologna study programmes. In the academic year 2012/13 the process will also be complete in the pharmacy study programme, while other study programmes already follow the new Bologna programmes. This reduces the number of subjects realised simultaneously for two generations of students, which forces us to find bigger rooms for larger or united classes. The increased number of classes in all study programmes associated with overcrowding in previous years was reflected in a shortfall in the number of lecture rooms and laboratory facilities to carry out experimental work. Notwithstanding this, we reduced rental of premises outside the FFA to a minimum. In the period before re-accreditation of study programmes we monitored, as in previous years, the implementation of study programmes in terms of rational and high-quality performance, the distribution of contact hours and ECTS. Administrators of individual study programmes were deeply involved in the process of implementation and optimisation of individual study programmes and at the same time we have been in constant contact with representatives of the student body.

In the academic year 2011/12 the Faculty of Pharmacy carried out the following:

a) Undergraduate study programmes

- university study programme Pharmacy,
- uniform master's study programme Pharmacy,
- university study programme Laboratory Biomedicine and
- university study programme Cosmetology.

b) Postgraduate study programmes

- master's study programme Industrial Pharmacy,
- master's study programme Laboratory Biomedicine,
- interdisciplinary doctoral study programme Biomedicine,
- postgraduate programme Biomedicine to obtain the title Master of Pharmaceutical Science or postgraduate programme to obtain the title Doctor of Pharmacy and Clinical Biochemistry,
- specialist postgraduate study of Pharmacy together with Slovene Chamber of Pharmacy and the Ministry of Health of the Republic of Slovenia,
- specialist study of Medical Biochemistry.

The study programmes are interdisciplinary. They are implemented by teachers and other employees of the Faculty of Pharmacy, together with teachers from other faculties of the University of Ljubljana: Faculty of Chemistry and Chemical Technology, Faculty of Medicine, Faculty of Mathematics and Physics, and Faculty of Health Sciences as specified in the lectures list for the academic year 2011/12. In subjects directly related to the outside economy, experts from that field participate in the programme as visiting guest lecturers.

In the academic year 2011/12 there were 1,243 students enrolled in the undergraduate programme, of which there were 668 students enrolled in the uniform master's study programme Pharmacy (1st, 2nd, 3rd, and 4th year), 333 students in university study programme Pharmacy, 165 students in university study programme Laboratory Biomedicine (1st, 2nd, and 3rd year), 77 students in the university study programme Cosmetology (1st and 2nd year), 66 students in the master's study programme in Industrial Pharmacy (1st, 2nd year and one additional year), 121 students in the master's study programme Laboratory Biomedicine (1st, 2nd year and one additional year), and 87 students in interdisciplinary doctoral study programme Biomedicine (1st, 2nd, 3rd year). The total number of enrolled students in all the programmes was 1,517. Graph 1 shows the number of students enrolled from 2005 to 2010 and Graph 2 shows the number of students in 2011/12.

The increasing total number of students recorded since 2005 and the possibility of selection in all study programmes is reflected in space constraints and, consequently, the schedules, which are often unfriendly to students and employees. We do not have enough lecture rooms to accommodate full classes in EM FAR (over 150 students), there are also not enough smaller lecture rooms and there is a particular shortfall in laboratories for practical learning. By hiring rooms outside the Faculty we are looking for solutions that would not significantly decrease the quality and efficiency of study.

Analysis of enrolment in the academic year 2012/13 shows a slight decrease in the number of students in study programmes of Pharmacy and in the first cycle of study programme Laboratory Biomedicine which is the result of fewer entries in the past. The number of students enrolled in the 1st cycle of university study programme Cosmetology has increased; this is the first time that we have students in all three academic years.

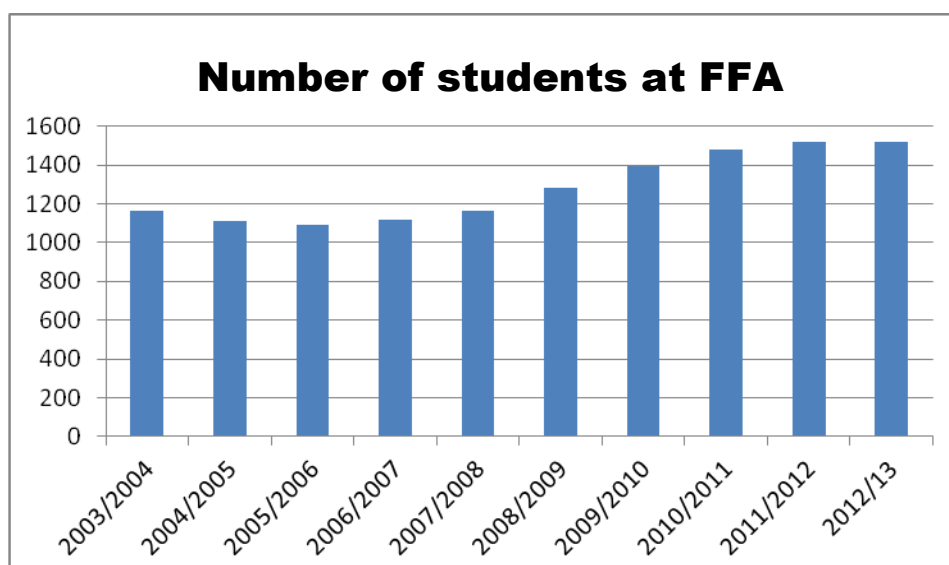
The new (Bologna) programmes	No. of students 2012/13
EMŠ Pharmacy 5+0 (1st, 2nd, 3rd, 4th, and 5th year)	778
1st cycle university study Laboratory Biomedicine 3+ (1st, 2nd, 3rd, and additional year)	144
1st cycle university study Cosmetology 3+ (1st, 2nd, and 3rd year)	112
2nd cycle master's study Industrial Pharmacy (1st, 2nd, and additional year)	61
2nd cycle master's study Laboratory Biomedicine +2 (1st, 2nd, and additional year)	117
Biomedicine – university doctoral programme (3rd cycle) (1st, 2nd, 3rd and additional year)	84

Old programmes	No. of students 2012/13
University study Pharmacy (additional year)	194

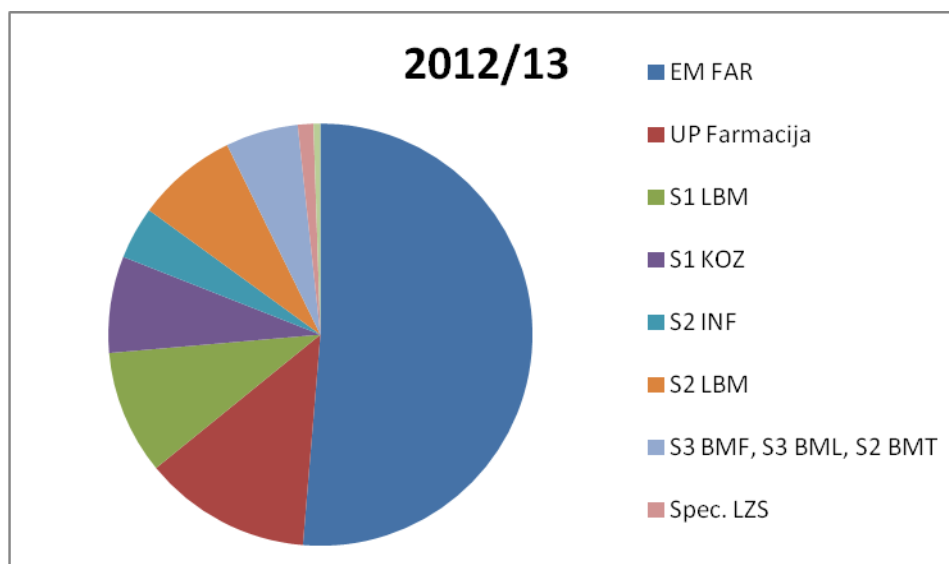
Within the process of implementation of specialised studies and in collaboration with the Slovene Chamber of Pharmacy we provide specialised studies in the fields of drug design, drug testing, clinical pharmacy, pharmaceutical services, and pharmacognosy. Students specialising in Medical Biochemistry may upon the decision of the Slovenian Chamber of Laboratory Medicine take on subjects at the third cycle in Clinical Biochemistry and Laboratory Biomedicine.

Specialist study programme	No. of students 2012/13
LZS Specialised Study	18
Specialist Study of Medical Biochemistry	8

Based on analysis of average duration of study we can see that most students take advantage of their legal right to repeat one year of study and their graduation candidate period. Despite the length of the study, which we doubt will get any shorter with the current legal possibilities the students have, we can be satisfied with the transition of the generation between individual years of study, as the transition from year one to year two exceeds 90% in some programmes. This positive achievement attributed to students as well as teachers and non-teaching personnel at FFA.



Graph 1: Changes in the number of students at the Faculty of Pharmacy from 2003 to 2013.



Graph 2: The percentage of students in individual study programmes of the FFA in the academic year 2012/13.

(Key: EM FAR=uniform master's programme Pharmacy, UP FARMACIJA=university programme Pharmacy, S1 LBM=university programme Laboratory Biomedicine, S1 KOZ=university programme Cosmetology, S2 INF=master's programme Industrial Pharmacy, S2 LBM=master's programme Laboratory Biomedicine, S3 BMF=interdisciplinary doctoral programme Biomedicine, course in Pharmacy, S3 BML=interdisciplinary doctoral programme Biomedicine, course in Clinical Biochemistry and Laboratory Biomedicine, S3 BMT=interdisciplinary doctoral programme Biomedicine, course in Toxicology, Spec. LZS=specialisations of Slovene Chamber of Pharmacy, Spec. medicinska biokemija=specialisation in Medical Biochemistry.)

In 2012, following the appointment of coordinators (administrators) of study programmes in 2009, we continued with the systematic verification of compliance with the requirements of the renewed Bologna programmes and recording problems or weaknesses so that we could eliminate them effectively before the re-accreditation. We organised meetings of coordinators with lecturers and student representatives on systemic issues of study and harmonised work during meetings between the deputy dean of academic fields and the coordinators. In 2012 we devoted a special session of the FFA Senate to teaching work in Bologna programmes. A number of decisions were adopted which hopefully will further raise the quality of studies at FFA:

- Amendments and tightening of the criteria for checking the suitability of previously acquired education at foreign universities with a view to further education. In this way we ensure that

foreign students who continue their studies at FFA have an adequate knowledge base allowing them easier fulfilment of study requirements.

- Analysis of the results of UL questionnaire (detailed in the chapter about questionnaires)
- Changes and improvements in preparation of undergraduate and postgraduate papers. As a result of some observations that certain tasks did not meet the ECTS in terms of volume and quality (too large), we adopted precise limits which apply to both categories.
- Changes in implementation of selectives. Due to austerity measures in higher education and science we wanted to streamline our study programmes as much as possible so as to prevent a possible decline in quality. In the academic year 2012/13 we intend to realise only selectives with at least 10 students registered and this policy will therefore be fully implemented. In this way, the realisation is definitely of better quality than that achieved in working in the form of individual consultations and reduced implementation for smaller groups. We saved some funds to hire lecture rooms; just the possibility of choice is a little more limited.
- Due to austerity measures we also reduced the number of invited lecturers, which to some extent reduces direct contact with the employees from the industry (including employers).

UNIFORM MASTER'S STUDY PROGRAMME IN PHARMACY

University study programme in Pharmacy faced two major changes – harmonisation and the Bologna reform. Slovenia became a member of the EU on 1 May, 2004 so it had to unify the study of regulated professions—the pharmacist profession being one of them—the FFA had to harmonise the study programme in pharmacy in compliance with the requirements of the industry Directive 2005/36/EC (formerly 85/432/EEC). The main change is that the study has been extended from 9 to 10 semesters due to the inclusion of 6-month practical



training in the curriculum, which replaces the existing traineeship. Also, the list of existing selectives was extended. **Harmonised university programme in Pharmacy** is being carried out and in 2008/09 the first generation of students already had access to practical training within the study. It is a transitional period until the Bologna study programme is introduced, which we launched with the enrolment of the first generation in the academic year 2008/09. After many discussions we have come to the conclusion that the profession of pharmacist with EU accredited qualifications is the only acceptable model of study 5 + 0. This means that the undergraduate and master's degrees will merge into a uniform programme that corresponds to 300 ECTS, which will enable direct enrolment in doctoral study. In 2007, the programme was checked and accredited by the Council for Higher Education as the **uniform master study programme in Pharmacy**, and the FFA launched the first-time enrolment procedure in 2008/09. In 2011/12 the last generation of students was enrolled in their 5th year of **harmonised university study programme in Pharmacy**. The aforementioned programme will actually be completed in 2012/13 with an additional year, in which the students complete their missing obligations (practical training, diploma thesis).

Uniform master's study programme in Pharmacy has the right combination of pharmaceutical, natural science, medical and other subjects to generate students that are qualified to perform professional jobs and tasks in any pharmaceutical segment; at the same time it forms a solid footing for doctoral study and is open to lifelong professional training.

The method of course selection was included in the study already during the harmonisation of the programme, and it was extended to three levels in the unified master's study: alternative courses, selectives offered by the Faculty, including a selection of the area of Master's thesis creation, and general selective options within the University. Selectives are offered across a spectre that covers all

standard areas of narrow specialisations, and follow the trends of professional developments. At the same time, we take care that the quality of teaching does not decline due to a high dispersion of students. The possibility of a greater degree and range of selective options is limited by time and space considerations. Namely, we are unable to provide a study schedule in a way that would enable students to choose any combination of selectives.

The uniform master's study programme in Pharmacy is rather popular among secondary school graduates, since 275 of them applied for 145 vacancies registered in the academic year 2012/13 not considering the parallel enrolments and enrolments of foreign students.

UNIVERSITY STUDY PROGRAMME IN LABORATORY BIOMEDICINE



1st cycle of university study programme in Laboratory Biomedicine (180 ECTS, 6 semesters) combines a high-level of orientation towards practical technological knowledge and skills, but it also enables students to learn about scientific research and biomedicine. Our goal is to increase the prospects for our graduates to find employment in biomedical research institutions. Such research is very common and because of increased concern for our health and higher quality of life, we expect there to be even more

openings. At the same time we wish to enable top students to easily continue their education at second and third cycles and specialisation.

Selectives are available in the third year when students are familiar not only with the basis of natural science, but also with broader areas of laboratory medicine. The range and extent of selectives is enabled in three ways: through courses offered by the FFA, through the list of recommended courses of other study programmes at the FFA or within the UL and general selective options.

Interest for this type of study has been substantial so far, and the reform and possibility of the second cycle has significantly increased the interest among secondary school students. 116 secondary school graduates applied for 40 vacancies in the academic year 2012/13.

UNIVERSITY UNDERGRADUATE STUDY PROGRAMME IN COSMETOLOGY

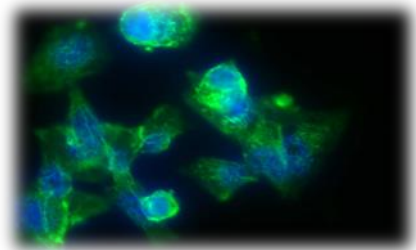
The 1st cycle university study programme in Cosmetology is a 3-year programme with 180 ECTS credits and is the first of its kind in Slovenia. Its main aim is to train experts in the field of cosmetology science. In addition to basic knowledge of natural science, the programme also offers in-depth knowledge of professional science of cosmetology; organic and synthesis materials as ingredients of cosmetic products, cosmetically active substances, their desired, harmful and toxic effect, types of cosmetic products, their design,



formation and production, approaches to security and efficiency evaluation, use of proper analytical methods, control, marketing and advertising of cosmetic products. With a multitude of selectives, the programme expands the knowledge of natural science and cosmetology, complements service activities in the sense of care and maintenance of physical health, lifestyle and diet as the cosmetic profession dictates and offers additional skills of sociological science that go hand in hand with the cosmetic profession, such as communication science, foreign language, psychology of perception, marketing and advertising aspects, etc. The programme creates experts qualified to work in the cosmetic industry, regulatory and inspection services, in representative offices of cosmetic

companies as well as consulting and marketing of cosmetic products in different institutions. 72 secondary school graduates applied for 40 vacancies in the academic year 2012/13.

MASTER'S STUDY PROGRAMME IN LABORATORY BIOMEDICINE



The 2nd cycle master's study programme in Laboratory Biomedicine is a 2-year study programme with 120 ECTS credits. Its objective is to educate top-quality experts (Masters in Laboratory Biomedicine) in special fields of laboratory medicine, who will be able to quickly adapt to the many changes and challenges in the field of medical diagnostics of human biological material. After their studies, Masters in Laboratory Biomedicine will be qualified for independent

professional work in medical laboratories and will fill the existing gap in medical professions associated with current university education. They will also be qualified to apply pure research approaches and will be able to critically monitor the use of new technologies in practice. In 2012/13, 41 students enrolled in the first year, and there were 30 in the second year, as some of the students joined the full-time studies after finishing two courses of lifelong learning in Laboratory Medicine.

MASTER'S STUDY PROGRAMME IN INDUSTRIAL PHARMACY

Master's study programme in Industrial Pharmacy is a 2-year study programme with 120 ECTS credits. The professional title received by graduates is Master in Industrial Pharmacy. The main objective which led the FFA to organise the new study programme was to provide the graduates of natural science (chemical, biotechnical, biotechnological, etc.) and technical programmes (mechanical engineering, electro technology, etc.) with proper 2nd cycle education after completion of 1st cycle of the Bologna programme. This way the students are trained to find work in the pharmaceutical industry, in the field of production and analysis of drugs.



Postgraduate master's study programme and the curriculum were both developed on the basis of working experience in Slovenia and abroad together with the projected development of national and international pharmaceutical industries. The programme includes lectures by Slovenian and foreign professors and industry experts, interactive acquisition of theoretic knowledge in the industrial environment, case studies, individual and teamwork, and innovative solutions to cases in question. 70 graduates of the 1st cycle applied for 40 vacancies in the academic year 2012/13.

DOCTORAL STUDY PROGRAMME IN BIOMEDICINE



This postgraduate study programme was renewed in compliance with the Bologna guidelines as early as three years ago. It is now a 3-year programme and corresponds to 180 ECTS credits and includes only the doctoral study. The 3rd cycle doctoral study programme in Biomedicine was first introduced in 2007/08. It is implemented within the University of Ljubljana, and the Faculty of Pharmacy is responsible for the areas of Pharmacy, Clinical Biochemistry and Laboratory Biomedicine and Toxicology. In 2012, we were intensively preparing for re-accreditation of the programme by thorough analysis of past

work and appropriate adjustments within the programme which will provide greater efficiency and competitiveness of the programme itself as well as of candidates for doctors.

PERSONNEL AND PREMISES AT THE FACULTY OF PHARMACY IN 2012

As of January 1, 2012, the Faculty of Pharmacy employed 106 employees in permanent pedagogic and scientific positions (4 with 20% employment and 2 with 10% employment) and professional secretarial and technical staff, 26 young researchers employed for the duration of their training or study to obtain a doctor's degree, carrying out part-time assistant work, and 14 researchers with a fixed-term employment on research projects (2 with 10% employment).

The permanent staff includes:

- 35 university teachers (14 Prof., 7 Assoc. Prof. and 14 Asst. Prof.),
- 2 university teachers (Prof.) with 20 % employment,
- 2 senior scientific workers (Assoc. Prof.) with 20%- employment,
- 32 assistants, 7 with the title Assistant Professor,
- 2 assistants with 10% employment,
- 1 PE teacher,
- 15 technical staff,
- 1 librarian,
- 12 professional and secretarial staff and
- 4 technical staff (maintenance workers, receptionists, cleaning staff).

The number of students at the Faculty of Pharmacy increases each year but the teaching space does not increase correspondingly. In 2000 the Faculty of Pharmacy expanded its premises with the construction of the new south wing and now amounts to 5,600 square metres. In 2012 we hired additional laboratory space which still does not cover all our requirements. The results of the inspection, conducted by PROPLUS d. o. o. on behalf of the FFA, show that the Faculty needs another 6 small lecture rooms, one large tiered lecture hall, 14 laboratories, 39 cabinet rooms and additional space for the library. This means that the Faculty lacks around 45% of all required space.

Even more critical than the premises issue is the situation regarding employment of personnel. Most of the permanently employed teachers and assistants dedicate more than 100% of their time to teaching, so most of them do not have enough quality time for research. In the future, the Faculty will even more intensively encourage the acquisition of research projects, as in the present situation this is the only way to employ new staff to improve our scientific and consequentially our educational work.

3 *SIGNIFICANT EVENTS IN 2012*

Fitting the newly hired premises

In the past, we tried to make up for the lack of space by hiring additional premises, but laboratories to carry out teaching and research are simply not available. So after successful coordination with the management of Ilirija d. d. in 2011 we entered into an agreement to hire nearly 1,000m² of purpose-renovated space at the address Tržaška 32. It serves primarily for laboratory practise in the teaching process, and it is partially used for research work. Dispersion of activities of the Faculty to multiple locations does not facilitate the organisation of work, but the medium-sized lecture room, 6 generic laboratories, microscope room, and support premises shall substantially improve the conditions for the study.

In mid-2012, we successfully carried out a public tender for technological equipment of laboratories and began equipping the hired premises at Tržaška 32.

Our start-up work was facilitated by services, material, equipment, and finance provided by our business partners:

GOLDEN (above 10,000 EUR):

- Kemomed, d. o. o.
- Krka, d. d., Novo mesto
- Siemens, d. o. o.

SILVER (from 3,000 to 10,000 EUR):

- Sanolabor, d. d.
- Roche, d. o. o.

BRONZE (up to 3,000 EUR):

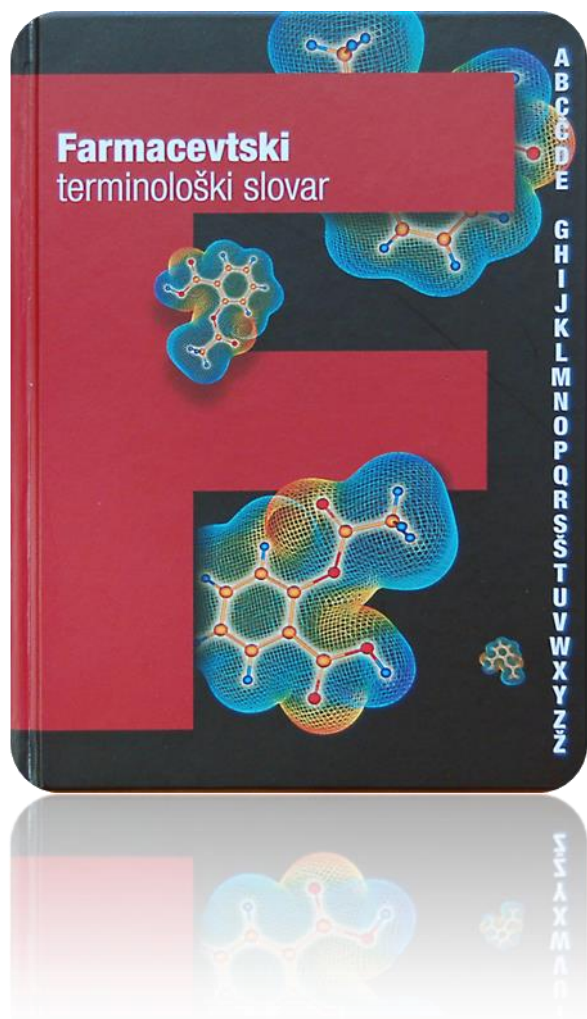
- Labena, d. o. o.
- Novo Analitica, d. o. o.
- Chemass, d. o. o.
- Mikro+Polo, d. o. o.
- Mediline, d. o. o.
- Alba, d. o. o.
- Bia, d. o. o., Ljubljana
- Pokojninska družba A, d. d.
- Mettler Toledo, d. o. o.
- D-Net, d. o. o., Ljubljana
- ISS Facility Services, d. o. o.
- Aneti, d. o. o., Škofljica

Our gratitude for their assistance will remain in the minds of students and staff who use the equipment and it will also be marked on the memorial. These assets accounted for 6% of the total investment. The rest was covered from the reserve funds of the Faculty, which were accrued as a result of marketing activities in better economic times.

The Dictionary of Pharmaceutical Terminology

In early 2012, the new Pharmaceutical Terminology Dictionary was published. It represents a new milestone in the efforts of the Slovenian pharmaceutical profession to develop and standardise terminology in the broader field of pharmacy. A number of experts from different institutions actively contributed to the preparation of the dictionary, namely from the Faculty of Pharmacy (University of Ljubljana), Fran Ramovš Institute of the Slovenian Language ZCR SAZU, Agency for Medicinal Products and Medical Devices of the Republic of Slovenia, Slovene Chamber of Pharmacy, and Slovenian Pharmaceutical Society. Since the beginning of work and special efforts of Prof. Jelka Šmid - Korbar, Ph.D., the authors prepared explanations of more than 5,500 terms covering the area of pharmaceutical biology, pharmaceutical chemistry, pharmaceutical technology, pharmaceutical services, social pharmacy, bio-pharmacy with pharmacokinetics, clinical pharmacy, pharmaceutical biotechnology, clinical chemistry, immunology, alternative treatment methods, and medical devices. In addition to terms and their explanations the dictionary contains English-Slovenian and Slovenian-Latin sections, and there are often-used Latin expressions and some of the basics of Latin and Greek language in the appendix. Before publication, the dictionary was thoroughly reviewed by reviewers, an expert of Latin, and a reviewer of English equivalents. Nevertheless, we are aware that our work in the field of pharmaceutical terminology is not yet complete, so the authors have agreed to complement the dictionary with new terms and prepare for the future expanded on-line edition. In doing so, the suggestions of both readers and users will be very helpful.

OBREZA, Aleš, ŠMID-KORBAR, Jelka, HUMAR, Marjeta, 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. *Farmacevtski terminološki slovar*, (Zbirka Slovarji). Ljubljana: Založba ZRC, 2011. 371 pp. ISBN 978-961-254-330-3.



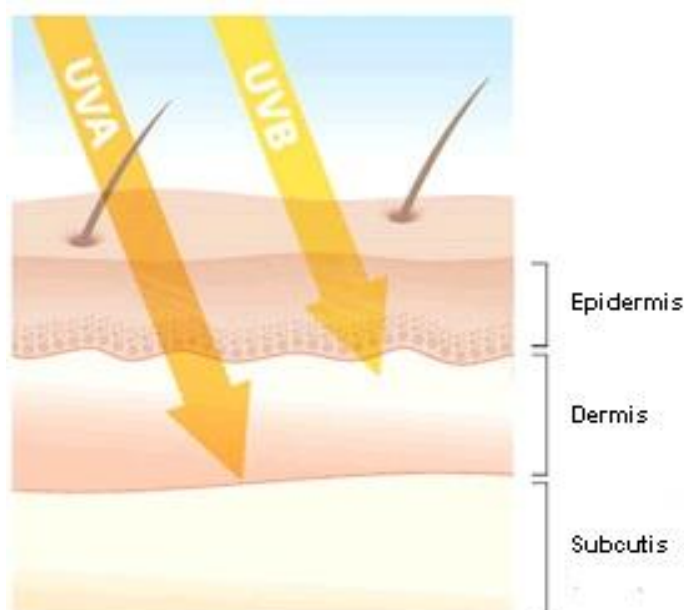
Postgraduate lifelong education in the field of pharmacy
COSMETOLOGY II
THE SKIN AND THE SUN: COSMETICALLY-ACTIVE SUBSTANCES
PRODUCTS FOR PROTECTION AND ACTIVE SKIN CARE

Lifelong postgraduate education in the field of pharmacy which is organised every year at the Faculty of Pharmacy was conceived as a thematic continuation of previously existing sets of lectures. In 2011 we analysed data, new insights, and guidelines on the efficacy and safety of substances in cosmetic products. Similarly, in 2012 we presented the trends in the field of cosmetically-active substances in products for protection against ultra-violet radiation and products for active skin care. The courses were attended by 191 masters of pharmacy, pharmaceutical technicians, and other professionals from the field of the general Slovenian pharmaceutical and medical profession.

Here is a brief summary of the contents. Borut Žgavec, Ph.D., specialist of dermatovenerology from the Faculty of Medicine, and Prof. Slavko Pečar, Ph.D., presented the link between the skin, the sun, UV-stress, and photo-aging. The efficacy and safety of protective sun care products was presented by Asst. Prof. Stamp Jakopin, Ph.D., and from the same perspective Katarina Bolko presented cosmetic products for active skin moisturising. Among the currently most up-to-date compounds for protection and active skin care products we also focused on antioxidants and vitamins (Asst. Prof. Tomaž Vovk, Ph.D.), together with peptides, proteins, and growth factors for photo-aging skin care (Asst. Prof. Kocbek Petra, Ph.D.), while Matjaž Ravnika, Ph.D. gave a lecture on cosmetically-active substances that are used in skin care products for cellulite. Finally, Marjeta Rak, a representative of Maribor chemists Mariborske lekarne highlighted the role and importance of the pharmacist and his/her practical knowledge.

Cosmetology plays an active part in our everyday life; because of the interests of producers we are faced with intense media advertising of a whole range of cosmetic products. Amid the great volume of proven and also misleading information and without appropriate expertise, it is sometimes very difficult to choose credible sources. By combining the two subject-relevant frameworks of education we attempted to focus attention on such problems, but we have also sought to present Cosmetology as a rapidly developing scientific field of study.

Responsibility for the overall content, organisation and realisation of this postgraduate education scheme fell to Asst. Prof. Alenka Zvonar, Ph.D. and Asst. Prof. Nina Kočevar Glavač, Ph.D. - in collaboration with the FFA management board.



1st ESPT Summer School of Pharmacogenomics and Theranostics, Ljubljana 2012

The European Society for Pharmacogenomics and Theranostics (ESPT) in collaboration with the Faculty of Pharmacy (University of Ljubljana) and Lorraine University, Nancy, France, together with RIBEF network and CEEPUS student exchange programme organised the 1st ESPT Summer School of Pharmacogenomics and Theranostics. The school took place in the premises of the Faculty of Pharmacy in Ljubljana between August 20 - 26, 2012. There were 52 participants and 25 speakers from 21 different countries from Europe and Latin America.

The Summer School programme consisted of 26 lectures, 4 workshops, and eight "Meet the professor sessions". The lectures were divided into 3 modules: Module 1: The basics of clinical pharmacology, Module 2: The basics of genetics and molecular diagnostics and Module 3, which included the use of pharmacogenetic tests in clinical practice. The one-hour lectures delivered a systematic and adapted overview of the issues and concluded with a discussion and interpretation of the interesting topics discussed. Workshops were held in four small groups. In workshops the participants learned about specific topics that may be associated with pharmacogenetics and theranostics. The workshop titles were as follows: Human leukocyte antigens (HLA) histocompatibility / immunogenetics, connection to disease and pharmacogenetics; Sequencer does not only perform sequencing; Intuitive biostatistics and Complex genetics of glycosylation. The participants could also choose two so-called "Meet the professor sessions" where they had the opportunity to talk directly with the lecturers, experts in certain fields, and discuss with them the specific problems they are facing in their own research. The school was accredited 5 ECTS credits. The students who wanted to exercise the credits had to pass the exam on the last day of the School and received a certificate. 19 candidates successfully passed the exam with an average of 86% points.

The organisers paid particular attention to the social part of the School, because we wanted to create a network of (future) professionals in pharmacogenomics and theranostics. So on the first day we organised a very effective get-to-know-each-other chat entitled "Speed dating", where the participants in a two minute conversation tried to learn as much as possible from their chat partner. We were honoured with a reception by the Mayor at the Town Hall Ljubljana, and the participants learned about our capital city in a special interactive way. The School rounded off the event with a gala dinner at Ljubljana Castle.

The questionnaires filled out by the participants at the end of the Summer School show that they were satisfied with the Summer School giving it an average rate of 4.6. They praised the professional programme, as well as the social element of the School and the overall organisation.

The president of the scientific committee on the part of FFA was Prof. Janja Marc, Ph.D.



2nd Meeting of the Paul Ehrlich MedChem Euro-PhD Network



From September 9 to 11, 2012, the Faculty of Pharmacy, University of Ljubljana (UL FFA) organised within its own premises an international scientific meeting entitled **2nd Meeting of the Paul Ehrlich MedChem Euro-PhD Network**, which was attended by 103 participants (78 from abroad and 25 from Slovenia) from 14 European countries. Paul Ehrlich MedChem Euro-PhD Network is a European network of 30 European universities providing doctoral studies in the field of **pharmaceutical chemistry** (medicinal chemistry), founded in 2009 in Palermo. The University of Ljubljana through the Faculty of Pharmacy is the founding member of the network. The scientific meeting of the Paul Ehrlich MedChem Euro-PhD Network in Ljubljana in 2012 was a regular scientific meeting of the network, which takes place every year and where doctoral candidates, their mentors, and teachers present the results of their scientific work in the form of lectures and posters. After the congress in Madrid in 2011, the 2nd Meeting of the Paul Ehrlich MedChem Euro-PhD Network represented the second scientific meeting in the said series of congresses to be held each year. The congress had great importance for the exchange of scientific results and establishing contacts between doctoral students and their mentors. Doctoral candidates were given the opportunity to present their scientific results in the form of a 15-minute lecture, which is rarely possible at other conferences in the field of pharmaceutical chemistry (medicinal chemistry). In addition to lectures by the doctoral candidates the programme of the congress in Ljubljana also included 5 invited guest lectures by prominent European researchers in the field of pharmaceutical chemistry (medicinal chemistry) who are predominantly members and mentors in the Paul Ehrlich MedChem Euro-PhD Network. The congress included a number of current topics in pharmaceutical chemistry (medicinal chemistry), which include planning, synthesis, and evaluation of substances in different therapeutic areas.

The organising committee of the congress which received numerous accolades consisted of the following members: Prof. Danijel Kikelj, Ph.D., Assoc. Prof. Lucija Peterlin Mašič, Ph.D., Asst. Prof. Janez Ilaš, Ph.D., Asst. Prof. Tihomir Tomašič, Ph.D. and Asst. Prof. Nace Zidar, Ph.D. At the congress Prof. Danijel Kikelj, Ph.D., was elected coordinator of the **Paul Ehrlich MedChem Euro-PhD Network** for the period from 2013 to 2015.



The first recipients of the Paul Ehrlich MedChem Euro-PhD document, B. Parrino, Ph.D. and M.R. Buemi, Ph.D., after its presentation in the company of mentors G. Cirrincione and A. Chimirri, coordinator G. Ronsisvalle and organiser Prof. Danijel Kikelj, Ph.D.

Signing an agreement with the University of Semmelweis (November 2012)

The Faculty of Pharmacy of the University of Ljubljana and the University of Semmelweis shall participate in the European inter-university postgraduate programme in the development of drugs CEMDC (Cooperative European Medicine Development Course; www.cemdc.eu), which is part of the Pharmatrain programme funded by the Innovative Medicines Initiative, imi. The formal sitting at the signing of the declaration on cooperation held in Budapest was attended by the rector of the University of Ljubljana, Prof. Radovan Stanislav Pejovnik, Ph.D., and Ms Darja Bavdaž Kuret, Ambassador of the Republic of Slovenia in Budapest. Within the consortium the Faculty of Pharmacy led by Prof. Irena Mlinarič-Raščan, Ph.D., vice-dean for scientific research. The Innovative Medicines Initiative (imi) is an organisation set up as a public private partnership in research and drug development. One of the imi's projects is a programme for training in research and drug development EMTRAIN (The European Medicines Research Training Network; <http://www.emtrain.eu/>).

Outstanding research in the field of nanofibres

In August 2012, the research group of the Chair of Pharmaceutical Technology which within the framework of ARRS research project (J1-4236) deals with the production and evaluation of polymeric nanofibres published the results of its research in the European Polymer Journal, the major journal in the field of polymer studies.

The article entitled "The role of rheology of polymer solutions and predicting nanofibre formation by electro-spinning," by Romana Rošic, Jan Pelipenko, Petra Kocbek, Saša Baumgartner, Marija Bešter-Rogač and Julijana Kristl (European Polymer Journal 2012; 48 (8) 1374-1384) has achieved an unprecedented response, since immediately after the publication it ranked 7th among the "TOP 25" most widely read magazine articles in the period July-September 2012, and retained high visibility in the next quarter as well. The fact that the published research results are interesting and have future perspectives is supported by the fact that the article was also invited to be published on the Advances in Engineering website (www.advancesinengineering.com). The editors decided that the research findings are of great importance in the field of engineering as well as innovative and promising technologies.

FFA gains the European project EACEA in lifelong learning programme (July 2012)

UL FFA as a partner institution gained the European project EACEA in lifelong learning programme: *Quality assurance in pharmacy education and training in EU* (527194-LLP-1-2012-1-BE-ERASMUS-EMGR) in total value worth half a million Euro (72% of EU funds). UL FFA through its regional director Prof. Borut Božič, Ph.D. coordinates one of the 4 geographic areas of partner and participating universities of EU Member States and other European countries.

The project objectives are as follows:

1. To establish a European network for quality assurance in education and training of pharmacists;
2. To review existing quality assurance systems,
3. To develop a model for quality assurance in the education and training of pharmacists (based on point 2 above and interactions between partners according to the Delphi / TUNING system)
4. To test and prepare the harmonised model of quality assurance in education and training of pharmacists,
5. To promote and exploit the final model through the European Association of Faculties of Pharmacy through the creation of a European system of quality assurance in education and training for pharmacists and for the creation of the appropriate agency.

in April 2012 researchers from the GEFOS consortium within the Seventh Framework Programme of the EU, among them Prof. Janja Marc, Ph.D., and Asst. Simon Mencej-Bedrač, Ph.D., from the Chair of Clinical Biochemistry, published an article in the prominent journal Nature Genetics, the leading journal in the field of genetics.

In the context of the GEFOS consortium there is on-going research of the genetic background of osteoporosis. In the largest study ever, the researchers using a genomic approach sought genetic markers associated with bone mineral density (BMD). According to analysis of 32,961 DNA with micro arrays they identified 96 genetic changes that demonstrated significant ($p < 10^{-8}$) correlation with BMD. As a next step they analysed these genetic changes in an additional 50,933 subjects with data on BMD and in 31,016 patients with low-energy fractures and 102,444 control subjects. They confirmed correlation of 56 genetic loci with clinical signs of osteoporosis, of which 32 were new, something which until now have never been associated with the development of this disease. They showed that the identified genes are involved mainly in the regulatory system of RANKL / RANK / OPG in the differentiation of mesenchymal stem cells, endochondral ossification, and signal path Wnt / Beta-Catenin. Due to the extremely large number of subjects included, the results of the study are the most credible yet and therefore form a very good basis for further research. We shall try to continue to explore the functional significance of detected genetic changes at protein and cellular level, and for at least some of them also in animal systems and systems in vivo. Functionally important proteins will certainly represent good diagnostic and therapeutic targets for treatment of elderly patients with this very common disease.

The article is accessible at <http://www.nature.com/ng/journal/vaop/ncurrent/pdf/ng.2249.pdf>

ARTICLES

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genetics

Genome-wide meta-analysis identifies 56 bone mineral density loci and reveals 14 loci associated with risk of fracture

Bone mineral density (BMD) is the most widely used predictor of fracture risk. We performed the largest meta-analysis to date on lumbar spine and femoral neck BMD, including 17 genome-wide association studies and 32,961 individuals of European and east Asian ancestry. We tested the top BMD-associated markers for replication in 50,933 independent subjects and for association with risk of low-trauma fracture in 31,016 individuals with a history of fracture (cases) and 102,444 controls. We identified 56 loci (32 new) associated with BMD at genome-wide significance ($P < 5 \times 10^{-8}$). Several of these factors cluster within the RANK-RANKL-OPG, mesenchymal stem cell differentiation, endochondral ossification and Wnt signaling pathways. However, we also discovered loci that were localized to genes not known to have a role in bone biology. Fourteen BMD-associated loci were also associated with fracture risk ($P < 5 \times 10^{-8}$, Bonferroni corrected), of which six reached $P < 5 \times 10^{-5}$, including at 18p11.21 (FAM210A), 7q21.3 (SLC25A13), 11q13.2 (LRP5), 4q22.1 (MEPE), 2p16.2 (SPTBN1) and 10q21.1 (DKK1). These findings shed light on the genetic architecture and pathophysiological mechanisms underlying BMD variation and fracture susceptibility.

Osteoporosis is a disease characterized by low bone mass and micro-architectural deterioration of bone tissue leading to increased risk of fracture. The disease accounts for approximately 1.5 million new fracture cases each year, representing a huge economic burden on health care systems, with annual costs estimated to be \$17 billion in the United States alone and expected to rise 50% by the year 2025 (ref. 1). Osteoporosis is defined clinically through the measurement of BMD, which remains the single best predictor of fracture^{2,3}. Twin and family studies have shown that 50–85% of the variance in BMD is genetically determined⁴. Osteoporotic fractures are also heritable by mechanisms that are partly independent of BMD⁵. Over the past 5 years, genome-wide association studies (GWAS) have revolutionized the understanding of the genetic architecture of common, complex diseases⁶. This approach is providing key insights into the mechanisms of disease, with prospects for the design of effective strategies for risk assessment and the development of new interventions⁷.

Previous GWAS have identified 24 loci that influence BMD variation^{8–14}. Whereas several variants in these BMD-associated loci have also been nominally associated with fracture risk^{15–23}, none have shown robust association with genome-wide significance ($P < 5 \times 10^{-8}$). We report here the results of the largest effort to date searching for BMD-associated loci in >80,000 subjects and testing them for association with fracture in >130,000 cases and controls. In addition, we employed bioinformatics tools and gene expression analyses to place the identified variants in the context of pathways relevant to bone biology.

RESULTS

This study was performed across three main stages (Fig. 1): (i) the discovery of BMD loci, (ii) follow-up replication and (iii) association of the BMD-associated loci with fracture.

Discovery of BMD loci (stage 1)

We first performed a meta-analysis of multiple GWAS for BMD of the femoral neck (FN-BMD; $n = 32,961$) and lumbar spine (LS-BMD; $n = 31,800$ cases), including ~2.5 million genotyped or imputed autosomal SNPs from 17 studies of populations across North America, Europe, East Asia and Australia, with a variety of epidemiological designs and subject characteristics (Online Methods). We also performed meta-analysis in men and women separately to identify sex-specific associations. The quantile-quantile plots of the discovery meta-analysis showed strong (and not early) deviation of the observed statistics from the null distribution of no association for both BMD traits (Supplementary Fig. 1). After double genomic control correction of the overall ($\lambda_{\text{FN-BMD}} = 1.112$; $\lambda_{\text{LS-BMD}} = 1.127$) and sex-stratified ($\lambda_{\text{FN-BMD}} = 1.091$; $\lambda_{\text{FN-BMD}} = 1.059$; $\lambda_{\text{LS-BMD}} = 1.086$; $\lambda_{\text{LS-BMD}} = 1.061$) analyses, SNPs in 34 loci surpassed genome-wide significance, whereas a total of 82 loci were associated at $P < 5 \times 10^{-8}$ (Supplementary Figs. 2 and 3). Thirty-eight loci were associated with FN-BMD, 25 with LS-BMD and 19 with both. The overlap reflects correlation between the femoral neck and lumbar spine measurements (Pearson correlation = 0.53). Of these 82 loci, 59, 18 and 5 were prioritized from analyses in the sex-combined, female and male sample sets, respectively (Supplementary Table 1). The meta-analysis was extended to include the evaluation of 76,253 markers on the X chromosome imputed across 14 of the discovery GWAS, for a total of 31,801 participants (Online Methods). Five loci on the X chromosome were associated at $P < 5 \times 10^{-8}$, with four of these derived from the sex-combined analysis and one identified in the analysis of men only (Supplementary Table 1). We further performed genome-wide conditional analyses in all sex-combined stage 1 studies. Each study repeated the GWAS analysis but also adjusted for 82 SNPs

A full list of authors and affiliations appears at the end of the paper.

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SPORTING ACHIEVEMENTS

Physical education at the Faculty of Pharmacy is organised as extra curricular activity for first-year students of all classes and participation in sports programmes is verified with enrolment in the third year of study. Students of higher classes are invited to join all sports programmes depending on space limitations. In the academic year 2011/12, about 400 students were involved in regular sport programmes and another 70 participated in competitions organised by the University of Ljubljana.

In the previous academic year, the students and staff at UL FFA participated in many championships organised by the Sports Association of the University of Ljubljana and achieved some excellent results in both individual and league competitions.

Some of the more prominent results of UL FFA in 2011/12:

CHESS Team 1st place: FFA
1st place Students/men: Jure Borišek
1st place Employees: Robert Roškar
3rd place Students/women: Barbara Špendal



UNIVERSITY VOLLEYBALL LEAGUE

Students/women, 2nd place
Students/men, 4th place



UNIVERSITY FUTSAL LEAGUE – Students/men, 8th-16th place

UNIVERSITY BASKETBALL LEAGUE – Students/men, 12th place



SWIMMING 2nd place FFA Relay Students/women
2nd place back stroke: Mateja Stopinšek
2nd place breast stroke: Mateja Stopinšek
4th place crawl: Vita Sonjak

SAVATE – 2nd place: Barbara Sokolovič

TABLE TENNIS – 5th place: Jurij Zdovc

ATHLETICS

Team 2nd place: FFA
Relay 4x100 Students/men, 3rd place: FFA
Running 3,000m, 1st place: Tina Čačilo
Long jump, 2nd place: Kaja Glavač
Shot put, 2nd place: Kaja Doberšek
Running 100m, 4th place: Jan Breznikar
Running 100m, 3rd place: Kaja Glavač
Running 60 m, 3rd place: Kaja Glavač



BEACH VOLLEYBALL, Students/women: 2nd place: Sara Vidovič and Petra Ropret
3rd place: Tia Grgičević and Katarina Mehle



FFA women students represented the University of Ljubljana at the BeST international student volleyball tournament which was held in Belgrade from May 3 - 6, 2012, and came 3rd in the group.

AWARDS AND ACKNOWLEDGEMENTS TO FFA CO-WORKERS

Prof. Borut Štrukelj, Ph.D. received a Golden Award of CCIS Slovenia



Prof. Borut Štrukelj, Ph.D., received a Golden award for innovational development of the nutrigenomic testing system bestowed by the Chamber of Commerce and Industry of Slovenia. The system was developed within the development project VALOR which is taking place at the Faculty of Pharmacy, University of Ljubljana in cooperation with GenePlanet Company.

Vita Majce – recipient of the international fellowship UNESCO L'Oréal "For Women in Science"



Paris/Ljubljana, 28 March 2012 – Vita Majce, Ph.D., a 27-year-old biochemist from Brežice who is a part-time employee of FFA is one of only 15 recipients from around the world of the international fellowship UNESCO L'Oréal "For Women in Science". She received a two-year scholarship in the amount of 40 thousand American dollars, which will facilitate her research work abroad, for the project to discover new antibiotics - a very important area particularly in light of the development of bacterial resistance to existing antibiotics and their resultant ineffectiveness.

CO-WORKER AT FFA, PROF. NICHOLAS A. PEPPAS, HONORARY DOCTOR OF THE UNIVERSITY OF LJUBLJANA

The Faculty of Pharmacy made a strong contribution to the Week of the University of Ljubljana. On the proposal of FFA, Prof. **Nicholas A. Peppas** from the University of Texas received the title **honorary doctor** of the University of Ljubljana.



Nicholas A. Peppas completed his university studies with a diploma from the National Technical University of Athens (1971) and received his Ph.D. in the United States at the Massachusetts Institute of Technology (1973). He is world-known as a leading expert and inventor in the field of biomaterials, delivery systems, systems for controlled release, and bionanotechnology. Courage and cheerfulness, enthusiasm for ambitious, bold projects and genuine determination and capability to complete them are reflected in his many prominent results. Exceptional results made Prof. Peppas a member of two out of the three scientific academies in the USA: Institute of Medicine (IOM), National Academy of Engineering (USA) and two European academies: Academia Real (Spain), Académie Nationale (France) as well as the Academy of Medicine, Engineering and Sciences of Texas. He is the president of the International Union of Societies of Biomaterials, Science and Engineering, and has also been the president of: College of Fellows of AIMBE, Society for Biomaterials, Controlled Release Society, American Institute of Chemical Engineers (AIChE) and American Association of Pharmaceutical

Sciences (AAPS).

Prof. Peppas is not only an outstanding ambassador of the biomedical field, but also an eloquent teacher and educator. He has mentored more than 185 undergraduate students and visiting scientists, including 94 Ph.D.s (35 in his nine years at the University of Texas), of which 33 are now professors at other universities. In his lab he has hosted and passed on his knowledge and experience to more than 700 other researchers and postgraduate students. Many of them have become the leading scientists and engineers in biomedicine. Because of his proven scientific and pedagogical approach he has received awards demonstrating his excellence in these areas, namely the American *Association of Engineering Education* awarded him all of their major awards, including the 2000 General Electric Senior Research Award, making him the best engineering researcher in the USA. In 1992 he won the George Westinghouse Award for best teacher, in 1988, when he was less than 40, he received the Curtis McGraw Award for the best engineering research, and in 2006 he gained the Chemical Engineering Award. He has also received numerous other awards for counselling and teaching.

Prof. Peppas has published more than 1,150 peer-reviewed publications, 350 scientific papers, 480 abstracts and is an inventor with 40 U.S. and international patents. He is co-publisher and co-author of 37 books, including the classic fundamental justifications for "hydrogels in medicine and pharmacy". In the field of biomaterials and bionanotechnologies he is the author of two pioneering monographs published in the last five years. His pioneering contributions have attracted more **than 40,000 citations with H = 98 (Google Scholar), which ranks him among the world's three most cited engineers in chemistry and biology, and he is in the group of three most cited also in biomedical engineering. His WoS data show 615 articles, 25,050 citations and h-index of 80.**

The beginnings of our cooperation with Prof. Peppas date back to the time when Slovenia became an independent country, when Prof. Nicholas A. Peppas, on the initiative of Prof. Stane Srčič, on behalf of U.S. scientists, wrote a letter of support to the U.S. Congress to recognise Slovenia as an independent country. In 1999, as a plenary speaker at the invitation of Prof. Julijana Kristl, he attended the 3rd Central European symposium on pharmaceutical technology and biopharmacy in Portorož, where he presented his pioneering work in protein delivery. In the following year he invited Saša Baumgartner, Ph.D., to his laboratory at Purdue University, where she completed part of her research for her doctoral thesis. The result was publication of the article in the *Pharmaceutical Research* journal, with the article being cited on numerous occasions. Additionally, by his mentoring work he demonstrated an engineering approach to solving scientific challenges. Prof. Peppas has also contributed to the establishment of the Society of Experts on controlled release of bioactive substances (CRS-Slovenia Local Chapter), which is part of the Controlled Release Society, USA. In this way Prof. Peppas contributed to raising the recognition and reputation of Slovenian pharmaceutical science throughout the world. He has been and still is extremely open to scientific collaboration with researchers from Slovenia, either in the laboratory or in remote discussion.

PROF. SLAVKO PEČAR, Ph.D., PROFESSOR EMERITUS OF THE UNIVERSITY OF LJUBLJANA

Rector of the University of Ljubljana, Prof. Radovan Stanislav Pejovnik, Ph.D., at the proposal of the Faculty of Pharmacy awarded the title "**professor emeritus**" of the University of Ljubljana **to Prof. Slavko Pečar, Ph.D.**



Since his graduation at the Chair of Pharmacy, the Department of Chemistry at the Faculty of Science and Technology (FNT) of the University of Ljubljana, Professor Slavko Pečar has been working at the Faculty of Pharmacy, University of Ljubljana, where he has gone full cycle from assistant to full professor. In his nearly 40-year career, he has done his utmost to contribute to the implementation of pharmacy as a scientific discipline in the Slovenian territory and its rise to a level comparable to that of the developed world. His research work, which was the result of integration with domestic (IJS, KI) and foreign research institutes (DKFZ Heidelberg), is very important. Professor Pečar has a rich scientific bibliography of more than 130 scientific papers in national and international journals and is the author or co-author of many patents in the field of pharmaceutical chemistry issued abroad (Europe, USA, Japan). Professor Pečar is a specialist in the design and synthesis of nitric oxide radicals with programmed properties and biologically active compounds, especially peptidomimetics.

Professor Slavko Pečar has outstanding achievements in the development and implementation of the Faculty of Pharmacy as a world-class educational and research institution in the Slovenian higher education and research area, and its image abroad. In the course of three mandates he was a member of the FFA governance, and from 1995 to 1999 he was also the Dean of the Faculty of Pharmacy. His greatest achievement in this period is that due to his visionary mindset we succeeded in building the new south wing of the FFA. The new extension and refurbishment of the laboratories in the old building of FFA brought the standard, equipment, and the conditions of teaching and research to a European level. This achievement has given new impetus to teaching and scientific research work.

In nearly forty years of work as a university teacher, scientist and the Dean of the Faculty of Pharmacy, Professor Slavko Pečar has unfalteringly contributed to the successful development and flowering of FFA.

ASSOC. PROF. ALEŠ OBREZA, Ph.D. AND ASSIST. MIRJAM GOSENCA, Ph.D. - BEST PEDAGOGUES IN 2012

This year, the Student Council of the University for the first time prepared a ceremonial session at which they granted **diplomas to the best pedagogues** and awards for the best administrative staff. Among them there are two co-workers from our Faculty, namely **Assoc. Prof. Aleš Obreza, Ph.D.** and **Asist. Mirjam Gosenca, Ph.D.**



NEWLY ELECTED PROFESSORS OF THE UNIVERSITY OF LJUBLJANA IN 2012

Prof. Odon Planinšek, Ph.D., M.Sc. Pharm.



He was born in 1967 in Ptuj where he finished primary school and attended secondary school in Maribor. After military service in 1987 he started studying pharmacy at the Faculty of Science and Technology of the University of Ljubljana. During his studies he worked as a demonstrator in practical exercises within the field of Pharmaceutical Technology. During this period, in 1992, he received Krka awards for student research and was the initiator and co-organiser of the first patient counselling contest. After graduation in 1993, he worked as a junior researcher at the Institute of Pharmacy and Drug Research. In 1995 he passed his professional examination. In 1996 he completed his master's thesis and in 1999 his doctorate at the Faculty of Pharmacy, under the supervision of Prof. Stanko Srčič.

In 2002 he attended post-doctoral studies at the London School of Pharmacy where he studied the surface properties of solids, and in 2004 he made a study visit to the University of Tübingen.

Prof. Odon Planinšek, Ph.D., has been employed at the Faculty of Pharmacy since 1999. He now teaches Physical Pharmacy in the uniform master's study programme of Pharmacy and is the head of practical exercises. He also lectures in several courses at the university study programme of Cosmetology, master's study programme of Industrial Pharmacy and postgraduate study programme of Biomedicine.

His research is focused on research and development of applications to be used in the pharmaceutical industry. He also works on development of solid dispersions of poorly soluble active substances using porous insoluble excipients and production of cocrystals. He is beginning to research precipitation particles in the laboratory on a chip. In the field of research on the use of silica dioxid xerogels in pharmacy he cooperates with the Laboratory for Materials Electrochemistry and the Laboratory of Inorganic Chemistry and Technology at the Institute of Chemistry.

In addition to research work he attends various training sessions, such as training in the field of intellectual property, didactic training, and those organised by the Ljubljana University Incubator, based on which he co-founded a company in 2004 which operated until 2008. He is a member of the Slovenian Pharmaceutical Society, co-editor of the *Acta Pharmaceutica* international journal, and a member of the Commission for Innovation of the University of Ljubljana.

Prof. Odon Planinšek, Ph.D. is the author or co-author of three Slovenian patents and three international patent applications. He has published 49 articles in scientific journals, of which 31 appear in journals indexed by SCI. The popularity of his research work is evident from the 36.25 citation index. He is also the co-author of a university textbook and multiple study materials, mentor of 45 diploma papers, one university Prešeren Award and a doctoral thesis.

In 1996 he was elected Assistant, in 2001 Assistant Professor, in 2006 Associate Professor, and in January 2012 Full Professor of Pharmaceutical Technology.

Prof. Franc Vrečer, Ph.D., M.Sc. Pharm.



He was born in 1959 in Celje where he completed primary and secondary school. In 1978 he started studying pharmacy at the Faculty of Science and Technology of the University of Ljubljana. He graduated in 1983 and a year later enrolled in postgraduate studies at the Department of Pharmacy at the Faculty of Science and Technology. He finished his master's degree in 1988 with great success. In 1992, he successfully presented his doctoral dissertation. For both, his master's and doctoral thesis he received Krka Awards.

Upon completion of the fourth year of study in pharmacy he started working at the Department of Pharmacy at the Faculty of Science and Technology in 1982 as a technical assistant. After military service he was employed at the same institution, first as a young researcher then as an assistant at the Department of Pharmaceutical Technology. In 1991, he joined the Krka pharmaceutical factory, Novo mesto, where he now works as an Assistant Director of Research and Development. In 2008, he participated in his post-doctoral research - pedagogical training at the Faculty of Pharmacy, University of Szeged, Hungary.

Since 1994, Prof. Franc Vrečer, Ph.D., has been the leader of three applied research projects co-financed by the Ministry of Science and Technology. As a researcher and coordinator he has participated in several research projects co-financed by the Municipality of Novo mesto since 1991. From 2009 to 2011 he was project manager at the Ministry of Commerce and at Technology Agency of Slovenia.

He is an active member of the Slovenian Pharmaceutical Society where he actively participates mainly in the Technology Section and Pharmaceutical Science Section performing different functions since 1991. On his initiative, in 1993 the Slovenian Pharmaceutical Society established the Commission for Slovenian Pharmaceutical Technology Terminology, which was led by Prof. Vrečer until 2000. During this time it published, among others, a booklet *"Standardni farmacevtsko tehnološki izrazi"* (*"Standard Pharmaceutical Technical Expressions"*), which represents the first published terminology glossary of pharmaceutical technology and packaging and is also a welcome study material. In the Slovenian Pharmaceutical Society he has been active in the editorial board and as a member or president of professional and organisational committees of consultations organised by the Technology section or parent society. Ever since its inception he has been a member of the organising committee for the preparation of the Central European Symposium on Pharmaceutical Technology. The latter has thus far organised 6 international symposia. Since 2001, he has been a member of the national committee for the European Pharmacopoeia at the Agency for Medicinal Products, a member of the scientific committee for the organisation of the International Symposium within the Krka Awards, and Chairman of the Scientific Committee at the Krka Awards Council fund. Under his leadership the first international symposium of analysis was organised in 2008, which was attended by many domestic and foreign experts. Prof. Vrečer is also a member of three international professional associations: APV, APGI, and CRS. As a reviewer of technical and scientific papers he is involved in various national and international scientific and professional journals.

In addition to Krka Awards he received the Minarik Acknowledgement for his work in the Slovenian Pharmaceutical Society in 1995. In 1996 he gained an award from the Municipality of Novo mesto for research and innovation achievements, and along with co-authors, three gold awards from the Chamber of Commerce of Dolenjska and Bela Krajina for the best innovations in 2010 and 2011.

As a co-author he has published 49 scientific articles in journals indexed by SCI, he cooperates in pharmaceutical technology research, especially in preformulation studies, and in the manufacture of

solid dosage forms. His contribution to the transfer of research results into industrial practice is very important. He is co-author of 29 patent applications and 4 international patents, he co-authored a university textbook, and he is a mentor to 29 diploma papers, a faculty Prešeren award, seven master's papers and five doctorates.

As a representative of Krka, Novo mesto, he has been actively involved in the preparation and implementation of the new master's study programme of Industrial Pharmacy. As a lecturer, holder or co-holder of courses, and mentor or co-mentor he participates in undergraduate study of Pharmacy, master's study programme of Industrial Pharmacy, and doctoral study programme of Biomedicine.

Franc Vrečer, Ph.D. was elected assistant at the University of Ljubljana in 1988 in the field of pharmaceutical technology, in 1996 he received the title of Assistant Professor, in 2003 the title of Associate Professor, and in March 2012 the title of Full Professor of Pharmaceutical Technology.

RESEARCH DAY AT THE FACULTY OF PHARMACY

During the Week of the University of Ljubljana, there was held on December 5, 2012 the so-called "Research day at FFA", which included a scientific symposium, a ceremony of granting awards, acknowledgements and commendations to the best students of the Faculty of Pharmacy, a lecture by honorary doctor of the University of Ljubljana Prof. Nicholas Peppas, Ph.D. of the University of Texas, granting dean awards to young researchers for the best scientific achievements of the past year and faculty Prešeren awards.



Besides Prof. Peppas, the keynote speaker was also Prof. Stanislav Gobec, Ph.D., recipient of the prestigious Zois Award in 2011. He gave a lecture on the development of substances for the treatment of Alzheimer's disease.

There followed lectures by researchers - winners of the Dean Awards of the Faculty of Pharmacy for the best scientific achievements at the faculty in the past year. The Dean Awards were granted to young professionals who had completed their doctoral study not more than one ago, and who in the previous or the current academic year (regarding the date of grant) were the first authors to publish an original scientific article in a journal with a high impact factor, or in a journal belonging to the top 10% of journals within each individual field. The candidate for the award may be a student of the FFA or an employee of the FFA - and the FFA should be cited in the article at least as a participating organisation.

DEAN AWARDS IN 2012

The Dean Awards 2012 were bestowed to:

MARTINA GOBEC for her scientific article entitled: "Selective cytotoxicity of amidinopiperidine-based compounds against Burkitt's lymphoma cells" published in PLoS one journal.

BOJANA MIRKOVIČ for her scientific article entitled: "Redox-Based Inactivation of Cysteine Cathepsins by Compounds Containing the 4-Aminophenol Moiety" published in PLoS one journal.

JAN PELIPENKO for his scientific article entitled: "The Topography of Electrospun Nanofibers and Its Impact on the Growth and Mobility of Keratinocytes" published in the European journal of pharmaceutics and biopharmaceutics.

ANJA PIŠLAR for her scientific article entitled: "Gama-enolase C-terminal peptide promotes cell survival and neurite outgrowth by activation of PI 3-K/Akt and MAPK/ERK signaling pathways" published in Biochemical Journal.

MATIJA ROJNIK for her scientific article entitled: "In vitro and in vivo characterisation of temoporfin-loaded PEGylated PLGA nanoparticles for use in photodynamic therapy" published in Nanomedicine.

MARKO ŠTEFANIČ for his scientific article entitled: "The influence of gastric emptying kinetics on the drug release from enteric coated pellets in fasted state: An in vitro/in vivo correlation" published in European journal of pharmaceutics and biopharmaceutics.

VERONIKA ŠKEDELJ for her scientific article entitled: "6-arylpyrido[2,3-d]pyrimidines as novel ATP-competitive inhibitors of bacterial D-alanine: D-alanine ligase" published in PLoS one journal.

PREŠEREN AWARDS IN 2012

University Prešeren awards were granted to:

MATEJA PRUNK and NUŠA PRISTOVŠEK for their paper entitled: "The relationship between polymorphisms in the gene for the $\alpha 2A$ adrenergic receptor and interleukin 1 α , and markers of osteoporosis" (mentor: Prof. Janja Marc, Ph.D., co-mentor: Assist. Janja Zupan, Ph.D.)



Faculty Prešeren awards for 2012 were granted to:

MARSEL BRATUŠA for the work entitled: "Binding of fluoride ions to the cationic polyelectrolytes (ionen) in water" (mentor: Assoc. Prof. Barbara Hribar-Lee, co-mentor: Miha Lukšič, Ph.D.)

ANDREJA EMERŠIČ for the work entitled: "Serum amyloid A as the autoimmune target of inflammatory diseases" (mentor: Prof. Borut Božič, Ph.D. co-mentor: Asst. Prof. Snežana Sodin Šemrl, Ph.D.)

URBAN KOŠAK for the work entitled: "Synthesis of 3-ketopalmitoil coenzyme A" (mentor: Prof. Stanislav Gobec, Ph.D., co-mentor: Assist. Andreja Kovač, Ph.D.)

BOR KRALJIC for the work entitled: "The development of a procedure to identify permeability properties of different "in vitro" models with a large number of compounds in a particular experiment" (mentor: Asst. Prof. Simon Žakelj, Ph.D. co-mentor: Asst. Prof. Robert Roškar, Ph.D.)

ANA MEVC for the work entitled: "Amphiphilic nitroxide radicals as inducers of caspase-3 dependent pathway of apoptosis" (mentor: Prof. Janko Kos, Ph.D.)

ŽIGA URLEP for the work entitled: "Evaluation of cytotoxic effects of acyl hydrazide and sulphonyl hydrazide serine protease inhibitors" (mentor: Prof. Irena Mlinarič Raščan, Ph.D.)

ACKNOWLEDGMENTS OF THE FACULTY OF PHARMACY IN 2012

In 2012, we conferred 43 Acknowledgements of the Faculty of Pharmacy.

FACULTY ACKNOWLEDGMENTS are given to students with an uninterrupted course of study and an average mark of 8.5 or above in all study requirements (excluding dissertation) in the period of one year after completing the full-time study programme. Failing marks are included when calculating the average mark.

The faculty acknowledgement comprises a diploma (plaque) and a material prize.

The 2012 acknowledgements of the Faculty of Pharmacy were awarded as follows:

▪ **ACKNOWLEDGEMENTS FOR UNIVERSITY STUDY OF PHARMACY**

Brajkovec Melita	Kopač Janez	Nabergoj Dominik
Cesar Blanka	Kos Špela	Pliberšek Vanja
Černe Ana	Kramarič Valerija	Rijavec Nika
Emeršič Andreja	Lemovec Ana	Rožman Eva
Janžovnik Tatjana	Lumpert Mateja	Tičar Erik
Jeraj Žiga	Mandić Jelena	Urlep Žiga
Kavčič Mateja	Meglič Sandi	Vidak Marko
Klančar Anita	Miler Amadeja	Vidovič Sara
Kojc Rok	Mitrović Ana	Zinrajh David

▪ **ACKNOWLEDGMENTS FOR UNIVERISTY STUDY OF LABORATORY BIOMEDICINE (1st cycle)**

Ambrožič Alenka	Kuret Tadeja	Slevec Jerneja
Hudovernik Janja	Obreza Tamara	Švigelj Anja
Kerš Anja	Perc Katja	Ulaga Blanka
Klun Jurka	Potarić Natalija	Zupančič Mojca
Kokalj Katarina	Sajko Sara	

▪ **ACKNOWLEDGEMENTS FOR HIGHER PROFESSIONAL STUDY OF LABORATORY BIOMEDICINE**

Štirn Mateja

▪ **ACKNOWLEDGEMENTS FOR MASTER'S PROGRAMME OF INDUSTRIAL PHARMACY**

Brulc Katarina



COMMENDATIONS OF THE FACULTY OF PHARMACY IN 2012

In 2012, we conferred more than 200 Commendations of the Faculty of Pharmacy.

FACULTY COMMENDATIONS are awarded to the best students of the year – Unified master's study programme in Pharmacy, University study programme in Pharmacy, University study in Laboratory Biomedicine, Higher professional study programme in Laboratory Biomedicine, Postgraduate master's study of Industrial Pharmacy, and Postgraduate master's study of Laboratory Biomedicine. Eligibility criteria are uninterrupted course of study and an average mark of 8.5 or above for all study requirements in a given year, regardless of the requirements for proceeding to the next year. Failing marks are included when calculating the average mark.

The faculty commendation is presented in the form of a diploma (plaque).

Commendations were awarded to:

• UNIFORM MASTER'S STUDY PROGRAMME OF PHARMACY 1ST YEAR, 2011/12

Bernik Petra	Klobučar Simona	Skok Žiga
Bernik Rebeka	Kokol Jasmina	Sokolovič Barbara
Blagajac Iza	Kosmač Anita	Starič Maja
Brezovec Neža	Kosmač Ina	Stopinšek Mateja
Čatić Sabrina	Krsnik Mateja	Strah Nina
Dolinar Patricija	Matko Ana	Šrot Luka
Donko Tadeja	Mirt Matic	Štravs Nina
Drofenik Lea	Nemec Katarina	Tibaut Maja
Frelj Tjaša	Ozimič Nina	Trogar Urška
Gantar Kaja	Pahor Nika	Tuta Nika
Guzelj Samo	Pisanec Gašper	Urnaut Urška
Hribnik Nives	Podgoršek Katja	Vidmar Špela
Jakoš Tanja	Ratek Gregor	Vrbanac Helena
Jereb Rebeka	Rede Katarina	Weiss Matjaž
Jeromel Aljaž	Regner Žiga	Zajec Špela
Jug Špela	Rode Danaja	Zdovc Jurij
Kajtna Jacqueline	Sajko Kaja	Zgaga Amadeja
Klemenčič Katja	Schiffner Eva Shannon	

• UNIFORM MASTER'S STUDY PROGRAMME OF PHARMACY 2ND YEAR, 2011/12

Aubreht Matevž	Knuplež Eva	Rakovec Tea
Bergant Kaja	Kužat Alen	Rozman Petruša
Bergoč Tamara	Ločičnik Bojana	Sever Ema
Čerkez Kristina	Lokošek Primož	Smodiš Domen
Gregorc Anja	Majer Ina	Strasner Sara
Gregorič Maja	Peric Katja	Vidmar Tjaša
Ješe Lea	Pohlen Mitja	Zupančič David
Jug Urška	Prah Alja	

• UNIFORM MASTER'S STUDY PROGRAMME OF PHARMACY 3RD YEAR, 2011/12

Blagotinšek Špela	Cotman Andrej Emanuel	Gornik Tjaša
Božič Klemen	Čotar Urška	Grašič Sabina
Brcar Tjaša	Dominković Nikola	Hočevar Keli
Bunc Marko	Gartnar Mana	Homec Kristina

Kacin Kristina
Knific Tamara
Kolarič Anja
Kotar Anita
Mirtič Janja
Nagode Urša

Perčič Špela
Poklukar Gašper
Polak Mateja
Prikeržnik Marcel
Redenšek Sara
Repas Jernej

Stančev Sara
Temova Žane
Trampuž Marko
Trkov Katarina

• **UNIFORM MASTER'S STUDY PROGRAMME OF PHARMACY 4TH YEAR, 2011/12**

Antlej Kaja
Benčan Martina
Božič Sara
Breznik Barbara
Einfalt Tomaž
Gasparini Mariša

Gašperlin Maruša
Hrovat Klemen
Jarc Urša
Knez Damijan
Kregar Sabina
Lužar Katja

Meško Maja
Potrč Tanja
Sušnik Maja
Tratnik Vesna
Zupančič Špela
Žiberna Tjaša

• **UNIVERSITY STUDY PROGRAMME OF PHARMACY 5TH YEAR, 2011/12**

Cesar Blanka
Černe Ana
Detiček Andreja
Horvat Jasmina
Jeraj Sabina
Jeraj Žiga
Kavčič Mateja
Klančar Anita
Kojc Rok
Kopač Janez
Kos Špela

Kramarič Valerija
Lamešič Sandra
Lemovec Ana
Lukan Katja
Mandič Jelena
Marin Luka
Meglič Sandi
Miler Amadeja
Mitrović Ana
Močilnikar Barbara
Nabergoj Dominik

Pegam Nataša
Pekošak Aleksandra
Pliberšek Vanja
Rijavec Nika
Rožman Eva
Rugelj Maruša
Sušec Anja
Tičar Erik
Vidovič Sara
Vrbek Sanja
Zinrajh David

• **UNIVERSITY STUDY PROGRAMME OF PHARMACY 4TH YEAR, 2010/11**

Jeraj Žiga
Jurkovič Mihaela
Klančar Anita
Klobčar Ana
Kojc Rok
Kopač Janez

Korasa Klemen
Kos Špela
Krajnc Evelin
Mandič Jelena
Meglič Sandi
Pliberšek Vanja

Ravnikar Mateja
Vidovič Sara
Zinrajh David
Zupančič Kaja

• **UNIVERISTY STUDY PROGRAMME OF LABORATORY BIOMEDICINE 1ST YEAR, 2011/12**

Avbelj Judita
Božič Darja
Hadžidaova Petra

Jošić Danijela
Mejač Anja
Pušnik Žan

Tomažin Martina
Zore Taja

• **UNIVERISTY STUDY PROGRAMME OF LABORATORY BIOMEDICINE 2ND YEAR, 2011/12**

Ercegovič Rot Ana
Glavič Dragica
Kern Barbara

Komljenović Staša
Koren Eva
Mikerevič Tjaša

Novoselc Klara Tereza
Vidmar Maša
Žužek Barbara

• **UNIVERISTY STUDY PROGRAMME OF LABORATORY BIOMEDICINE 3RD YEAR, 2011/12**

Ambrožič Alenka
Franko Nina
Golob Barbara
Hudovernik Janja

Jarc Eva
Klun Jurka
Kokalj Katarina
Kosednar Nuša

Kotnik Eva
Kuret Tadeja
Metelko Daniela
Obreza Tamara

Perc Katja
Potarić Natalija
Povšnar Mihela
Slevec Jerneja

Štruc Tina
Šutuš Tamara
Švigelj Anja
Ulaga Blanka

Vaupotič Mihaela
Vidic Blaž
Zupančič Mojca

- **UNIVERSITY STUDY PROGRAMME OF COSMETOLOGY 1ST YEAR, 2011/12**

Kramberger Urška
Kravos Klara
Krivec Nuša

Pirnat Vesna
Struna Alenka
Štepic Barbara

Unkovič Ana

- **UNIVERSITY STUDY PROGRAMME OF COSMETOLOGY 2ND YEAR, 2011/12**

Avbelj Maja
Konečnik Nuša
Toporiš Janja

- **MASTER'S STUDY PROGRAMME OF LABORATORY BIOMEDICINE 1ST YEAR, 2011/12**

Čas Teja
Farič Jasmina

Kos Špela
Malavašič Tina

Ogrič Manca
Prunk Mateja

- **MASTER'S STUDY PROGRAMME OF LABORATORY BIOMEDICINE 2ND YEAR, 2011/12**

Cedilnik Manja

- **MASTER'S STUDY PROGRAMME OF INDUSTRIAL PHARMACY 1ST YEAR, 2011/12**

Založnik Živa

- **MASTER'S STUDY PROGRAMME OF INDUSTRIAL PHARMACY 2ND YEAR, 2011/12**

Brulc Katarina
Skok Mateja



Krka Awards for special achievements in research were conferred to:

Devjak Novak Sabina (mentor Saša Baumgartner, co-mentor Franc Vrečer): "The study of some functionally-related characteristics of hypromellose used as a matrix forming agent" COBISS.SI-ID: 3350641.

Kovačič Borut (mentor Odon Planinšek, co-mentor Franc Vrečer): "Improving pharmaceutical-technological properties of carvedilol with solid dispersions and cocrystal preparation" COBISS.SI-ID: 3342961.

Ravnikar Matjaž (mentor Borut Štrukelj, co-mentor Mojca Lunder: "Development of recombinant probiotics and interactions between probiotic lactic acid bacteria and drugs" COBISS.SI-ID: 3343217.

Krka Awards for research work were conferred to:

Dolenc Tadej (mentor Franc Vrečer, co-mentor Darko Uršič): "The influence of buffer systems on solubility of selected salts of naproxen and ciprofloxacin at constant pH" COBISS.SI-ID: 3350897.

Dular Aleša (mentor Franc Vrečer, co-mentor Polona Bukovec): "The influence of crystallisation conditions on selected properties of model active ingredient particles" COBISS.SI-ID: 3351153.

Govedarica Biljana (mentor Stanko Srčič, co-mentor Miha Škarabot): "Evaluation of mechanical and surface properties of pharmaceutical materials and products on a single particle level by atomic force microscopy" COBISS.SI-ID: 3343473.

Ilić Miloš (mentor Danijel Kikelj, co-mentor Janez Ilaš): "Structural optimization of novel dual anti-thrombotic compounds and their effect on angiogenesis" COBISS.SI-ID: 3380593.

Luštrik Matevž (mentor Stanko Srčič): "Development of methods and evaluation of solid particle local characteristic in the fluid-bed coaters and their influence on particle coating uniformity" COBISS.SI-ID: 3380849.

Majce Vita (mentor Slovenko Polanc, co-mentor Stanislav Gobec): "Design, synthesis and evaluation of diazenes and their analogues as potential inhibitors of some enzymes" COBISS.SI-ID: 36308485.

Pršina Aleš (mentor Odon Planinšek): "Formulation of tablets by compressing hydroxypropylcellulose to achieve bimodal release of active ingredient" COBISS.SI-ID: 3351409.

Škedelj Veronika (mentor Anamarija Zega): "Design, synthesis and evaluation of inhibitors of d-aspartate ligase and d-alanyl-d-alanine ligase" COBISS.SI-ID: 3381105.

4 INTERNATIONAL COOPERATION IN 2012

In 2012 the Faculty of Pharmacy strengthened its international activities in numerous areas and in particular, the percentage of students attending one of the forms of exchanges has increased. It should be noted that in 2012 we successfully organised two international summer schools, gained significant international agreement on the participation of the Faculty in European inter-university post-graduate education in drug development, and we have established new research links either through bilateral projects or in the context of research projects.

Table: number of our students finishing part of their study programme requirements abroad and number of foreign students in exchange study programmes or are regularly enrolled in the FFA in 2012

Number of students	TOGETHER	ERASMUS	BASILEUS	CEEPUS	IPSF practical training	Full-time enrolled students	
						1st, 2nd cycle	3rd cycle
FFA students abroad	94	68	0	2	24	-	-
Foreign students at FFA	85	30	6	6	14	23	6

The number of students of the Faculty of Pharmacy involved in exchange programmes as well as foreign students at our Faculty has been increasing. In the first and second cycle of study approximately 6.7% of all regularly enrolled students or 25% more students than in 2011 complete part of their study programme requirements abroad or obtain additional competencies for future work. The number of foreign students at our Faculty has also increased. Namely, in 2011 there were 48 exchange students, 33 regularly enrolled, and in 2012 we increased the number of exchanges to 56 while the number of enrolled decreased to 29.

International recognition of FFA is being expanded and further strengthened by the exchange of university teachers and researchers. FFA hosted 23 foreign teachers and researchers, while 16 FFA teachers and researchers visited foreign universities.

We were extremely successful in the international arena by organising two summer schools: **1st summer school entitled Basic concepts in Pharmacogenomics and Theranostics** and **2nd Meeting of the Paul Ehrlich MedChem Euro-PhD Network**. Both were attended by more than 180 participants, the majority of whom were students of undergraduate and postgraduate programmes coming from over 30 different countries.

Mobility programmes

The promotion of student exchange programmes was carried out within the framework of organised meetings at the Faculty of Pharmacy in cooperation with the Slovenian Pharmaceutical Students' Association. There were many individual interviews organised and students were kept informed through the updated website of the Faculty of Pharmacy: International Activity. International mobility at the FFA is coordinated by Assoc. Prof. Saša Baumgartner, Ph.D., Vice-Dean for International Cooperation.

The Faculty enables practical lectures in English, and English is also used in individual consultations with lecturers. Written and oral exams are carried out in English. Corresponding study literature is provided in English, too. Upon arriving to the Faculty, students are welcomed by the coordinator and

the tutoring student who show them around the Faculty, explain study methods, and provide details of extra curricular activities.

ERASMUS

Erasmus is a sectoral programme and is an integral part of the EU Lifelong Learning Programme. Its primary objectives are to support the implementation of the European higher education area, improving the quality and quantity of mobility, promotion of multilateral cooperation, and strengthening the links between educational institutions and industry. The main tool for achieving these objectives is the organisation of exchanges of students, teachers, and staff within the recognised periods of study, which means that students can complete part of their regular academic study or practice in one of the institutions with which the parent faculty has signed cooperation agreements. Erasmus exchange enables students to get to know student and working life abroad, provides personal growth, ensures greater employability, visibility, and new experiences, all of which the students consider an advantage in finding their first job.

In 2012 the Faculty of Pharmacy concluded 46 bilateral agreements, 7 more than in the previous year, 90 vacancies for student exchanges and 52 vacancies for teacher exchanges. It is also necessary to highlight the extraordinary commitment of our students in finding venues for student practice especially in research laboratories and practical training in pharmacies. In so doing, they receive considerable help from professors through their personal connections in the international arena.



ERASMUS Partner Universities with which the Faculty of Pharmacy has signed a bilateral agreement

BASILEUS

Basileus (**B**alkan **a**cademic **s**cheme for the internationalisation of learning together with **EU** universities), a European Commission project, promotes academic mobility from the countries of the Western Balkans and the EU. The programme is carried out within the Erasmus Mundus External Cooperation Window (EMECW) project, which enables student and teacher exchanges at one of the

twelve partner universities. Together with the other eight universities from EU members, students and teachers from the University of Ljubljana have the possibility of exchange at twelve universities from Albania, Bosnia and Herzegovina, Macedonia, Montenegro, Serbia, and Kosovo. In the framework of the Basileus project there were 6 undergraduate students at our Faculty. They have all completed their exchange very successfully.

CEEPUS

CEEPUS (Central European Exchange Programme for University Studies) is a regional programme with the aim to establish and promote student and teacher mobility among the participating countries and make use of friendly links and possibilities to form common study programmes.

For a number of years, the Faculty of Pharmacy has collaborated in several networks in the areas of pharmaceutical technology and clinical biochemistry. At the moment, we are actively engaged in two CEEPUS programmes. The first is the CEEPUS II programme entitled ***Developing a network for monitoring the impact of environmental and nutritional factors on fertility and neonatal health***, organised by Prof. Marius Alexandru Moga, Ph.D., from the Transylvania University of Brasov, Romania. The coordinator at the Faculty is Assoc. Prof. Irena Mlinarič-Raščan, Ph.D.

The second CEEPUS programme is ***Novel diagnostic and therapeutic approaches to complex genetic disorders*** (CIII-HR-0611), coordinated by the University of Zagreb, Croatia. Faculties in the project are from partner countries: Austria, Bulgaria, Czech Republic, Croatia, Hungary, Poland, Romania, Slovakia, Slovenia, Serbia, Albania, Macedonia, and Montenegro. The coordinator on the part of FFA is Prof. Janja Marc, Ph.D.

TEMPUS

The TEMPUS programme is intended to support the modernisation of higher education in the partner countries of Eastern Europe, Central Asia, Western Balkans, and the Mediterranean, primarily by means of cooperation projects among universities financed by the European Union.

In 2012, the Faculty of Pharmacy was a member of the TEMPUS programme consortium called ***Postgraduate Qualification in Pharmacy: The way Forward***, coordinated by the Faculty of Pharmacy at the University of Belgrade. The goals of the TEMPUS project are: designing and updating undergraduate and postgraduate study programmes in Serbia, creating a training programme and installing an "e-learning" application platform. One of the goals is also the provision of new possibilities for professional and scientific collaboration among the faculties of the consortium members which include the Universities of Dublin, London, Greenwich, Strathclyde, Novi Sad, Niš, and Kragujevac in addition to those already mentioned. Membership of the Faculty of Pharmacy within the project is coordinated by Prof. Stanko Srčić, Ph.D.

New international inter-university postgraduate programme

In 2012, the University of Ljubljana and the Faculty of Pharmacy signed an important cooperation agreement with Semmelweis University in Budapest (more information on page 26).

The European Association of Faculties of Pharmacy

The European Association of Faculties of Pharmacy (EAFP) meeting took place in May 2012 in Utrecht (NL) and was attended by over 100 representatives of faculty members. At the EAFP General Assembly there was presented the legal status of the association, which is an international non-profit organisation involving 80 European faculties. FFA was selected to organise the EAFP meeting in 2014. On the last day of the meeting, the final results of the Pharmine project (<http://www.pharmine.org/>) which also included FFA were presented. FFA entered into the activities for continuing EAFP

international projects in the field of education for pharmacists in South Eastern Europe. The latter was presented as a continuation and upgrade of the Pharmine project named Phar-QA. A few months after the event this new project was confirmed. Cooperation with EAFP was coordinated by the Dean of FFA, Prof. Borut Božič, Ph.D., and Assoc. Prof. Aleš Obreza, Ph.D. also attended the conference.

International summer schools

1st summer school of Basic concepts in Pharmacogenomics and Theranostics

ESPT (European Society for Pharmacogenomics and Theranostics) organised the first international summer school of Pharmacogenomics and Theranostics which took place at the University of Ljubljana, the Faculty of Pharmacy (more information on page 24).

2nd international meeting of the Paul Ehrlich MedChem Euro-PhD Network

In the period from 9 to 11 September 2012, the Faculty of Pharmacy organised the international scientific meeting of the Paul Ehrlich MedChem Euro-PhD Network (more information on page 25).

Conclusion

Today, the goal of every modern and successful University and Faculty is not only training highly skilled professionals and conducting research for domestic needs, but also the proliferation of these activities in the international arena. In this regard, the Faculty of Pharmacy was very successful in 2012. We have increased the number of exchanges, organised international summer schools, we were the initiators of the establishment of a new inter-university programme, and we participated in several international research projects. We would like to point out that the majority of our students abroad fulfilled with flying colours all their obligations of our study agreements. It is evident that the students of the Faculty of Pharmacy and, indirectly, our programmes are comparable with similar faculties in Europe. However, our aim in the future is to improve the ratio of incoming / outgoing students, which will be achieved by organising lectures partly in the English language. We shall try to get awarded the organisation of international conferences and summer schools which greatly contribute to the popularity of our faculty in the international arena.

LINKING UP WITH FOREIGN HIGHER EDUCATION INSTITUTIONS OR ORGANISATIONS

VISITING TEACHERS AND RESEARCHERS AT THE FACULTY OF PHARMACY

a) Teachers

- Prof. Jeannine S. McCune, Ph.D., University of Washington, Department of Pharmacy, Seattle, USA
- Prof. Anahid Jewett, Ph.D., University of Los Angeles – UCLA, California, USA
- Prof. Duško Ilić, Ph.D., King's College London, Great Britain
- Prof. Jerka Dumić Belamarić, Ph.D., Faculty of Pharmacy and Biochemistry, University of Zagreb, Croatia
- Prof. Ljiljana Mitar Tasić, Ph.D., University of Belgrade, Faculty of Pharmacy, Belgrade, Serbia
- Prof. Aliosha Bakuridze, Ph.D., State University of Batumi, Georgia
- Prof. Dali Berashvili, Ph.D., State University of Tbilisi, Georgia
- Prof. Nora Urbanetz, Ph.D., Research Center Pharmaceutical Engineering GmbH, Graz, Austria
- Prof. Giovanni Piersanti, Ph.D., Faculty of Pharmacy, University of Urbino, Italy
- Prof. Martin Doležal, Ph.D., Faculty of Pharmacy, Charles University, Hradec Kralove, Czechoslovakia
- Prof. Geronikaki Athina, Ph.D., School of Pharmacy, Aristotle University of Thessaloniki, Greece
- Prof. Nurredin Al Bouzeidi, Ph.D., Medical Supply Organization, Tripoli, Libya
- Prof. Athanassiov Nikolaos Peppas, Ph.D., The University of Texas at Austin, USA
- Assis Prof. Snežana Savić, Ph.D., University of Belgrade, Faculty of Pharmacy, Belgrade, Serbia
- Asst. Prof. Nataša Bogavac, Ph.D., University of Belgrade, Faculty of Pharmacy, Belgrade, Serbia
- Asst. Prof. Jelena Kotur Stevuljević, Ph.D., University of Belgrade, Faculty of Pharmacy, Belgrade, Serbia

b) Researchers

- Prof. Eric Sauvage, University of Liege, Belgium
- Prof. Mohammed Terrak, University of Liege, Belgium
- Prof. Eric Zhijian Huang, Hangzhou Normal University, China
- Paula Kiuru, Ph.D., University of Helsinki, Finland
- Xinyuan Lin, Hangzhou Normal University, China
- Sotirios Katsamakas, Aristotle University of Thessaloniki, Greece
- Julia Hurler, University of Tromsø, Faculty of Health Sciences, Department of Pharmacy, Tromsø, Norway
- Emilija Arsovska, Macedonia
- Ivana Mašić, Faculty of Pharmacy, University of Belgrade, Serbia
- Edina Vranić, Faculty of Pharmacy, University of Sarajevo, BIH
- Daris Grizić, Faculty of Pharmacy, University of Sarajevo, BIH
- Lali Lomtadze, Tbilisi State Medical University, Georgia
- Milica Miljković, University of Belgrade, Faculty of Pharmacy, Belgrade, Serbia
- Ruđer Novak, Faculty of Pharmacy and Biochemistry, University of Zagreb, Croatia
- Tanja Dujić, University of Sarajevo, Faculty of Pharmacy, BIH
- Tamer Bego, University of Sarajevo, Faculty of Pharmacy, BIH

VISITING TEACHERS, ASSISTENTS, AND RESEARCHERS FROM FFA (ON TRAINING) ABROAD

a) Teachers, assistants

- Prof. Stanko Srčić, Ph.D., State University and Institute of Solid State Chemistry and Mechanochemistry, Novosibirsk, Russia
- Prof. Stanko Srčić, Ph.D., Faculty of Pharmacy, University of Sarajevo, BIH
- Prof. Odon Planinšek, Ph.D., Faculty of Pharmacy, University of Sarajevo, BIH
- Prof. Janja Marc, Ph.D., University of Zagreb, Croatia

- Assoc. Prof. Saša Baumgartner, Ph.D., Karl-Franzens Universität, Graz, Austria
- Assoc. Prof. Darko Černe, Ph.D., University of Pecs, Hungary
- Asst. Prof. Simon Žakelj, Ph.D., University of Eastern Finland, Kuopio, Finland
- Assist. Ilija Ilić, Ph.D., Faculty of Pharmacy, University of Belgrade, Serbia
- Assist. Matevž Prijatelj, Ph.D., Laboratory of Onko-Hematology, CEA, Paris, France
- Assist. Tihomir Tomašić, Ph.D., Xention Ltd, Cambridge, Great Britain

b) Researchers

- Assist. Biljana Janković, Ph.D., Faculty of Pharmacy, University of Copenhagen, Denmark
- Assist. Biljana Janković, Ph.D., Faculty of Pharmacy, University of Belgrade, Serbia
- Assist. Samo Turk, Ph.D., Institute Enveloppes Bacteriennes et Antibiotiques IBBMC, Paris, France
- Assist. Martina Hrast, Institute de Biologie Structural (IBS), Grenoble, France

INTERNATIONAL STUDENT EXCHANGES IN 2012

Socrates/Erasmus exchanges:

- | | |
|---|----|
| ▪ number of Faculty of Pharmacy exchange students abroad: | 68 |
| ▪ number of foreign students at the Faculty of Pharmacy: | 30 |

Basileus exchanges:

- | | |
|---|---|
| ▪ number of Faculty of Pharmacy exchange students abroad: | 0 |
| ▪ number of foreign students at the Faculty of Pharmacy: | 6 |

CEEPUS exchanges:

- | | |
|---|---|
| ▪ number of Faculty of Pharmacy exchange students abroad: | 3 |
| ▪ number of foreign students at the Faculty of Pharmacy: | 1 |

SEP 1-month exchanges

- | | |
|---|----|
| ▪ number of Faculty of Pharmacy exchange students abroad: | 24 |
| ▪ number of foreign students at the Faculty of Pharmacy: | 14 |

5 SCIENTIFIC, RESEARCH, AND PROFESSIONAL ACTIVITIES OF THE FACULTY OF PHARMACY IN 2012

The Faculty of Pharmacy is responsible for scientific research areas in pharmaceutical sciences and clinical biochemistry and it is integrated into interdisciplinary scientific research in Slovenia and abroad. Scientific research work at the FFA is realised in the context of the programme and project funding by the Research Agency of the Republic of Slovenia (ARRS), in cooperation with industry, in the context of bilateral international projects, and projects of the Seventh Framework Programme of the EU.

Faculty research work is conducted under four programme groups operating at the FFA as follows:

Pharmaceutical Technology: planning, preparation, and valuation of modern delivery systems of active substances, headed by Prof. Aleša Mrhar, Ph.D., which combines the Chair of Biopharmacy and Pharmacokinetics, the Chair of Pharmaceutical Technology, and the Chair of Social Pharmacy.

Pharmaceutical Chemistry: planning, synthesis, and valuation of active substances, headed by Prof. Danijel Kikelj, Ph.D., which combines the Chair of Pharmaceutical Chemistry, the Chair of Clinical Biochemistry, and the Chair of Pharmaceutical Biology.

Pharmaceutical Biotechnology: the human and environment, headed by Prof. Janko Kos, Ph.D., which combines the Chair of Pharmaceutical Biology, the Chair of Clinical Biochemistry, and the Department of Biotechnology at the Jožef Stefan Institute.

Clinical Biochemistry: genes, hormones and personality disorders in metabolic changes, headed by Prof. Janez Preželj, Ph.D., at UKC Ljubljana and FFA, The chair of Clinical Biochemistry, coordinator Prof. Janja Marc, Ph.D.

Faculty researchers also participate in research programmes undertaken at other institutions, namely Experimental Biophysics of complex systems, headed by Prof. Janez Stepinšek, Ph.D., at the Jozef Stefan Institute, and Systemic autoimmune diseases, headed by Asst. Prof. Snežna Sodin Šemrl, Ph.D., at the UKC Ljubljana.

The funds for research work of programme groups within the national programme are provided by the Slovenian Research Agency (ARRS). In 2012, the Faculty of Pharmacy, University of Ljubljana conducted 9 basic research projects, 4 applied research projects, a large number of research and development projects with industry, three European projects, and several bilateral projects.

ARRS basic research projects:

- Inhibitors of cysteine carboxypeptidases as regulators of autoimmune and neurodegenerative processes (head: Prof. Kos Janko, Ph.D.)
- Design, formulation and characterisation of biomimetic nanocomposite systems for effective tissue regeneration (head: Prof. Julijana Kristl, Ph.D.)
- Development and evaluation of radiolabelled bio-molecules for targeted radionuclide therapy and imaging of neuroendocrine tumours (coordinator at FFA: Prof. Irena Mlinarič Raščan, Ph.D., head: Jurij Fettich, Ph.D., UKC LJ)
- Transport and RNA binding of TDP-43 and FUS - implications for ALS/FTLD spectrum of neurodegenerative disease (coordinator at FFA: Asst. Prof. Tomaž Bratkovič, Ph.D., head: Boris Rogelj, Ph.D., Zavod BRIS)
- The role of genetic polymorphisms in treatment result and occurrence of side effects in children with cancer (coordinator at FFA: Prof. Irena Mlinarič Raščan, Ph.D., head: Asst. Prof. Janez Jazbec, Ph.D., Paediatric Clinic of Ljubljana)

- The influence of active transport and patients' genotypes on the therapeutic outcome of chronic myeloid leukemia (head: Prof. Albin Kristl, Ph.D.)
- Pharmacogenetic approaches to research, diagnosis and therapy of leukemia (head: Prof. Irena Mlinarič Raščan, Ph.D.)
- Fungal cytochrome P450 enzymes involved in the detoxification of plant defence compounds as targets of new antifungal substances (coordinator at FFA: Prof. Stanislav Gobec, Ph.D., head: Nada Krašovec, Ph.D., KI)
- Genetic factors for osteoporosis (head: Prof. Janja Marc, Ph.D.)

ARRS applied research projects:

- Protective pleiotropic effects of low-dose inhibitors of the renin-angiotensin system and statins in healthy middle-aged population (coordinator at FFA; Prof. Janja Marc, Ph.D., head: Mirza Šabović, Ph.D. UKC)
- Complex hyperspectral system for automatic analysis and control of pharmaceutical pellet coating processes (coordinator at FFA: Prof. Stanko Srčič, Ph.D., head: Prof. Likar Boštjan, Ph.D., UL FE)
- Pre clinical development of new antibacterial drugs (head: Prof. Stanislav Gobec, Ph.D.)
- Theoretical and practical aspects of terminology and terminography in connection with Internet terminological resources (coordinator at FFA: Prof. Aleš Obreza, Ph.D., head: Žele Andreja, Ph.D., ZRC SAZU)

Outside industry-related projects

In 2012, the Faculty of Pharmacy successfully carried out a range of development and research projects with the following companies: Lek-Sandoz, Krka, Vzajemna, ZZS, Servier Pharm, Novartis Pharma, Inštitut za matematiko, fiziko in mehaniko (Institute for Mathematics, Physics and Mechanics), Orthopaedic Hospital Valdoltra, Astra Zeneca, Abbott, Clinres Farmacija and Brinox.

7th framework programme projects

MAREX



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

ORCHID



Open Collaborative Model for Tuberculosis Lead Optimisation (ORCHID). The aim of the project is the optimisation of lead compounds with anti-tuberculosis effect to the point where they can be passed to clinical trials. The project is coordinated by the pharmaceutical corporation GlaxoSmithKline, Diseases of the Developing World, Spain (David Barros, Ph.D.). Coordinator at UL FFA is Prof. Stanislav Gobec. Project duration: 2010 – 2014.

Other EU projects



European Social Fund: Knowledge for the future - A new generation of life sciences researchers within the framework of the Operational Programme for Human Resources Development. The project is coordinated by the National Institute of Chemistry Ljubljana; besides UL FFA and Faculty of Arts there are also 13 secondary schools participating. The project coordinator at UL FFA is

Asst. Prof. Tomaž Bratkovič, Ph.D. Duration of the project: 2012-2014.

EPTA: EP4 receptor: potential target. The purpose of the project is to search for and evaluate signalling molecules, which can also cause resistance to chemotherapy, radiation, and immune-regulated cell death. The project is conducted in cooperation with the Atomic Energy and Alternative Energies Commission from France, the head is Prof. Irena Mlinarič-Raščan, Ph.D. Duration of the project: 2009-2013.

COST New Drugs for Neglected Diseases. The main objective of the project is to bring together researchers and partners from industry that are engaged in the development of new drugs for the treatment of tropical diseases such as *African sleeping sickness*, *Chagas disease* and *Leishmaniasis*, and combine inter-related areas of molecular genetics, biochemistry, pharmaceutical chemistry, crystallography and bioinformatics. The project involves researchers from 17 countries. The coordinator at UL FFA is Asst. Prof. Lucija Mašič-Peterlin, Ph.D. Duration of the project: 2008-2012.

COST Chemical Approaches to Targeting Drug Resistance in Cancer Stem Cells. Participation in the project enables links with European researchers in the research of the role of cancer stem cells in the treatment of malignancies. Members of the COST CM1106 administrative board are also Prof. Danijel Kikelj, Ph.D. and Asst. Prof. Lucija Mašič-Peterlin, Ph.D. The project coordinator at UL FFA is Prof. Danijel Kikelj, Ph.D.

TEMPUS Postgraduate Qualification in Pharmacy: The Way Forward. The project involves faculties from Dublin, London, Greenwich, Ljubljana, and Belgrade. Its goal is modernisation of postgraduate education in the country coordinator, Serbia. The duration of the project: 2009 – 2012. The project coordinator at UL FFA is Prof. Stanko Srčič, Ph.D.

Other projects:

There was also a significant degree of international cooperation within a number of bilateral research projects (Table 5-1).

Table 5-1: Bilateral projects of the Faculty of Pharmacy in 2012.

Project title	Head	Partner country
New inhibitors of penicillin-binding proteins	Prof. S. Gobec, Ph.D.	Belgium and Wallonia
Preparation and characterisation of porous micro- and nano-particles based on silicon, and the evaluation of their impact on the absorption of active substances	Prof. A. Kristl, Ph.D.	Finland
Evaluation system for delivery of curcumin according to its absorption characteristics	Prof. A. Kristl, Ph.D.	Norway

Project title	Head	Partner country
Synthesis and biological evaluation of new drugs on the basis of biologically active compounds from marine organisms	Asst. Prof. L. Peterlin Mašič, Ph.D.	Finland
Bacteriophages as carriers of peptide probes for the detection of leptin receptor	Asst. Prof. T. Bratkovič, Ph.D.	China
The development of composites of some pharmacologically effective substances and their analysis	Prof. S. Srčič, Ph.D.	Russia
The creation of pulse-release tablets of substance scarcely soluble in water	Prof. O. Planinšek, Ph.D.	BIH
Modification of physicochemical properties of particles by crushing and the study of these changes on the processes of compression and mechanical characteristics of the tablets	Prof. S. Srčič, Ph.D.	Finland
Studies of polymorphism and amorphousness of pharmaceutical agents with IGC and ¹⁴ N nuclear quadrupole resonance	Prof. S. Srčič, Ph.D.	Denmark
Influence of process parameters on the process of granulation of molten fluid-tier layers	Prof. S. Srčič, Ph.D.	Serbia
Diagnostic value of new indicators for early detection of atherosclerosis	Assoc. Prof. D. Černe, Ph.D.	Serbia

Overview of published works

Most of the employees at FFA are partially involved in the research process while their primary task is teaching. In 2012 there were 13 researchers and 31 young researchers working at research posts. The quality of scientific and professional work is reflected in the number of publications, their impact on the international scientific and professional public, and their applicability in the outside economy and other areas. In 2012, the researchers of the Faculty of Pharmacy published 170 reviewed articles, of which 132 were published in journals with an impact factor (Figure 5-1).

An important measure of the importance of research results are citations of published works, which increase during the analysed period, from 1,675 citations in 2008 to 3,759 in 2012. Such successes are the result of the activities of researchers and teachers, the acquisition of projects and stimulus measures that have been taken, such as the organisation of the research day at the Faculty and granting awards to young researchers for their outstanding achievements. Our goal is to build on the quality of publications, the promotion of interdisciplinary approaches to research and increased integration into the European research area (Figure 5-2).

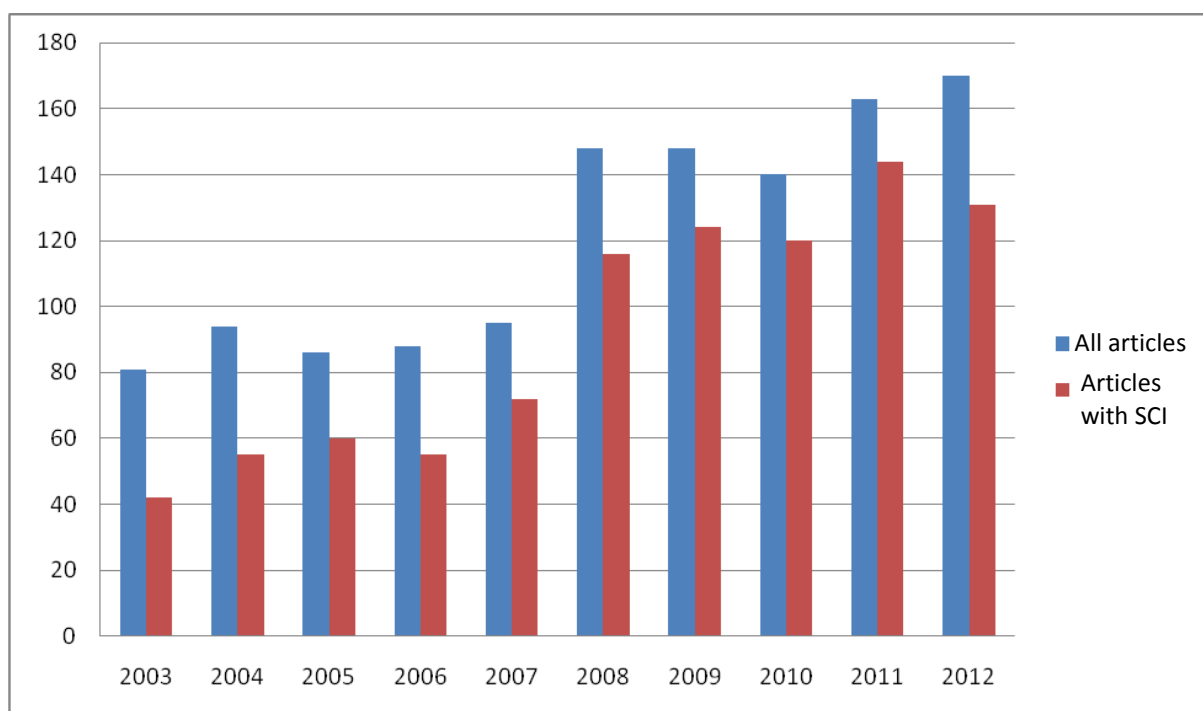


Figure 5-1: The dynamics of all peer-reviewed publications and publications in SCI journals. (SOURCE: COBISS)

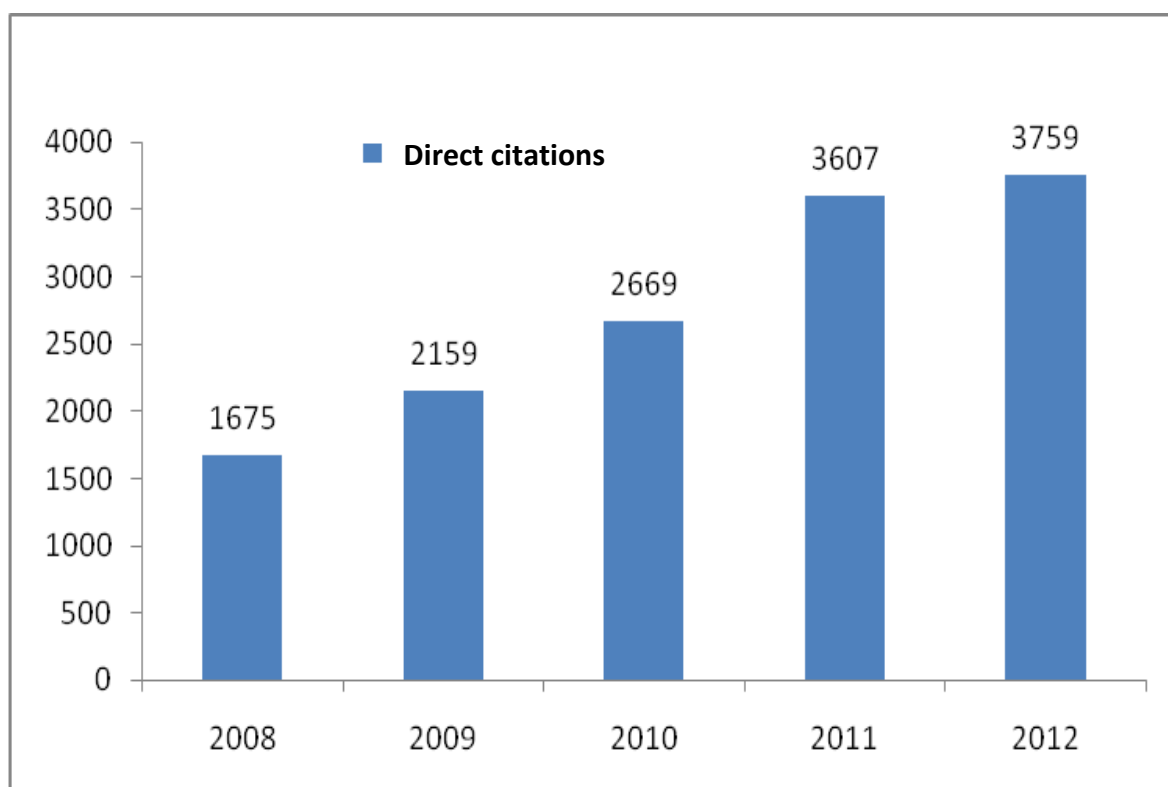


Figure 5-2: Number of all direct citations by researchers of the Faculty of Pharmacy in the last five years.

(SOURCE: Sicris)

In 2012 the Faculty of Pharmacy received resources for the work of 17.55 full-time researchers (FTE) from the Slovenian Research Agency through programmes and projects, and 20.33 FTE for young researchers, and an additional 4.95 FTE from EU projects. The number of publications and citations for received resources per full-time researcher in the last five years is presented in Table 5-2, showing that the resources were used very efficiently.

Table 5-2: Presentation of scientific articles and citations for resources per full-time researcher (FTE)

Source of resources	Year	Resources for full-time researchers (FTE)	Number of all scientific articles/FTE	Number of scientific articles in journals with an impact factor/FTE	Number of direct citations/FTE
ARRS and EU programmes and projects and MR	2008	12.65 ARRS 4.42 EU 24.70 MR	3.4	2.8	40.1
	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

The teachers of the Faculty of Pharmacy in different bodies

University of Ljubljana - Management

- Prof. Julijana Kristl, Ph.D. – pro-rector

University of Ljubljana - Committee for Research and Development

- Prof. Borut Štrukelj, Ph.D. - chairman

University of Ljubljana - Committee for Master's Study

- Assoc. Prof. Darko Černe, Ph.D.

University of Ljubljana - Committee for Doctoral Study

- Prof. Danijel Kikelj, Ph.D.

University of Ljubljana - Committee for Innovations

- Prof. Odon Planinšek, Ph.D.

University of Ljubljana - Committee for Prešeren Awards

- Prof. Janko Kos, Ph.D.

University of Ljubljana – Programme Council Biomedicine

- Prof. Borut Božič, Ph.D. – vice-chairman

University of Ljubljana, Institute for Innovation and Development - Council

- Prof. Franc Vrečer, Ph.D.

JAZMP – Agency Council

- Prof. Borut Štrukelj, Ph.D.

JAZMP – Drug Committee I:

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

JAZMP – Drug Committee II:

- Prof. Mirjana Gašperlin, Ph.D.
- Prof. Samo Kreft, Ph.D.
- Prof. Aleš Krbavčič, Ph.D.
- Asst. Prof. Damjan Janeš, Ph.D.
- Asst. Prof. Andrej Umek, Ph.D.

JAZMP – Committee for Homoeopathic Medicinal Products

- Assoc. Prof. Aleš Obreza, Ph.D.
- Assoc. Prof. Saša Baumgartner, Ph.D.
- Asst. Prof. Damjan Janeš, Ph.D.

JAZMP – Committee for Medicinal Products for Veterinary Use:

- Prof. Stanko Srčič, Ph.D. - expert in pharm. technology
- Assoc. Prof. Lucija Peterlin Mašič, Ph.D. - expert in pharm. chemistry

JAZMP – Committee for Medicinal Products for Veterinary Use:

- Asst. Prof. Mitja Kos, Ph.D.

JAZMP – Drugs Committee for preparation of opinions for determining exceptional higher allowed prices of drugs

- Asst. Prof. Mitja Kos, Ph.D.

JAZMP - Pharmacopoeia Committee:

- Prof. Jelka Šmid Korbar, Ph.D.
- Prof. Uroš Urleb, Ph.D.
- Asst. Prof. Tanja Gmeiner Stopar, Ph.D.

JAZMP - Commission for Preparing Formularium Slovenicum within the European Pharmacopoeia:

- Prof. Jelka Šmid Korbar, Ph.D.
- Prof. Mirjana Gašperlin, Ph.D.
- Assoc. Prof. Aleš Obreza, Ph.D.

ARRS – Professional Board of Biotechnical Science:

- Prof. Janko Kos, Ph.D.

ARRS – Professional Board of Interdisciplinary Research:

- Prof. Borut Štrukelj, Ph.D.

ARRS – Professional Board of Natural and Mathematic Science:

- Prof. Julijana Kristl, Ph.D.

Slovenian Chamber of Laboratory Medicine - Committee for Professional Issues

- Prof. Borut Božič, Ph.D. - chairman

Slovenian Chamber of Laboratory Medicine - Registry Committee

- Prof. Borut Božič, Ph.D.

Slovenian Chamber of Laboratory Medicine - Specialisations Committee

- Assoc. Prof. Darko Černe, Ph.D.

Slovenian Chamber of Laboratory Medicine - Licences and Education Committee

- Prof. Janja Marc, Ph.D. - chairwoman

Slovenian Academy of Sciences and Arts – Slovenian Dictionary of Pharmaceutical Terminology:

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

National Anti-Doping Committee:

- Prof. Joško Osredkar, Ph.D. - chairman

Ministry of health of RS - Health Council:

- Prof. Julijana Kristl, Ph.D.

Ministry of Health of RS, Chemical Office - Committee for Cosmetic Products-Related Expert Issues:

- Prof. Mirjana Gašperlin, Ph.D.

Ministry of Health of RS, Chemical Office - Inter-ministerial Sub-Commission for Good Laboratory Practice:

- Asst. Prof. Bojan Doljak, Ph.D.

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

- Prof. Borut Božič, Ph.D.

Ministry of Health of RS - Expanded Professional Board of Pharmaceutical Services:

- Prof. Mirjana Gašperlin, Ph.D. - chairwoman
- Prof. Aleš Mrhar, Ph.D.
- Assoc. Prof. Aleš Obreza, Ph.D.

Ministry of Health of RS - Expanded Professional Board of Laboratory Diagnostics:

- Prof. Borut Božič, Ph.D.
- Prof. Janja Marc, Ph.D.

Ministry of the Environment and Spatial Planning of RS - Scientific Board for Genetically Modified Organisms

- Prof. Irena Mlinarič-Raščan, Ph.D.

Slovenian Science Foundation – Foundation Board

- Prof. Franc Vrečer, Ph.D.

Slovenian Science Foundation - Scientific Board:

- Prof. Franc Vrečer, Ph.D.
- Prof. Janez Kerč, Ph.D.

Krka d. d. - Krka Awards Council:

- Prof. Franc Vrečer, Ph.D.

Lek d. d. - Biocamp Organising Committee

- Asst. Prof. Zdenko Časar, Ph.D.

Slovenian Pharmaceutical Society - Supervisory Board:

- Prof. Janez Kerč, Ph.D. - chairman

Slovene Chamber of Pharmacy - Working Group for the renovation of the Rules on the types, content, and process of specialisation for the Masters of pharmacy and to unify competencies and cognitive services in pharmacies

- Asst. Prof. Mitja Kos, Ph.D.

European Pharmacopoeia Commission, EDQM:

- Prof. Uroš Urleb, Ph.D.

Committee on Herbal Medicinal Products, EMA:

- Prof. Samo Kreft, Ph.D.

Committee for Medicinal Products for Veterinary Use, EMA:

- Prof. Stanko Srčič, Ph.D.

Pathobiology Group of the European Organisation for Research and Treatment of Cancer (EORTC) - Expert Group for receptors and biomarkers

- Prof. Janko Kos, Ph.D.

Biological Drugs Group within the European Pharmacopoeia in Strasbourg:

- Asst. Prof. Tomaž Bratkovič, Ph.D.

EC - European Strategy Forum on Research Infrastructures

- Prof. Irena Mlinarič-Raščan, Ph.D.

Paul Ehrlich MedChem Euro-PhD Network- Council

- Prof. Danijel Kikelj, Ph.D. - chairman

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

- Prof. Danijel Kikelj, Ph.D.

European Federation of Medicinal Chemistry - Assembly

- Prof. Danijel Kikelj, Ph.D.

IUIS Subcommittee for the Standardisation and Quality Assessment of Immunological Diagnostics

- Prof. Borut Božič, Ph.D.

Editorial Board of Farmaceutski vestnik Journal

- Prof. Borut Štrukelj, Ph.D. – managing editor
- Asst. Prof. Tomaž Vovk, Ph.D. – visiting editor
- Prof. Janja Marc, Ph.D. – member of the editorial board
- Asst. Prof. Jurij Trontelj, Ph.D. - member of the editorial board

Editorial Board of Lekarništvo Journal

- Prof. Borut Štrukelj, Ph.D. – managing editor

Editorial Board of Farmakon Journal

- Prof. Marija Sollner Dolenc, Ph.D. – editor in chief

Editorial Board of Arhiv za higijenu rada i toksikologiju Journal

- Prof. Marija Sollner Dolenc, Ph.D. – regional editor

Editorial Board of MedChemComm Journal

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

Editorial Board of Acta chimica slovenica Journal

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

Editorial Board of ARKIVOC Journal

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

Editorial Board of Current medicinal chemistry Journal

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

Editorial Board of Macedonian Pharmaceutical Bulletin

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

Editorial Board of Journal of biomedical nanotechnology

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

Editorial Board of Journal of drug delivery science and technology

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

Editorial Board of Acta pharmaceutica Journal

- Prof. Stanko Srčič, Ph.D. – member of the editorial board
- Prof. Odon Planinšek, Ph.D. – member of the editorial board
- Prof. Janja Marc, Ph.D. – member of the editorial board
- Prof. Danijel Kikelj, Ph.D. – member of the editorial board

Editorial Board of International Journal of biomedical science

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

Editorial Board of Journal of the International Federation of Clinical Chemistry

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

Editorial Board of Biochemia medica Journal

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

Editorial Board of Clinical chemistry and laboratory medicine Journal

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

Editorial Board of Journal of Pharmaceutical Health

- Asst. Prof. Mitja Kos, Ph.D. – member of the editorial board

Editorial Board of Zdravstveno varstvo Journal

- Asst. Prof. Mitja Kos, Ph.D. – member of the editorial board

Editorial Board of Slovenska kardiologija Journal

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

6 *STUDENT PROGRESS REPORT IN 2012*

Pharmacist Month

The 6th Pharmacist Month took place at the beginning of the academic year 2012/13. In October, there were many activities to help first-year students get used to the intensity and variety of extra-curricular events at the Faculty of Pharmacy. They also received useful advice to facilitate the start of the academic year.

On October 1, 2012 when first-year students were given their index-books we informed them of the extra-curricular opportunities on offer during their studies. They also received information folders containing information about study programmes and other activities. At the same time, at Prešeren Square, as part of the event: Acceptance for first-year students of the University of Ljubljana, the Faculty of Pharmacy was presented to the general public.

Throughout October there was an information stand in the lobby of the Faculty and there were a number of activities to give students the chance to exchange informal information about the study programme and about obtaining study literature (Book Fair).

International pharmaceutical summer camp

During the period July 13 – 20 the students organised the 16th international pharmaceutical camp at the Medved Centre for School and Outdoor Education, Medvedje brdo. The theme of the camp was Stimulants - with lectures delivered by renowned lecturers from the Faculty of Pharmacy, Faculty of Medicine and lectures from pharmacies. After the lectures, we organised a public campaign in Logatec and Vrhnika raising awareness about the use of stimulants among the public. The camp was attended by 28 Slovenian students and 2 students from abroad.

Spatula

Spatula is the gazette of the Slovenian Pharmaceutical Students' Association (Student section of the Slovenian Pharmaceutical Society) informing students of pharmacy about current extra-curricular events and news in the world of pharmacy at the local and international level.

It is a periodical publication where articles are published in Slovenian, except for articles by foreign authors which are published in English.

Regular sections in Spatula include:

- Professional articles
- Interview
- What went on at the expert evenings
- Presentation of the pharmaceutical activity in Slovenia
- Erasmus exchanges
- Study of pharmacy abroad
- LBM corner
- News from the world of pharmacy
- Traveller's journal
- Report on extra-curricular activities
- Sudoku and prize crossword
- FFarmaskop

In 2012 we produced 3 issues of the gazette:

- Issue number 56 was published in April with a print run of 2,000 copies (circulation was higher for the purpose of promotion of DŠFS and ŠS SFD at the Slovenian Pharmaceutical Society symposium).
It had 56 pages.
- Issue number 57 was published in late September with a print run of 1,000 copies. It was published under the direction of a new editor-in-chief, as the management structure of Spatula changed. Now, it consists of the managing editor, the editor-in-chief, and the editorial board.
It had 40 pages.
- Issue number 58 was published under the supervision of the new editor-in-chief. It was released in December with a print run of 1,500 copies. Two new sections were added: the pharmacist at graduation and pharmapractice and pharmaevents. We have a new designer, too, so the image of the gazette changed slightly.
It had 56 pages.

Patient consultation

This project is well regarded and recognised among pharmacy students as well as in the wider pharmaceutical sphere. An individual competition is divided into two stages. The first consists of a lecture about a disease and then a lecture about a drug. The second part is a competition and takes place directly at the pharmacy. The competition involved treatment of an imaginary patient. Practical application of theory, performance, appearance, communication with the patient, and general impression were graded. This competition is therefore suitable for first-year and final-year students alike.

The project was carried out in three stages: two semi-finals and the finals. The topics of the competitions were Osteoporosis, Epilepsy and Glaucoma. The first four competitors from each qualifying round met in the finals to compete for attractive prizes, such as participation in the international summer camp of pharmacists and the IPSF congress.

For every competition, a booklet with abstracts of lectures and instructions for the competition was published.

Volunteer work at the Faculty of Pharmacy

Student volunteers have been active also in 2012. In April and November, we organised a humanitarian party, where we raised money for two socially disadvantaged families. In December, we organised the now already traditional Christmas bazaar. All projects were a great success.

Public campaigns

In the first half of 2012, we carried out 2 'real' public campaigns, namely, on February 29 - International Rare Disease Day and on March 24 - World Tuberculosis Day.

On February 29, within the framework of European Pharmaceutical Students' Association in DŠFS we organised a public campaign on the occasion of Rare Disease Day. On the ground floor of FFA we had a stand and distributed leaflets and offered students the opportunity to solve a quiz on some rare diseases to raise their awareness.

And on March 21, we organised a public campaign on tuberculosis within the context of International Pharmaceutical Students' Federation. At the stand in FFA we raised student awareness using "True or False" type questions, we had a quiz, and offered information leaflets. The students wore green surgical masks and distributed green balloons as the colour green is the colour of this day.

Later, we performed 3 Internet campaigns on the occasion of the World No Tobacco Day (May 2012), World Diabetes Day and the European Antibiotic Awareness Day (November 2012), and World Aids Day (December 2012).

In these campaigns we used social networks (Facebook, Twitter) to share photos, interesting facts, and links to official websites, the websites of the World Health Organisation and the like. We encouraged students to share the links with their friends, which many of them did.

On European Antibiotic Awareness Day (18 November), we encouraged some teachers at FFA to start their lectures by mentioning the importance of antibiotics and their safe and efficient use.

EPSA Train new trainers 4 – TNT4

TNT is an event intended for a small group of highly motivated students. Its main purpose is to obtain, through various training sessions, a new generation of trainers who will develop training sessions for other EPSA events and local events of different associations. Participants learn the skills of organising workshops, communication with participants, learning styles, etc.

This year from March 28 to April 1 the 4th EPSA TNT event took place in Ljubljana, in DŠFS. 18 participants from Slovenia and Europe practised and honed their communication skills over the weekend - how to deliver 'feed back' and other useful bits of know-how that they will be able to use in preparation of their own training sessions.

Farma Vešč(a)

This is a relatively new DŠFS project which has been organised only since 2011. It is intended for anyone wishing to expand their horizons and develop their personality.

In 2012 we organised 2 Farma Vešč(a) events, one in spring and one in autumn. Training topics were motivation, project management, communication, team building, and presentation techniques. Besides professional work, there is a good deal of social gathering going on, meeting other students and trainers.

In spring we joined the event with TNT4, and in autumn with the TWIN exchange with Serbia.

IPSF Student Exchange Programme

SEP (Students Exchange Programme) within the IPSF (International Pharmaceutical Students' Federation Organisation) is a programme of international professional training sessions for pharmacy students in more than 50 countries. The programme runs throughout the year and offers students 1 to 3 months practical training and experience in general and hospital pharmacy, pharmaceutical industry, research and work of the clinical pharmacist. Most of the practices are carried out in the summer.

From July to September 2012, 14 foreign students who came from Spain, Portugal, Hungary, Tunisia, Poland, Serbia, Germany and the Czech Republic finished their practical training in Ljubljana, Maribor, and Kranj. In 2012 the Faculty of Pharmacy enabled four students to participate in SEP

practical training at the Chair of Pharmaceutical Technology, two students at the Chair of Social Pharmacy and three students at the Chair of Pharmaceutical Biology, the Chair of Biopharmacy and Pharmacokinetics, and the Chair of Pharmaceutical Chemistry respectively. Altogether it facilitated 9 posts.

Students of the Faculty of Pharmacy show increased interest in practical training every year. In 2012 there were 23 students who had the chance to participate. In 2013 we received as many as 45 applications. And 23 of them applied for practical training this summer. The number of students eligible to do practical training abroad depends on the number of students that are hosted with us.

EPSA Individual Mobility Project

The EPSA Individual Mobility Project (IMP) is a long-term project which gives pharmacy students and recent graduates in pharmacy and pharmaceutical science the opportunity to obtain work and research experience in all areas of the pharmaceutical profession. IMP was created to interconnect the European pharmaceutical industry, institutions, and organisations of pharmacy students.

The IMP programme has the potential to unify the European countries in terms of the mobility of students of pharmacy. The project offers students and recent graduates paid internships lasting a minimum of 6 and a maximum of 12 months in an international pharmaceutical company.

This year, we participated in three IMP practical training opportunities which corresponded to the number of vacancies available. In 2011, as part of this project, we managed to find and offer two IMP vacancies for foreign students and graduates also in Slovenia in Lek d. d. but unfortunately, due to reconstruction of the company in 2012, we lost the placement. This year we will try to regain the placement or try to start cooperation with another company.

Other projects in 2012

- ***Information Days and the event called Informativa***
- ***Ffarmakopeja*** – this monthly information bulletin, with a print run of 400 copies, is aimed at informing FFA students about Faculty activities.
- ***Website*** – the Slovenian Pharmaceutical Students' Association website is diverse and rich in content. It gives students up to date information on what is going on at FFA and also information about study literature.
- ***Skiing on Kanin*** – this time, the pharmaceutical skiing was organised on Kanin in early March 2012.
- ***Vstala farma*** – stand-up evening at the faculty with the stand-up actor Pižama.
- ***Picnic*** – organised in May is the last gathering before the end of the year and the summer exam period.
- ***Healthy breakfast*** – project on healthy eating in cooperation with ŠOU consisting of a lecture by Prof. Kreft about dietary supplements and a stand on the ground floor of FFA offering fruit, yoghurt, and cereals.
- ***Medical team*** – joint project of students of pharmacy, medicine, and nursing, which was held in October, featuring all-week lectures on the theme 'Colon Cancer'.
- ***Professional evenings*** – in 2012, in addition to lectures within the Counselling Patients project we also organised 3 separate evenings on respiratory syncytial virus (RSV), hydroxy acids, and the travel health kit.
- ***Mobility day*** – project of FFA and the Slovenian Pharmaceutical Students' Association, where students were given information about study, exchange, and practical training opportunities in other countries (ERASMUS exchange, ERASMUS, SEP and IMP practice).

- **Professional and fun trip to Prague** – at the beginning of December, 88 FFA students went on a three-day trip to the Czech Republic, where we visited Zentiva, a member of Sanofi - Aventis group. During the fun part of the trip we visited the tourist attractions of Prague guided by Czech pharmacy students. The main purpose is the mobility of students, socialising, and getting to know your colleagues.
- **Cooperation in 'Medimedo' and 'Virus' projects** (Slovenian Medicine Students' Association).

Participation in projects

- **IPSF World Congress** (Hurghada, Egypt, August 2012)

In early August, the International Pharmaceutical Students' Federation (IPSF) organised its 58th World Congress which was held in Egypt. The primary purpose of this 10-day gathering of pharmacy students from around the world is the annual General Assembly of the IPSF, which is composed of all national member organisations of pharmacy students. The General Assembly is the supreme IPSF organ where the annual reports of the events in the Federation are presented, decisions are taken, and Executive Committee is elected.

While 3 official delegates from each country attend the meeting, in parallel there are also lectures, workshops, and soft skills training sessions.

Within the IPSF congress there are two daily symposia: in 2012 one theme was Advances in pharmaceutical sciences and practices (scientific symposium) and the second was Pharmacy education: Beyond borders (educational symposium).

The Congress in Egypt was attended by 23 Slovenian students.

- **EPSA Annual Congress** (Istanbul, Turkey, April 2012)

The European Pharmaceutical Students' Association (EPSA) annually organises its biggest event in the spring, namely its annual congress with a rich professional and social programme. At the Congress delegates from each of the member organisations meet (two delegates per organisation). They have the right to decide and vote at the official General Assemblies. Both delegates have also the role to represent the views of Slovenian pharmacy students, to promote the organisation of study of pharmacy in Slovenia, and to search for new ideas and possibilities to improve extra-curricular activities of students. Thus they learn of mobility projects, offers for students to participate in various conferences of the partners (DIA, EAHP...), training options, and opportunities for funding various projects. Throughout the Congress they also have the opportunity to forge new or improve existing links with other member organisations to enhance cooperation among students across Europe. Other student participants are also afforded opportunities for interaction and participation in the professional part of the programme.

This year, students could attend training sessions, workshops, and symposia on a common theme "The Future of Pharmacies: new therapies, solutions and medicines!" The programme was accompanied by a richly diverse social event available only to students who had previously participated in the professional programme. At the end of the congress and upon evaluation students were able obtain points for the LLC certificate (Life-long learning certificate) awarded by EPSA for attendance at professional events.

- **EPSA Summer University** (Brasov, Romania, August 2012)

Summer University is the most informal EPSA event. This year it took place in Transylvania, where students from Europe had the opportunity to socialise while also acquiring new skills through training sessions and workshops in a relaxed atmosphere. The theme of the Summer University was "Shaping future pharmacists, optimising care" and under this theme were conducted training sessions and workshops on networking, European Union, communication.

- **EPSA Autumn Assembly** (*Sofia, Bulgaria, October 2012*)

The Autumn Assembly is the second largest EPSA event, which brings together representatives of member organisations who upon completion of half their mandate present their work to date and plans for the future. Two Slovenian delegates attend assemblies and represent the opinion of Slovenian students of pharmacy and have the opportunity to vote. Like the annual congress, the Autumn Assembly includes both professional and social elements. The professional element was entitled **“Pharmacoeconomics – Beyond Euros and Pills” which included a symposium with panel discussion with experts from the field, training sessions, and workshops. Here too, the students could obtain LLC points.**

- **TWIN Slovenia-Serbia** (*Ljubljana, October 2012 and Niš, October 2012*)

Twin is a project of mobility within the EPSA, which is based on the exchange of pharmacy students and includes a professional and social programme that allows students to meet each other and exchange views and experiences.

This year we organised the Twin project on a popular theme The Future of Pharmacy. This is also one of this year's Twin project themes in EPSA. With the help of our employees under this theme we enabled 15 students from Niš to visit and see our faculty and our current research work. At the end we had a discussion on the topic of ethical aspects of pharmacogenomics, where students could prepare their own arguments and formed their own opinion and possible scenarios for the development of this area in the future. We also organised a tour of Lek pharmaceutical company, where the students were able to get an insight into the planned future development of the pharmaceutical industry. To enable students to reflect upon and carefully consider what they experienced we prepared additional training on critical thinking focused on their soft skills development to facilitate their study and work in the future.

In return, we visited Belgrade and Niš a week later. In Serbia, we received a warm welcome. They prepared a great week of activities on the theme of steroids, which contained numerous tours and leisure activities.

7 THE GRADUATES AT THE FACULTY OF PHARMACY IN 2012

7.1 GRADUATES IN HIGHER STUDY OF LABORATORY BIOMEDICINE

Ficko Uroš (mentor Marija Sollner Dolenc, co-mentor Robert Roškar): Primerjava vsebnosti bisfenola A v plastenkah z gazirano in negazirano vodo = Comparison of bisphenol A concentration in plastic bottles with carbonated and non carbonated water, COBISS.SI-ID: 3281777.

Gladek Jerneja (mentor Joško Osredkar): Določanje 8-hidroksidegvanozina v urinu pri otrocih glede na to, ali živijo v mestnem, kmečkem ali z živim srebrom obremenjenem okolju = Determination of 8-hidroxydeoxyguanosine urine concentration in children, whether living in urban, rural or in mercury laden environment, COBISS.SI-ID: 3246705.

Herman Mojca (mentor Joško Osredkar): Primerjava dveh metod za določanje spolne hormone vezočega globulina (SHGB) = Comparison of two methods to determine sex hormone binding globuline (SHGB), COBISS.SI-ID: 3301233.

Mežik Maja (mentor Marija Sollner Dolenc, co-mentor Ester Lovšin Barle): Ugotavljanje varne uporabe organskih topil v obratih LEK-a = Determining the safe use of organic solvents in plants of the pharmaceutical company Lek, COBISS.SI-ID: 3200881.

Novak Lucija (mentor Joško Osredkar): Korelacija rezultatov bilirubina in žolčnih kislin pri intrahepatični holestazi v nosečnosti = Correlation of results of bilirubin and bile acids in intrahepatic cholestasis in pregnancy, COBISS.SI-ID: 3330161.

Oražem Bojana (mentor Joško Osredkar, co-mentor Mladen Krsnik): Primerjava dveh nefelometričnih metod za določanje prostih lahkih verig K[κ] in [λ] v serumu = Comparison of two nephelometric methods for the determination of presence of free light chains K[κ] and [λ] in the serum, COBISS.SI-ID: 3304817.

Pangeršič Karmen (mentor Miroslav Petrovec): Primerjava dveh metod za dokazovanje specifičnih protiteles proti virusu Epstein Barr = Comparison of two methods for the detection of specific antibodies against the Epstein Barr virus, COBISS.SI-ID: 3219313.

Peček Jelka (mentor Joško Osredkar): Vloga inzulinu podobnega rastnega faktorja proteina 3 (IGFBP-3) pri bolnikih z rakom in benigno hiperplazijo prostate = The role of insulin-like growth binding factor protein-3 (IGFBP-3) in patients with prostate cancer and benign hyperplasia prostate, COBISS.SI-ID: 3349361.

Pečovnik Barbara (mentor Barbara Ostanek): Povezanost polimorfizmov v genih SLCO1B1 in SLCO1B3 s koncentracijami bilirubina pri bolnikih z Gilbertovim sindromom = Association of SLCO1B1 and SLCO1B3 polymorphisms with bilirubin concentration in patients with Gilbert's syndrome, COBISS.SI-ID: 3273841.

Poljanc Anja (mentor Primož Rožman, co-mentor Matjaž Urbajs): Pomen določitve titra protiteles proti eritrocitom v transfuzijski medicini = The significance of determining antibody titres against erythrocyte in transfusion medicine, COBISS.SI-ID: 3241841.

Poš Klavdija (mentor Milan Skitek): Primerjava avtomatiziranih analitskih metod za določanje urinskega sedimenta = Comparison of automated analytical methods for determination of urinary sediment, COBISS.SI-ID: 3219569.

Rakuša Polonca (mentor Joško Osredkar): Korelacija rezultatov določitve horionskega gonadotropina s kemiluminiscenčno metodo v plazmi in polni krvi = Correlation of results of chorionic gonadotropin determination with the chemiluminiscence method in plasma and whole blood, COBISS.SI-ID: 3216497.

Simončič Katja (mentor Joško Osredkar): Primerjava dveh imunokemijskih metod za določanje anti-Müllerjevega hormona = Comparison of two immunochemical methods for determining anti-Müllerian hormone, COBISS.SI-ID: 3282033.

Sitar Nataša (mentor Barbara Ostanek): Primerjava uspešnosti izolacije DNA iz različnih bioloških vzorcev z raztopino natrijevega hidroksida = Comparison of DNA isolation efficiency from different biological samples, COBISS.SI-ID: 3282545.

Staroveški Ana (mentor Joško Osredkar): Določanje 17-hidroksisteroidov v urinu pri motnjah v delovanju nadledvične žleze = Determination of urinary 17-hydroxysteroids in adrenal gland disorders, COBISS.SI-ID: 3282289.

Stojčovska Florenca (mentor Joško Osredkar): Spremljanje urejenosti sladkorne bolezni preko določitve povprečne koncentracije glukoze v krvi = Monitoring of diabetes orderliness according to definition of average glucose concentration in blood, COBISS.SI-ID: 3279473.

Šimunić Sandra (mentor Joško Osredkar, co-mentor Elizabeta Božnar Alič): Primerjava diagnostične uporabnosti rezultatov kvalitativne in kvantitativne metode za določanje prikrite krvavitve v blatu = Comparison of diagnostic application of results from qualitative and quantitative method for determination of concealed blood in faeces, COBISS.SI-ID: 3201137.

Turek Simon (mentor Albane le Maire, co-mentor Matjaž Jeras): Isolation and attempted crystallization of the catalytic set domain of the MLL5 protein = Izolacija in poskus kristalizacije katalitične domene set proteina MLL5, COBISS.SI-ID: 3282801.

7.2 GRADUATES IN UNIVERSITY STUDY OF PHARMACY

Adamič Tanja (mentor Nataša Obermajer): Identifikacija in pomen različnih endogenih CD4+[sup] -T celičnih dejavnikov pri nastanku Th17 celic = Identification and evaluation of different endogenous CD4+[sup] Th17-driving factors, COBISS.SI-ID: 3302769.

Bačnik Ana (mentor Katarina Černe, co-mentor Mojca Kržan): CD44 in osteopontin kot biomarkerja pri raku jajčnikov = CD44 and osteopontin as biomarkers in ovarian cancer, COBISS.SI-ID: 3369585.

Bartol Urša (mentor Mitja Kos): Vsebinska dejavnost kompetenčnega modela "general level framework" glede na željeno zaposlitev absolventov farmacije v Sloveniji = Content validity of the general level framework in relation to preferred employment of the last year pharmacy students in Slovenia, COBISS.SI-ID: 3331953.

Bečan Darja (mentor Mitja Kos): Sistematični pregled raziskav vrednotenja korist klinične farmacije in farmacevtske skrbi = Systematic review of studies evaluation clinical pharmacy and pharmaceutical care benefits, COBISS.SI-ID 3234929.

Bedene Tjaša (mentor Irena Mlinarič Raščan, co-mentor Fernando Escrivá Pons): Consequences of early undernutrition on rat hypothalamic insulin and leptin signaling = Vpliv zgodnje podhranjenosti na signalizacijo inzulina in leptina v hipotalamusu podgan, COBISS.SI-ID 3277425.

Bedič Tina (mentor Aleš Obreza, co-mentor Damjan Janeš): Prevod in kritično ovrednotenje farmacevtsko-kemijskega dela Ehrmannovega učbenika iz leta 1834 s pomočjo Hagarjeve podatkovne zbirke = Translation and critical assessment of the pharmaceutic-chemical part of Ehrmann's textbook from the year 1834 with the help of Hager database, COBISS.SI-ID 3328625.

Bernat Urban (mentor Mitja Kos, co-mentor Igor Locatelli): Primerjalna učinkovitost antiepileptikov za dodatno zdravljenje žariščnih epileptičnih napadov = Mixed treatment comparison of antiepileptic drugs for add-on treatment of partial seizures, COBISS.SI-ID 3216753.

Bevc Katarina (mentor Aleš Obreza, co-mentor Damjan Janeš): Izolacija karotola iz eteričnega olja plodov korenja (*Saucus carota*), sinteza derivatov in olfaktorno vrednotenje = Isolation of carotol from essential carrot seed oil (*Daucus carota*), synthesis of its derivatives and olfactory evaluation, COBISS.SI-ID: 3328113.

Bogataj Jerneja (mentor Marija Bogataj): Vrednotenje sproščanja natrijevega diklofenakata iz tablet v različnih mlečnih medijih in citratnih pufrih = Evaluation of diclofenac sodium release from tablets in various media containing milk and citrate buffers, COBISS.SI-ID: 3257713.

Borovnik Mateja (mentor Mitja Kos): Ovrednotenje praktičnega uposabljanja Fakultete za farmacijo z vidika študentov = Evaluation of Faculty of pharmacy's practical training from the student's point of view, COBISS.SI-ID: 3358577.

Brajkovec Melita (mentor Stanko Srčič, co-mentor Virginia Kelher Pava): Primerjava kitajskega in evropskega sistema dobre proizvodne prakse = Comparison of Chinese system of good manufacturing practice with the European one, COBISS.SI-ID: 3327601.

Bratina Doris (mentor Janja Marc, co-mentor Barbka Repič Lampret): Optimizacija postopka za merjenje aktivnosti [alfa]-galaktozidaze A v levkocitih pri bolnikih s Fabryjevo boleznijo = Optimisation of leukocyte [alpha]-galactosidase A activity measurement in patients with Fabry disease, COBISS.SI-ID: 3250289.

Cerk Maja (mentor Samo Kreft): Razvoj spektrofotometričnih metod za določanje fenolov v tekočih rastlinskih ekstraktih = Development of spectrophotometric methods for determination on phenolics in liquid plant extracts, COBISS.SI-ID: 3257457.

Chiavalon Deborah (mentor Marija Bogataj): Vpliv ionske moči, pH in puferske kapacitete umetnega želodčnega medija po obroku na sproščanje učinkovin = Influence of ionic strength, pH and buffer capacity of fed state simulating gastric fluid on drug release, COBISS.SI-ID: 3262065.

Darovic Simona (mentor Janko Kos, co-mentor Jerica Sabotič): Priprava rekombinantnih saharozil izolektinov iz gobe meglenke (*Clitocybe nebularis*) v *E. coli* in primerjava njihovih biokemijskih lastnosti = Preparation of recombinant sucrose isolectins from clouded agaric (*Clitocybe nebularis*) in *E. coli* and comparison of their biochemical characteristics, COBISS.SI-ID: 3300209.

Dimec Anže (mentor Joško Osredkar): Vpliv višinskih priprav in bivanja v višinski sobi na koncentracijo eritropetina in rdečo krvno sliko profesionalnih športnikov = The influence of altitude training and staying in altitude room on erythropoietin concentration and red blood cell count of professional athletes, COBISS.SI-ID: 3250033.

Dolenc Tadej (mentor Franc Vrečer, co-mentor Darko Uršič): Vpliv pufrskih sistemov na topnost izbranih soli naproksena in ciprofloksacina pri konstantnem pH = The influence of buffer systems on solubility of selected salts of naproxen and ciprofloxacin at constant pH, COBISS.SI-ID: 3280241.

Draksler Jure (mentor Mojca Lunder): Izbor peptidnih mimetikov grelina iz bakteriofagnih predstavitev knjižnic = Selection of peptide mimetics of ghrelin from bacteriophage display libraries, COBISS.SI-ID: 3327345.

Draksler Petra (mentor Marija Bogataj): Vpliv časa izpostavljanja pelet kislemu želodčnemu mediju na sproščanje natrijevega diklofenakata = The influence of exposure time of pellets to gastric medium on the release of diclofenac sodium, COBISS.SI-ID: 3215473.

Dukovčič Ivana (mentor Samo Kreft, co-mentor Ludger Beerhues): Approaches to optimization of hyperforin production in *Hypericum perforatum* shoot cultures = Pristopi k optimizaciji pridobivanja hiperforina v kulturah poganjkov *Hypericum perforatum*, COBISS.SI-ID: 3211121.

Dular Aleša (mentor Franc Vrečer): Vpliv pogojev kristalizacije na izbrane lastnosti delcev modelne zdravilne učinkovine = The influence of crystallization condition on selected properties of model active ingredient particles, COBISS.SI-ID: 3276401.

Fašalek Lucija (mentor Janez Kerč, co-mentor Miha Homar): Vpliv temperature na velikost delcev pri mletju v krogličnem mlinu = Influence of temperature on particle size during ball milling, COBISS.SI-ID: 3210609.

Ferjanc Blaž (mentor Tomaž Bratkovič, co-mentor Leif Barleben): Določitev celotnega nukleotidnega zaporedja gena domnevne glikoziltransferaze iz jablane (*Malus X domestica*) in poskus izražanja kodiranega proteina v ekspresijskem sistemu *E. coli* = Gene sequencing of putative glycosyltransferase from apple (*Malus X domestica*) and an attempt of heterologous expression in *E. coli*, COBISS.SI-ID: 3330417.

Fonda Nika (mentor Janez Kerč, co-mentor Miha Homar): Proučevanje redisperzibilnosti nanosuspenzije težkotojne učinkovine = Study of redispersibility of nanosuspension with poorly soluble drug, COBISS.SI-ID: 3329649.

Forštnerič Vesna (mentor Samo Kreft): Metodika antropozofskega raziskovanja na primeru rodu cyclamen = Methodics of anthroposophic research on example of genus cyclamen, COBISS.SI-ID: 3241073.

Germovšek Eva (mentor Iztok Grabnar, co-mentor Joseph F. Standing): Defining the optimal infusion time for meropenem in neonates = Optimizacija trajanja infuzije meropenema pri novorojenčkih, COBISS.SI-ID: 3242353.

Gladek Jerneja (mentor Joško Osredkar): Določanje 8-hidroksidegvanozina v urinu pri otrocih glede na to, ali živijo v mestnem, kmečkem ali z živim srebrom obremenjenem okolju = Determination of 8-hydroxydeoxyguanosine urine concentration in children, whether living in urban, rural or in mercury laden environment, COBISS.SI-ID: 3246705.

Glavnik Teja (mentor Irena Mlinarič Raščan, co-mentor Matej Sova): Sinteza derivatov cimetine kisline in njihovo vrednotenje na modelih levkemij = Synthesis of cinnamic acid derivatives and their evaluation on leukemic models, COBISS.SI-ID: 3281521.

Gomezelj Rok (mentor Simon Žakelj): Razvoj analizne metode za določanje aktivnega transporta imatiniba in N-desmetil imatiniba v levkocitih bolnikov s kronično mieloidno levkemijo = Development of analytical method for determination of imatinib and N-desmethyl imatinib active transport in leukocytes of chronic myelogenous leukemia patients, COBISS.SI-ID: 3348593.

Goršek Katja (mentor Marija Sollner Dolenc, co-mentor Urban Švajger): Vpliv bisfenola A in njegovih analogov na diferenciacijo dendritičnih celic pripravljenih iz človeških monocitov = Influence of bisphenol A and its analogues on differentiation of dendritic cells prepared from human monocytes, COBISS.SI-ID: 3256177.

Gramec Darja (mentor Marija Sollner Dolenc, co-mentor Ester Heath): Določanje bisfenola A in triklosana v urinu s plinsko kromatografijo z masno selektivnim detektorjem = Determination of bisphenol A and triclosan in urine with gas chromatography with mass selective detector, COBISS.SI-ID: 3293297.

Grohar Tina (mentor Samo Kreft): Separacija in identifikacija flavonoidov v polietilenglikolnem izvlečku lubja navadne jelke (Abies alba) = Separation and identification of flavonoids in silver fir bark (Abies alba) polyethylene glycol extract, COBISS.SI-ID: 3364721.

Hajšek David (mentor Marko Anderluh): Testni sistem za določanje afinitete antagonistov receptorja DC-sign in vitro = Assay for determining affinity of DC-sign antagonists in vitro, COBISS.SI-ID: 3353457.

Horvat Mateja (mentor Joško Osredkar): Vpeljava preiskave anti Xa v 24-urnem laboratoriju, za namen spremljanja uspešnosti terapije bolnikov na nizkomolekularnem heparinu = Introduction of anti Xa test in a 24-hour laboratory for monitoring the success of the therapy of patients on low-molecular-weight heparin, COBISS.SI-ID: 3304305.

Horvat Žiga (mentor Stanislav Gobec, co-mentor Urban Švajger): Iskanje ligandov Toll-u podobnega receptorja 7 s pomočjo virtualnega reševanja = The search for Toll-like receptor 7 ligands using virtual screening methods, COBISS.SI-ID: 3371889.

Hrovat Uroš (mentor Stanislav Gobec, co-mentor Samo Turk): Odkrivanje novih zaviralcev β -ketoacil-ACP reduktaze (FABG) iz Escherichie coli z virtualnim reševanjem = Discovery of novel β -ketoacyl-ACP reductase (FABG) inhibitors from Escherichia coli using virtual high-throughput screening, COBISS.SI-ID: 3379825.

Hrušovar Dolores (mentor Borut Božič, co-mentor Snežna Sodin Šemrl): Vpliv pogosto uporabljenih zdravil v revmatologiji na vnetni odziv gojenih človeških endotelijskih celic = The effect of commonly used medications in rheumatology on the inflammatory response of cultured human endothelial cells, COBISS.SI-ID: 3354481.

Huč Andreja (mentor Rok Dreu, co-mentor Sandra Urek-Blatnik): Vpliv sestave prve nevtralne plasti na raztapljanje in stabilnost modelne učinkovine iz druge plasti tablet = The effect of the structure of the first neutral layer on the dissolution and stability of the model active substance of the second layer of tablets, COBISS.SI-ID: 3266929.

Jaklič Alenka (mentor Aleš Mrhar, co-mentor Jeannine S. McCune): Potencialne interakcije med mikofenolatom in drugimi učinkovinami pri bolnikih po presaditvi krvotvornih matičnih celic = Potential of mycophenolate-drug interactions in hematopoietic cell transplant patients, COBISS.SI-ID: 3211377.

Jakopović Kristina (mentor Joško Osredkar, co-mentor Ljuba Krnjak): Vloga presepsina kot novega markerja sepse v diagnostiki bakterijske in virusne okužbe = The role of presepsin as a new sepsis marker in the diagnosis of bacterial and viral infections, COBISS.SI-ID: 3369329.

Janežič Ana (mentor Mitja Kos): Pojavnost neželenih učinkov zdravil za zdravljenje hipertenzije v Sloveniji = Incidence of adverse drug reactions of antihypertension drugs in Slovenia, COBISS.SI-ID: 3210865.

Janžovnik Tatjana (mentor Marija Sollner Dolenc, co-mentor Petra Kolenc Peit): Sinteza DOTA-konjugiranih analogov in metabolitov minigastriina = Synthesis of DOTA-conjugated analogues and metabolites of minigastarin, COBISS.SI-ID: 3348849.

Javorac Saša (mentor Uroš Mlakar, co-mentor Helena Podgornik): Uporaba eksperimentalnih parametrov hematološkega analizatorja pri spremljanju bolnikov z mielodisplastičnim sindromom = Use of experimental parameters from haematology analyser for monitoring patients with myelodysplastic syndrome, COBISS.SI-ID: 3301489.

Jereb Jasna (mentor Marija Bogataj): Vpliv ionske moči in pufrske kapacitete na sproščanje natrijevega diklofenakata iz ogrodnih tablet s hidroksipropil metil celulozo = Influence of ionic strength and buffer capacity on release of diclofenac sodium from matrix tablets with hydroxypropyl methyl cellulose, COBISS.SI-ID: 3333233.

Jovič Peter (mentor Iztok Grabnar): Uporaba Bayesove metode in umetnih nevronske mreže za napovedovanje in odmerjanje folinske kisline pri zdravljenju akutne limfoblastne levkemije = Use of Bayesian method and artificial neural networks for prediction of methotrexate pharmacokinetics and dosage adjustment of folic acid in patients with acute lymphoblastic leukemia, COBISS.SI-ID: 3255921.

Kandare Andreja (mentor Irena Mlinarič Raščan): Vpliv stimulacije receptorja EP4 na aktivacijo NFκB v celicah RAMOS in RAJI = Modulation of NFκB in RAMOS and RAJI cells by EP4 receptor, COBISS.SI-ID: 3235697.

Karner Aleksandra (mentor Mojca Kržan, co-mentor Darja Paro Panjan): Izpostavljenost novorojenčkov zdravilom in pomožnim snovem na oddelku za neonatologijo pediatrične klinike = Exposure of newborns to drugs and excipients on neonatal ward of pediatric clinic, COBISS.SI-ID: 3364977.

Keček Kaja (mentor Simon Žakelj, co-mentor Jurij Trontelj): Aktivni transport raloksifena in dveh njegovih metabolitov v sluznici tankega črevesa podgane in vitro = Active transport of raloxifene and two raloxifene's metabolites in mucosa of small intestine of a rat in vitro, COBISS.SI-ID: 3278705.

Konjedic Urška (mentor Tomaž Vovk, co-mentor Jurij Trontelj): Razvoj in validacija analizne metode za kvantifikacijo haloperidola in njegovih metabolitov v plazmi s tekočinsko kromatografijo s tandemsko masno detekcijo = Development and validation of analytical method for quantification of haloperidol and its metabolites in human plasma using liquid chromatography tandem mass spectrometry, COBISS.SI-ID: 3213681.

Košir Metka (mentor Matjaž Jeras): Primerjava izražanja genov LIPE, LPL, FASN v kostnem tkivu bolnikov z osteoporozo in osteoartritisom = Comparison of LIPE, LPL, FASN genes expression in bone tissue of patients with osteoporosis and osteoarthritis, COBISS.SI-ID: 3225457.

Kovačevič Mina (mentor Mojca Kržan): Lastnosti od natrijevih ionov neodvisnega transporta histamina v astrocite novorojene podgane = Properties of a sodium ion independent histamine transport in neonatal rat astrocytes, COBISS.SI-ID: 3303281.

Kovačič Nina (mentor Saša Baumgartner): Proučevanje povezave med reološkimi lastnostmi polimernih raztopin in sposobnostjo tvorbe nanovlaken z metodo elektrostatskega sukanja = Study of correlations between rheological properties of polymer solution and their ability to form nanofibers by electrospinning, COBISS.SI-ID: 3219057.

Kozina Marina (mentor Mitja Kos): Vrednotenje dejavnikov nakupnega vedenja pri zdravilih brez recepta = Evaluation of factors effecting purchasing behaviour of over the counter medicines, COBISS.SI-ID: 3319665.

Krajnc Boštjan (mentor Aleš Mrhar, co-mentor Jože Drinovec): Potencialne interakcije med zdravili v farmakoterapiji starostnikov mariborske regije = Potential drug interactions in the pharmacotherapy of elderly in Maribor region, COBISS.SI-ID: 3365489.

Krejač Aleksandra (mentor Saša Baumgartner): Izdelava in reološko vrednotenje hidrogelov iz alginata, ksantana in karagenana = Preparation and rheological evaluation of alginate, xanthan and carrageenan hydrogels, COBISS.SI-ID: 3327089.

Kuclar Deja (mentor Simon Žakelj): Raziskava eksperimentalnih pogojev ter določitev permeabilnosti lastnosti dasatiniba, nilotiniba in bosutiniba na podganjem črevesu in vitro = Research of experimental condition and permeability properties of dasatinib, nilotinib and bosutinib on rat intestine in vitro model, COBISS.SI-ID: 3267185.

Kupljen Zoran (mentor Saša Baumgartner): Izdelava in vrednotenje nanovlaken iz polietilenoksida izdelanih z metodo elektrostatskega sukanja = Formulation and evaluation of poly-(ethylene oxide) nanofibers by electrospinning, COBISS.SI-ID: 3235441.

Kure Katja (mentor Mirjana Gašperlin, co-mentor Alenka Zvonar): Vpliv razmerja alginat - pektin na lastnosti ovojnice mikrokapsul s samo-mikroemulgirajočim jedrom = Characteristics of microcapsules with self-microemulsifying core: the influence of alginate - pectin ratio in the shell phase, COBISS.SI-ID: 3266417.

Leben Urška (mentor Julijana Kristl, co-mentor Helena Cabral Marques): Fluticasone propionate/gamma - cyclodextrin complexes for pulmonary delivery = Kompleksi flutikazonpropionata z gama ciklodekstrini za dostavljanje v pljuča, COBISS.SI-ID: 3278449.

Lenardič Anja (mentor Mojca Kerec Kos): Vpliv fluorescentno označenega hitosana na permeabilnost prašičjega mehurja = The influence of FITC-labeled chitosan on the permeability of pig urinary bladder wall, COBISS.SI-ID: 3235185.

Lumpert Mateja (mentor Tomaž Bratkovič, co-mentor Sönke Behrends): Analysis of soluble guanylyl cyclase activation using a fluorescent probe = Analiza aktivacije topne gvanilat-ciklaze s fluorescenčno sondo, COBISS.SI-ID: 3326833.

Luzar Jernej (mentor Nataša Obermajer): Pomen adhezije dendritičnih celic za uspešno aktivacijo citotoksičnih celic T CD8+[sup] = The importance of dendritic cells adhesion for successful activation CD8+ [sup] cells factors, COBISS.SI-ID: 3304561.

Luznar Saša (mentor Stanko Srčič, co-mentor Saša Stojković): Validacija postopka sterilizacije centrifuge in bioreaktorja = Validation of sterilisation process of centrifuge and bioreactor, COBISS.SI-ID: 3190897.

Maljevac Tjaša (mentor Tomaž Bratkovič, co-mentor Aleš Berlec): Priprava peptidoglikan-vezavnega proteina in vrednotenje njegove vezave na mlečnokislinske bakterije = Preparation of peptidoglycan-binding protein and evaluation of its binding to lactic acid bacteria, COBISS.SI-ID: 3304049.

Mardetko Nika (mentor Mojca Kerec Kos): Določanje plazemskih koncentracij kontrastnega sredstva joheksola za oceno hitrosti glomerulne filtracije = Determination of contrast media agent iohexol in human plasma for estimation of glomerular filtration rate, COBISS.SI-ID: 3300465.

Mihevc Patrik (mentor Mojca Kržan, co-mentor Damijana Mojca Jurič): Vezava [3H] N-alfa-metilhistamina na histaminske receptorje H3 na astrocitih novorejenih podgan = Binding of [3H] N-alpha-methylhistamine on histamine H3 receptors in newborn rat astrocytes, COBISS.SI-ID: 3215729.

Mikelj Ana (mentor Samo Kreft, co-mentor Gorazd Drevenšek): Vpliv izvlečka iz lubja bele jelke (*Abies alba* Mill.) na funkcionalne in morfološke spremembe arterij pri budrah krmljenih z aterogeno krmo = Effect of silver fir (*Abies alba* Mill.) extract on functional and morphological arterial wall changes of guinea pigs fed with atherogenic diet, COBISS.SI-ID: 3285361.

Miložič Aleksander (mentor Janez Ilaš): Uporaba Wittigove reakcije pri sintezi novih dualnih antitrombotičnih učinkovin = Use of Wittig reaction for synthesis of novel antithrombotics with dual mechanism of action, COBISS.SI-ID: 3241585.

Oberski Tina (mentor Julijana Kristl, co-mentor Helena Cabral Marques): Hydroxypropyl-β-cyclodextrin/ciclesonide complexes for inhalation powders = Kompleksi ciklesonida s hidroksipropil-beta-ciklodekstrini za praške za inhaliranje, COBISS.SI-ID: 3278193.

Petranović Zea (mentor Samo Kreft): Optimizacija izolacije in karakterizacija fagopirinov iz ajde = Optimization of isolation and characterization of fagopyrins from buckwheat, COBISS.SI-ID: 3300977.

Pibernik Nežka (mentor Tomaž Vovk, co-mentor Matevž Prijatelj): Spremljanje oksidativnega stresa v perifernih mononuklearnih celicah, izpostavljenih protiepileptičnim učinkovinam prve in druge generacije = Oxidative stress in peripheral blood mononuclear cells exposed to antiepileptic drugs of first and second generation, COBISS.SI-ID: 3303025.

Pihler Veselič Brigita (mentor Samo Kreft, co-mentor Gorazd Drevenšek): Vpliv atorvastatina in valsartana na funkcionalne in morfološke spremembe arterij buder, povzročene z

aterogeno dieto = Effect of atorvastatin and valsartan on functional and morphological arterial wall changes of guinea pigs fed with atherogenic diet, COBISS.SI-ID: 3318897.

Piltaver Boštjan (mentor Tomaž Vovk): Določanje plazemskih koncentracij lamotrigina in njegovih metabolitov z validirano metodo tekočinske kromatografije visoke ločljivosti = Determination of lamotrigine and its metabolites in human plasma by validated high-performance liquid chromatography method, COBISS.SI-ID: 3281265.

Pipan Nadja (mentor Janja Marc, co-mentor Simona Jurković Mlakar): Povezanost polimorfizmov A-795G in G12496A v genu za tioredoksin s koncentracijami Hg²⁺ in MeHg pri materah n novorojenčkah = Association between polymorphisms A-795G and G12496A of the thioredoxin gene and concentrations of Hg²⁺ and MeHg in mothers and newborns, COBISS.SI-ID: 3372145.

Plesec Martina (mentor Odon Planinšek): Vpliv mletja karvedilola s pomožnimi snovmi na polimorfne transformacije in njihovo stabilnost = The impact of milling carvedilol with excipients on polymorphic transformations and their stability, COBISS.SI-ID: 3328369.

Plešec Luka (mentor Damjan Janeš): Analiza frakcij destilata fermentirane sadne kaše kultivarja hruške viljamovke (*Pyrus communis* L.) = Distillate's fractions analysis of fermented fruit purée of Williams pear cultivar (*Pyrus communis* L.), COBISS.SI-ID: 3280753.

Pliberšek Vanja (mentor Joško Osredkar): Pomen določanja adinopektina pri bolnikih s sladkorno boleznijo tipa II = The importance of determining adiponectin in patients with diabetes type II, COBISS.SI-ID: 3369073.

Poljanec Ana (mentor Marija Sollner Dolenc, co-mentor Žiga Jakopin): Sinteza imidazolskih derivatov toksina klatrodina s potencialnim apoptičnim delovanjem = The synthesis of imidazole derivatives of toxin clathrodin with potential apoptotic effect, COBISS.SI-ID: 3365233.

Polzelnik Mihael (mentor Samo Kreft): Izolacija, identifikacija in pretvorbe fagopirinov iz ajde = Isolation, identification and transformations of fagopyrins from buckwheat, COBISS.SI-ID: 3275121.

Poš Klavdija (mentor Milan Skitek): Primerjava avtomatiziranih analitskih metod za določanje urinskega sedimenta = Comparison of automated analytical methods for determination of urinary sediment, COBISS.SI-ID: 3219569.

Putanec Jasmina (mentor Robert Roškar): Vrednotenje oksidativne nestabilnosti ubidekarena z metodo tekočinske kromatografije visoke ločljivosti = Evaluation of oxidative instability of ubidecarenone by high performance liquid chromatography, COBISS.SI-ID: 3249777.

Ratej Meta Sara (mentor Saša Baumgartner): Proučevanje reoloških lastnosti polivinilalkoholnih hidrogelov z vgrajeno učinkovino levofloksacin = The study of rheological properties of levofloxacin loaded polyvinyl alcohol hydrogels, COBISS.SI-ID: 3293809.

Rožman Renata (mentor Mojca Kerec Kos): Adhezija fluorescentnega označenega hitosana na sluznico prašičjega sečnega mehurja = Adhesion of FITC-labelled chitosan on pig urinary bladder wall, COBISS.SI-ID: 3276657.

Rugelj Neža (mentor Aleš Mrhar, co-mentor Pika Meško Brguljan): Vrednotenje terapevtskega spremljanja plazemskih koncentracij teofilina pri hospitaliziranih bolnikih = Evaluation of therapeutic drug monitoring of theophylline in hospitalized patients, COBISS.SI-ID: 3273585.

Saje Kristina (mentor Marija Bogataj): Vpliv sestave želodčnih medijev v pogojih s hrano in sestave tablet na sproščanje učinkovin = Influence of the composition of gastric media in fed conditions and tablet composition on drug release, COBISS.SI-ID: 3278961.

Smolej Katarina (mentor Matej Sova, co-mentor Paula Kiuru): Synthesis and evaluation of benzimidazole derivatives as potential antibacterial agent against Chlamydia pneumoniae = Sinteza in vrednotenje derivatov benzimidazola kot potencialnih učinkovin proti bakteriji Chlamydia pneumoniae, COBISS.SI-ID: 3358833.

Snoj Tina (mentor Saša Baumgartner): Vpliv vgradnje hidrofilnih snovi na podaljšano sproščanje pentoksifilina iz ogrodnih tablet izdelanih iz polivinilacetata in polivinilpirolidona v razmerju 4:1 = Influence of incorporated hydrophilic substances on the prolonged release of pentoxifylline from matrix tablets made of polyvinyl acetate and polyvinylpyrrolidone in a ratio of 4:1, COBISS.SI-ID: 3303793.

Sopotnik Franci (mentor Iztok Grabnar): Populacijska farmakokinetično-farmakodinamična analiza za ocenjevanje primernosti odmerjanja vankomicina pri kritično bolnih = Population pharmacokinetic-pharmacodynamic evaluation of vancomycin dosing in critically ill patients, COBISS.SI-ID 3370097

Starkl Katarina (mentor Slavko Pečar, co-mentor Jernej Iskra): Sinteza potencialno biološko aktivnih hidroperoksidov z vodikovim peroksidom = Synthesis of potential biologically active hydroperoxides with hydrogen peroxide, COBISS.SI-ID: 3300721.

Stojkov Darko (mentor Irena Mlinarič Raščan, co-mentor Hans-Uwe Simon): The role of Ca[2+sup] and ROS in activation of neutrophils with physiological agonists = Vloga Ca[2+sup] in reaktivnih kisikovih zvrsti v aktivaciji nevtrofilcev s fiziološkimi agonisti, COBISS.SI-ID: 3320177.

Šavli Jerneja (mentor Barbara Ostanek, co-mentor Vid Mlakar): Priprava referenčnega materiala za genotipizacijo polimorfizma (TA)_n ponovitev v genu UGT1A1 z uporabo molekularnega kloniranja = Preparation of reference material for UGT1A1 (TA)_n repeat polymorphism genotyping using molecular cloning, COBISS.SI-ID: 3225969.

Šifrar Gregor (mentor Odon Planinšek, co-mentor Ilija Ilić): Vpliv vrste in količine drsila na pretočne lastnosti zmesi praškov in iz njih izdelanih tablet = Influence of type and quantity of glidant on flow properties of powder mixtures and on tablet properties, COBISS.SI-ID: 3293041.

Šimunić Sandra (mentor Joško Osredkar, co-mentor Elizabeta Božnar Alič): Primerjava diagnostične uporabnosti rezultatov kvalitativne in kvantitativne metode za določanje prikrite krvavitve v blatu = Comparison of diagnostic application of results from qualitative and quantitative method for determination of concealed blood in faeces, COBISS.SI-ID: 3201137.

Šinkovec Uroš (mentor Janez Kerč, co-mentor Mateja Cegnar): Izdelava in vrednotenje alginatnih mikropelcev s proteinsko učinkovino = Preparation and characterization of alginate microparticles with protein drug, COBISS.SI-ID: 3329393.

Škof Katarina (mentor Aleš Obreza, co-mentor Rok Frlan): Selektivna sinteza amfifilnih derivatov dihidroksibenzojske kisline in dihidrosibenzaldehida z antioksidativnim delovanjem = Selective synthesis of amphiphilic derivatives of dihydrobenzoic acid and dihydrobenzaldehyde with antioxidant activity, COBISS.SI-ID: 3348337.

Škulj Alenka (mentor Janja Marc, co-mentor Simona Jurković Mlakar): Vpliv sprememb v genih GSR, GSTT1 in GSTM1 na koncentracije težkih kovin pri nosečnicah = Influence of GSR, GSTT1

and GSTM1 gene variation on heavy metal concentration of pregnant women, COBISS.SI-ID: 3240817.

Šoštarić Sabina (mentor Aleš Mrhar): Interakcije med zdravili pri geriatričnih bolnikih in analiza delovanja avtomatskega sistema za spremljanje interakcij med zdravili = Drug-drug interactions in geriatric patients and analysis of the automated drug-drug interaction system, COBISS.SI-ID: 3318641.

Španić Vesna (mentor Joško Osredkar, co-mentor Simona Jurković Mlakar): Pomen določanja koncentracije endotelina pri pacientkah s policističnimi ovariji = Diagnostic value of endothelin at patients with polycystic ovaries, COBISS.SI-ID: 3332209.

Štrajhar Monika (mentor Aleš Obreza, co-mentor Damjan Janeš): Izolacija santalola iz eteričnega olja indonezijske sandalovine (*Santalum album* L.); sinteza derivatov in njihovo vrednotenje = Isolation of santanol from essential oil of Indonesian sandalwood (*Santalum album* L.); synthesis of its derivatives and their evaluation, COBISS.SI-ID: 3369841.

Štubljar Maja (mentor Mirjana Gašperlin): Izdelava in vrednotenje samo-mikroemulgirajočih sistemov z dolgoveržnimi lipidi = Formulation and evaluation of self-emulsifying systems with long-chain lipids, COBISS.SI-ID: 3197297.

Temova Biljana (mentor Petra Kocbek): Optimizacija obdelave polimernih delcev s superparamagnetnim železovim oksidom in in vitro vrednotenje celičnega odziva = Optimisation of polymeric superparamagnetic iron oxide nanoparticles preparation and in vitro evaluation of cell response, COBISS.SI-ID: 3375729.

Terbuc Vesna (mentor Mojca Kržan): Kinetika prezema histamina v astrocite novorojene podgane in vpliv biogenih aminov na ta proces = Uptake of histamine into neonatal rat astrocytes: kinetics and the influence of biogenic amines, COBISS.SI-ID: 3349105.

Tikvič Birk Uršula (mentor Mitja Kos): Sistematični pregled raziskav o težavah povezanih z zdravili v javnih lekarnah = Drug related problems in community pharmacies - a systematic review, COBISS.SI-ID: 3241329.

Tišler Štuflek Jana (mentor Joško Osredkar, co-mentor Rado Janša): Permeabilnostni indeks kot pokazatelj prizadetosti tankega črevesa pri celiakiji = Permeability index as indicator of small intestine permeability changes in patients with coeliac disease, COBISS.SI-ID: 3353201.

Tišler Mateja (mentor Joško Osredkar): Vpliv različnih postopkov zunajtelesne oploditve na koncentracijo steroidnih hormonov v krvi = The impact of different in vitro fertilization procedures on the concentration of steroid hormones in the blood, COBISS.SI-ID: 3193969.

Tomažič Petra (mentor Darko Černe): Preučevanje izražanja gena za protein SPOT 14 v nedrobnoceličnem pljučnem rakavem tkivu = Study of SPOT 14 protein gene expression in non-small cell lung cancer tissue, COBISS.SI-ID: 3225713.

Torkar Simona (mentor Joško Osredkar): Pomen določanja koncentracije receptorja za alfa fetoprotein pri bolnikih z rakom prostate = Diagnostic value of alpha fetoprotein receptor in discrimination prostate cancer, COBISS.SI-ID: 3280497.

Turk Erika (mentor Samo Kreft): Razvoj spektrofotometrične izvedbe Karl Fischer-jeve metode za ugotavljanje vsebnosti vode in optimizacija topil za ekstrakcijo polifenolov iz lubja navadne jelke (*Abies alba* MILL.) = Development of spectrophotometric implementation of Karl

Fischer method for determination of water content and optimization of solvents for extraction of polyphenols from European silver fir (*Abies alba* MILL.) bark, COBISS.SI-ID: 3319409.

Tušar Eva (mentor Aleš Mrhar, co-mentor Cvetka Bačar Bol): Spremljanje skladnosti uporabe antibiotikov s smernicami v Psihiatrični bolnišnici Idrija = Monitoring of compliance with guidelines for antimicrobial therapy in Psychiatric hospital Idrija, COBISS.SI-ID: 3329137.

Uranič Ahačič Nataša (mentor Samo Kreft): Razvoj analizne metode za določanje polisaharidov ob prisotnosti monosaharidov in disaharidov v sirupih = Analytical method development for determination of polysaccharides in the presence of monosaccharides and disaccharides in syrups, COBISS.SI-ID: 3277937.

Urlep Žiga (mentor Irena Mlinarič Raščan): Vrednotenje citotoksičnih učinkov acilhidrazidnih in sulfonohidrazidnih zaviralcev serinskih proteaz = Evaluation of cytotoxic effects of acyl hydrazide and sulphonyl hydrazide serine protease inhibitors, COBISS.SI-ID: 3298929.

Veber Nika (mentor Borut Štrukelj, co-mentor Radovan Komel): Vpliv polimorfizma c.2846A>G v genu MSH3 na tveganje za razvoj raka na požiralniku v južnoafriški populaciji = Polymorphism c2846A>G in MSH3 gene and risk for oesophageal cancer in South African population, COBISS.SI-ID: 3281009.

Vidak Marko (mentor Albin Kristl, co-mentor Katja Berginc): Vpliv flavonoidov v prehranskih dopolnilih na permeabilnost levotiroksina skozi monosloj Caco-2 celic = Influence of flavonoids in dietary supplements on the permeability of levothyroxine through Caco-2 monolayer, COBISS.SI-ID: 3332465.

Vidic Tina (mentor Julijana Kristl): Vgrajevanje učinkovine v nanovlakna iz polivinilnega alkohola z el[e]ktrostatskim sukanjem = Incorporation of the drug into poly (vinyl alcohol) nanofibers by electrospinning, COBISS.SI-ID: 3218801.

Virant Leon (mentor Marija Bogataj): Vpliv sladkorjev, pektina in natrijevega klorida na sproščanje paracetamola iz tablet s prirejenim sproščanjem = The influence of sugars, pectin and sodium chloride on the release of paracetamol from modified-release tablets, COBISS.SI-ID: 3328881.

Vivod Valentina (mentor Damjan Janeš, co-mentor Samo Kreft): Optimizacija pridobivanja eteričnega olja iz plodov navadnega komarčka (*Foeniculum vulgare*) = Optimization for extraction of essential oil of fennel fruit (*Foeniculum vulgare*), COBISS.SI-ID: 3257969.

Vrhovski Repka Vedrana (mentor Saša Baumgartner): Izdelava hidrogelov za vlažno celjenje ran na osnovi alginata = Alginate hydrogels for moist wound healing, COBISS.SI-ID: 3211633.

Zdovc Cirila (mentor Mitja Kos): Analiza ambulantnega predpisovanja kontraceptivov v Sloveniji v obdobju 2002 -2008 = Primary care prescription of contraceptives in Slovenia for the period 2002 – 2008, COBISS.SI-ID: 3302513.

Žagar Bojan (mentor Rok Dreu): Razvoj laboratorijske metode za slikovno analizo pelet = Development of a laboratory method for image analysis of pellets, COBISS.SI-ID: 3332977.

Žerdoner Nika (mentor Saša Baumgartner, co-mentor Franc Vrečer): Proučevanje vpliva elektrolitov na reološke lastnosti karagenanskih hidrogelov in na sproščanje pentoksifilina iz karagenanskih ogrodnih tablet = Influence of electrolytes on rheological properties of carrageenan hydrogels and dissolution of pentoxifylline from carrageenan hydrophilic matrix tablets, COBISS.SI-ID: 3333489.

Žibert Maja (mentor Marija Bogataj): Vrednotenje sproščanja na pretočnem modelu ob upoštevanju kinetike prehoda gastrorezistentnih pelet skozi želodec = Evaluation of drug release from enteric coated pellets using flow-through model considering the kinetics of gastric emptying, COBISS.SI-ID 3279217.

Živec Borut (mentor Tomaž Bratkovič): Priprava rekombinantne zunajcelične domene leptinskega receptorja = Preparation of the recombinant extracellular domain of the leptin receptor, COBISS.SI-ID: 3261809.

Žvar Sandra (mentor Marija Bogataj): Proučevanje vpliva časa zdrževanja gastrorezistentnih pelet v biorelevantnem želodčnem mediju na sproščanje učinkovine = Study of the impact of enteric coated pellets residence time in biorelevant gastric media on the drug release, COBISS.SI-ID: 3331697.

7.3 MASTERS OF SCIENCE

Cesar Tanja (mentor Stanko Srčič): Vrednotenje vpliva sorbitola in izomalta na procesne lastnosti manitola pri proizvodnji trdnih farmacevtskih oblik = Evaluation of an impact of sorbitol and isomalt on manitol's properties in manufacturing processes of solid dosage forms. (Master of Science), COBISS.SI-ID: 3318385.

Cvirn Novak Mateja (mentor Aleš Mrhar): Vloga lekarniškega farmacevta pri obvladovanju čezmerne telesne mase in debelosti = Community pharmacist's contribution to overweight and obesity management in community pharmacy setting. (Master of Science), COBISS.SI-ID: 3227505.

Čerkić Karmen (mentor Uroš Urlep): Zaščitna Vloga Pegilacije Pri Stabilnosti Zelo Hidrofobnega Proteina V Tekoči Farmacevtski Obliki = Protective Role Of Pegylation On Stability Of Very Hydrophobic Protein In Liquid Pharmaceutical Formulation. (Master of Industrial Pharmacy), Cobiss.Si-Id: 3246961.

Delić Katja (mentor Barbara Ostanek, co-mentor Jurij Trontelj): Vpliv polimorfizmov v genih za prenašalne proteine OATP1B1, OATP1B3, P-GP in MRP2 = The influence of OATP1B1, OATP1B3, P-GP and MRP2 genetic polymorphisms on raloxifene treatment in osteoporotic women. (Master of Science), COBISS.SI-ID: 3365745.

Drab Renata (mentor Odon Planinšek): Proučevanje fizikalno-kemijskih lastnosti amorfnih in kristalnih oblik klaritromicina = Study of the physico-chemical properties of amorphous and crystalline forms of clarithromycin. (Master of Industrial Pharmacy), COBISS.SI-ID: 3201393.

Grabarić Gosarić Nina (mentor Matjaž Jeras, co-mentor Snežna Levičnik Stezina): Primerjava presejalnega testiranja krvodajalcev na označevalce povzročiteljev okužb v Sloveniji in na Hrvaškem = A comparison of blood donors screening for markers of infective agents in Slovenia and Croatia. (Master of Laboratory Biomedicine), COBISS.SI-ID: 3217521.

Hribar Manca (mentor Marko Anderluh): Optimizacija proizvodnega procesa perindopрила = Perindopril process optimisation. (Master of Industrial Pharmacy), COBISS.SI-ID: 3333745.

Judež Aleš (mentor Jožko Cesar): Razvoj in validacija analiznega postopka za določanje kadmija, svine in niklja v magnezijevem stearatu z masno spektrometrijo z induktivno sklopljeno plazmo (ICP-MS) = Determination of cadmium, lead and nickel in magnesium stearate by inductively coupled plasma mass spectrometry (ICP-MS): analytical method development and validation.- (Master of Industrial Pharmacy), COBISS.SI-ID: 3262833.

Kalin Irena (mentor Franc Vrečer, co-mentor Valentina Zaletel-Mišmaš): Implementacija nekaterih vidikov vitke proizvodnje na pakiranje farmacevtskih izdelkov = Implementing certain aspects of lean production in the packaging of pharmaceutical products. (Master of Industrial Pharmacy), COBISS.SI-ID: 3216241.

Koželj Mateja (mentor Borut Božič, co-mentor Snežna Sodin-Šemrl): Vpliv visoko avidnih protiteles proti β 2-glikoproteinu I na izločanje vnetnih molekul iz človeških endotelijskih celic koronarne arterije = Effects of high avidity anti β 2-glycoprotein I antibodies on expression of inflammatory molecules from human coronary artery endothelial cells. (Master of Laboratory Biomedicine), COBISS.SI-ID: 3242097.

Kulovec Primož (mentor Janez Kerč): Proučevanje prepustnosti oblikovnih folij za plastične pretisne omote = Permeability investigation of a thermoformable plastic foils for blister packages. (Master of Industrial Pharmacy), COBISS.SI-ID: 3211889.

Lah Antonela (mentor Marija Sollner Dolenc, co-mentor Majda Zorec Karlovšek): Določanje fluoridov s plinsko kromatografijo s tehniko nadprostora v nohtih otrok kot dokaz obremenitve s fluorida = Determination of fluoride in fingernail clippings by gas chromatography as an indicator of exposure of children to fluorine compounds. (Master of Laboratory Biomedicine), COBISS.SI-ID: 3301745.

Lužar Polona (mentor Marija Dolenc, co-mentor Janez Ilaš): Določevanje izpostavljenosti ksilenom v histološkem in citološkem laboratoriju = Determination of exposure to xylene in histology and cytology laboratory. (Master of Laboratory Biomedicine), COBISS.SI-ID: 3279729.

Mohorčič Katja (mentor Matjaž Jeras, co-mentor Vesna Koblar): Pregled pravne podlage za izvajanje laboratorijskih raziskav na človeških tkivih in celicah in predlog za dopolnitev nacionalne zakonodaje = Review of the legal basis for carrying out laboratory research on human tissues and cell and a proposal to amend the national legislation. (Master of Laboratory Biomedicine), COBISS.SI-ID: 3194481.

Oštir Mevželj Darinka (mentor Jana Lukač Bajalo, co-mentor Daijela Furlan): Neinvazivno odkrivanje hiperbilirubinemije novorojenčkov = Noninvasive determination of hyperbilirubinemia in newborns.-(Master of Laboratory Biomedicine), COBISS.SI-ID: 3258737.

Prah Krumpak Marjana (mentor Joško Osredkar): Določanje kotinina v urinu, kot biološkega označevalca izpostavljenosti nikotinu iz tobaka = Determination of urine cotinine as a biomarker of nicotine exposure to tobacco. (Master of Laboratory Biomedicine), COBISS.SI-ID: 3262577.

Premzl Katarina (mentor Jožko Cesar): Študij nezdružljivosti ubidedekarenona in askorbinske kisline v mehkih želatinastih kapsulah = Study on incompatibility of ubidecarenon and ascorbic acid in softgel capsules. (Master of Industrial Pharmacy), COBISS.SI-ID: 3375985.

Stopar Polonca (mentor Janez Mravljak, co-mentor Stane Pajk): Vrednotenje od pH odvisnih fluorescentnih spojin rodaminskega tipa = Evaluation of pH dependent rhodamine type fluorescent compounds. (Master of Laboratory Biomedicine), COBISS.SI-ID: 3376241.

Svetej Mateja (mentor Borut Božič, co-mentor Evgenija Homšak): Primerjava rezultatov določitve antigliadinskih protiteles in protiteles proti tkivni transglutaminazi z encimsko imunsko metodo in metodo multipleks v diagnostiki celiakije = Comparison of the results of antigliadin antibodies and antibodies against tissue transglutaminase determined by enzyme-linked immunosorbent assay and multiplex method in the celiac disease diagnostic.- (Master of Laboratory Biomedicine), COBISS.SI-ID: 3201649.

Šavc Alenka (mentor Samo Kreft): Ugotavljanje skladnosti monografij skupnosti za zdravila rastlinskega izvora z izvedenskimi poročili, zakonodajo in smernicami = Conformity assessment of the community herbal monographs with assessment reports, legislation and guidelines. (Master of Science), COBISS.SI-ID: 3260529.

Škerjanec Maja (mentor Janja Marc): Vpliv polimorfizma V433M v genu CYP4F2 na zdravljenje z varfarinom = Influence of polymorphism V433M in gene CYP4F2 on treatment with warfarin. (Master of Laboratory Biomedicine), COBISS.SI-ID: 3284849.

Štefanič Katja (mentor Mirjana Gašperlin): Analiza ponudbe kozmetičnih izdelkov za nego aknaste kože v Sloveniji = A study of cosmetic products for acne care in Slovenia. (Master of Industrial Pharmacy), COBISS.SI-ID: 3284593.

Šturm Andrej (mentor Tomaž Vovk): Razvoj in validacija analizne metode za kvantifikacijo levetiracetama v plazmi s tekočinsko kromatografijo visoke ločljivosti = Development and validation of analytical method for quantification of levetiracetam in plasma by high performance liquid chromatography. (Master of Industrial Pharmacy), COBISS.SI-ID: 3285105.

Tomšič Timea (mentor Barbara Ostanek): Presnova železa pri bolnikih z osteoporozo in osteoartrozo = Iron metabolism in patients with osteoporosis and osteoarthritis. (Master of Laboratory Biomedicine), COBISS.SI-ID: 3332721.

Zupan Mojca (mentor Joško Osredkar): Določanje koncentracije everolimusa v krvi pri bolnikih po presaditvi srca s potrjeno koronarno vaskulopatijo = Determination of everolimus blood concentration in heart transplant recipients with confirmed cardiac allograft vasculopathy. (Master of Laboratory Biomedicine), COBISS.SI-ID: 3279985.

Žunič Klun Darja (mentor Vojko Kmetec): Stabilnost zmesi primarnega amina z nekaterimi farmacevtsko pomembnimi pomožnimi snovmi = Stability of mixtures between primary amine and some pharmaceutical important excipients. (Master of Science), COBISS.SI-ID: 3258225.

7.4 SPECIALISTS

Bizjak Vesna (mentor Metka Štefančič, co-mentor Janez Tomažič): Vloga kliničnega farmacevta pri farmakoterapevtski obravnavi bolnika s HIV okužbo = The role of the clinical pharmacist in the pharmacotherapeutic management of patients with HIV infection, COBISS.SI-ID: 3206769.

Debeljak Nadja (mentor Uroš Urleb): Vloga lekarniškega farmacevta pri zdravljenju hiperlipidemij = The role of community pharmacist in hyperlipidemia treatment, COBISS.SI-ID: 3267697.

Vernig Katja (mentor Monika Sonc): Farmakoterapijski pregledi dializnih bolnikov v Splošni bolnišnici Novo mesto = Pharmacotherapeutic reviews of dialysis patients in Novo mesto General Hospital, COBISS.SI-ID: 3254897.

7.5 PhD GRADUATES

Brvar Matjaž (mentor Tomaž Šolmajer, co-mentor Lucija Peterlin Mašič): Strukturno podprto načrtovanje inhibitorjev DNA giraze B = Structure-based design of DNA gyrase B inhibitors, COBISS.SI-ID: 262426624.

Devjak Novak Sabina (mentor Saša Baumgartner, co-mentor Franc Vrečer): Proučevanje nekaterih s funkcionalnostjo povezanih lastnosti hipromeloze kot tvorilca ogrodnih tablet = The study of some functionality-related characteristics of hypromellose used as a matrix forming agent, COBISS.SI-ID: 262185728.

Dragojevič Jana (mentor Janja Marc): Adipogeneza in lipotoksičnost v kostnem tkivu = Adipogenesis and lipotoxicity in bone tissue, COBISS.SI-ID: 3226225.

Gobec Martina (mentor Irena Mlinarič-Raščan): Vrednotenje sinteznih inhibitorjev serinskih proteaz kot induktorjev apoptoze in modulatorjev imunskega odziva = Synthetic serine protease inhibitors: relevance in apoptosis triggering and immune response modulation, COBISS.SI-ID: 263090176.

Kokalj Meta (mentor Samo Kreft): Identifikacija rastlinskih vrst s pomočjo infrardeče spektroskopije = Identification of plant species with infrared spectroscopy, COBISS.SI-ID: 261103104.

Lakić Dragana (mentor Mitja Kos, co-mentor Ljiljana Tasić): = Farmakoekonomsko vrednotenje bolezni srca in ožilja = Pharmacoeconomics of cardiovascular disease, COBISS.SI-ID: 3235953.

Magister Špela (mentor Janko Kos): Regulacija cisteinskih proteaz z inhibitorjem cistatinom F v imunskih celicah = Regulation of cysteine proteases by inhibitor cystatin F in immune cells, COBISS.SI-ID: 261103360.

Petelin Petra (mentor Janez Kerč, co-mentor Simona Bohanec): Proučevanje vpliva stabilizatorjev in drugih pomožnih snovi ter tehnoloških parametrov nanonizacije na stabilnost slabo topne učinkovine v trdni farmacevtski obliki = Study of the influence of stabilizers and other excipients and technological parameters of nanonisation on stability of poorly soluble drug substance in solid dosage form, COBISS.SI-ID: 262427136.

Reven Sebastjan (mentor Julijana Kristl, co-mentor Ema Žagar): Dendritski polimerni nosilci za izboljšanje vodotopnosti težko topnih zdravilnih učinkovin = Dendritic polymeric carriers for solubility improvement of poorly water-soluble drugs, COBISS.SI-ID: 3194225.

Rojnik, Matija (mentor Janko Kos): Vloga in delovanje katepsina H v človeških celicah = The role of cathepsin H in human cells, COBISS.SI-ID: 262426880.

Sosič Izidor (mentor Stanislav Gobec): Strukturno podprto načrtovanje in sinteza encimskih inhibitorjev s potencialnim protibakterijskim in protitumornim delovanjem = Structure-based design and synthesis of enzyme inhibitors with potential antibacterial and antitumor activity, COBISS.SI-ID: 3215985.

Šantl Maja (mentor Saša Baumgartner, co-mentor Franc Vrečer): Vpliv načina aglomeriranja trdnih delcev na proces stiskanja in lastnosti tablet = The effect of agglomeration method on compaction and on the properties of tablets, COBISS.SI-ID: 3334001.

Škedelj Veronika (mentor Anamarija Zega): Načrtovanje, sinteza in vrednotenje inhibitorjev D-aspartat ligaze in D-alanil-D-alanin ligaze = Design, synthesis and evaluation of inhibitors of D-aspartate ligase and D-alanyl-D-alanine ligase, COBISS.SI-ID: 3283569.

Vehar Blaž (mentor Dušanka Janežič, co-mentor Stanislav Gobec): Uporaba molekularnega modeliranja pri načrtovanju encimskih inhibitorjev kot potencialnih protibakterijskih učinkovin = Use of molecular modeling to design enzyme inhibitors as potential antibacterial agents, COBISS.SI-ID: 262620672.

Vehovec Tanja (mentor Aleš Obreza): Vpliv s funkcionalnostjo povezanih in ostalih lastnosti mikrokristalne celuloze na stabilnostni profil zdravilnih učinkovin = Influence of functionality-related and other characteristics of microcrystalline cellulose on stability profile of active substances, COBISS.SI-ID: 264191744.

Zelenik Andreja (mentor Janja Marc, co-mentor Ingrid Falnoga): Biotransformacija arzenovega trioksida in uravnavanje izražanja metalotioneinov v humani glioblastni celični liniji U87 MG = Arsenic trioxide biotransformation and metallothionein expression in human cell line U87 MG, COBISS.SI-ID: 3283313.

Zupan Janja (mentor Janja Marc): Vpliv vnetnih citokinov na sistem dejavnikov RANK/RANKL/OPG v kostnem tkivu pri bolnikih z osteoporozo = The influence of the pro-inflammatory cytokines on RANK/RANKL/OPG system in human osteoporotic and osteoarthritic bone tissue, COBISS.SI-ID: 3283825.

8 SCIENTIFIC AND RESEARCH ACTIVITY

8.1 CHAIR OF BIOPHARMACY AND PHARMACOKINETICS

Independent works

Roškar Robert, Trdan Lušin Tina: Analytical methods for quantification of drug metabolites in biological samples. - In: *Chromatography - the most versatile method of chemical analysis*.- Rijeka, InTech, 2012, pp. 79-126, COBISS.SI-ID: 3336305.

Trontelj Jurij: Quantification of glucuronide metabolites in biological matrices by LC-MS/MS. - In: *Tandem mass spectrometry*, Rijeka, InTech, 2012, pp. 531-558, tables. COBISS.SI-ID: 3242609.

Scientific and professional publications

Berginc Katja, Kristl Albin: The effect of garlic supplements and phytochemicals on the ADMET properties of drugs. - In: *Expert opinion on drug metabolism & toxicology*, 2012, vol. 8, no. 3, pp. 295-310, COBISS.SI-ID: 3199089.

Berginc Katja, Škalko-Basnet Nataša, Basnet Purusotam, Kristl Albin: Development and evaluation of an in vitro vaginal model for assessment of drug's biopharmaceutical properties: curcumin. - In: *AAPS PharmSciTech*, 2012, 13, 4, pp. 1045-1053, COBISS.SI-ID: 3287665.

Berginc Katja, Nagelj Kovačič Nataša, Žakelj Simon: Buffers for in vitro evaluation of drug permeability: a review. - *J. Pharm. Res. Opin.*, 2012, 2, 10, pp. 107-124, COBISS.SI-ID: 3350129.

Berginc Katja, Trontelj Jurij, Skalko Basnet N., Kristl Albin: Physiological barriers to the oral delivery of curcumin. - In: *Pharmazie*, 2012, 67, 6, pp. 518-524, COBISS.SI-ID: 3251313.

Cvirn Novak Mateja, Čater Nataša, Urbanc Marina, Vovk Tomaž: Lekarniški farmacevt in boleznì ušes, nosu in grla = Community pharmacist and diseases of ear, nose and throat. - *Farm. Vestn.*, 2012, 63, 2, pp. 122-132, COBISS.SI-ID: 3244913.

Grabnar Iztok: Od kontroliranih kliničnih raziskav do na dokazih temelječega zdravljenja z zdravili = From controlled clinical trials to evidence-based pharmacotherapy.- *Farm. Vestn.*, 2012, 63, 4, pp. 211-215, COBISS.SI-ID: 3312241.

Grosek Štefan, Soban Martina, Kuštrin-Samba Alenka, Primožič Janez, Grabnar Iztok: Probable association of neonatal death with the use of tramadol to treat labour pain. - *Signa vitae*, 2012, 7, 2, pp. 56-59, COBISS.SI-ID: 475820.

Hasa Dritan, Perissutti Beatrice, Chierotti Michele Remo, Gobetto Roberto, Grabnar Iztok, Bonifacio Alois, Dall'acqua Stefano, Invernizzi Sergio, Voinovich Dario: Mechanochemically induced disordered structures of vincamine: the different mediation of two cross-linked polymers.- *Int. J. Pharm.*, 2012, 436, 1-2, pp. 41-57, COBISS.SI-ID: 3273329.

Jagrič Munih Sara, Nemec Alenka, Zrimšek Petra, Kramarič Petra, Kadunc Kos Vesna, Vovk Tomaž, Kobal Silvestra: Plasma malondialdehyde, biochemical and haematological parameters in standardbred horses during a selected field exercise test.- *Acta Vet. (Beogr.)*, 2012, 62, 1, pp. 53-65, COBISS.SI-ID: 3508858.

Jančar Petra, Knez Lea, Mrhar Aleš: Usklajevanje zdravljenja z zdravili pri prehodu bolnikov med različnimi ravni zdravstvene oskrbe = Medication reconciliation at patients transition across the healthcare interfaces. *Farm. Vestn.*, 2012, 63, 2, pp. 133-136, COBISS.SI-ID: 3245169.

Kerec Kos Mojca: Zdravila za zdravljenje bolečine = Analgesic drugs.- *Farm. Vestn.*, 2012, 63, 1, pp. 6-9, COBISS.SI-ID: 3238769.

Martinc Boštjan, Grabnar Iztok, Vovk Tomaž: The role of reactive species in epileptogenesis and influence of antiepileptic drug therapy on oxidative stress.- *Current Neuropharmacology*, 2012, 10, 4, pp. 328-343, COBISS.SI-ID: 3338865.

Kralj Eva, Trontelj Jurij, Pajič Tadej, Kristl Albin: Simultaneous measurement of imatinib, nilotinib and dasatinib in dried blood spot by ultra high performance liquid chromatography tandem mass spectrometry. - In: *Journal of chromatography. B, Analytical technologies in the biomedical and life sciences*, 2012, 903, pp. 150-156, COBISS.SI-ID: 3292273.

Ranković Ana, Milovanović Jasmina, Janković V., Snežana, Todorović Natalija, Rančić Nemanja, Jestrović Nikola, Grabnar Iztok, Janković Slobodan, Jakovljević Mihajlo: Role of

anticonvulsant therapeutic drug monitoring in improving clinical outcomes: an example of 12 adult epilepsy patients = Uloga kontrolisanja antikonvulzivne terapije u unapredjivanju kliničkih rezultata na primeru 12 odraslih obolelih od epilepsije. - *Serb. J. Exp. Clin. Res.*, 2012, 13, 2, pp. 69-71, COBISS.SI-ID: 3285617.

Štefanič Marko, Locatelli Igor, Vrečer Franc, Sever Tanja, Mrhar Aleš, Bogataj Marija: The influence of gastric emptying kinetics on the drug release from enteric coated pellets in fasted state: An in vitro/in vivo correlation.- *Eur. J. Pharm. Biopharm.*, 2012, 82, 2, pp. 376-382, COBISS.SI-ID: 3286385.

Trdan Lušin Tina, Mrhar Aleš, Stieger Bruno, Kullak-Ublick Gerd A., Marc Janja, Ostanek Barbara, Zavrtnik Andrej, Kristl Albin, Berginc Katja, Delić Katja, Trontelj Jurij: Influence of hepatic and intestinal efflux transporters and their genetic variants on the pharmacokinetics and pharmacodynamics of raloxifene in osteoporosis treatment.- *Translational Research*, 2012, 160, 4, pp. 298-308, COBISS.SI-ID: 3226481.

Trdan Lušin Tina, Roškar Robert, Mrhar Aleš: Evaluation of bisphenol A glucuronidation according to UGT1A1*28 polymorphism by a new LC-MS/MS assay.- *Toxicology (Amst.)*. 2012, 292, 1, pp. 33-41, COBISS.SI-ID: 3168369.

Trdan Lušin Tina, Tomašić Tihomir, Trontelj Jurij, Mrhar Aleš, Peterlin-Mašič Lucija: In vitro bioactivation of bazedoxifene and 2-(4-hydroxyphenyl)-3-methyl-1H-indol- 5-ol in human liver microsomes.- *Chem.Biol. Interact.*, 2012, 197, 1, pp. 8-15, COBISS.SI-ID: 3213425.

Trdan Lušin, Tina, Stieger, Bruno, Marc, Janja, Mrhar, Aleš, Trontelj, Jurij, Zavrtnik, Andrej, Ostanek, Barbara. Organic anion transporting polypeptides OATP1B1 and OATP1B3 and their genetic variants influence the pharmacokinetics and pharmacodynamics of raloxifene.- *J. Transl. Med.* (Online), 2012, 10:76, 24 pp., COBISS.SI-ID: 3236977.

Invited lectures

Kralj Eva, Žakelj Simon, Trontelj Jurij, Berginc Katja, Pajič Tadej, Podgornik Helena, Preložnik-Zupan Irena, Černelč Peter, Ostanek Barbara, Marc Janja, Kristl Albin: Določanje privzema imatiniba v levkocite kot napovedni dejavnik uspešnosti terapije KML. - In: 4th International Hematologist and Transfusiologist Congress of Slovenia [and 4th] Congress of Slovenian Hemato-Oncology Nurses [and 4th] Hematology and Transfusiology Congress of Laboratory Technicians, Podčetrtek, April 12-14, 2012, pp. 32, COBISS.SI-ID: 3233905.

Mrhar Aleš: Klinična farmacija: stanje v Sloveniji septembra 2012 in izzivi za naslednjih nekaj let. - In: Zdravljenje z zdravili bolnikov z astmo ali KOPB: klinična farmacija: zbornik. Golnik: Univerzitetna klinika za pljučne bolezni in alergijo, Ljubljana, Faculty of Pharmacy, 2012, pp. 7-9, COBISS.SI-ID:3298673.

Mrhar Aleš: Prirejanje odmerkov protimikrobnih zdravil pri bolnikih z motenim delovanjem organov izločanja in merjenje serumskih koncentracij.- Invited lecture at the 4th Researcher Fair, Jesenice General Hospital, December 6, 2012, COBISS.SI-ID: 3364209.

Mrhar Aleš: Součinkovanje in pomembni stranski učinki antibiotikov.- Podiplomski tečaj iz protimikrobnega zdravljenja za primarno raven, Ljubljana, October 12, 2012, Ljubljana, City hotel, COBISS.SI-ID: 3341681.

Mrhar Aleš: Uvod v Zdravstveni tim.- Invited lecture at Zdravstveni tim 2012: rak debelega črevesja in danke.- Faculty of Pharmacy, Ljubljana, October 9, 2012, COBISS.SI-ID: 3341169.

Trontelj Jurij, Kralj Eva, Pajič Tadej, Žakelj Simon, Preložnik-Zupan Irena, Černelč Peter, Marc Janja, Ostanek Barbara, Podgornik Helena, Kristl Albin: Merjenje krvnih koncentracij tirozin kinaznih inhibitorjev s tekočinsko kromatografijo s tandemsko masno spektrometrijo. - In: 4th International Hematologist and Transfusiologist Congress of Slovenia [and 4th] Congress of Slovenian Hemato-Oncology Nurses [and 4th] Hematology and Transfusiology Congress of Laboratory Technicians, Podčetrtek, April 12-14, 2012, pp. 172, COBISS.SI-ID: 3234161.

Vovk Tomaž: Antioksidatni in vitamini v izdelkih z nego kože, izpostavljene ultravijoličnim žarkom. - In: Kozmetologija II: koža in sonc: kozmetično aktivne sestavine: izdelki za zaščito in aktivno nego kože: strokovno izobraževanje. Ljubljana, Faculty of Pharmacy, 2012, pp. 61-72, COBISS.SI-ID: 3263601.

Žakelj, Simon, Kralj, Eva, Trontelj, Jurij, Berginc, Katja, Pajič, Tadej, Podgornik, Helena, Preložnik-Zupan, Irena, Černelč, Peter, Ostanek, Barbara, Marc, Janja, Kristl, Albin: A novel method determination of imatinib intracellular uptake in leukocytes . - In: Book of Abstracts of the 9th Central European Symposium on Pharmaceutical Technology: nanopharmaceuticals and nanomedicine: [September 20-22, 2012, Dubrovnik, Croatia], pp. 54, COBISS.SI-ID: 3308145.

8.2 CHAIR OF PHARMACEUTICAL BIOLOGY

Independent works

Kreft Samo, Krapež Sonja: Spoznajmo gene in dedovanje: biologija za gimnazije 1. - 2. ed. Ljubljana, Modrijan, 2012. 87 pp., COBISS.SI-ID: 260348160.

Pohleven Jure, Štrukelj Borut, Kos Janko: Affinity chromatography of lectins. - In: Affinity chromatography. - Rijeka, InTech, 2012, pp. 49-74, COBISS.SI-ID: 25682983.

Radić Nataša, Bratkovič Tomaž: Future antibiotic agents: turning to nature for inspiration. - In: Antimicrobial agents. - Rijeka, InTech, 2012, pp. 25-50, COBISS.SI-ID: 30128601.

Sabotič Jerica, Koruza Katarina, Gabor Boštjan, Peterka Matjaž, Barut Miloš, Kos Janko, Brzin Jože: The value of fungal protease inhibitors in affinity chromatography. - In: Affinity chromatography, Rijeka, InTech, 2012, pp. 307-332, COBISS.SI-ID: 25683239.

Štrukelj Borut: Kaj so biološka zdravila in za kaj jih uporabljamo? - Ljubljana, Faculty of Pharmacy, 2012, COBISS.SI-ID: 264284928.

Štrukelj Borut: Racionalna in varna uporaba zdravil proti povišanemu holesterolu. - Ljubljana, Faculty of Pharmacy, 2012. 16 pp., COBISS.SI-ID: 264285184.

Švajger Urban, Štrukelj Borut: Tolerogenic dendritic cells for therapy of immune-mediated inflammatory diseases. - In: Inflammatory diseases, immunopathology, clinical and pharmacological bases.- Rijeka: InTech, 2012, pp. 213-238, COBISS.SI-ID: 3203185.

Scientific and professional publications

Anderluh Marko, Jug Gregor, Švajger Urban, Obermajer Nataša: DC-SIGN antagonists, a potential new class of anti-infectives. - *Curr. Med. Chem.*, 2012, 19, 7, pp. 992-1007, COBISS.SI-ID: 3194737.

Berlec Aleš, Ravnikar Matjaž, Štrukelj Borut: Lactic acid bacteria as oral delivery systems for biomolecules.- *Pharmazie*, 2012, 67, 11, pp. 891-898, COBISS.SI-ID: 3346033.

Berlec Aleš, Štrukelj Borut: Generating a custom TA-cloning expresion plasmid for Lactococcus lactis. - *BioTechniques*, 2012, 52, 1, pp. 51-53, COBISS.SI-ID: 25394727.

Bratkovič Tomaž, Glavan Gordana, Štrukelj Borut, Živin Marko, Rogelj Boris: Exploiting microRNAs for cell engineering and therapy- *Biotechnol. Adv.*, 2012, 30, 3, pp. 753-765, COBISS.SI-ID: 3197041.

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.*, 2012, 62, pp. 79-87, COBISS.SI-ID: 26305831.

Erjavec Jana, Kos Janko, Ravnikar Maja, Dreo Tanja, Sabotič Jerica: Proteins of higher fungi - from forest to application. - *Trends Biotechnol.*, 2012, 30, 5, pp. 259-273, COBISS.SI-ID: 2504527.

Gopal Radha, Lin Yinyao, Obermajer Nataša, Slight Samantha, Nuthalapath, Nikhil, Ahmed Mushtaq, Kalinski Pawel, Khader Shabaana A.: IL-23 dependent IL-17 drives Th1-cell responses following Mycobacterium bovis BCG vaccination. - *Eur J. Immunol.*, 2012, 42, issue 2, pp. 364-373, COBISS.SI-ID: 3164273.

Hafner Anja, Obermajer Nataša, Kos Janko: Gama-enolase C-terminal peptide promotes cell survival and neurite outgrowth by activation of PI 3-K/Akt and MAPK/ERK signalling pathways. - *Biochem. J.*, 2012, 443, pp. 439-450, COBISS.SI-ID: 3194993.

Janeš Damjan, Kalamar Boštjan, Kreft Samo: Improved method for isolation of lycopsamine from roots of comfrey (*Symphytum officinale*). - *Natural Product Communications*, 2012, 7, 7, pp. 861-862, COBISS.SI-ID: 3287409.

Janeš Damjan, Prosen Helena, Kreft Samo: Identification and quantification of aroma compounds of tartary buckwheat (*Fagopyrum tataricum* gaertn.) and some of its milling fractions. - *J. Food Sci.*, 2012, 7, 7, pp. C746-C751, COBISS.SI-ID: 3287153.

Jevnikar Zala, Mirković Bojana, Pečar Fonović Urša, Zidar Nace, Švajger Urban, Kos Janko: Three-dimensional invasion of macrophages is mediated by cysteine cathepsins in protrusive podosomes. - *Eur J. Immunol*, 2012, 42, 13 pp., COBISS.SI-ID: 3319921.

Kočevar Glavač Nina, Košir Iztok Jože, Rode Janko, Kreft Samo: Optimisation and use of a spectrophotometric method for determining polysaccharides in *Echinacea purpurea*. - *Cent. Eur. J. Biol.*, 2012, 7, 1, pp. 126-131, COBISS.SI-ID: 583820.

Kočevar Glavač Nina, Kreft Samo: Excretion profile of glycyrrhizin metabolite in human urine. - *Food Chem.*, 2012, 131, 1, pp. 305-308, COBISS.SI-ID: 3299953.

Kralj Slavko, Rojnik Matija, Romih Rok, Jagodič Marko, Kos Janko, Makovec Darko: Effect of surface charge on the cellular uptake of fluorescent magnetic nanoparticles. - *J. Nanopart. Res.*, 2012, 14, 10, pp. 1151-1-1151-14, COBISS.SI-ID: 26072615.

Kreft Samo: Izbrana zdravila naravnega izvora za zdravljenje bolezni ORL = Selected herbal medicinal products in otolaryngology. - *Farm. Vestn.*, 2012, 63, 2, pp. 109-111, COBISS.SI-ID: 3244145.

Lunder Mojca, Drevenšek Gorazd, Hawlina Simon, Sepčič Kristina, Žiberna Lovro: Cardiovascular effects induced by polymeric 3-alkylpyridinium salts from the marine sponge *Reniera sarai*. - *Toxicon (Oxford)*, 2012, 60, 6, pp. 1041-1048, COBISS.SI-ID: 2612559.

Magister Špela, Obermajer Nataša, Mirković Bojana, Švajger Urban, Renko Miha, Softić Adaleta, Romih Rok, Colbert Jeff D., Watts Colin, Kos Janko: Regulation of cathepsins S and L by cystatin F during maturation of dendritic cells. - *Eur. J. Cell Biol.*, 2012, 91, 5, pp. 391-401, COBISS.SI-ID: 3207025.

Obermajer Nataša, Kalinski Pawel: Key role of the positive feedback between PGE2 and COX2 in the biology of myeloid-derived suppressor cells. - *Oncoimmunology*, 2012, 1, 5, pp. 762-764, COBISS.SI-ID: 3289969.

Obermajer Nataša, Wong Jeffrey L., Edwards Robert P., Odunsi Kunle, Moysich Kirsten, Kalinski Pawel: PGE(2)-driven induction and maintenance of cancer-associated myeloid-derived suppressor cells.- *Immunol. Invest.*, 2012, 41, 6-7, pp. 635-657, COBISS.SI-ID: 3316337.

Paškulin Roman, Jamnik Polona, Danevčič Tjaša, Koželj Gordana, Krašovec Rok, Krstić-Milošević Dijana, Blagojević Duško, Štrukelj Borut: Metabolic plasticity and the energy economizing effect of ibogaine, the principal alkaloid of *Tabernanthe iboga*.- *J. Ethnopharmacol.*, 2012, 143, 1, pp. 319-324, COBISS.SI-ID: 4106104.

Perše Martina, Injac Rade, Štrukelj Borut, Cerar Anton: High fat mixed lipid diet modifies protective effects of exercise on 1,2 dimethylhydrazine induced colon cancer in rats. - *Technology in cancer research and treatment*, 2012, 11, 3, pp. 289-299, COBISS.SI-ID: 29671641.

Petek Marko, Turnšek Neža, Buh Gašparič Meti, Pompe Novak Maruša, Gruden Kristina, Slapar Nina, Popović Tatjana, Štrukelj Borut, Jongsma Maarten Anthonie: A complex of genes involved in adaptation of *Leptinotarsa decemlineata* larvae to induced potato defense.- *Arch. Insect Biochem. Physiol.*, 2012, 79, 3, pp. 153-181, COBISS.SI-ID: 3232369.

Pohleven Jure, Renko Miha, Magister Špela, Smith David F., Kuenzler Markus, Štrukelj Borut, Turk Dušan, Kos Janko, Sabotič Jerica: Bivalent carbohydrate binding is required for biological activity of CNL, the LacdINAc (GalNAc[beta]1-4GlcNAc) – specific lectin from basidiomycete *Clitocybe nebularis*. - *J. Biol. Chem.*, 2012, 287, 13, pp. 10602-10612, COBISS.SI-ID: 25580583.

Pravst Igor, Blaznik Urška, Krbavčič Aleš, Kreft Samo, Kušar Anita, Mičović Elizabeta, Razinger-Mihovec Barbara, Recek Marjeta, Repe Jona, Rogelj Irena, Stibilj Vekoslava: Priporočila za zagotavljanje kakovosti prehranskih dopolnil = Recommendations for the quality assurance of food supplements.- *Farm. Vestn.*, 2012, 63, 4, pp. 216-224, COBISS.SI-ID: 3312753.

Radić Nataša, Štrukelj Borut: Endophytic fungi - the treasure chest of antibacterial substances.- *Phytomedicine (Stuttg.)*, 2012, 19, 4, pp. 1270-1284, COBISS.SI-ID: 3343729.

Rojnik Matija, Jevnikar Zala, Doljak Bojan, Turk Samo, Zidar Nace, Kos Janko: The influence of differential processing of procathepsin H on its aminopeptidase activity, secretion and subcellular localization in human cell lines.- *Eur. J. Cell Biol.*, 2012, 91, 10, pp. 757-764, COBISS.SI-ID: 3269745.

Rojnik Matija, Kocbek Petra, Moret Francesca, Compagnin Chiara, Celotti Lucia, Bovis Melissa, Woodhams Josephine, Macrober, Alexander J., Scheglmann Dietrich, Helfrich Wijnand, Verkaik Marco, Papini Emanuele, Reddi Elena, Kos Janko: In vitro and in vivo characterisation of temoporfin-loaded PEGylated PLGA nanoparticles for use in photodynamic therapy.- *Nanomedicine*, 2012, 7, 5, pp. 663-677, COBISS.SI-ID: 3250545.

Sabotič Jerica, Bleuler-Martinez Silvia, Renko Miha, Avanzo Caglič Petra, Kallert Sandra, Štrukelj Borut, Turk Dušan, Aebi Markus, Kos Janko, Künzler Markus: Structural basis of trypsin inhibition and entomotoxicity of cospin, a serine protease inhibitor involved in defence of *Coprinopsis cinerea* fruiting bodies. - *J. Biol. Chem.*, 2012, 287, 6, pp. 3898-3907, COBISS.SI-ID: 25428775.

Štrukelj Borut: Sodobna cepiva proti vnetju srednjega ušesa = Novel vaccines against otitis media. - *Farm. Vestn.*, 2012, 63, 2, pp. 112-115, COBISS.SI-ID: 3244401.

Tavčar Eva, Barbič Matej, Heilmann Jörg, Kreft Samo: High levels of cycloartenol derivatives from *Euphorbia acanthothamnus*. - *Biochem. Syst. Ecol.*, 2012, 44, pp. 83-85, COBISS.SI-ID: 3256433.

Tavčar Eva, Turk Erika, Kreft Samo: Simple modification of Karl-Fischer titration method for determination of water content in colored samples. - *J. of Analytical Methods in Chemistry*, 2012, art. no. 379724, pp. 379724-1-379724-6, COBISS.SI-ID: 3257201.

Vižin Tjaša, Christensen Ib Jarle, Nielsen Hans Jørgen, Kos Janko: Cathepsin X in serum from patients with colorectal cancer: relation to prognosis. - *Radiol. Oncol.*, 2012, 46, 3, pp. 207-212, COBISS.SI-ID: 3297393.

Vodnik Miha, Štrukelj Borut, Lunder Mojca: HWGMWSY, an unanticipated polystyrene binding peptide from random phage display libraries. - *Anal. Biochem.*, 2012, 424, 2, pp. 83-86, COBISS.SI-ID: 3231345.

Invited lectures

Ravnikar Matjaž: Aktivne snovi v kozmetičnih izdelkih za nego kože s celulitom. - In: Kozmetologija II: koža in sonce: kozmetično aktivne sestavine: izdelki za zaščito in aktivno nego kože, Ljubljana, Faculty of Pharmacy, 2012, pp. 83-88, COBISS.SI-ID: 3264113.

Patents

Štrukelj Borut, Bednjički Ivan, Gostinča, Mia: Kompleksna zmes naravnih vlaknin z dodatkom selena in magnezija za vzdrževanje telesne teže, metabolizma organizma in aktivacije imunskega sistema. - Patent application P-201100425, 3 April, 2012, Ljubljana, Slovenian Intellectual Property Office, 2012, 8 pp., COBISS.SI-ID: 3233393.

Štrukelj Borut, Kreft Samo, Janeš Damjan, Kočevar Glavač Nina, Tavčar Eva, Slokar Marko, Zaloker Ante, Grilc Viktor, Mirt Ivan, Cerovečki Željko: Kompleks antioksidativnega izvlečka iz skorje jelke s ciklodekstrini.- Patent application P-201100360, Ljubljana: Slovenian Intellectual Property Office, January 20, 2012, 21 pp., COBISS.SI-ID: 3261297.

Štrukelj Borut, Kreft Samo, Janeš Damjan, Kočevar Glavač Nina, Tavčar Eva, Slokar Marko, Zaloker Ante: Tekoči rafinirani antioksidativni zvrček iz skorje jelke in postopek za njegovo pridobivanje. - Patent application P-201100341, Ljubljana, Slovenian Intellectual Property Office, January 20, 2012, 12 pp., COBISS.SI-ID: 3261553.

8.3 CHAIR OF PHARMACEUTICAL CHEMISTRY

Independent works

Anderluh Marko: DC-SIGN antagonists - a paradigm of C-type lectin binding inhibition. - *Carbohydrates - comprehensive studies on glycobiology and glycotechnology*. - Rijeka: InTech, 2012, pp. 137-160, COBISS.SI-ID: 3357041.

Scientific and professional publications

Anderluh Marko, Jug Gregor, Švajger Urban, Obermajer Nataša: DC-SIGN antagonists, a potential new class of anti-infectives. - *Curr. Med. Chem.*, 2012, 19, 7, 992-1007, COBISS.SI-ID: 3194737.

Anderluh Marko: Izbrane učinkovine kemijskega izvora v terapiji vnetij nosu, obnosnih votlin, ušesa in grla = Selected synthetic drugs for the treatment of rhinitis, sinusitis, ear and throat inflammation. - *Farm. Vestn.*, 2012, 63, 2, pp. 100-108, COBISS.SI-ID: 3243889.

Barreteau Hélène, Sosič Izidor, Turk Samo, Humljan Jan, Tomašič Tihomir, Zidar Nace, Hervé Mireille, Boniface Audrey, Peterlin-Mašič Lucija, Kikelj Danijel, Mengin-Lecreulx Dominique, Gobec Stanislav, Blanot Didier: MurD enzymes from different bacteria: evaluation of inhibitors.- *Biochem. Pharmacol.*, 2012, 85, 5, pp. 625-632, COBISS.SI-ID: 3274609.

Beranič Nataša, Brožič Petra, Brus Boris, Sosič Izidor, Gobec Stanislav, Lanišnik-Rižner Tea: Expression of human aldo-keto reductase 1C2 in cell lines of peritoneal endometriosis: potential implications in metabolism of progesterone and dydrogesterone and inhibition by progestins. - *J. Steroid Biochem. Mol. Biol.*, 2012, 130, 1-2, pp. 16-25, COBISS.SI-ID: 3193713.

Beranič Nataša, Lanišnik-Rižner Tea, Gobec Stanislav: Pregled pomembnejših inhibitorjev 5[alfa]-reduktaz tipa 1 in 2 = An overview of important 5[alpha]-reductase type 1 and 2 inhibitors. - *Farm. Vestn.*, 2012, 63, pp. 168-177, COBISS.SI-ID: 29980889.

Berne Sabina, Podobnik Barbara, Zupanec Neja, Novak Metka, Kraševac Nada, Turk Samo, Korošec Branka, Lah Ljerka, Šuligoj Erika, Stojan Jure, Gobec Stanislav, Komel Radovan: Virtual screening yields inhibitors of novel antifungal drug target, benzoate 4-monooxygenase.- *J. Chem. Inf. Mod.*, 2012, 52, 11, pp. 3053-3063, COBISS.SI-ID: 30257369.

Brela Mateusz Zbigniew, Stare Jernej, Pirc Gordana, Sollner Dolenc Marija, Boczar Marek Wojcik, Marek Janusz, Mavri Janez: Car-parrinello simulation of the vibrational spectrum of a medium strong hydrogen bond by two-dimensional quantization of the nuclear motion: application to 2-hydroxy-5-ntrobenzamide. - *J. Phys. Chem., B Mater. Surf. Interfaces Biophys.*, 2012, 116, 15, pp. 4510-4518, COBISS.SI-ID: 3225201.

Brožič Petra, Turk Samo, Adeniji Adegoke O., Konc Janez, Janežič Dušanka, Penning Trevor M., Lanišnik-Rižner Tea, Gobec Stanislav: Selective inhibitors of aldo-keto reductases AKR1C1 and AKR1C3 discovered by virtual screening of a fragment library. - *J. Med. Chem.*, 2012, 55, 17, pp. 7417-7424, COBISS.SI-ID: 30078937.

Cateni Francesca, Zacchigna, Marina, Doljak, Bojan, Anderluh, Marko, Procida, Guiseppe, Piltaver Andrej. Bioactive lipids metabolites in *Amanita virosa*.- *Natural Product Communications*, 2012, 7, 11, pp. 1495-1498, COBISS.SI-ID: 3346289.

Gobec Martina, Obreza Aleš, Prijatelj Matevž, Brus Boris, Gobec Stanislav, Mlinarič-Raščan Irena: Selective cytotoxicity of amidinopiperidine based compounds towards burkitt's lymphoma cells involves proteasome inhibition. - *PloS one*, 2012, 7, 7, art. no. e41961, COBISS.SI-ID: 3286129.

Hrast Martina, Vehar Blaž, Turk Samo, Konc Janez, Gobec Stanislav, Janežič Dušanka: Function of the D-Alanine: D-Alanine ligase lid loop: a molecular modeling and bioactivity study.- *J. Med. Chem.*, 2012, 55, 15, pp. 6849-6856, COBISS.SI-ID: 5024538.

Ilić Miloš, Ilaš Janez, Dunkel Petra, Mátyus Péter, Boháč Andrej, Liekens Sandra, Kikelj Danijel: Novel 1,4-benzoxazine and 1, 4-benzodioxine inhibitors of angiogenesis.- *Eur. J. Med. Chem.*, 2012, vol. 58, pp. 160-170, COBISS.SI-ID: 3331441.

Ilić Miloš, Kikelj Danijel, Ilaš Janez: Fluorinated dual antithrombotic compounds based on 1,4-benzoxazine scaffold.- *Eur. J. Med. Chem.*, 2012, 50, April, pp. 255-263, COBISS.SI-ID: 3221873.

Jakopin Žiga, Gobec Martina, Mlinarič-Raščan Irena, Sollner Dolenc Marija: Immunomodulatory properties of novel nucleotide oligomerization domain 2 (Nod2) agonistic desmuramyldipeptides. - *J. Med. Chem.*, 2012, 55, 14, pp. 6478-6488, COBISS.SI-ID: 3274353.

Jevnikar Zala, Mirković Bojana, Pečar Fonović Urša, Zidar Nace, Švajger Urban, Kos Janko: Three-dimensional invasion of macrophages is mediated by cysteine cathepsins in protrusive podosomes. - *Eur. J. Immunol.*, 2012, 42, 12, pp. 3429-3441, COBISS.SI-ID: 3319921.

Kolšek Katra, Mavri Janez, Sollner Dolenc Marija: Reactivity of bisphenol A-3,4-quinone with NA. A quantum chemical study. - *Toxicol. in Vitro*, 2012, 26, 1, pp. 102-106, COBISS.SI-ID: 3160945.

Košak Urban, Kovač Andreja, Gobec Stanislav: One-pot synthesis of β -keto esters and preparation of 3-ketopalmitoyl-CoA. - *Synlett*, 2012, 23, 11, pp. 1609-1612, COBISS.SI-ID: 3271025.

Košak Urban, Obreza Aleš: Nikelj kot pomemben element v sledovih? = Nickel as important trace element? - *Farm. Vestn.*, 2012, 63, 5/6, pp. 297-304, COBISS.SI-ID: 3372913.

Mravljak Janez, Obreza Aleš: The efficient synthesis of amphiphilic oximes of galactose and glucosamine. - *Tetrahedron Lett.*, 2012, 53, 17, pp. 2234-2235, COBISS.SI-ID: 3219825.

Obreza Aleš, Perdih Franc: Crystal structures of 4-(oxiran-2-ylmethoxy) benzoic acid and 4-acetoxybenzoic acid. - *J. Struct. Chem.*, 2012, 53, 4, pp. 793-799, COBISS.SI-ID: 3319153.

Podlipec Rok, Koklič Tilen, Štrancar Janez, Mravljak Janez, Šentjurs Marjeta: Influence of cancerostatic perifosine on membrane fluidity of liposomes and different cell lines as measured by electron paramagnetic resonance. - *Croat. Med. J.*, 2012, 53, 6, pp. 570-579, COBISS.SI-ID: 3377265.

Rojnik Matija, Jevnikar Zala, Doljak Bojan, Turk Samo, Zidar Nace, Kos Janko: The influence of differential processing of procathepsin H on its aminopeptidase activity, secretion and subcellular localization in human cell lines. - *Eur. J. Cell biol.*, 2012, 91, 10, pp. 757-764, COBISS.SI-ID: 3269745.

Schmidt Jan, Peterlin-Mašič Lucija: Organic synthetic environmental endocrine disruptors: structural classes and metabolic fate. - *Acta Chim. Slov.*, 2012, 4, 59, pp. 722-738, COBISS.SI-ID: 3368561.

Simčič Mihael, Sosič Izidor, Hodošek Milan, Barreteau Hélène, Blanot Didier, Gobec Stanislav, Golič Grdadolnik Simona: The binding mode of second-generation sulfonamide inhibitors of MurD: clues for rational design of potent MurD inhibitors. - *PloS one*, 2012, 7, 12, pp. 1-15, e52817, COBISS.SI-ID: 5145882.

Sinreih Maša, Sosič Izidor, Beranič Nataša, Turk Samo, Adeniji Adegoke O., Penning Trevor M., Lanišnik-Rišner Tea, Gobec Stanislav: N-Benzoyl anthranilic acid derivatives as selective inhibitors of aldo/keto reductase AKR1C3. - *Bioorg. Med. Chem. Lett.*, 2012, 22, 18, pp. 5948-5951, COBISS.SI-ID: 30074841.

Sosič Izidor, Turk Samo, Sinreih Maša, Trošt Nuša, Verlaine Olivier, Amoroso Ana, Zervosen Astrid, Luxen André, Joris Bernard, Gobec Stanislav: Exploration of the chemical space of novel naphthalene-sulfo namide and anthranilic acid-based inhibitors of penicillin-binding proteins. - *Acta Chim. Slov.*, 2012, 59, 2, pp. 380-388, COBISS.SI-ID: 3272049.

Sova Matej: Antioxidant and antimicrobial activities of cinnamic acid derivatives. - *Mini Rev. Med. Chem.*, 2012, 12, 8, pp. 749-767, COBISS.SI-ID: 3299185.

Sova Matej: Biološki učinki derivatov cimetine kisline = Biological effects of cinnamic acid derivatives. - *Farm. Vestn.*, 2012, 63, 3, pp. 178-184, COBISS.SI-ID: 3291249.

Sova Matej: Rožmarinska kislina = Rosmarinic acid. - *Farm. Vestn.*, 2012, 63, 5-6, pp. 312-316, COBISS.SI-ID: 3373169.

Škedelj, Veronika, Arsovska, Emilija, Tomašič, Tihomir, Kroflič, Ana, Hodnik, Vesna, Hrast, Martina, Bešter-Rogač, Marija, Anderluh, Gregor, Gobec, Stanislav, Bostock, Julieanne M., Chopra, Ian, O'Neill, Alex, Randall, Christopher, Zega Anamarija: 6-arylpyrido[2,3-d]pyrimidines as novel ATP-competitive inhibitors of bacterial D-alanine: D-alanine ligase. - *PloS one*, 2012, 7, 8, pp. e39922-1-e39922-14, COBISS.SI-ID: 3286897.

Štefane Bogdan, Požgan Franc, Sosič Izidor, Gobec Stanislav: A microwave-assisted nucleophilic substitution reaction on a quinoline system: the synthesis of amino analogues of nitroxoline. - *Tetrahedron Lett.*, 2012, 53, 15, pp. 1964-1967, COBISS.SI-ID: 3200625.

Tomašič Tihomir, Kovač Andreja, Klebe Gerhard, Blanot Didier, Gobec Stanislav, Kikelj Danijel, Peterlin-Mašič Lucija: Virtual screening for potential inhibitors of bacterial MurC and MurD ligases. - *J. Mol. Model.*, 2012, 18, 3, pp. 1063-1072, COBISS.SI-ID: 3026289.

Tomašič Tihomir, Peterlin-Mašič Lucija: Rhodanine as a scaffold in drug discovery: a critical review of its biological activities and mechanisms of target modulation.- *Expert Opinion On Drug Discovery*, 2012, 7, 7, pp. 549-560, COBISS.SI-ID: 3238001.

Tomašič Tihomir, Šink Roman, Zidar Nace, Fic Anja, Contreras-Martel Carlos, Dessen Andréa, Patin Delphine, Blanot Didier, Müller-Premru Manica, Gobec Stanislav, Zega Anamarija, Kikelj Danijel, Peterlin-Mašič Lucija: Dual inhibitor of MurD and MurE ligases from *Escherichia coli* and *Staphylococcus aureus*.- *ACS Medicinal Chemistry Letters*, 2012, 3, 8, pp. 626-630, COBISS.SI-ID: 3274865.

Trdan Lušin Tina, Tomašič Tihomir, Trontelj Jurij, Mrhar Aleš, Peterlin-Mašič Lucija: In vitro bioactivation of bazedoxifene and 2-(4-hydroxyphenyl)-3-methyl-1H-indol-5-ol in human liver microsomes. - *Chem.-Biol. Interact.*, 2012, 197, pp. 8-15, COBISS.SI-ID: 3213425.

Trstenjak Uroš, Ilaš Janez, Kikelj Danijel: Advances in the synthesis of morpholin-3-ones and morpholin-2-ones. - *Synthesis (Stuttg.)*, 2012, 44, 23, pp. 3551-3578, COBISS.SI-ID: 3355505.

Vehovec Tanja, Gartner Andrej, Planinšek Odon, Obreza Aleš: Influence of different types of commercially available microcrystalline cellulose on degradation of perindopril erbumine and enalapril maleate in binary mixtures. - *Acta Pharm.*, 2012, 62, 4, pp. 515-528, COBISS.SI-ID: 3367793.

Invited lectures

Anderluh Marko: Central nervous stimulants as doping substances. - Invited lecture at the International Pharmaceutical Summer Camp - Medvedje Brdo, Logatec, July 15, 2012, COBISS.SI-ID: 3291761.

Jakopin Žiga, Sollner Dolenc Marija: Varovalni izdelki za sončenje (anorganski, organski): učinkovitost, penetracija v kožo in toksikologija.- V: Kozmetologija II: koža in sonce: kozmetično aktivne sestavine: izdelki za zaščito in aktivno nego kože: strokovno izobraževanje. Ljubljana, Faculty of Pharmacy, 2012, pp. 33-47, COBISS.SI-ID: 3263345.

Pečar Slavko: Ultravijolični stres in fotostaranje. - V: Kozmetologija II: koža in sonce: kozmetično aktivne sestavine: izdelki za zaščito in aktivno nego kože: strokovno izobraževanje. Ljubljana, Faculty of Pharmacy, 2012, pp. 17-31, COBISS.SI-ID: 3263089.

Patents

Časar Zdenko, Stavber Gaj, Sova Matej: Preparation of sitagliptin intermediates: international publication number: WO 2012/136383 A2: international publication date: October 11, 2012: international application number: PCT/EP2011/001562, München, World Intellectual Property Organization, 2012. 71 pp., COBISS.SI-ID: 1514588.

Preželj Andrej, Urleb Uroš, Šolmajer Tomaž: Antibacterial combination of a tricyclic carbapenem and an antibiotic: patent: EP 08708944.7 (B1), 2012-04-25. München, European Patent Office, 2012. 44 pp., COBISS.SI-ID: 4059418.

8.4 CHAIR OF PHARMACEUTICAL TECHNOLOGY

Scientific and professional publications

Devjak Novak Sabina, Šporar Elena, Baumgartner Saša, Vrečer Franc: Characterisation of physicochemical properties of hydroxypropyl methylcellulose (HPMC) type 2208 and their influence on prolonged drug release from matrix tablets. - *J. Pharm. Biomed. Anal.* 2012, July, pp. 136-143, COBISS.SI-ID: 3232625.

Dreu Rok, Luštrik Matevž, Perpar Matjaž, Žun Iztok, Srčič Stanko: Fluid-bed coater modifications and study of their influence on the coating process of pellets. - *Drug Dev. Ind. Pharm.*, 2012, 38, 4, pp. 501-511, COBISS.SI-ID: 3105137.

Gosenca Mirjam, Gašperlin Mirjana, Kristl Julijana: Iritativni kontaktni dermatitis: od mehanizmov do vrednotenja iritantov = Irritative contact dermatitis: from mechanisms of irritation to irritants assessment. - *Farm. Vestn.*, 2012, 63, 3, pp. 145-152, COBISS.SI-ID: 3290225.

Gosenca Mirjam, Gašperlin Mirjana: *Effect of colloidal carriers on ascorbyl palmitate dermal delivery.* - *La Gazette de l'A.P.G.I.*, 2012, 28, 1, pp. 21-24, COBISS.SI-ID: 3368305.

Govedarica Biljana, Ilić Ilija, Šibanc, Rok, Dreu, Rok, Srčič, Stanko. The use of single particle mechanical properties for predicting the compressibility of pharmaceutical materials.- *Powder Technol.*, 2012, 225, July, pp. 43-51, COBISS.SI-ID: 3236721.

Govedarica Biljana, Sovány Tamás, Pintyé-Hodi Klára, Škarabot Miha, Baumgartner Saša, Mušević Igor, Srčič Stanko: Addressing potent single molecule AFM study in prediction of swelling 4 and dissolution rate in polymer matrix tablets. - *Eur. J. Pharm. Biopharm.*, 2012, 80, 1, pp. 217-225, COBISS.SI-ID: 3101809.

Klančar Uroš, Horvat Matej, Baumgartner Saša: Correlating cellulose derivative intrinsic viscosity with mechanical susceptibility of swollen hydrophilic matrix tablets. - *AAPS PharmSciTech*, 2012, 13, 3, pp. 903-910, COBISS.SI-ID: 1502300.

Kocbek Petra: *Novosti na področju farmacevtske nanotehnologije = Novelties in the field of pharmaceutical nanotechnology.* - *Farm. Vestn.*, 2012, 63, 2, pp. 75-81, COBISS.SI-ID: 3243633.

Kovačič Borut, Vrečer Franc, Planinšek Odon: Spherical crystallization of drugs.- *Acta Pharm.*, 2012, 62, 1, pp. 1-14, COBISS.SI-ID: 3226737.

Kristl Julijana: Vpliv nanotehnologije na razvoj zdravil = Implication of nanotechnology on development of medicines. - *Farm. Vestn.*, 2012, 63, 2, pp. 67-73, COBISS.SI-ID: 3243377.

Kukec Simon, Dreu Rok, Urbanec Tomislav, Srčič Stanko, Vrečer Franc: Characterisation of agglomerated carvedilol by hot-melt processes in a fluid bed and high shear granulator. - *Int. J. Pharm.*, 2012, 430, 1-2, pp. 74-85, COBISS.SI-ID: 3229041.

Kukec Simon, Vrečer Franc, Dreu Rok: A study of in situ fluid bed melt granulation using response surface methodology. - *Acta Pharm.*, 2012, 62, 4, pp. 497-513, COBISS.SI-ID: 3368049.

Luštrik Matevž, Dreu Rok, Šibanc, Rok, Srčič, Stanko. Comparative study of the uniformity of coating thickness of pellets coated with a conventional Wurster chamber and a swirl generator-equipped Wurster chamber. - *Pharm. Dev. Technol.*, 2012, 17, 3, pp. 268-276, COBISS.SI-ID: 2911345.

Mašić Ivana, Ilić Ilija, Dreu Rok, Ibrić Svetlana, Parojčić Jelena, Đurić Zorica: An investigation into the effect of formulation variables and process parameters on characteristics of granules obtained by in situ fluidized hot melt granulation. - *Int. J. Pharm.*, 2012, 423, 2, pp. 202-212, COBISS.SI-ID: 3186033.

Maver Uroš, Planinšek Odon, Jamnik Janko, Hassanien Abdou, Gaberšček Miran: Preparation of atomically flat gold substrates for AFM measurements.- *Acta Chim. Slov*, 2012, 59, 1, pp. 212-219, COBISS.SI-ID: 4933146.

Mikac Urška, Sepe Ana, Kristl Julijana, Baumgartner Saša: The use of a combination of different MR methods to study swelling of hydrophilic xanthan matrix tablets at different pHs. - *Pril. - Maked. Akad. Nauk. Umet., Odd. Mat.-teh. Nauki*, 2012, 33, 1, pp. 391-395, COBISS.SI-ID: 26165543.

Pelipenko Jan, Kristl Julijana, Rošic Romana, Baumgartner Saša, Kocbek Petra: Interfacial rheology: an overview of measuring techniques and its role in dispersions and electrospinning.- *Acta Pharm.*, 2012, 62, 2, pp. 123-140, COBISS.SI-ID: 3270257.

Rojnik Matija, Kocbek Petra, Moret Francesca, Compagnin Chiara, Celotti Lucia, Bovis Melissa, Woodhams Josephine, Macrobert Alexander J., Scheglmann Dietrich, Helfrich Wijnand,

Verkaik Marco, Papini Emanuele, Reddi Elena, Kos Janko: In vitro and in vivo characterisation of temoporfin-loaded PEGylated PLGA nanoparticles for use in photodynamic therapy.- *Nanomedicine*, 2012, 7, 5, pp. 663-677, COBISS.SI-ID: 3250545.

Rošic Romana, Pelipenko Jan, Kocbek Petra, Baumgartner Saša, Bešter-Rogač Marija, Kristl Julijana: *The role of rheology of polymer solutions in predicting nanofiber formation by electrospinning*. - *Eur. Polym. J.*, 2012, 48, 8, pp. 1374-1384, COBISS.SI-ID: 3248753.

Rošic Romana, Pelipenko Jan, Kristl Julijana, Kocbek Petra, Baumgartner Saša: Properties, engineering and applications of polymeric nanofibers: current research and future advances. - *Chem. Biochem. Eng. Q.*, 2012, 26, 4, pp. 417-425, COBISS.SI-ID: 3380081.

Šantl Maja, Ilić Ilija, Vrečer Franc, Baumgartner Saša: A compressibility and compactibility study of real tableting mixtures: the effect of granule particle size. - *Acta Pharm.*, 2012, 62, 3, pp. 325-340, COBISS.SI-ID: 3299441.

Štefanič Marko, Locatelli Igor, Vrečer Franc, Sever Tanja, Mrhar Aleš, Bogataj Marija: The influence of gastric emptying kinetics on the drug release from enteric coated pellets in fasted state: An in vitro/in vivo correlation.- *Eur. J. Pharm. Biopharm.*, 2012, 82, 2, pp. 376-382, COBISS.SI-ID 3286385.

Teskač Karmen, Kocbe, Petra, Erdani-Kreft Mateja, Kristl Julijana: Mehanizmi vstopa nanodelcev v celice in njihov vpliv na dostavljanje učinkovin = Mechanisms of cellular uptake of nanoparticles and their effect on drug delivery. - *Zdrav. Vestn.*, 2012, 81, 3, pp. 225-235, COBISS.SI-ID: 3220849.

Ukmar Tina, Maver Uroš, Planinšek Odon, Pintar Albin, Kaučič Venčeslav, Godec Aljaž, Gaberšček Miran: Guest-host van der Waals interactions decisively affect the molecular transport in mesoporous media. - *J. Mater. Chem.*, 2012, 22, pp. 1112-1120, COBISS.SI-ID: 4837914.

Vehovec Tanja, Gartner Andrej, Planinšek Odon, Obreza Aleš: Influence of different types of commercially available microcrystalline cellulose on degradation of perindopril erbumine and enalapril maleate in binary mixtures. - *Acta Pharm.*, 2012, 62, 4, pp. 515-528, COBISS.SI-ID: 3367793.

Višnjar Tanja, Kocbek Petra, Erdani-Kreft Mateja: Hyperplasia as a mechanism for rapid resealing urothelial injuries and maintaining high transepithelial resistance.- *Histochemistry And Cell Biology*, 2012, 137, 2, pp. 177-186, COBISS.SI-ID: 29338585.

Zvonar Alenka, Bolko Katarina, Gašperlin Mirjana: Microencapsulation of self-microemulsifying systems: optimization of shell-formation phase and hardening process.- *Int. J. Pharm.*, 2012, 437, 1-2, pp. 294-302, COBISS.SI-ID: 3292017.

Invited lectures

Bolko Katarina: Kozmetični izdelki za aktivno vlaženje kože: mehanizem delovanja, učinkovitost in varnost. - V: Kozmetologija II: koža in sonce: kozmetično aktivne sestavine: izdelki za zaščito in aktivno nego kože: strokovno izobraževanje. - Ljubljana, Faculty of Pharmacy, 2012, pp. 49-59, COBISS.SI-ID: 3296881.

Gašperlin Mirjana: Spremembe v monografiji Farmacevtske oblike za inhaliranje = Changes in monograph preparation for inhalation.- V: Zbornik prispevkov.- Ljubljana: Agency for Medicinal Products and Medical Devices of the Republic of Slovenia, 2012, pp. 16-24, COBISS.SI-ID: 3346801.

Govedarica Biljana: Kaj vemo o mehanskih lastnostih učinkovin in ekscipientov? - A lecture at the general meeting of the Slovenian Pharmaceutical Society. - Ljubljana, April 11, 2012, COBISS.SI-ID: 3245425.

Kocbek Petra: Proteini, peptidi in rastni dejavniki v aktivni negi kože. V: Kozmetologija II: koža in sonce: kozmetično aktivne sestavine: izdelki za zaščito in aktivno nego kože: strokovno izobraževanje. - Ljubljana, Faculty of Pharmacy, 2012, pp. 73-82, COBISS.SI-ID: 3263857.

Kocbek Petra: Novosti na področju farmacevtske nanotehnologije. - Invited lecture at the symposium of the 37th general meeting of the Slovenian Pharmaceutical Society. Portorož, May 10, 2012, COBISS.SI-ID: 3247473.

Kristl Julijana: Interaction between pharmacology and pharmacy - nanomedicine and their relevance in delivery of drug molecules. - University Bern, Medical Faculty, Institute of Pharmacology, May 8, 2012, COBISS.SI-ID: 3377777.

Kristl Julijana: Vpliv nanotehnologije na razvoj zdravil. - A lecture at the symposium of the 37th general meeting of the Slovenian Pharmaceutical Society: nanotehnologija 10 let kasneje - prednosti in pasti. Portorož, May 10, 2012, COBISS.SI-ID: 3295857.

Pelipenko Jan: Oblikovanje nanovlaken z elektrostatskim sukanjem in njihov vpliv na rast in mobilnost celic. - Invited lecture within research work. - Ljubljana, Faculty of Pharmacy, December 5, 2012, COBISS.SI-ID: 3362929.

Srčič Stanko: Need of preformulation studies. - A lecture at the Institute of Solid State Chemistry and Mechanochemistry, Russian Academy of Sciences, Siberian Branch, Novosibirsk, Russia. Novosibirsk, Russia, 23rd of July, 2012, COBISS.SI-ID: 3381873.

Zvonar Alenka, Kristl Julijana: Nanokapsuliranje v živilski industriji: metode in prednosti = Nanoencapsulation in food industry: the method and benefits. - V: 27. Bitenčevi živilski dnevi 2012 = 27th Food Technology Days 2012 dedicated to Prof. F. Bitenc, September 26, 2012, Ljubljana. Nanotehnologije in nanoživila.- Ljubljana, Biotechnical Faculty, Department of Food Science and Technology, 2012, pp. 31-47. COBISS.SI-ID: 3316081.

Patents

Dreu Rok, Homar Miha, Burjak Mateja, Kerč Janez, Srčič Stanko: Hot-melt micropellets: WO 2008/113803 (25 September, 2008 Gazette 2008/39: international publication number PCT/EP2008/053223: application number: 08717955.2, Munich, The European Patent Office, 2012, 11 pp., COBISS.SI-ID: 3378289.

Sedmak Gregor, Kramar Andrejka, Vrečer Franc, Škrabanja Vida: Solid pharmaceutical composition comprising tamsulosin = Feste pharmazeutische Zusammensetzung mit Tamsulosin = Composition pharmaceutique solide comprenant de la tamsulosine: EP 2 217 228 B1: PCT/EP2008/063575: International Application number: PCT/EP2008/063575: International Publication number: WO 2009/047312: Applicant: Krka, Tovarna zdravil, d. d. Novo Mesto, München, European Patent Office, 2012. 14 pp., COBISS.SI-ID: 3283057.

8.5. THE CHAIR OF CLINICAL BIOCHEMISTRY

Independent works

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: *Revmatološki priročnik za družinskega zdravnika*. - 4., supplemented edition, Ljubljana, 2012, 283 pp., COBISS.SI-ID: 263417600.

Černe Darko, Ostanek Barbara: *Biomedicinska analitika I*, Učbenik za študente laboratorijske biomedicine. - Ljubljana, Faculty of Pharmacy, 2012, COBISS.SI-ID: 264769280.

Irman Špela, Škarabot Miha, Muševič Igor, Božič Borut: Protein interactions on phospholipid bilayer, studied by AFM under physiological conditions. - In: *Atomic Force Microscopy*. Rijeka: InTech, 2012, pp. 123-152, COBISS.SI-ID: 3210353.

Mlinarič-Raščan Irena, Milek Miha, Šmid Alenka, Karas Kuželički Nataša: S-adenosylmethionine: a novel factor in the individualization of thiopurine therapy. - In: *Clinical Applications of Pharmacogenetics*, pp. 95-118, COBISS.SI-ID: 3230577.

Osredkar Joško, Dvoršak Janko: Doping.- V: *Medicina športa*. Celje, 2012, pp. 231-242, COBISS.SI-ID: 3248241.

Osredkar Joško, Marc Janja: *Laboratorijska medicina I.: učbenik za študente medicine, farmacije in laboratorijske biomedicine*. - Ljubljana, Faculty of Pharmacy, 2012. 174 pp., COBISS.SI-ID: 261138688.

Poljšak Marjeta, Geršak Ksenija, Antolič Rok, Novak-Antolič Živa, Antolič Gorazd, Osredkar Joško, Zorec-Karlovšek Majda, Možina Martin: *Register zdravil Republike Slovenije XII, (Register zdravil R Slovenije, XII)*. Ljubljana, Ministry of Health: Agency for Medicinal Products and Medical Devices of the Republic of Slovenia, 2012. VIII, 792 pp., COBISS.SI-ID: 2930289.

Scientific and professional publications

Artenjak Andrej, Lakota Katja, Frank Mojca, Čučnik Saša, Rozman Blaž, Božič Borut, Shoenfeld Yehuda, Sodin-Šemrl Snežna: Antiphospholipid antibodies as non-traditional risk factors in atherosclerosis-based cardiovascular diseases without overt autoimmunity. - A critical updated review.- *Autoimmun Rev*, 2012, 11, 12, pp. 873-882, COBISS.SI-ID: 30181593.

Auersperger Irena, Doupona Topič Mojca, Maver Petra, Pušnik Vika, Osredkar Joško, Lainščak Mitja: Doping awareness, views, and experience: a comparison between general practitioners and pharmacists = Gewährsein, Ansichten und Erfahrung mit Doping: ein Vergleich zwischen Allgemein Praktikern und Apothekern.- *Wien. Klin. Wochenschr.*, 2012, 124, 1-2, pp. 32-38, COBISS.SI-ID: 3149681.

Čučnik Saša, Kveder Tanja, Artenjak Andrej, Avčin Tadej, Rozman Blaž, Božič Borut: Avidity of anti- β 2-glycoprotein I antibodies in patients with antiphospholipid syndrome.- *Lupus*, 2012, 21, 7, pp. 764-765, COBISS.SI-ID: 30171097.

Dujić Tanja, Bego T., Mlinar Barbara, Semiz Sabina, Malenica M., Prnjavorac Besim, Ostanek Barbara, Marc Janja, Čaušević A: Association between 11 β -hydroxysteroid dehydrogenase type 1 gene polymorphisms and metabolic syndrome in Bosnian population. - *Biochem. Med.*, 2012, 22, 1, pp. 76-85, COBISS.SI-ID: 3200113.

Estrada Karol, Marc Janja, Preželj Janez, Mencej Bedrač Simona: Genome-wide meta-analysis identifies 56 bone mineral density loci and reveals 14 loci associated with risk of fracture. - *Nat Genet*, 2012, 44, 5, pp. 491-501, COBISS.SI-ID: 3233137.

Falnoga Ingrid, Zelenik Andreja, Šlejkovec Zdenka, Tušek-Žnidarič Magda, Zajc Irena, Jurković Mlakar Simona, Marc Janja: Arsenic trioxide (ATO) influences the gene expression of metallothioneins in human glioblastoma cells. - *Biol. Trace Elem. Res.*, 2012, 149, pp. 331-339, COBISS.SI-ID: 3238513.

Ferlež Mitja, Osredkar Joško: Biološki potni list v boju proti dopingu = Biological passport in the fight against doping.- *Zdrav Vestn.*, 2012, 81, 10, pp. 717-725, COBISS.SI-ID: 30239705.

Gobec Martina, Obreza Aleš, Prijatelj Matevž, Brus Boris, Gobec Stanislav, Mlinarič-Raščan Irena: Selective cytotoxicity of amidinopiperidine based compounds against Burkitt's lymphoma cells involves proteasome inhibition.- *PloS one*, 2012, 7, 7, art. no. e41961, COBISS.SI-ID: 3286129.

Gradišek Primož, Osredkar Joško, Koršič Marjan, Kremžar Boriana: Multiple indicators model of long-term mortality in traumatic brain injury. - *Brain Inj.*, 2012, 26, 12, pp. 1472-1481, COBISS.SI-ID: 30309593.

Gruden Kristina, Hren Matjaž, Herman Ana, Blejec Andrej, Albrecht Tanja, Selbig Joachim, Bauer Chris, Schuchardt Johannes, Or-Guil Michal, Zupančič Klemen, Švajger Urban, Štabuc Borut, Ihan Alojz, Kopitar Andreja Nataša Ravnkar, Maja, Knežević Miomir, Rožman Primož, Jeras Matjaž: A "crossomics" study analysing variability of different components in peripheral blood of health caucasoid individuals. - *PloS one*, 2012, 7, 1, pp. e28761, COBISS.SI-ID: 3192689.

Hrubá Františka, Horvat Milena, Kos Andreja, Krsnik Mladen, Mazej Darja, Osredkar Joško, Hladnik Tratnik Jana: Blood cadmium, mercury, and lead in children: an international comparison of cities in six European countries, and China, Ecuador, and Morocco.- *Environ. Int.*, 2012, 41, 1, pp. 29-34, COBISS.SI-ID: 25537575.

Jakopin Žiga, Gobec Martina, Mlinarič-Raščan Irena, Sollner Dolenc Marija: Immunomodulatory properties of novel nucleotide oligomerization domain 2 (Nod2) agonistic desmuramyldipeptides. - *J. Med. Chem.*, 2012, 55, 14, pp. 6478-6488, COBISS.SI-ID: 3274353.

Jurković Mlakar Simona, Preželj Janez, Marc Janja: Testing GSTP1 genotypes and haplotypes interactions in Slovenian post-/pre-menopausal women: Novel involvement of glutathione S-transferases in bone remodeling process. - *Maturitas.*, 2012, 71, 2, pp. 180-187, COBISS.SI-ID: 3185521.

Jurković Mlakar Simona, Preželj Janez, Osredkar Joško, Marc Janja: BMD values and GSTM3 gene polymorphisms in combination with GSTT1/GSTM1 genes: a genetic association study in Slovenian elderly. - *Gerontology* (Basel), 2012, 58, 3, pp. 238-248, COBISS.SI-ID: 3198833.

Liu Ching-Ti, Estrada Karol, Yerges-Armstrong, L., Amin Najaf, Evangelou Evangelous, Li Guo, Mencej Bedrač Simona, Marc Janja: Assessment of gene-by-sex interaction effect on bone mineral density. - *J. Bone Miner. Res.*, 2012, 27, 10, pp. 2051-2064, COBISS.SI-ID: 3286641.

Mencej Bedrač Simona, Ostanek Barbara, Mlakar Vid, Zupan Janja, Kocjan Tomaž, Preželj Janez, Marc Janja: Sodobni pogled na nastanek osteoporoze = Up-to-date insight on the development of osteoporosis.- *Farm. Vestn.*, 2012, 63, 5/6, pp. 269-278, COBISS.SI-ID: 3372401.

Mencej Bedrač Simona, Zupan Janja, Kocjan Tomaž, Mlakar Vid, Preželj Janez, Marc Janja, Ostanek Barbara: Zdravljenje osteoporoze danes in jutri = Treatment of osteoporosis now and in the future. - *Farm. Vestn.*, 2012, 63, 5/6, pp. 279-289, COBISS.SI-ID: 3372657.

Milek Miha, Šmid Alenka, Tamm Riin, Karas Kuželički Nataša, Metspalu Andres, Mlinarič-Raščan Irena: Post-translational stabilisation of thiopurine S-methyltransferase by S-adenosyl-L-methionine reveals regulation of TPMT*1 and *3C allozymes.- *Biochem. Pharmacol.*, 2012, 83, 7, pp. 969-976, COBISS.SI-ID: 3210097.

Osredkar Joško, Monika Nikolić: Pomen izračuna fibroznega indeksa pri različnih jetrnih obolenjih = Importance of calculation of fibrosis index in different liver diseases. - *Gastroenterolog*, 2012, 16, 1, pp. 22-33, COBISS.SI-ID: 265188864.

Osredkar Joško: Oksidativni stres = Oxidative stress. - *Zdrav. Vestn.*, 2012, 81, 5, pp. 393-406, COBISS.SI-ID: 3255153.

Prijatelj Matevž, Čelhar Kenanova Teja, Gobec Martina, Mlinarič-Raščan Irena: EP4 receptor signalling in immature B cells involves cAMP and NF-κB dependent pathways. - *J. Pharm. Pharmacol.*, 2012, 64, 8, pp. 1090-1098, COBISS.SI-ID: 3274097.

Rejc Barbara, Osredkar Joško, Geršak Ksenija: Oksidacijski stres in nosečnost = Oxidative stress and pregnancy. - *Farm. Vestn.*, 2012, 63, 3, pp. 153-161, COBISS.SI-ID: 304812.

Schmidt Jan, Šmid Alenka, Mlinarič-Raščan Irena: Spremljanje neželenih učinkov zdravil = Monitoring of adverse drug reactions. - *Farm. Vestn.*, 2012, 63, 3, pp. 162-167, COBISS.SI-ID: 3290737.

Šantl-Letonja Marija, Nikolajević-Starčević Jovana, Batista Daniela, Cristina Branco, Osredkar Joško, Petrovič Danijel: Association of the C242T polymorphism in the NADPH oxidase p22 phox gene

with carotid atherosclerosis in Slovenian patients with type 2 diabetes.- *Mol. Biol. Rep.*, 2012, 39, 12, pp. 10121-10130, COBISS.SI-ID: 3346545.

Švajger Urban, Jeras Matjaž: Anti-inflammatory effects of resveratrol and its potential use in therapy of immune-mediated diseases. - *Int. Rev. Immunol.*, 2012, 31, 3, pp. 202-222, COBISS.SI-ID 3247729.

Todorović Vesna, Serša Gregor, Mlakar Vid, Glavač Damjan, Čemažar Maja: Assessment of the tumorigenic and metastatic properties of SK-MEL28 melanoma cells surviving electrochemotherapy with bleomycin.- *Radiol. Oncol.* (Ljubl.), 2012, 46, 1, pp. 32-45, III, COBISS.SI-ID: 3203441.

Trdan Lušin Tina, Mrhar Aleš, Stieger Bruno, Kullak-Ublick Gerd A., Marc Janja, Ostanek Barbara, Zavrtnik Andrej, Kristl Albin, Berginc Katja, Delić Katja, Trontelj Jurij: Influence of hepatic and intestinal efflux transporters and their genetic variants on the pharmacokinetics and pharmacodynamics of raloxifene in osteoporosis treatment .- *Translational Research*, 2012, 160, 4, pp. 298-308, COBISS.SI-ID: 3226481.

Trdan Lušin Tina, Stieger Bruno, Marc Janja, Mrhar Aleš, Trontelj Jurij, Zavrtnik Andrej, Ostanek Barbara: Organic anion transporting polypeptides OATP1B1 and OATP1B3 and their genetic variants influence the pharmacokinetics and pharmacodynamics of raloxifene.- *J. Transl. Med.* (Online), 2012, 10:76, 24 pp., COBISS.SI-ID: 3236977.

Vardjan, Nina, Gabrijel, Mateja, Potokar, Maja, Švajger, Urban, Kreft, Marko, Jeras, Matjaž, De Pablo, Yolanda, Faiz, Maryam, Pekny, Milos, Zorec, Robert. IFN-gamma-induced increase in the mobility of MHC class II compartments in astrocytes depends on intermediate filaments. - *J. Neuroinflamm.*, 2012, 9, art. no. 144, 13 pp., COBISS.SI-ID: 3272561.

Vouk Katja, Hevir Neli, Ribič-Pucelj Martina, Haarpainter G., Scherb Hagen, Osredkar Joško, Möller Gabriele, Prehn Cornelia, Lanišnik-Rišner Tea, Adamski Jerzy: Discovery of phosphatidylcholines and sphingomyelins as biomarkers for ovarian endometriosis. - *Hum. Reprod.*, 2012, 27, 10, pp. 2955-2965, COBISS.SI-ID: 30025945.

Zupan Janja, Komadina Radko, Marc Janja: The relationship between osteoclastogenic and anti-osteoclastogenic pro-inflammatory cytokines differs in human osteoporotic and osteoarthritic bone tissues. - *J. Biomed. Sci.* (Basel, Online), 2012, 19, 1, pp. 1-10, COBISS.SI-ID: 3207537.

Zupan Janja, Pristovšek Nuša, Mencej Bedrač Simona, Komadina Radko, Preželj Janez, Marc Janja: Interleukin-1 α gene variants influence bone mineral density and the risk of osteoporotic hip fractures in elderly Slovenian people. - *Clin. Chem. Lab. Med.*, 2012, 50, 8, pp. 1379-1385, COBISS.SI-ID: 3207793.

Žigon Polona, Čučnik Saša, Ambrožič Aleš, Sodin-Šemrl Snežna, Kveder Tanja, Božič Borut: Antibodies to phosphatidylserine/prothrombin complex as an additional diagnostic marker of APS? - *Lupus*, 2012, 21, 7, pp. 790-792, COBISS.SI-ID: 30298585.

Invited lectures

Jurković Mlakar Simona, Marc Janja: Spremembe v genih za antioksidantne encime in osteoporoza = Gene polymorphisms of antioxidant enzymes and osteoporosis. - In: Zbornik predavanj, Ljubljana, 2012, pp. 76-82, COBISS.SI-ID: 3252849.

Omersel Jasna, Božič Borut: Pomen posttranslacijskih sprememb v patologiji in diagnostiki avtoimunosti = Posttranslational modifications in pathology and autoimmune diagnostics. - In: Zbornik predavanj, Ljubljana, 2012, pp. 83-90, COBISS.SI-ID: 3253105.

Prodan Žitnik Irena, Lukač-Bajalo Jana: Motnje v presnovi galaktoze in nevarnost za nastanek raka jajčnikov = Impaired galactose metabolism and ovarian cancer risk. - In: Zbornik predavanj, Ljubljana, 2012, pp. 67-73, COBISS.SI-ID: 3252593.

Snoj Tratnik Janja, Miklavčič Ana, Jurković Mlakar Simona, Mazej Darja, Krsnik Mladen, Osredkar Joško, Barbone Fabio, Mariuz Marija, Valent Francesca, Sofianou Katia, Spirić Zdravko, Marc Janja, Horvat Milena: Biomarkers of low level mercury exposure: exposure, impact and genetic susceptibility. - In: Current topics of mercury impact to human and environment, Minamata, Japan, 2012, pp. 18-19, COBISS.SI-ID: 25590567.

8.6 THE CHAIR OF SOCIAL PHARMACY

Scientific and professional publications

Horvat Nejc, Koder Marko, Kos Mitja: Using the simulated patient methodology to assess paracetamol-related counselling for headache. - *PloS one*, 2012, 7, 12, pp. 1-9, e52510, COBISS.SI-ID: 3368817.

Janžič Andrej, Locatelli Igor, Devetak Andreja, Kos Mitja: Parametri vključevanja konjugiranih pnevmokoknih cepiv v slovenski zdravstveni sistem = Uptake parameters of pneumococcal conjugate vaccines into the Slovenian healthcare system.- *Farm. Vestn.*, 2012, 63, 2, pp. 116-121, COBISS.SI-ID: 3244657

Janžič Andrej, Locatelli Igor, Devetak Andreja, Kos Mitja: Parametri vključevanja konjugiranih pnevmokoknih cepiv v slovenski zdravstveni sistem = Uptake parameters of pneumococcal conjugate vaccines into the Slovenian healthcare system. - *Farm. Vestn.*, 2012, 63, 2, pp. 116-121, COBISS.SI-ID: 3244657.

Kos Mitja, Bečan Darja: Sistematični pregled raziskav vrednotenja koristi klinične farmacije in farmacevtske skrbi = Systematic review of studies evaluating benefits of clinical pharmacy and pharmaceutical care services. - *Farm. Vestn.*, 2012, 63, no. 4, pp. 225-231, COBISS.SI-ID 3313009.

Lakić Dragana, Petrova Guenka, Bogavac-Stanojević Nataša, Jelić-Ivanović Zorana, Kos Mitja: The cost-effectiveness of hypertension pharmacotherapy in Serbia: a Markov model. - *Biotechnol. Biotechnol. Equip.*, 2012, 26, 3, pp. 3066-3072, COBISS.SI-ID: 3302001.

Lakić Dragana, Tasić Ljiljana, Kos Mitja, Petrova Guenka, Stoimenova Assena, Krajnović Dušanka: Pharmacy network and access to medicines in selected Eastern European countries: comparative analysis. - *Croat. Med. J.*, 2012, 53, 1, pp. 53-59, COBISS.SI-ID: 3212401.

Passerini N., Perissutti Beatrice, Albertini B., Franceschinis Erica, Lenaz Davide, Hasa Dritan, Locatelli Igor, Voinovich Dario: A new approach to enhance oral bioavailability of *Silybum Marianum* dry extract: association of mechanochemical activation and spray congealing.- *Phytomedicine*, 2012, 19, 2, pp. 160-168, COBISS.SI-ID: 3093361.

Štefanič Marko, Locatelli Igor, Vrečer Franc, Sever Tanja, Mrhar Aleš, Bogataj Marija: The influence of gastric emptying kinetics on the drug release from enteric coated pellets in fasted state: An in vitro/in vivo correlation.- *Eur. J. Pharm. Biopharm.*, 2012, 82, 2, pp. 376-382, COBISS.SI-ID: 3286385.

Invited lectures

Čufar Andreja, Jančar Petra, Mrhar Aleš. Težave, povezane z zdravlili in sodelovanje kliničnega farmacevta pri zdravljenju z zdravili: vloga kliničnega farmacevta v bolnišnici. - In: 53. Tavčarjevi dnevi, Portorož, 3-5 November 2011, pp. 361-370, COBISS.SI-ID: 29199833.

Locatelli Igor, Oblak Erika: Vpliv različnih dejavnikov na učinek varfarina.- V: Antikoagulantna terapija: klinična farmacija: zbornik prispevkov, Ljubljana, 2011, pp. 70-83, COBISS.SI-ID: 3090289.