

# **ANNUAL REPORT**

## **2009**

S T U . . . SLOVAK UNIVERSITY OF TECHNOLOGY IN BRATISLAVA  
• . . . . Faculty of Chemical and Food Technology  
F C H P T  
• . . . .

**Faculty of Chemical and Food Technology**  
Slovak University of Technology

Radlinského 9, 812 37 Bratislava

March 2010

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## FOREWORD

The Faculty of Chemical and Food Technology (FCHPT) is one of seven faculties of the Slovak University of Technology. The history of the Faculty dates back to 1939, when Law No. 188 of 25 July 1939 allowed the establishment of a Chemical Engineering branch at the Slovak University of Technology. The specialization profile of the Faculty has developed steadily in accordance with the needs of the community.

The Slovak higher education has its rich history. Our Faculty follows in the footsteps of its famous predecessor in the education of technical chemistry, i.e., the famous Mining Academy in Banská Štiavnica constituted by the empress Maria Theresa in 1762. The establishment of the Dr. M. R. Štefánik College of Technology in 1937 and subsequently, that of the Slovak College of Technology in 1939 succeeded in keeping the high standard of technical education in Slovakia.

Within the time of its existence, the Faculty has educated several generations of graduates in both chemical and food engineering and graduates in postgraduate doctorate courses in chemical and technical sciences. Thus, the Faculty has helped considerably to increase scientific knowledge in industry, education system, scientific and research institutes, and administrative services.

The Faculty occupies a very specific position within the Slovak Republic and relates to the whole spectrum of chemical, food, pharmaceutical and consumer industries, and ecology. At present, some 1500 students of all the three study ranks study at the Faculty and they are trained by qualified pedagogical and research staff.

The Faculty currently offers study in BSc courses, MSc courses, and PhD. The first rank BSc course for all students lasts three years, and is run in two branches: Chemical Technology and Food Technology. The second rank MSc courses run with several possible specializations over two years. The graduate obtains the title Master of Science (MSc). The highest form of university education is currently the doctorate study, which in the past was run as a form of preparation for scientific work. The Faculty has conferred the title PhD in 16 branches of the doctoral study.

The Faculty has a widely oriented scientific program, leading to the development of basic scientific fields in chemistry, chemical technology and food processing. This wide scientific orientation of Institutes at the Faculty allows goal-oriented training of undergraduates and thereby their quicker transition to industry. There are several scientific schools at the Faculty which are successful at winning grants from domestic and international sources and at organizing scientific meetings. The Faculty generally maintains an important international position. In addition to basic research, the Faculty participates in widely applied research for practice. The cooperation with many factories and companies allows for a swift application of research results in practice. The Faculty participates in issuing the specialized scientific journals: Acta Chimica Slovaca, Chemical Papers and Fibres and Textile.

The scope and quality of scientific activities keep the Faculty at a level, which is comparable with other top research and university centers in the world. This can be proved by the above mentioned number of grants, staff invitations to participate in conferences abroad, wide cooperation with foreign universities and institutions, and memberships in international organizations.

March 2010

prof. Dušan Bakoš, DSc  
dean

## INSTITUTE OF ANALYTICAL CHEMISTRY

### Head of Institute

prof. Ján Labuda, DSc.



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[http://www.fchpt.stuba.sk/generate\\_page.php?page\\_id=1746](http://www.fchpt.stuba.sk/generate_page.php?page_id=1746)

### Foreword

The Department of Analytical Chemistry was created in 1941. The Institute of Analytical Chemistry was established in January 2006 by joining the Department of Analytical Chemistry and the Department of NMR Spectroscopy and Mass Spectrometry. The Institute is directed to the perspective branches of development of the new analytical procedures and theoretical approaches aimed to the solution of problems of various subjects predominantly of chemical, food and pharmaceutical industry and environment. The institute has achieved the top-position in the Slovak Republic; it has also developed fruitful cooperation with domestic as well as foreign institutions.

### Teaching activities

Analytical Chemistry is one of the basic subjects, which are fully provided by the Institute of Analytical Chemistry for all Bachelors' study programs. The Institute guarantees the subjects Analytical methods in clinical praxis and Testing and quality control. Students participate in research in the frame of a wide variety of Bc. projects. In the graduate study our Institute directs and provides almost full teaching for the study program Technical Chemistry, module Analytical Chemistry. Further it provides teaching of 15 subjects for other study programs. In PhD study the Institute guarantees the study program Analytical Chemistry and educates 10 PhD students. The pedagogical process is performed by 6 professors, 8 associated professors, 5 assistant professors, 6 scientific-researchers and 3 10 Ph.D. students.

### Research profile

The research is concentrated in the following areas:

- trace and ultratrace electrochemical and spectroscopic determination of plenty of elements with the stress to the presence of heavy metals in complex matrices,
- trace and ultratrace analysis of volatile and semivolatile analytes in complex organic systems utilising isolation and preconcentration techniques in combination with fast GC and MS,
- utilisation of DNA biosensors to determination of risk chemicals in trace concentration, determination of activators and inhibitors of the structural DNA damage,
- study of structure of selected compounds
- separation and determination of enantiomers.

## Department of Analytical Chemistry

**Head of Department** prof. Ján Labuda, DSc.



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## Projects

### APVV

Project Code:	<a href="#">APVV-20-035205</a>
Title (sl.):	Vývoj nových metód vysokoúčinnej kvapalinovej a plynovej chromatografie so špecifickou selektivitou na analýzu izomérov biologicky aktívnych látok. Development of new high performance liquid and gas chromatography methods with specific selectivity for analysis of biologically active compounds isomers.
Title (eng.):	
Project duration:	01.05.2006 - 30.09.2009
Responsible person:	<b>prof. Ing. Jozef Lehotay, DSc.</b>

### APVV

Project Code:	<a href="#">APVV-20-000705</a>
Title (sl.):	Rýchla plynová chromatografia - hmotnostná spektrometria pre analýzu vybraných organických polutantov v environmentálnych a potravinových matričiach.
Title (eng.):	Fast Gas Chromatography - Mass Spectrometry for environmental and food analysis of selected groups of organic pollutants.
Project duration:	01.05.2006 - 31.10.2009
Responsible person:	<b>prof. Ing. Eva Matisová, DSc.</b>

## APVV

Project Code:	<a href="#">APVV-0057-06</a>
Title (sl.):	Nové elektranalitické techniky a elektrochemické postupy na zvyšovanie efektivity atómovej spektroskopie – stanovenie a chemometrická charakterizácia analytov.
Title (eng.):	New Electroanalytical techniques and Procedures of Improvement of Atomic Spectroscopy- Determination and Chemometrical Characterization of Analytes.
Project duration:	01.02.2007 - 31.12.2009
Responsible person:	<b>doc. Ing. Peter Tomčík, PhD.</b>

## APVV

Project Code:	<a href="#">APVV-0319-07</a>
Title (sl.):	Vývoj nových profilovacích analytických metód pre kvalitné a bezpečné potraviny.
Title (eng.):	Development of novel profiling analytical methods for food quality and safety.
Project duration:	01.09.2008 - 31.12.2010
Responsible person:	<b>Ing. Ivan Špánik, PhD.</b>

## APVV

Project Code:	<a href="#">VMSP-P-0064-09</a>
Title (sl.):	Vývoj analytických metód pre problematické zlúčeniny zahrnuté v rámcovej smernici o vode č. 2000/60/ES.
Title (eng.):	The development of analytical methods for problematic WFD pollutants.
Project duration:	01.09.2009 - 30.09.2011
Responsible person:	<b>Ing. Peter Oswald, PhD. , Ing. Ivan Špánik, PhD.</b>

## National project

Project Code:	<a href="#">SAV-FM-EHP-2008-02-05</a>
Title (sl.):	Analytické metódy pre kvalitné a bezpečné tradičné potravinové výrobky.
Title (eng.):	Analytical methods for quality and safe traditional food products.
Project duration:	01.07.2008 - 31.10.2010
Responsible person:	<b>Ing. Ivan Špánik, PhD.</b>

## RAV MŠ SR

Project Code:	<a href="#">4/0103/06</a>
Title (sl.):	Využitie biosenzorov, biomateriálov a biosignálov v medicíne.
Title (eng.):	Use of biosensors, biomaterials and biosignals in medicine.
Project duration:	01.01.2006 - 31.12.2009
Responsible person:	<b>prof. Ing. Ján Labuda, DSc.</b>

## VEGA

Project Code: [2/7074/7](#)  
Title (sl.): Určenie parametrov aktivity potenciálnych inhibítormov aldózareduktázy - príspevok ku terapii chronických komplikácií diabetu.  
Title (eng.): Evaluation of activity parameters of potential inhibitors of aldose reductase - a contribution to therapy of chronic diabetic complications.  
Project duration: 01.01.2007 - 31.12.2009  
Responsible person: **RNDr. Magdaléna Májeková, PhD., Ing. Pavel Májek, PhD.**

## VEGA

Project Code: 1/0500/08  
Title (sl.): Nové elektroanalytické techniky na stanovenie stopových koncentrácií a chemických foriem arzénu, antimónu a selénu vo vodách pre použitie v laboratóriach i v teréne.  
Title (eng.): New electroanalytical techniques for routine determination of trace concentrations and speciation analysis of arsenic, antimony and selenium in water for laboratory and field applications.  
Project duration: 01.01.2008 - 31.12.2010  
Responsible person: **doc. Ing. Ernest Beinrohr, PhD.**

## VEGA

Project Code: [1/0852/08](#)  
Title (sl.): Využitie nanotechnológie pri tvorbe DNA a LDL biosenzorov.  
Title (eng.): Using of nanotechnology in preparation of DNA and LDL biosensors.  
Project duration: 01.01.2008 - 31.12.2010  
Responsible person: **Ing. Adriana Ferancová, PhD. (2008), prof. Ing. Ján Labuda, DSc. (since 2009)**

## VEGA

Project Code: [1/0827/08](#)  
Title (sl.): Vývoj rýchlych a účinných metód analýzy organických zlúčenín, dôležitých z hľadiska kvality životného prostredia, v selektívnych jedno- a viackolónových zostavách plynovej chromatografie v spojení s hmotnostnou spektrometriou v režimoch EI/CI/NCI.  
Title (eng.): Development of fast and efficient methods of analysis in selective gas chromatographic single- and multicolumn setups hyphenated to mass spectrometry with EI/CI/NCI spectra measurements for organic compounds of environmental concern.  
Project duration: 01.01.2008 - 31.12.2010  
Responsible person: **prof. Ing. Ján Krupčík, DSc.**

## VEGA

Project Code: [1/0058/08](#)  
Title (sl.): Analytické a termodynamické štúdium separácie opticky aktívnych látok metódou HPLC v on-line spojení s DAD, NMR a polarimetrickou detekciou. Príprava nových selektívnych sorbentov použiteľných pri príprave vzorky.

Title (eng.): Analytical and thermodynamic study of the separation of the optically active compounds by HPLC method with on-line DAD, NMR and polarimetric detection. The preparation of new selective sorbents used for the preparation of the samples.

Project duration: 01.01.2008 - 31.12.2010

Responsible person: **prof. Ing. Jozef Lehota, DSc.**

**VEGA**

Project Code: [1/0318/08](#)  
 Title (sl.): Kombinácia fluorescenčnej spektroskopie a chemometrie pre analýzu mnohozložkových zmesí.  
 Title (eng.): Fluorescence Spectroscopy Combined with Chemometrics for Analysis of Multi-component Mixtures.  
 Project duration: 01.01.2008 - 31.12.2010  
 Responsible person: **doc. Ing. Jana Sádecká, PhD.**

**VEGA**

Project Code: [1/0066/09](#)  
 Title (sl.): Nové metodologické a chemometrické prístupy pri riešení problémov environmentálnych a klinických analýz.  
 Title (eng.): New methodological and chemometrical approaches for solving problems in environmental and clinical analysis.  
 Project duration: 01.01.2009 - 31.12.2011  
 Responsible person: **doc. Ing. Peter Tomčík, PhD.**

**VEGA**

Project Code: [1/0390/09](#)  
 Title (sl.): Rýchla plynová chromatografia na analýzu endokrinných disruptorov v matričiach životného prostredia.  
 Title (eng.): Fast Gas Chromatography for Analysis of Endocrine Disruptors in Environmental Matrices.  
 Project duration: 01.01.2009 - 31.12.2011  
 Responsible person: **prof. Ing. Eva Matisová, DSc.**

**List of bachelor (BT), diploma (DT) and dissertation (DissT) theses**

Type	Final Thesis	Supervisor	Ent er
BT	<a href="#">Mária Trpková</a> Analýza mliečnych výrobkov metódou SPME-GC-MS <a href="#">Ing. Lucia Senešiová</a>	<a href="#">Ing. Ivan Špánik, PhD.</a>	<input type="checkbox"/>
DT	Analýza substituovaných fenolov metódami GC a GC-MS v dvojkolónových zostavách <a href="#">Bc. Vladimíra Kubričanová</a>	<a href="#">doc. Ing. Eva Benická, PhD.</a>	<input type="checkbox"/>
BT	DNA biosenzor v prietokovom elektrochemickom usporiadani	<a href="#">prof. Ing. Ján Labuda, DSc.</a>	<input type="checkbox"/>
DT	<a href="#">Ing. Ľudovít Žiak</a> Fluorescence Spectroscopy in Multi-component analysis	<a href="#">doc. Ing. Jana Sádecká, PhD.</a>	<input type="checkbox"/>
DT	<a href="#">Ing. Ľubomír Pŕšík</a> Charakterizácia liehovín aromatizovaných borievkami	<a href="#">doc. Ing. Jana Sádecká, PhD.</a>	<input type="checkbox"/>

fluorescenčnou spektroskopiou

Type	Final Thesis	Supervisor	Enter
DisT	<u>Ing. Ľubomír Švorc, PhD.</u> Kryšťálová štruktúra a štúdium vzťahu štruktúra – biologická aktivita derivátov 1,4-dihydropyridínu a indolizínu	<u>doc. Ing. Viktor Vrábel, PhD.</u>	<input type="checkbox"/>
BT	<u>Natália Meliorisová</u> Možnosti využitia konvenčnej GC a rýchlej GC v analýze pesticídov vo vodách.	<u>Ing. Andrea Hercegová, PhD.</u>	<input type="checkbox"/>
DisT	<u>Ing. Renáta Húšková, PhD.</u> Rýchla GC-MS pre analýzu vybraných organických polutantov	<u>prof. Ing. Eva Matisová, DSc.</u>	<input type="checkbox"/>
BT	<u>Bc. Petronela Ochodnická</u> Separácia levanduľového a ružového oleja metódou GC-MS a komprehensívnu GC x GC	<u>Ing. Janka Memersheimerová, PhD.</u>	<input type="checkbox"/>
BT	<u>Jozef Sochr</u> Spojenie elektrochemických a spektrochemických metód v analýze vzoriek životného prostredia	<u>doc. Ing. Ernest Beinrohr, PhD.</u>	<input type="checkbox"/>
BT	<u>Monika Borbelyová</u> Stanovenie karamelu fluorescenčnou spektroskopiou	<u>doc. Ing. Jana Sádecká, PhD.</u>	<input type="checkbox"/>
BT	<u>Mária Furďová</u> Stanovenie kvercetínu v extrakte chmelu metodou HPLC	<u>Ing. Dr. Jaroslav Škubák</u>	<input type="checkbox"/>
BT	<u>Michaela Tomková</u> Stanovenie kyseliny elagovej fluorescenčnou spektroskopiou	<u>doc. Ing. Jana Sádecká, PhD.</u>	<input type="checkbox"/>
BT	<u>Bc. Peter Machata</u> Stanovenie vybraných reziduí pesticídov vo vzorkách životného prostredia rýchloou GC	<u>Ing. Andrea Hercegová, PhD.</u>	<input type="checkbox"/>
BT	<u>Ivana Lapuníková</u> Stanovenie vybraných reziduí pesticídov vo vzorkách životného prostredia rýchloou GC	<u>Ing. Dr. Jaroslav Škubák</u>	<input type="checkbox"/>
DT	<u>Ing. Martin Kovačič</u> Štúdium podmienok GC a GC-MS analýzy polárnych organických kontaminantov vody a pôdy	<u>doc. Ing. Eva Benická, PhD.</u>	<input type="checkbox"/>
DisT	<u>Ing. Antónia Janáčová, PhD.</u> Štúdium rôznych kombinácií predúpravy vzorky s jedno- a viacozmernými chromatografickými technikami v analýze potravín	<u>Ing. Ivan Špánik, PhD.</u>	<input type="checkbox"/>
DT	<u>Ing. Matej Horváth</u> Štúdium rýchlej GC-MS na analýzu endokrinných disruptorov patriacich do skupiny pesticídov	<u>Ing. Svetlana Hrouzková, PhD.</u>	<input type="checkbox"/>
BT	<u>Bc. Katarína Pavlová</u> Štúdium vplyvu metanolu, etanolu a zložiek mobilnej fázy na tvorbu asociačných komplexov diazepámu metódou HPLC - NMR	<u>Ing. Dr. Jaroslav Škubák</u>	<input type="checkbox"/>
BT	<u>Miriam Markovičová</u> Štúdium vplyvu propanolu, i-propanolu, butanolu a t-butanolu na tvorbu asociačných komplexov diazepámu metódou HPLC-NMR	<u>Ing. Dr. Jaroslav Škubák</u>	<input type="checkbox"/>
DT	<u>Ing. Denisa Kurczová</u> Vnútrolektródová coulometrická titrácia na stanovenie dusitanov v pitných vodách	<u>doc. Ing. Ernest Beinrohr, PhD.</u>	<input type="checkbox"/>
BT	<u>Bc. Zuzana Šusterová</u> Výber a porovnanie rozdielnych metód predúpravy vzorky pre identifikáciu organických zlúčenín vo včelich produktoch.	<u>Ing. Ivan Špánik, PhD.</u>	<input type="checkbox"/>
BT	<u>Magdaléna Srnková</u> Využitie nových stacionárnych fáz v analýze polárnych organických zlúčenín plynovou chromatografiou	<u>doc. Ing. Eva Benická, PhD.</u>	<input type="checkbox"/>

## Selected publications

### Journals

- [1] Sádecká, Jana - Tóthová, Jana - Májek, Pavel: Classification of brandies and wine distillates using front face. In: Food Chemistry. - ISSN 0308-8146. - Vol. 117, Iss. 3 (2009), p. 491-498.
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Biomedical Engineering. Proceedings of the 8th Czech-Slovak Conference, Bratislava, Slovak Republic, 16.-18.9.2009. – Bratislava, STU in Bratislava, 2009. - ISBN 978-80-227-3105-8. - p. 217-218.

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## Projects

### VEGA

Project Code:	2/0093/08
Title (sl.):	Následky akútnej ischémie mozgu v závislosti od veku zvierat a ich ovplyvnenie pyridoindolmi a inými oxidantami.
Title (eng.):	Consequences of acute brain ischemia in relation to the age of animals and the effect of pyrrolidones and other antioxidants.
Project duration:	01.01.2008 – 31.12.2010
Responsible person:	<b>doc. Ing. Tibor Liptaj, PhD.</b>

### VEGA

Project Code:	2/0083/09
Title (sl.):	Energetický metabolizmus mozgu sledovaný pomocou magnetickej rezonancie ako podklad pre štúdium mechanizmov hypoxickej-ischemického poškodenia mozgu novorodencu.
Title (eng.):	Energetic metabolism of brain monitored by magnetic resonance as the basis for the study of mechanism of hypoxic-ischemic damage of the brain of newborn.
Project duration:	01.01.2009 – 31.12.2011
Responsible person:	<b>RNDr. Ivo Juránek, PhD., RNDr. Svatava Kašparová, PhD.</b>

### APVV

Project Code:	51-017905
Title (sl.):	Molekulové mechanizmy pôsobenia nových liečiv, ovplyvňujúcich oxidačný stres – významný etiopatogenický faktor početných chorôb.
Title (eng.):	Molecular mechanisms of the new drugs affecting oxidative stress – the important factor of the number of illnesses.
Project duration:	01.03.2006 – 31.03.2009
Responsible person:	<b>doc. Ing. Tibor Liptaj, PhD.</b>

### SP

Project Code:	2003SP200280203
Title (sl.):	Dobudovanie špičkového laboratória so zameraním na nukleárnu magnetickú rezonanciu.
Title (eng.):	Establishment of the top-class nuclear magnetic resonance laboratory.
Project duration:	01.06.2003 – 31.12.2010
Responsible person:	<b>doc. Ing. Tibor Liptaj, PhD.</b>

## Selected publications

### Journals

- [1] Boor, P. - Celec, P. - Behuliak, Michal - Grančič, Peter - Kebis, Anton - Kukan, Marián - Prónayová, Nadežda- Liptaj, Tibor- Ostendorf, Tammo - Šebeková, K.: Regular moderate exercise reduces advanced glycation and ameliorates early diabetic nephropathy in obese zucker rats. In: METABOLISM-CLINICAL AND EXPERIMENTAL. - ISSN 0026-0495. - Vol. 58, Iss. 11 (2009), p. 1669-1677.
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## INSTITUTE OF INORGANIC CHEMISTRY, TECHNOLOGY AND MATERIALS

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### Foreword

The Institute of Inorganic Chemistry, Technology and Materials consist of three departments: Department of Inorganic Chemistry, Department of Inorganic Technology, and Department of Ceramics, Glass and Cement. The Institute offers courses in Basic and Advanced Inorganic Chemistry, Industrial Inorganic Chemistry, Applied Thermodynamics, Kinetics and reactors, Materials Science and Technology, Applied Electrochemistry. Key research topics are as follows: Chemistry of Inorganic Complexes, including investigation of their biological activity, Magnetochemistry, Solution Chemistry, Photochemistry of Coordination Compounds, Structural Chemistry and Chemical Crystallography, Ceramic materials, Molten Salt Electrochemistry, and Corrosion and Metal Deposition. Important is the cooperation with foreign universities and Slovak industry.

### Teaching activities

*Bachelor's study programs:* Chemistry and Medical Chemistry; Chemical Technologies; Polymer Materials Technologies; Chemical Engineering; Automation, Information Engineering and Management in Chemical and Food Industries

*Master's study programs:* Inorganic Technology; Ceramics, Glass and Cement; Inorganic Chemistry; other - Environmental Chemistry and Technology; Management of Chemical and Food Industries; Fuels Technology and Petrochemistry ; Organic Technology.

### Research profile

Investigation of the structure, composition, chemical, physical and biological properties of coordination compounds. Study of coordination compounds namely copper with biomolecules – nonsteroidal antirheumatics and antituberculosis. Significant contribution is search relationship between: structure – property – bioactivity of complexes. Magnetic properties, like spin-crossover, high-spin molecules and molecule-based magnets. Chemistry of molten salts. Theoretical problems of electrowinning of aluminium. Spent nuclear fuel treatment. Surface treatment of metals. Preparation of filling powder to polymer composite. Low-waste technologies. Silicate chemistry. Sol-gel technology, special inorganic binders and glasses. Bioceramics. Microstructure processing of ceramics and glass-ceramic materials.

## Department of Inorganic Chemistry

**Head of Department** prof. Marián Koman, DSc.



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## Projects

### APVV

Project Code: [\*\*COST-0006-06\*\*](#)  
 Title (sl.): Multifunkčné anorganické materiály zložené z koordinačných zlúčenín  
 Title (eng.): Multifunctional Inorganic Materials Assembled from Coordination Compounds  
 Project duration: 01.02.2007 - 31.12.2009  
 Responsible person: **prof. Ing. Roman Boča, DSc.**

### APVV

Project Code: [\*\*VVCE-0004-07\*\*](#)  
 Title (sl.): Magnetoaktívita, elektroaktívita a fotoaktívita koordinačných zlúčenín.  
 Title (eng.): Magnetoactivity, electroactivity and photoactivity of coordination compounds.  
 Project duration: 01.09.2008 - 31.12.2010  
 Responsible person: **prof. Ing. Roman Boča, DSc.**

### APVV

Project Code: [\*\*APVV-0006-07\*\*](#)  
 Title (sl.): Magnetotepelné vlastnosti nových nízkorozmerných magnetických materiálov.  
 Title (eng.): Magnetothermal properties of novel low-dimensional magnetic materials.  
 Project duration: 01.09.2008 - 31.12.2010  
 Responsible person: **prof. RNDr. Alexander Feher, DSc. ,prof. Ing. Roman Boča, DSc.**

### National project

Project Code: [29011](#)  
Title (sl.): Stanovenie uhlíka v škváre  
Project duration: 05.02.2009 - 31.12.2009  
Responsible person: **doc. Ing. Peter Segľa, DSc.**

### National project

Project Code: [29072](#)  
Title (sl.): Stanovenie CHNS a O vo vzorke 3HD921-0592  
Project duration: 10.10.2009 - 30.12.2009  
Responsible person: **doc. Ing. Peter Segľa, DSc.**

### National project

Project Code: [29073](#)  
Title (sl.): Stanovenie organického uhlíka  
Project duration: 12.10.2009 - 31.12.2009  
Responsible person: **doc. Ing. Peter Segľa, DSc.**

### VEGA

Project Code: [1/4454/07](#)  
Title (sl.): Príprava a štúdium nových „malých molekúl“ s vopred očakávanou štruktúrou a vlastnosťami.  
Title (eng.): Preparation and study of new "small molecules" having anticipated structure and properties.  
Project duration: 01.01.2007 - 31.12.2009  
Responsible person: **prof. Ing. Marian Koman, DSc.**

### VEGA

Project Code: [1/0213/08](#)  
Title (sl.): Nové magnetické materiály na báze koordinačných zlúčenín.  
Title (eng.): New magnetic materials based upon coordination compounds.  
Project duration: 01.01.2008 - 31.12.2010  
Responsible person: **prof. Ing. Roman Boča, DSc.**

### VEGA

Project Code: [1/0353/08](#)  
Title (sl.): Komplexy kovov pre biologické procesy.  
Project duration: 01.01.2008 - 31.12.2010  
Responsible person: **prof. RNDr. Milan Melník, DSc.**

**COST**

Project Code: [COST D-35 \(COST-0006-06\)](#)  
 Title (eng.): FROM MOLECULES TO MOLECULAR DEVICES  
 Title (sl.): Od molekúl k molekulovým zariadeniam  
 Project duration: 01.01.2007 - 31.12.2009  
 Project coordinator: prof. Dr. A. Vlček  
 Responsible person: **prof. Ing. Roman Boča, DSc.**

**DAAD**

Project Code: [DAAD 3/2008](#)  
 Title (eng.): D-correlations in Magnetism of Cobalt (II) Compl.  
 Title (sl.): Magnetizmus kobaltnatých komplexov - D-korelácie.  
 Project duration: 01.01.2008 - 31.12.2009  
 Project coordinator: doc. Ing. Blažena Papáňková, PhD.  
 Responsible person: **doc. Ing. Blažena Papáňková, PhD.**

**International project**

Project Code: [SK-HU-0001-08](#)  
 Title (eng.): Study of composition, structure and properties of Cu(II) and Fe(III) complexes with fluoroderivatives of biomolecules in the solid state and solutions.  
 Title (sl.): Štúdium zloženia, štruktúry a vlastností komplexov Cu(II) a Fe(III) s fluorovanými biomolekulami v tuhej fáze a v roztokoch.  
 Project duration: 01.02.2009 - 31.12.2010  
 Responsible person: **prof. RNDr. Milan Melník, DSc.**

**List of bachelor (BT), diploma (DT) and dissertation (DissT) theses**

Type	Final thesis	Supervisor	Ent er
BT	<a href="#"><u>Bc. Lenka Kompišová</u></a> Preparation and Properties of Methoxylsalicylatocopper(II) Complexes with Different Nitrogen Containing Ligands <a href="#"><u>Bc. Karol Szórán</u></a>	<a href="#"><u>doc. Ing. Dušan Valigura, PhD.</u></a>	<input type="checkbox"/>
BT	Preparation of Copper(II) Complexes with Different Halogenosalicylato Ligands and Their Properties Study	<a href="#"><u>doc. Ing. Dušan Valigura, PhD.</u></a>	<input type="checkbox"/>
BT	<a href="#"><u>Bc. Kristína Matelková</u></a> Príprava a vlastnosti bimetalických polymérnych komplexov <a href="#"><u>Bc. Miroslava Puchoňová</u></a>	<a href="#"><u>doc. Ing. Anna Mašlejová, PhD.</u></a>	<input type="checkbox"/>
BT	Príprava a vlastnosti metylsalicylátomednatých komplexov s niektorými biologicky aktívnymi dusíkatými ligandami <a href="#"><u>Ing. Zuzana Vasková, PhD.</u></a>	<a href="#"><u>doc. Ing. Dušan Valigura, PhD.</u></a>	<input type="checkbox"/>
DisT	Príprava a vlastnosti mednatých komplexov s potenciálnymi bioaktívnymi ligandami <a href="#"><u>Vladimír Kuchtanin</u></a>	<a href="#"><u>doc. Ing. Dušan Valigura, PhD.</u></a>	<input type="checkbox"/>
BT	Príprava, spektrálne, magnetické vlastnosti a štruktúra tiofénkarboxylátov Cu(II) s biologicky aktívnymi ligandmi	<a href="#"><u>doc. Ing. Peter Segla, DSc.</u></a>	<input type="checkbox"/>

	<u>Bc. Petra Polakovičová</u>		
BT	Príprava, spektrálne vlastnosti a štruktúra furánkarboxylátov Cu(II) s biologicky aktívnymi ligandmi	<u>doc. Ing. Peter Segla, DSc.</u>	<input type="checkbox"/>
DisT	<u>Ing. Ivan Šalitroš</u> Synthesis and magnetic properties of iron complexes	<u>prof. Ing. Roman Boča, DSc.</u>	<input type="checkbox"/>
DisT	<u>Ing. Jaroslava Maroszová, PhD.</u> Štruktúrne štúdium koordinačných zlúčenín medi s pyridylmetanolmi <u>Ing. Jozef Švorec, PhD.</u>	<u>prof. Ing. Marián Koman, DSc.</u>	<input type="checkbox"/>
DisT	EPR štúdium komplexov medi s nesteroidnými antiflogistikami a inými bioligandami <u>Ing. Štefan Lörinc, PhD.</u>	prof. RNDr. Milan Melník, DSc.	
DisT	Štruktúra a vlastnosti meďnatých komplexných zlúčenín biologicky účinných derivátov kyseliny antranilovej <u>Ing. Jozef Halaška</u>	<u>prof. Ing. Marián Koman, DSc.</u>	
DT	Štúdium chlór- a dichlóbenzoátomeďnatých komplexov s pyridínkarboxamidmi	<u>doc. Ing. Ján Moncoľ, PhD.</u>	<input type="checkbox"/>

## Selected publications

### Journals

- [1] Boča, Roman - Nemeč, Ivan - Šalitroš, Ivan - Pavlik, Ján - Herchel, Radovan - Renz, Franz: Interplay between spin crossover and exchange interaction in iron(III) complexes. In: Pure and Applied Chemistry. - ISSN 0033-4545. - Vol. 81, Iss. 8 (2009), p. 1357-1383.
- [2] Efthymiou, C.G. - Papatriantafyllopoulou, C. - Alexopoulou, N.I. - Raptopoulou, C.P. - Boča, Roman - Mrozinski, Jerzy - Balalbassis, E.G. - Perlepes, S.P.: A mononuclear complex and a cubane cluster from the initial use of 2-(hydroxymethyl)pyridine in nickel(II) carboxylate chemistry. In: Polyhedron. - ISSN 0277-5387. - Vol. 28, Iss. 15 (2009), s. 3373-3381.
- [3] Čík, Gabriel - Dlháň, Ľubor - Šeršeň, František - Pleceník, T. - Červeň, Ivan: Interactions of polarons in poly(3-dodecythiophene) at low temperature. In: Synthetic Metals. - ISSN 0379-6779. - Vol. 159, Iss. 7-8 (2009), s. 613-618.
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- [5] Kopel, Pavel - Mrozinski, Jerzy - Doležal, Karel - Langer, Vratislav - Boča, Roman - Bienko, Alina - Pochaba, Andrzej: Ferromagnetic Properties of a Trinuclear Nickel(II) Complex with a Trithiocyanurate Bridge. - , 2009. In: European Journal of Inorganic Chemistry. - Weinheim : Wiley-VCH. - ISSN 1434-1948. - Iss. 36. - , 2009, s. 5475-5482.
- [6] Kozlevčar, Bojan - Mate, Elizabeta - Jagličič, Zvonko - Glažar, Lea - Golobič, Amalija - Strauch, Peter - Moncoľ, Ján - Kitanovski, Nives - Šegedin, Primoš: A small methanoato ligand in the structural differentiation of copper(II) complexes. In: Polyhedron. - ISSN 0277-5387. - Vol. 28, Iss. 13 (2009), s. 2759-2765.

- [7] Kuchár, Juraj - Cernak, J. - Sabová, Ivana - Kappenstein, Charles Charles - Kajňaková, Marcela - Orendáč, Martin - Boča, Roman: Cu-Ni hetero-bimetallic compounds, Part 1: Preparation, structure and properties of  $[\text{Cu}_0.05\text{Ni}0.95(\text{bpy})(2)(\text{ox})]\text{center dot 4H(2)O}$ . In: Solid State Sciences. - ISSN 1293-2558. - Vol. 11, Iss. 5 (2009), s. 950-955.
- [8] Lajdová, L. - Jóna, Eugen - Šnircová, S. - Miklovič, Jozef - Segľa, Peter - Pajtášová, Mariana - Ondrušová, Darina - Mojumdar, Subhash Chandra: Thermal properties of solid complexes with biologically important heterocyclic ligands. In: Journal of Thermal Analysis and Calorimetry. - ISSN 1388-6150. - Vol. 96, Iss. 1 (2009), p. 59-62.
- [9] Nemeč, Ivan - Boča, Roman - Herchel, Radovan - Trávníček, Zdeněk - Gembický, Milan - Linert, Wolfgang: Dinuclear Fe(III) complexes with spin crossover. In: Monatshefte für Chemie - Chemical Monthly. - ISSN 0026-9247. - ISSN 1434-4475. - Vol. 140 (2009), s. 815-828.
- [10] Nemeč, Ivan - Boča, Roman - Gembický, Milan - Dlhář, Ľubor - Herchel, Radovan - Renz, Franz: High-spin schiff-base dinuclear iron(III) complexes bridged by N-oxide ligands. In: Inorganica Chimica Acta. - ISSN 0020-1693. - Vol. 362, Iss. 13 (2009), s. 4754-4759.
- [11] Ondrejkovičová, Iveta - Wrzecion, M. - Nahorska, M. - Mrozinski, Jerzy: Five-Coordinated Iron(III) Nicotinamide Complexes. In: Polish Journal of Chemistry. - ISSN 0137-5083. - Vol. 83, Iss. 9 (2009), p. 1547-1553.
- [12] Puterová, Zita - Andicsová, Anita - Moncol', Ján - Rabong, Constantin - Végh, Daniel: A facile synthesis of thiophenes from a functionalized 2-aminothiophene by homo- and cross-coupling reactions. In: Tetrahedron Letters. - ISSN 0040-4039. - Vol. 50, Iss. 32 (2009), s. 4670-4673.
- [13] Repická, Zuzana - Krupková, Lenka - Korabík, Maria - Moncol', Ján - Hudecová, Daniela - Valigura, Dušan: Bis(5-Me(O)salicylato)copper(II) Complexes with/without Diethylnicotinamide - Preparation, Structure and Properties. - , 2009. In: Acta Chimica Slovaca. - : STU v Bratislavе. - ISSN 1337-978X - Vol. 2, No. 2. - , 2009, s. 60-70.
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- [18] Šima, Jozef: Photoredox behaviour of iron(III) complexes with 3,3'-ethanediyldinitriolo-(bis[1-(4-R-phenyl)-(2-butanonato)](2-) and 5-oxo-2-(chloromethyl)-4H-pyran-4-on. In: Journal of the Iranian Chemical Research. - Vol. 2, Iss. 1 (2009), p. 39-45.

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- [22] Valach, Fedor - Tokarčík, Miroslav - Melník, Milan: Distortion isomerism and plasticity of the coordination sphere of binuclear Cu(II) complexes: Crystal structure of the monoclinic isomer of [Cu<sub>2</sub>(2-bromopropionato)4(caffiene)2]. In: *Journal of Coordination Chemistry*. - ISSN 0095-8972. - Vol. 62, No. 2 (2009), s. 225-233.
- [23] Vasková, Zuzana - Stachová, Petra- Krupková, Lenka - Hudecová, Daniela - Valigura, Dušan: Bis(nitrobenzoato)copper(II) complexes with nicotinamide, preparation, structure and properties. In: *Acta Chimica Slovaca*. - ISSN 1337-978X. - Vol. 2, Iss. 1 (2009), p. 77-87.

## Conferences

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- [2] Koman, Marián - Moncol', Ján - Melník, Milan: New carboxylatocomplexes of copper(II) with nicotinamide : 7.-11. septembra 2009, Vysoké Tatry, Tatranske Matliare. In: ChemZi - Chemické zvesti. - ISSN 1336-7242. - Vol. 5, No. 9 (2009), p. 74.
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Valigura, Dušan - Koman, Marián: Synthesis, spectral properties and crystal structure of some nitrobenzoatocopper(II) complexes with 2-pyridylmethanol : Monograph Series of the International Conferences on Coordination and Bioinorganic Chemistry held periodically at Smolenice in Slovakia Eds. M. Melník, P. Segľa, M. Tatarko In: XXII. International Conference on Coordination and Bioinorganic Chemistry, Smolenice, 7-12 June, 2009 : Insight into coordination, bioinorganic and applied inorganic chemistry - Book of Abstracts. - : STU v Bratislave, 2009. - ISBN 978-80-227-3085-3. - p. 413-418.

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## Projects

### EU Project

Project Code: [ITMS: 26240120007](#)  
Title (sl.): Centrum pre Materiály, vrstvy a systémy pre Aplikácie a Chemické procesy v extrémNych podmienkach  
Project duration: 01.04.2009 - 01.04.2011  
Responsible persons: **prof. RNDr. Pavol Šajgalík, DSc., prof. Ing. Ján Híveš, PhD..**

### APVV

Project Code: [APVV-0203-07](#)  
Title (sl.): Výskum technológií spracovania dolomitu a magnezitu na hydroxid horečnatý, oxid horečnatý a uhličitan vápenatý.  
Project duration: 01.06.2008 - 31.12.2010  
Responsible person: **prof. Ing. Pavel Fellner, DSc.**

### APVV

Project Code: [VMSP-P-0088-09](#)  
Title (sl.): Využitie odpadového vápenného mlieka z výroby acetylénu na výrobu zrážaného uhličitanu vápenatého pre priemyselné aplikácie.  
Project duration: 01.09.2009 - 31.08.2011  
Responsible persons: **Ing. Juraj Gigac, PhD. , prof. Ing. Pavel Fellner, DSc.**

### National project

Project Code: [28106](#)  
Title (sl.): Výskum technológií spracovania dolomitu a magnezitu  
Project duration: 01.08.2008 - 01.12.2010  
Responsible person: **Fellner Pavel, prof. Ing., DSc.**

### National project

Project Code: [28105](#)  
Title (sl.): Elektrochemické meranie rozpustnosti oxidu chromitého  
Project duration: 01.09.2008 - 31.12.2009  
Responsible person: **Fellner Pavel, prof. Ing., DrSc**

### National project

Project Code: [29008](#)  
Title (sl.): Chémia síry v hliníkovom elektrolyte  
Project duration: 01.02.2009 - 31.05.2009  
Responsible person: **Fellner Pavel, prof. Ing., DrSc**

### National project

Project Code: [29025](#)  
Title (sl.): Chemická analýza odpraškov  
Project duration: 23.03.2009 - 31.12.2009  
Responsible person: **Fellner Pavel,prof.Ing., DrSc**

### National project

Project Code: [29041](#)  
Title (sl.): Akreditovaný kurz - GALVANOCHEMIKOV  
Project duration: 27.04.2009 - 26.06.2009  
Responsible person: **Chovancová Marta, doc.Ing., PhD.**

### National project

Project Code: [29051](#)  
Title (sl.): Korózne skúšky dodaných vzoriek  
Project duration: 03.06.2009 - 31.12.2009  
Responsible person: **Fellner Pavel,prof.Ing., DrSc**

### VEGA

Project Code: [1/0535/08](#)  
Title (sl.): Elektrolytické vylučovanie kovov pulzným prúdom.  
Project duration: 01.01.2008 - 31.12.2010  
Responsible person: **prof. Ing. Pavel Fellner, DSc.**

### International Project

Project Code: [SK-UA-0012-07](#)  
Title (sl.): Vylučovanie vrstiev karbidov volfrámu a molybdénu na polovodičových materiáloch v prostredí iónových tavenín.  
Project duration: 01.01.2008 - 31.12.2009  
Project coordinator: prof. Ing. Pavel Fellner, DSc.  
Responsible person: **prof. Ing. Pavel Fellner, DSc.**

### NATO Science for Peace and Security Programme

Project Code: [CBP.EAP.CLG 983119](#)  
Title (eng.): Decontamination of chemical warfare agents by environmentally-friendly oxidants iron(IV) and iron(VI)  
Title (sl.): Dekontaminácia chemických otravných látok pomocou ekologických oxidantov Fe(IV) a Fe(VI)  
Project duration: 01.01.2008 - 31.12.2009  
Project coordinator: prof. Virender K. Sharma  
Responsible person: **doc. Ing. Ján Híveš, PhD.**

## Bachelor (BT), diploma (DT) and dissertation (DissT) theses

Type	Final thesis	Supervisor	Enter
DT	<a href="#">Ing. Margaréta Krivosudská</a> CORROSION PROPERTIES of PULSE ELECTRODEPOSITED Ni-W COATINGS	<a href="#">doc. Ing. Matilda Zemanová, PhD.</a>	<input type="checkbox"/>
DT	<a href="#">Ing. Eugen Seregi</a> Elektrochemické vylučovanie kovov z tavenín	<a href="#">doc. Ing. Vladimír Danielík, PhD.</a>	<input type="checkbox"/>
BT	<a href="#">Ottó Kubovič</a> Fázové diagramy tavenín s obsahom molybdénanov	<a href="#">doc. Ing. Jana Gabčová, PhD.</a>	<input type="checkbox"/>
Dist	<a href="#">Ing. Peter Čopan, PhD.</a> Neoxidová keramika pre bioaplikácie	<a href="#">prof. Ing. Pavel Fellner, DSc.</a>	<input type="checkbox"/>
BT	<a href="#">Bc. Jana Petríková</a> Selektívne vrstvy pre solárne kolektory	<a href="#">doc. Ing. Matilda Zemanová, PhD.</a>	<input type="checkbox"/>
BT	<a href="#">Bc. Kamil Kerekeš</a> "Zelený" oxidant - železan	<a href="#">prof. Ing. Ján Híveš, PhD.</a>	<input type="checkbox"/>

## Selected publications

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- [2] Fellner, Pavel- Smrčková, Eva- Pach, Ladislav : Influence of admixtures and of mixing on precipitation of Mg(OH)<sub>2</sub> from nitrate solution. - , 2009. In: Acta Chimica Slovaca. - ISSN 1337-978X. - Vol. 2, No. 2. - , 2009, p. 14-20
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- [5] Uher, Dalibor - Čirka, Ľuboš - Kamenár, Ján - Híveš, Ján: A new type of Alumnum Smelting Baths-Electrical Conductivity. In: Acta Chimica Slovaca. - ISSN 1337-978X. - Vol. 2, No. 1 (2009), p. 25-30.
- [6] Zemanová, Matilda - Chovancová, Marta - Krivošík, Pavol: A new approach to nickel electrolytic colouring of anodised aluminium. In: Chemical Papers. - ISSN 0366-6352. - Vol. 63, No. 1 (2009), p. 62-70.
- [7] Zemanová, Matilda: Corrosion resistance of zinc electrodeposited from acidic and alkaline electrolytes using pulse current. In: Chemical Papers. - ISSN 0366-6352. - Vol. 63, No. 5 (2009), p. 574-578.

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- [2] Híveš, Ján - Kerekeš, Kamil - Kamenár, Ján: Ferrates (VI) in Molten Na/K Hydroxides Mixture. In: 13. Österreichische Chemietage, August 24-27, 2009: Book of Abstracts. - : Gesellschaft Österreichischer Chemiker, 2009. - ISBN 978-3-900554-66-8. - MS-13.
- [3] Híveš, Ján- Kerekeš, Kamil- Kamenár, Ján : Ferrates (VI) - a Guarantee of Cleaner Environment. In: 51. Medzinárodná galvanická konferencia: Zborník prednášok. Gabčíkovo, 16.-17.jún 2009. - Bratislava: STU v Bratislave, 2009. - ISBN 978-80-227-3098-3. - p. 80-85. (in Slovak)
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- [1] Fellner Pavel, Gabčová Jana, Danielik Vladimír, Híveš Ján,: Anorganická technológia, Slovenská technická univerzita v Bratislave 2009. Vysokoškolská učebnica. ISBN 978-80-227-3213-0.

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### Projects

#### National project

Project Code: [29010](#)  
Title (sl.): Posúdenie chemického a fázového zloženia cementov  
Project duration: 09.01.2009 - 31.12.2009  
Responsible person: **Smrčková Eva,Ing.PhD**

#### National project

Project Code: [29020](#)  
Title (sl.): Termická a fázová analýza dolomitov  
Project duration: 12.01.2009 - 31.12.2009  
Responsible person: **Smrčková Eva,Ing.PhD**

#### National project

Project Code: [29009](#)  
Title (sl.): Stanovenie obsahu uhličitanov v keramických surovinách  
Project duration: 20.01.2009 - 31.01.2009  
Responsible person: **Smrčková Eva,Ing.PhD**

#### National project

Project Code: [29006](#)  
Title (sl.): Mikroskopický rozbor vzoriek keramickej dlažby  
Project duration: 26.01.2009 - 15.02.2009  
Responsible person: **Kozánková Jana,RNDr.**

#### National project

Project Code: [29012](#)  
Title (sl.): Posúdenie fázového zloženia vzoriek žiarobetónov  
Project duration: 03.02.2009 - 31.12.2009  
Responsible person: **Smrčková Eva,Ing.PhD**

#### National project

Project Code: [29021](#)  
Title (sl.): Výskum - možnosti využitia elektrárenských popolčekov a odpadov....  
Project duration: 09.03.2009 - 31.12.2009  
Responsible person: **Palou Martin Tchingnabé, doc.Ing.Dr.**

**National project**

Project Code: [29026](#)  
Title (sl.): Štúdia reaktivity surovinových múčok (SM)  
Project duration: 25.03.2009 - 31.12.2009  
Responsible person: **Palou Martin Tchingnabé, doc. Ing. Dr.**

**National project**

Project Code: [29029](#)  
Title (sl.): Posúdenie chemického zloženia vzoriek vápna  
Project duration: 01.04.2009 - 31.12.2009  
Responsible person: **Smrčková Eva, Ing. PhD**

**National project**

Project Code: [29030](#)  
Title (sl.): Optimalizácia a vypracovanie receptúry cementovej zálievky z hľadiska vývoja tepla  
Project duration: 01.04.2009 - 31.12.2009  
Responsible person: **Smrčková Eva, Ing. PhD**

**National project**

Project Code: [29035](#)  
Title (sl.): Charakterizovanie povrchov a rezov voriek granúl  
Project duration: 15.04.2009 - 31.12.2009  
Responsible person: **Kozánková Jana, RNDr.**

**National project**

Project Code: [29048](#)  
Title (sl.): Mikroskopické merania lignínových kompozitov  
Project duration: 14.05.2009 - 31.12.2009  
Responsible person: **Kozánková Jana, RNDr.**

**National project**

Project Code: [29049](#)  
Title (sl.): Mikroskopická analýza vzoriek alkylovaného DFA  
Project duration: 22.05.2009 - 29.05.2009  
Responsible person: **Kozánková Jana, RNDr.**

**National project**

Project Code: [29058](#)  
Title (sl.): Posúdenie fázového zloženia omietok a cementu  
Project duration: 22.07.2009 - 31.12.2009  
Responsible person: **Smrčková Eva, Ing. PhD**

**National project**

Project Code: [29075](#)  
 Title (sl.): Kvalitívne stanovenie mineralogického zloženia betónu  
 Project duration: 22.07.2009 - 31.12.2009  
 Responsible person: **Smrčková Eva,Ing.PhD**

**National project**

Project Code: [29088](#)  
 Title (sl.): Zhodnotenie chemických a fyzikálnych charakteristík popolov  
 Project duration: 22.07.2009 - 31.12.2009  
 Responsible person: **Smrčková Eva,Ing.PhD**

**RAV MŠ SR**

Project Code: [4/2006/08](#)  
 Title (sl.): Nové technológie výroby slnečných kolektorov.  
 Project duration: 01.01.2008 - 31.12.2009  
 Responsible person: **prof. Ing. Ján Lokaj, PhD.**

**VEGA**

Project Code: [1/0571/08](#)  
 Title (sl.): Vplyv fosforečnanu trivápenatého a apatitov z alternatívnych palív na zloženie, štruktúru a reaktivitu slinkových minerálov a vlastnosti portlandského cementu.  
 Project duration: 01.01.2008 - 31.12.2010  
 Responsible person: **doc. Ing. Martin Palou, PhD.**

**List of bachelor (BT), diploma (DT) and dissertation (DissT) theses**

Type	Final thesis	Supervisor	Ent er
DissT	Ing. Monika Michálková Transparentné polykryštalické materiály na báze $\text{Al}_2\text{O}_3$ Ing. Martin Vitkovič	<a href="#">doc. Ing. Dušan Galusek, PhD.</a>	
DissT	Syntéza kompozitných biomateriálov na báze biopolymérov a hydroxyapatitu <a href="#">Bc. Peter Veteška</a>	<a href="#">doc. Dr. Ing. Martin Tchingnabé Palou</a>	
BT	Príprava $\text{TiO}_2$ emisných vrstiev na korundovej elektrokeramike metódou sól-gél <a href="#">Bc. Eva Randiaková</a>	<a href="#">doc. Ing. Dušan Galusek, PhD.</a>	<input type="checkbox"/>
BT	Vplyv spôsobu konsolidácie na spekanie a mikroštruktúru submikronovej korundovej keramiky	<a href="#">doc. Ing. Dušan Galusek, PhD.</a>	<input type="checkbox"/>

## Selected publications

### Journals

- [1] Fellner, Pavel- Smrčková, Eva - Pach, Ladislav: Influence of admixtures and of mixing on precipitation of Mg(OH)2 from nitrate solution., 2009. In: Acta Chimica Slovaca. - ISSN 1337-978X. - Vol. 2, No. 2. - , 2009, p. 14-20
- [2] Lokaj, Jan – Kettmann, Viktor – Milata, Viktor – Solcan, Tomas: 5-Amino-1-methyl-1H-benzimidazole, In: Acta Crystallographica. – Vol. E65 (2009)., pp. o1788
- [3] Jantová, Soňa - Letašiová, Silvia - Theiszová, Marica - Palou, Martin Tchingnabé: Porovnanie odpovede myšacích fibroblastových buniek na fluór-hydroxyapatitový kompozit, fluór-hydroxyapatit a hydroxyapatit elučnou metótou. In: Acta Biologica Hungarica. - ISSN 0236-5383. - Vol. 60, Iss. 1 (2009), p. 89-107.
- [4] Maha S. M., Noaman - Lenčéš, Zoltán - Gábrišová, Zuzana - Palou, Martin Tchingnabé: Comparison of two -SiAlON ceramics prepared from synthetic and natural raw materials, 2009.
- [5] Maha S. M., Noaman - Lenčéš, Zoltán - Vitkovič, Martin - Gábrišová, Zuzana - Palou, Martin Tchingnabé: Comparison of two -SiAlON ceramics prepared from synthetic and natural raw materials. - , 2009. In: Acta Chimica Slovaca. - ISSN 1337-978X. - Vol. 2, No. 2. - , 2009, p. 3-13
- [6] Palou, Martin Tchingnabé - Kuzielová, Eva - Vitkovič, Martin - Maha S. M., Noaman: Mechanism and kinetics of glass-ceramics formation in the LiO<sub>2</sub>-SiO<sub>2</sub>-CaO-P<sub>2</sub>O<sub>5</sub>-CaF<sub>2</sub>. In: Central European Journal of Chemistry. - ISSN 1895-1066. - Vol. 7, No. 2 (2009), p. 228-233.
- [7] Palou, Martin Tchingnabé - Kuzielová, Eva - Vitkovič, Martin - Lutišanová, Gabriela - Maha S. M., Noaman: Transformation of glass to glass-ceramics in LiO<sub>2</sub>-SiO<sub>2</sub> system. In: Ceramics - Silikáty. - ISSN 0862-5468. - Vol. 53, Iss. 3 (2009), p. 161-164.
- [8] Švec , Pavol - Brusilová, Alena - Kozánková, Jana: Effect of microstructure and mechanical properties on wear resistance of silicon nitride ceramics. In: Materials Engineering. Materiálové inžinierstvo. - ISSN 1335-0803. - Vol. 16, No. 1 (2009), p. 34-40.
- [9] Vitkovič, Martin - Maha S. M., Noaman - Palou, Martin Tchingnabé - Jantová, Soňa: Potential applications of fluorhydroxyapatite as biomaterials in medicine. In: Central European Journal of Chemistry. - ISSN 1895-1066. - Vol. 7, No. 2 (2009), p. 246-251.

### Conferences

- [1] Bazelová, Zora - Pach, Ladislav - Kozánková, Jana - Bugaj, Peter: Surfactant influence on foamed gypsum. In: ChemZí - Chemické zvesti. - ISSN 1336-7242. - Vol. 5, No. 9 (2009), p. 172. (in Slovak)
- [2] Lutišanová, Gabriela - Palou, Martin Tchingnabé - Kozánková, Jana: In vitro test of bioactivity of glass-ceramics containing P<sub>2</sub>O<sub>5</sub>. In: Proceedings of VIIIth International Conference "Preparation of Ceramic Materials". Herľany, 9.-11.júna 2009. - Košice: Technical University of Košice, 2009. - ISBN 978-80-553-0208-9. - p. 162-163.

- [3] Maha S. M., Noaman - Lenčéš, Z. - Palou, Martin Tchingnabé - Khlaid A.A., Babiker - Gábrošová, Zuzana: Preparation of Beta-Sialon ceramics from natural raw materials. In: Proceedings of VIIth International Conference "Preparation of Ceramic Materials". Herľany, 9.-11.júna 2009. - Košice: Technical University of Košice, 2009. - ISBN 978-80-553-0208-9. - p. 60-64.
- [4] Palou, Martin Tchingnabé - Kuzielová, Eva - Vitkovič, Martin - Lutišanová, Gabriela - Maha S. M., Noaman: effect fluorapatite upon crystallization and bioactivity of lithium disilicate (LS2) glass : 2nd Czech-Hungary-Polish-Slovakian Thermoanalytical Conference. In: 10th Conference on Calorimetry and Thermal Analysis joint with 2nd Czech-Hungarian-Polish-Slovakian Thermoanalytical Conference, 30 August - 3 September 2009. - : PPH ZAPOL, 2009. - ISBN 978-83-751818-3-8. - p. 117-117.
- [5] Smrčková, Eva - Gabčová, Jana - Fellner, Pavel: Influence of the admixtures on the precipitation of  $Mg(OH)_2$  : SLOVENSKÝ ČASOPIS O CHÉMII PRE CHEMICKÉ VZDELÁVANIE, VÝSKUM A PRIEMYSEL. In: ChemZi - Chemické zvesti. - ISSN 1336-7242. - Vol. 5, No. 9 (2009), p. 151-152. (in Slovak)
- [6] Vitkovič, Martin - Palou, Martin Tchingnabé - Kozánková, Jana: Preparation and bioactivity of hydroxyapatite/polymer composite. In: Proceedings of VIIth International Conference "Preparation of Ceramic Materials". Herľany, 9.-11.júna 2009. - Košice: Technical University of Košice, 2009. - ISBN 978-80-553-0208-9. - p. 102-105.
- [7] Palou, Martin Tchingnabé, Habánek, Ján, Ifka, Tomáš: Aplikácia kalorimetrie pri hodnoetní kvality vyrábaného cementu, III. Odborný seminár kvality cementu 2009, Výzkumný ústav stavebných hmot, Brno, 2009 ISBN 978-80-254-4120-6 (in Slovak)
- [8] Palou, Martin Tchingnabé, Eva Kuzielová, Gabriela Lutišanová a Martin Vitkovič: Aplikácia termickej analýzy pri študiu biomateriálov, 31. Mezinárodní slovenský a český kalorimetrický seminár, Sbor. Příspěvku, Terchová, 2009, Universita Pardubice ISBN 978-80-7395-178-8, (in Slovak)
- [9] Ifka Tomáš, Ján Habánek, Palou, Martin Tchingnabé,: Aplikácia vodivostnej kalorimetrie na stanovenie hydratačného tepla a kinetiky hydratácie trikálcium silikátu, Meyinárodní slovenský a český kalorimetrický seminář, 83-87, 9-14, Sbor. Příspěvku, Terchová, 2009, Universita Pardubice ISBN 978-80-7395-178-8, (in Slovak)
- [10] Palou, Martin Tchingnabé - Jamnický Miroslav - Ifka Tomáš - Kovář Vladimír, Vplyv fosforečnanov vápenatých na reaktivitu cementárskej surovinovej múčky, VIII. Odborná Konference Maltoviny 2009, Brno 10.12.2009, on CD ROM, ISBN 978-80-214-3995-5, (In Slovak)
- [11] Smrčková Eva - Fellner Pavel - Pach Ladislav: Vplyv prímesí na proces zrážania  $Mg(OH)_2$ , VIII. Odborná Konference Maltoviny 2009, Brno 10.12.2009, on CD ROM, ISBN 978-80-214-3995-5 (In Slovak)

## Patents

- [1] Jaklovský, Štefan - Palou, Martin Tchingnabé,: Spôsob výroby portlandského slinku s využitím kryštalickej vysokopečnej trosky, Slovak Patent No 286943, 2009
- [2] Martauz Pavel – Strigáč, Július – Jamnický Miroslav – Hrabě Zdeněk: Spôsob zníženia obsahu chloridov v pecnej atmosfére cementárskej rotačnej pece, Slovak Patent No 287017, 2009

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### Foreword

Institute of Organic Chemistry, Catalysis and Petrochemistry consists of three departments: Department of Organic Chemistry, Department of Organic Technology and Department of Petroleum Technology and Petrochemistry. It covers wide area of theoretic and applied organic chemistry and offers interesting undergraduate and graduate courses as well as PhD studies in this field.

### Teaching activities

The institute guarantees the Dipl. Eng. study programs and PhD study programs in the field of organic chemistry, organic technology and petroleum technology from theoretical point of view through laboratory practice and analysis to industrial realisations and projecting.

### Research profile

Stereospecific syntheses and chiral compounds, chemistry of natural compounds and drugs.  
Research in the field of industrial chemicals with the main accent on modern catalytic systems.  
Chemical specialities (so called fine chemistry – antioxidants, pigments).  
Fuel, refinery technologies and technologies for deep processing of crude oil products.

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**Head of Department** prof. Tibor Gracza, DSc.



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## Projects

### APVV

Project Code:	<a href="#">APVV-20-000305</a>
Title (sl.):	Nové stratégie pre stereoselektívne a asymetrické syntézy biologicky aktívnych prírodných látok.
Title (eng.):	New strategies for stereoselective and asymmetric syntheses of biologically active natural compounds.
Project duration:	01.05.2006 - 30.09.2009
Responsible person:	<b>prof. Ing. Tibor Gracza, DSc.</b>

### APVV

Project Code:	<a href="#">LPP-0238-06</a>
Title (sl.):	Asymetrická syntéza s využitím templátu pre kryštalizáciu indukovanú asymetrickú transformáciu (CIAT).
Title (eng.):	Asymmetric synthesis based on a template for crystallization-induced asymmetric transformation (CIAT).
Project duration:	01.12.2006 - 30.11.2009
Responsible person:	<b>prof. Ing. Ľubor Fišera, DSc.</b>

## APVV

Project Code: [APVV-0164-07](#)  
Title (sl.): Nové paládiom katalyzované transformácie v totálnej syntéze biologicky aktívnych prírodných látok a ich analógov.  
Project duration: 01.09.2008 - 31.12.2010  
Responsible person: **Ing. Peter Szolcsányi, PhD.**

## APVV

Project Code: [APVV-0210-07](#)  
Title (sl.): Nové efektívne stratégie pre stereoselektívne syntézy analógov biologicky aktívnych indolizidínových alkaloidov z aminokyselín.  
Project duration: 01.09.2008 - 31.12.2010  
Responsible person: **prof. Ing. Štefan Marchalín, DSc.**

## APVV

Project Code: [VMSP-P-0130-09](#)  
Title (sl.): Efektívna syntéza čistých beta-aminokyselín a ich funkčných derivátov  
Project duration: 01.09.2009 - 31.08.2011  
Responsible persons: **Ing. Michal Bodajla, PhD., doc. Ing. Peter Szolcsányi, PhD.**

## APVV

Project Code: [LPP-0071-09](#)  
Title (sl.): Stereoselektívne Pd(II)-katalyzované cyklizácie v syntéze prírodných látok  
Project duration: 01.09.2009 - 31.08.2013  
Responsible person: **prof. Ing. Tibor Gracza, DSc.**

## National project

Project Code: [29001](#)  
Title (sl.): Rešerš,návrh syntézy a interpretácia spektier vyselektovaných org.zlúčenín  
Project duration: 07.01.2009 - 30.11.2009  
Responsible person: **Marchalín Štefan, prof. Ing., DSc.**

## National project

Project Code: [29005](#)  
Title (sl.): Meranie a vyhodnocovanie 1H a 13C NMR spektier organických zlúčenín  
Project duration: 23.01.2009 - 31.12.2009  
Responsible person: **Šafař Peter, Ing., PhD**

### National project

Project Code: [29016](#)  
Title (sl.): Rámcová zmluva -NMR spektrálna štúdia  
Project duration: 23.02.2009 - 15.03.2009  
Responsible person: **Berkeš Dušan, doc. Ing., PhD.**

### National project

Project Code: [29017](#)  
Title (sl.): Rámcová zmluva -syntéza a spektrálne charakteristiky intermediátov  
Project duration: 23.02.2009 - 31.03.2009  
Responsible person: **Berkeš Dušan, doc. Ing., PhD.**

### National project

Project Code: [29019](#)  
Title (sl.): Rámcová zmluva -Fyzikálno-chemické charakteristiky  
Project duration: 23.02.2009 - 30.09.2009  
Responsible person: **Berkeš Dušan, doc. Ing., PhD.**

### National project

Project Code: [29074](#)  
Title (sl.): Prieskum syntézy benzotiofénových derivátov  
Project duration: 12.10.2009 - 31.12.2009  
Responsible person: **Végh Daniel, Ing. DSc.**

### National project

Project Code: [29018](#)  
Title (sl.): Rámcová zmluva -NMR spektrálna štúdia  
Project duration: 20.10.2009 - 21.10.2009  
Responsible person: **Berkeš Dušan, doc. Ing., PhD.**

### VEGA

Project Code: [1/4453/07](#)  
Title (sl.): Štúdium syntézy nových pi-konjugovaných heterocylických zlúčenín vykazujúcich optoelektronické vlastnosti, špecifickú biologickú aktivitu a apoptózu.  
Title (eng.): Syntheses directed towards novel pi-conjugated heterocyclic compounds such that show opto-electronic properties, specific bioactivity, and apoptosis.  
Project duration: 01.01.2007 - 31.12.2009  
Responsible person: **Ing. Daniel Végh, DSc.**

**VEGA**

Project Code: [1/0225/08](#)  
 Title (sl.): Príprava, biologické a fyzikálnochemické vlastnosti nových heterocyklických zlúčenín s potenciálnym využitím v medicíne, nanotechnológiách, ochrane dreva a papiera a iných aplikáciach.  
 Project duration: 01.01.2008 - 30.11.2010  
 Responsible person: **doc. Ing. Viktor Milata, PhD.**

**VEGA**

Project Code: [1/0629/08](#)  
 Title (sl.): Syntetické štúdie modifikovaných oxoaminokyselín a ich derivátov.  
 Title (eng.): Synthetic studies of substituted oxoamino acids and their derivatives.  
 Project duration: 01.01.2008 - 31.12.2010  
 Responsible person: **doc. Ing. Dušan Berkeš, PhD.**

**VEGA**

Project Code: [1/0161/08](#)  
 Title (sl.): Stereoselektívna syntéza indolizidinolov a ich analógov.  
 Project duration: 01.01.2008 - 31.12.2010  
 Responsible person: **prof. Ing. Štefan Marchalín, DSc.**

**VEGA**

Project Code: [1/0236/09](#)  
 Title (sl.): Syntéza bioaktívnych prírodných látok a ich analógov.  
 Project duration: 01.01.2009 - 31.12.2011  
 Responsible person: **prof. Ing. Ľubor Fišera, DSc.**

**International project**

Project Code: [SK-FR-0005-07](#)  
 Title (sl.): Domino reakcie v iónových kvapalinách a ich využitie v syntéze prírodných alebo neprírodných produktov.  
 Project duration: 01.02.2008 - 31.12.2009  
 Project coordinator: prof. Ing. Tibor Gracza, DSc.  
 Responsible person: **prof. Ing. Tibor Gracza, DSc.**

**List of bachelor (BT), diploma (DT) and dissertation (DissT) theses**

Type	Final thesis	Supervisor	Enter
DP	<a href="#">Ing. Lucia Hlavínová</a> Domino - Pd(II)-katalyzované cyklizácie - cross coupling reakcie	<a href="#">Ing. Angelika Lásiková, PhD.</a>	<input type="checkbox"/>
DP	<a href="#">Ing. Zuzana Fáberová</a> Katalytická dekarboxylácia konjugovaných alkínových kyselín	<a href="#">Ing. Andrej Kolarovič, PhD.</a>	<input type="checkbox"/>
BP	<a href="#">Bc. Jana Branišová</a>	<a href="#">doc. Ing. Peter</a>	<input type="checkbox"/>

	Návrh totálnej syntézy (-)-solenopsínu A <a href="#">Bc. Lucia Kleščíková</a>	<a href="#">Szolcsányi, PhD.</a>	
BP	Nitróny ako stavebné bloky v syntéze netradičných analógov cukrov a aminokyselín. <a href="#">Ing. Peter Kubízna, PhD.</a>	<a href="#">Ing. Branislav Dugovič, PhD.</a>	<input type="checkbox"/>
DizP	Nové Pd(II)-katalyzované cyklizácie v totálnej syntéze prírodných látok <a href="#">Milan Laurenčík</a>	<a href="#">doc. Ing. Peter Szolcsányi, PhD.</a>	<input type="checkbox"/>
BP	Príprava izoxazolidínov 1,3-dipolárnymi cykloadúciami chirálnych nitrónov a ich využitie v syntéze prírodných látok	<a href="#">prof. Ing. Ľubor Fišera, DSc.</a>	<input type="checkbox"/>
DP	<a href="#">Ing. Ondrej Záborský</a> Príprava modifikovaných izoxazolidínových nukleozidov	<a href="#">prof. Ing. Ľubor Fišera, DSc.</a>	<input type="checkbox"/>
DP	<a href="#">Bc. Branislav Nebus</a> Reactions of activated enolethers with hydrazines	<a href="#">prof. Ing. Viktor Milata, PhD.</a>	<input type="checkbox"/>
DizP	\(Sml_{\{2\}}\) indukované reakcie nitrónov s metylakrylátom a ich využitie v syntéze analógov prírodných alkaloidov <a href="#">Ing. Juraj Rehák, PhD.</a>	<a href="#">prof. Ing. Ľubor Fišera, DSc.</a>	<input type="checkbox"/>
DP	<a href="#">Ing. Eva Tóthová</a> Stereoselektívna syntéza fenyliindolizidinolov	<a href="#">Ing. Peter Šafař, PhD.</a>	<input type="checkbox"/>
DP	<a href="#">Ing. Miroslav Palík</a> Totálna syntéza (+)-varitriolu	<a href="#">prof. Ing. Tibor Gracza, DSc.</a>	<input type="checkbox"/>
DP	<a href="#">Ing. Miroslav Kavala</a> Využitie Wackerovej oxidácie v syntéze (epi)dihydropinidínu	<a href="#">doc. Ing. Peter Szolcsányi, PhD.</a>	<input type="checkbox"/>

## Selected publications

### Journals

- [1] Allous, Iyad - Commesse, Sébastien - Berkeš, Dušan- Alkyat, Amar- Daich, A. : Toward the improvement of the tandem halide displacement/amide coupling spiro-cyclization as a new route to gamma-lactam and pyrroloisoquinoline templates? In: Tetrahedron letters. - ISSN 0040-4039. - Vol. 50 (2009), p. 4411-4415.
- [2] Camurlu, P.- Giovanella, U.- Bolognesi, A.- Botta, C.- Čík, Gabriel- Végh, Zsolt : Polythiophene-polyoxyethylene copolymer in polyfluorene-based polymer blends for light-emitting devices. In: Synthetic Metals. - ISSN 0379-6779. - Vol. 159, Iss. 1-2 (2009), p. 41-44.
- [3] Doháňšová, Jana- Hlavínová, Lucia- Lásiková, Angelika- Gracza, Tibor : Domino Reaction: Pd(II)-Catalysed Cyclisations of Unsaturated Polyols and Cross-coupling. In: ChemZi - Chemické zvesti. - ISSN 1336-7242. - Vol. 5, No. 9 (2009), p. 204-205.
- [4] Hýrošová, Eva- Fišera, Ľubor- Medvecký, Michal - Reissig, H.U. - Al-Harrasi, A. - Koóš, Miroslav: Od cukrov k modifikovaným nukleozidom. In: Arkivoc. - ISSN 1424-6376. - 2009, Part 9 (2009), p. 122-142.
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- [6] Lokaj, Ján- Kettmann, Viktor- Milata, Viktor- Solčan, Tomáš : 5-Amino-1-methyl-1H-benzimidazole. In: ACTA CRYSTALLOGRAPHICA SECTION E-STRUCTURE REPORTS ONLINE. - ISSN 1600-5368. - E65 (2009), o1788.

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- [9] Puterová, Zita- Andicsová, Anita- Moncol', Ján- Rabong, Constantin- Végh, Daniel-substituted thiophenes from  $\alpha\omega$ : A facile synthesis of functionalized 2-aminothiophene by homo- and cross-coupling reactions. In: Tetrahedron letters. - ISSN 0040-4039. - Vol. 50, Iss. 32 (2009), p. 4670-4673.
- [10] Puterová, Zita- Krutošíková, Alžbeta- Végh, Daniel : Application Substituted 2-aminothiophenes in Drug Design. In: Nova Biotechnologica. - ISSN 1337-8783. - Vol. 9, No. 2 (2009), p. 167-173.
- [11] Rehák, Juraj- Fišera, Ľubor- Prónayová, Nadežda : Samárium diiodid indukované redukčné kaplingy chirálnych nitrónov pripravených z kyseliny D-askorbovej s metylakrylátom. In: Arkivoc. - ISSN 1424-6376. - 2009, Part 6 (2009), p. 146-157.
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- [14] Švorc, Ľubomír- Vrábel, Viktor- Žúžiová, Jozefína- Marchalín, Štefan- Kožíšek, Jozef : (3aR, 8aS, 9aR)-9-Hydroxyperhydrofuro[3,2-f]indolin-6-one. In: ACTA CRYSTALLOGRAPHICA SECTION E-STRUCTURE REPORTS ONLINE. - ISSN 1600-5368. - E65 (2009), o1731-o1732.
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- [1] Krutošíková, Alžbeta- Gracza, Tibor : Chemistry of Hetero Analogs of Pentalene Dianion. In: Topics in Heterocyclic Chemistry. - : Springer-Verlag Berlin Heidelberg, 2009. - ISBN 978-3-540-68329-2. - p. 247-285.

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<a href="#">Eva Šuleková</a>	Technical staff		<a href="mailto:eva.sulekova@stuba.sk">eva.sulekova@stuba.sk</a>
<a href="#">Bc. Andrej Turan</a>	Research fellow		<a href="mailto:turan.andrej@gmail.com">turan.andrej@gmail.com</a>
<a href="#">Ľudmila Tvarožková</a>	Technical staff		<a href="mailto:ludmila.tvarozkova@stuba.sk">ludmila.tvarozkova@stuba.sk</a>

## Projects

### APVV

Project Code: [APVV-20-036805](#)  
Title (sl.): Chemické a biotechnologické transformácie glycerolu z obnoviteľných zdrojov na chemické špeciality a bezsírne zložky do palív.  
Title (eng.): Chemical and biochemical transformations of glycerol from renewable sources to fine chemicals and fuel components without sulfur.  
Project duration: 01.05.2006 - 28.02.2009  
Responsible person: **doc. Ing. Alexander Kaszonyi, PhD.**

### APVV

Project Code: [APVV-0446-07](#)  
Title (sl.): Výskum technológie prípravy derivátov difenylamínu ako stabilizátorov polymérov a olejov a postupy na dosiahnutie ich vyššieho účinku.  
Project duration: 01.09.2008 - 30.10.2010  
Responsible person: **prof. Ing. Dušan Mravec, PhD**

### APVV

Project Code: [APVV-0168-07](#)  
Title (sl.): Výskum efektívnych a ekologických technológií výroby sulfenamidov.  
Project duration: 01.09.2008 - 31.12.2010  
Responsible person: **prof. Ing. Milan Hronec, DSc.**

### National project

Project Code: [28159](#)  
Title (sl.): Výskum efektívnosti a ekologických technológií výroby sulfénamidov  
Project duration: 01.12.2008 - 01.12.2010  
Responsible person: **Hronec Milan, prof.ing., DSc.**

### National project

Project Code: [29055](#)  
Title (sl.): Analýza znečistených odpadových vôd na obsah benzénu a ETBE  
Project duration: 26.06.2009 - 31.12.2009  
Responsible person: **Kaszonyi Alexander, doc.ing.PhD.**

### National project

Project Code: [29056](#)  
Title (sl.): Vývoj a príprava vzoriek na chemické leptanie skla  
Project duration: 15.07.2009 - 31.12.2009  
Responsible person: **Kaszonyi Alexander, doc.ing.PhD.**

**VEGA**

Project Code: [1/0768/08](#)  
 Title (sl.): Selektívne procesy pre chemické špeciality.  
 Project duration: 01.01.2008 - 31.12.2010  
 Responsible person: doc. Ing. Magdaléna Štolcová, PhD.

**6 RP**

Project Code: [NMP2-CT-2004-505834](#)  
 Title (eng.): Coordination of nanostructured catalytic oxides research and development in Europe.  
 Title (sl.): Koordinácia výskumu a vývoja katalytických nano oxidov v Európe.  
 Project duration: 01.02.2004 - 31.01.2009  
 Project coordinator: Dr. Vicente Cortés Corberán  
 Responsible person: prof. Ing. Milan Hronec, DrSc

**List of bachelor (BT) and diploma (DT) theses**

Type	Final thesis	Supervisor	Ent er
DT	<a href="#">Ing. Ján Mráz</a> Alkylácia difenylamínu diizobutylénom na heterogénnych katalyzátoroch	<a href="#">prof. Ing. Dušan Mravec, PhD.</a>	<input type="checkbox"/>
DT	<a href="#">Ing. Tomáš Soták</a> Epoxidácia propénu na nanoštrukturovaných katalyzátoroch <a href="#">Bc. Marián Bôžik</a>	<a href="#">prof. Ing. Milan Hronec, DSc.</a>	<input type="checkbox"/>
BT	<a href="#">Príprava propándiolu z bioglycerolu chemickou cestou-dehydratácia glycerolu</a> <a href="#">Bc. Peter Gábriš</a>	<a href="#">doc. Ing. Alexander Kaszonyi, PhD.</a>	<input type="checkbox"/>
BT	<a href="#">Príprava propándiolu z bioglycerolu chemickou cestou-hydrogenácia acetolu</a>	<a href="#">doc. Ing. Alexander Kaszonyi, PhD.</a>	<input type="checkbox"/>
DT	<a href="#">Ing. Marek Zelovič</a> Príprava sulfenamidov katalytickej oxidáciou <a href="#">Ing. Róbert Polnišer</a>	<a href="#">prof. Ing. Milan Hronec, DSc.</a>	<input type="checkbox"/>
DT	<a href="#">Štúdium aktivity a vlastností Cu-Fe-pyrofosfátových katalyzátorov na priamu premenu metánu na formaldehyd</a> <a href="#">Ing. Andrej Ševčík</a>	<a href="#">doc. Ing. Magdaléna Štolcová, PhD.</a>	<input type="checkbox"/>
DT	<a href="#">Štúdium aktivity a vlastností katalyzátorov selektívnej oxidácie glycerolu</a>	<a href="#">doc. Ing. Magdaléna Štolcová, PhD.</a>	<input type="checkbox"/>
BT	<a href="#">Bc. Mária Turáková</a> Výroba a použitie cyklohexanónu a kyseliny adipovej	<a href="#">Ing. Dana Gašparovičová, PhD.</a>	<input type="checkbox"/>
BT	<a href="#">Bc. Tomáš Schmidt</a> Zeolitové katalyzátory v procesoch organickej technológie	<a href="#">Ing. Dana Gašparovičová, PhD.</a>	<input type="checkbox"/>
BT	<a href="#">Bc. Marek Hrvnák</a> Etery glycerolu – ich príprava a využitie ako možných oxygenátových prísad do motorových palív	<a href="#">prof. Ing. Dušan Mravec, PhD.</a>	<input type="checkbox"/>
BT	<a href="#">Bc. Viera Kopáčiková</a> Benzén – výroba a využitie	Ing. Zuzana Cvengrošová, PhD	<input type="checkbox"/>
BT	<a href="#">Bc. Tomáš Urblík</a> Toluén - výroba a využitie	IIng. Zuzana Cvengrošová, PhD.	<input type="checkbox"/>

**Selected publications**

## Journals

- [1] Centomo, P.- Zecca, M.- Králik, Milan- Gašparovičová-Minarovičová, Dana- Jerabek, K.- Canton, P.- Corain, B. : Cross-linked poly-vinyl polymers versus polyureas as designed supports for catalytically active M0 nanoclusters Part II. Pd0/cross-linked poly-vinyl polymers ve. In: Journal of Molecular Catalysis A-Chemical. - ISSN 1381-1169. - Vol. 300 (2009), p. 48-58.
- [2] Horváth, Blažej- Hronec, Milan : Gas-phase epoxidation of propylene. - Publikovaná aj v zborníku 44th International Petroleum Conference, Bratislava, Slovak Republic, September 21-22, 2009. In: ChemZi - Chemické zvesti. - ISSN 1336-7242. - Vol. 5, No. 9 (2009), p. 117.
- [3] Lengyel, Jozef- Cvengrošová, Zuzana - Cvengroš, Ján: Transesterification of triacylglycerols over calcium oxide as heterogeneous catalyst. In: Petroleum and Coal. - ISSN 1337-7027. - Vol. 51, No. 3 (2009), p. 207-215.
- [4] Mlynková, Božena- Bajus, Martin- Hájeková, Elena- Kostrab, Gabriel- Mravec, Dušan : Gasolines and Diesel Fuels from Polymeric Materials. In: Petroleum and Coal. - ISSN 1337-7027. - Vol. 51, No. 1 (2009), p. 18-26. (in Slovak)
- [5] Rakottyay, Karol- Kaszonyi, Alexander: Catalytic Oxidation of Cyclohexylamine. In: ChemZi - Chemické zvesti. - ISSN 1336-7242. - Vol. 5, No. 9 (2009), p. 116. (in Slovak)
- [6] Rakottyay, Karol- Kaszonyi, Alexander: Oxidation of cyclohexylamine over modified alumina by molecular oxygen. In: Applied Catalysis A. - ISSN 0926-860X. - General 367 (2009), p. 32-38.
- [7] Štolcová, Magdaléna- Hronec, Milan: Synthesis and application of benzothiazolylthio-substituted alkylaminopropene. In: ChemZi - Chemické zvesti. - ISSN 1336-7242. - Vol. 5, No. 9 (2009), p. 112.

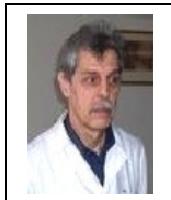
## Conferences

- [1] Buzetzkí, Eduard- Švaňová, Katarína- Cvengrošová, Zuzana- Mikulec, Jozef- Kaszonyi, Alexander- Cvengroš, Ján: Liquid condensates from oil/fat cracking as components of blended diesel fuels. In: 44th International Petroleum Conference, Bratislava, Slovak Republic, and September 21-22, 2009. - : VURUP, Slovnaft a.s., 2009. - ISBN 978-80-969792-1-9. - nestr.
- [2] Buzetzkí, Eduard- Švaňová, Katarína- Cvengrošová, Zuzana- Mikulec, Jozef- Cvengroš, Ján: The properties of liquid biofuel from oil/fat cracking : 61.zjazd chemikov. In: ChemZi - Chemické zvesti. - ISSN 1336-7242. - Vol. 5, No. 9. - , 2009, p. 220. (in Slovak)
- [3] Kaszonyi, Alexander: Sunlight and Plastics. In: Vplyv slnečného žiarenia na chemické a biologické procesy. - : STU v Bratislave, 2009. - ISBN 978-80-227-3110-2. - p. 102-109. (in Slovak)
- [4] Rakottyay, Karol- Kaszonyi, Alexander: Oxidation of cyclohexylamine over silicotungstic acid modified mesoporous alumina : Salamanca, Spain. In: EuropaCat IX, 30th August - 4th September 2009, Salamanca, Spain : Abstracts. - : University of Salamanca, 2009. - ISBN 978-88-95608-04-4.
- [5] Štolcová, Magdaléna- Hronec, Milan : Cu-Fe-pyrophosphate catalysts for direct oxidation of methane to formaldehyde : Catalysis for a Sustainable Word. In: EuropaCat IX, 30th August - 4th September 2009, Salamanca, Spain: Abstracts. - : University of Salamanca, 2009. - ISBN 978-88-95608-04-4.
- [6] Magdaléna Štolcová - Andrej Ševčík - Alexander Kaszonyi CATALYTIC OXIDATION OF BIOGLYCEROL TO MONO- AND DICARBOXYLIC ACIDS, In: 44th International Petroleum Conference, Bratislava, Slovak Republic, September 21-22, 2009. - : VURUP, Slovnaft a.s., 2009. - ISBN 978-80-969792-1-9. (in English)
- [7] Magdaléna Štolcová - Róbert Polnišer - Milan Hronec; Structure-activity comparison of bulk and silica supported Cu-Fe-P-O catalysts for methane direct oxidation to formaldehyde. In: 44th International Petroleum Conference, Bratislava, Slovak Republic, September 21-22, 2009. - :

- VURUP, Slovnaft a.s., 2009. - ISBN 978-80-969792-1-9. - nestr. (in English)
- [8] Gašparovičová, Dana - Cvengrošová, Zuzana - Hronec, Milan: Liquid phase oxidation of cyclohexanone by molecular oxygen in a solvent-free system over nickel promoted tungsten carbides. In: 44th International Petroleum Conference, Bratislava, Slovak Republic, September 21-22, 2009. - : VURUP, Slovnaft a.s., 2009. - ISBN 978-80-969792-1-9. - nestr. (in English)
  - [9] Gašparovičová, Dana - Cvengrošová, Zuzana - Hronec, Milan: Nickel promoted tungsten carbide catalysts in the liquid phase oxidation of cyclohexanone by molecular oxygen in a solvent-free system. In: 41. Symposium on Catalysis, November 2-3, 2009, Prague, Czech Republic. – ISBN 978-80-87351-04-8. – p. 30-31. (in English)
  - [10] Soták, Tomáš - Horváth, Blažej - Hronec, Milan: Gas-phase epoxidation of propylene over supported iron oxide catalysts. In: 41. Symposium on Catalysis, November 2-3, 2009, Prague, Czech Republic. – ISBN 978-80-87351-04-8. – p. 53-54. (in English)
  - [11] Alexander Kaszonyi,- Andrej Podmaka.: Štúdium prípravy aminoéterov, potenciálnych katalyzátorov pri výrobe polyuretánov. In Aprochem 2009, Zborník prednášok, 20.-22.apríl 2009, Milovy, ČR : 1.diel. PCHE - PetroChemEng, Praha, 2009, s. 1254--1259. ISBN 978-80-02-02105-6.
  - [12] Magdaléna Štolcová - Alexander Kaszonyi.:Selective oxidation of bioglycerol with molecular oxygen into mono- and dicarboxylic acids under mild conditions. In Aprochem 2009, Zborník prednášok, 20.-22.apríl 2009, Milovy, ČR : 1.diel. PCHE - PetroChemEng, Praha, 2009, s. 1274--1278. ISBN 978-80-02-02105-6
  - [13] Marta Matisova, Alexander Kaszonyi-.Ladislav Komora- Anton Mikestik- Pavol Kupec.: Nový polyuretánový katalyzátor. In Aprochem 2009, Zborník prednášok, 20.-22.apríl 2009, Milovy, ČR : 1.diel. PCHE - PetroChemEng, Praha, 2009, s. 1260--1265. ISBN 978-80-02-02105-6.
  - [14] Alexander Kaszonyi - Magdaléna Štolcová.: Bioglycerol a new platform chemical. In 44th International Petroleum Conference, Bratislava, Slovak Republic, September 21-22, 2009. VURUP, Slovnaft a.s., 2009, ISBN 978-80-969792-1-9.
  - [15] Rakottyay, Karol - Kaszonyi, Alexander: Gas phase oxidation of amines over alumina. In 44th International Petroleum Conference, Bratislava, Slovak Republic, September 21-22, 2009. VURUP, Slovnaft a.s., 2009, ISBN 978-80-969792-1-9.
  - [16] Lelovsky, Marek- Seemann, Laszlol - Kaszonyi, Alexander:. Glycerol carbonate from bioglycerol. In 44th International Petroleum Conference, Bratislava, Slovak Republic, September 21-22, 2009. VURUP, Slovnaft a.s., 2009, ISBN 978-80-969792-1-9.

## Department of Petroleum Technology and Petrochemistry

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## Projects

### APVV

Project Code:	<a href="#">APVV-20-036705</a>
Title (sl.):	Využitie odpadových polymérnych a olejových materálov vo výrobe asfaltov.
Title (eng.):	The use of waste polymer and oil materials in production of bitumen.
Project duration:	01.05.2006 - 31.08.2009
Responsible person:	<b>doc. Ing. Pavol Daučík, PhD.</b>

### VEGA

Project Code:	<a href="#">1/0012/09</a>
Title (sl.):	Palivá a chemikálie z odpadov a biomasy.
Project duration:	01.01.2009 - 31.12.2011
Responsible person:	<b>prof. Ing. Martin Bajus, DSc.</b>

## List of diploma (DT) and dissertation (DissT) theses

Type	Final thesis	Supervisor	Ent er
DisT	<a href="#">Ing. Michal Horňáček, PhD.</a> Alkylácia aromatických uhľovodíkov s lineárnymi 1-alkénmi na zeolitových katalyzátoroch	<a href="#">doc. Ing. Pavol Hudec, PhD.</a>	<input type="checkbox"/>
DT	<a href="#">Ing. Mária Hudá</a> Alkylácia aromátov alfa-olefínmi na desilikovaných mordenitoch <a href="#">Ing. Zuzana Kurinecová</a>	<a href="#">doc. Ing. Pavol Hudec, PhD.</a>	<input type="checkbox"/>
DT	Možnosti odstránenia zafarbenia MPX na VJ Extrakcia aromátov	<a href="#">doc. Ing. Pavol Hudec, PhD.</a>	<input type="checkbox"/>

## Selected publications

### Journals

- [1] Brindzová, Lucia- Zalibera, Michal- Jakubík, Tibor- Mikulášová, Mária- Takáčsová, Maria-Mošovská, Silvia- Raptá, Peter: Antimutagenic and Radical Scavenging Activity of Wheat Bran. In: Cereal Research Communications. - ISSN 0133-3720. - Vol. 37, Iss. 1 (2009), p. 45-55.
- [2] Horňáček, Michal- Hudec, Pavol - Smiešková, Agáta- Jakubík, Tibor : Alkylation of Benzene with 1-Alkenes over Zeolite Y and Mordenite. In: Acta Chimica Slovaca. - ISSN 1337-978X. - Vol. 2, No. 1 (2009), p. 31-45.
- [3] Horňáček, Michal- Hudec, Pavol- Smiešková, Agáta: Synthesis and characterization of mesoporous molecular sieves. In: Chemical Papers. - ISSN 0366-6352. - Vol. 63, No. 6 (2009), p. 689-697.
- [4] Hudec, Pavol- Horňáček, Michal- Smiešková, Agáta- Daučík, Pavol: Chemical Recycling of Waste Hydrocarbons in Catalytic Cracking. In: Petroleum and Coal. - ISSN 1337-7027. - Vol. 51, No. 1 (2009), p. 51-58.

- [5] Mlynková, Božena- Bajus, Martin- Hájeková, Elena- Kostrab, Gabriel- Mravec, Dušan : Gasolines and Diesel Fuels from Polymeric Materials. In: Petroleum and Coal. - ISSN 1337-7027. - Vol. 51, No. 1 (2009), p. 18-26. (in Slovak)

### Conferences

- [1] Daučík, Pavol- Hadvinová, Marcela [35%] - Višňovský, Jozef : Evaluation of Qualitative Properties of Bitumen - Polymer Mixtures. In: 44th International Petroleum Conference, Bratislava, Slovak Republic, and September 21-22, 2009. - : VURUP, Slovnaft a.s., 2009. - ISBN 978-80-969792-1-9. - nestr.
- [2] Horňáček, Michal- Hudec, Pavol - Smiešková, Agáta : Alkylation of Benzene with 1-dodecene over Dealuminated Zeolites Y in Flow reactor : 1.diel. In: Aprochem 2009, Zborník prednášok, 20.-22.apríl 2009, Milovy, ČR : 1.diel. - : PCHE - PetroChemEng, Praha, 2009. - ISBN 978-80-02-02105-6. - p. 1181-1188. (in Slovak)
- [3] Horňáček, Michal- Hudec, Pavol- Smiešková, Agáta- Jakubík, Tibor: Alkylation of Benzene with 1-Alkenes in Liquid Phase. Influence of Zeolite Type and Chain Length of 1-alkenes on Activity and Selectivity. In: 44th International Petroleum Conference, Bratislava, Slovak Republic, September 21-22, 2009. - : VURUP, Slovnaft a.s., 2009. - ISBN 978-80-969792-1-9. - nestr.
- [4] Michalková, Eva- Hudec, Pavol- Daučík, Pavol : Formation and Properties of Acid Mine Sludge. In: Odpadové fórum 2009: 4.ročník česko-slovenského symposia.Milovy, ČR, 22.-24.4.2009. - Praha: APROCHEM, 2009. - ISBN 978-80-02-02108-7. - p. 3296-3302. (in Slovak)
- [5] Mlynková, Božena- Hájeková, Elena- Bajus, Martin: Coke Creation During Copyrolysis of Polymers with Petroleum Fractions: 1.diel. In: Aprochem 2009, Zborník prednášok, 20.-22.apríl 2009, Milovy, ČR: 1.diel. - : PCHE - PetroChemEng, Praha, 2009. - ISBN 978-80-02-02105-6. - p. 1158-1165. (in Slovak)

## INSTITUTE OF PHYSICAL CHEMISTRY AND CHEMICAL PHYSICS

### Head of Institute

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### Foreword

Institute of Physical Chemistry and Chemical Physics was formed in 2006 by integrating the Department of Physical Chemistry and the Department of Chemical Physics. Director of the Institute is prof. S. Biskupič.

Department of Physical Chemistry was established shortly after founding Slovak University of Technology in the course 1940/41. MUDr. J. Skotnický, prof. Dr. D. Ilkovič and prof. B. Stehlík were the first heads and lecturers of the Department. Since 1952, the Department was headed for

35 years by prof. V. Kellö, then by prof. S. Biskupič, Assoc. prof. P. Kovářík, prof. L. Valko, prof. A. Staško and again prof. S. Biskupič. At present, the Department is headed by prof. P. Šimon. The staff of the Department counts 36 people including teachers, scientific workers and technicians.

The Department of Chemical Physics was constituted at the end of 1977 from the former dept. of Radiochemistry and Radiation Chemistry. Staff of the department was formed partly from the staff of the former department and completed with physics-oriented teachers from other faculty departments and from the Dept. of Physics of the Faculty of Machine Engineering. The first head of the Department was prof. Ing. Štefan Varga, who guided the department until 1984. During that time, the student laboratories were created, textbooks written and gradually also the scientific orientation of the department was formed. The next head of the Department, during the years 1984 - 1990, was Assoc. prof. Stanislav Košina, in the period 1990-1993, Assoc. prof. Viliam Laurinc, in the period 1994-1999, prof. Fedor Valach, and in the years 2000-2007 Assoc. prof. Viliam Laurinc. At present, the Department is headed by Assoc. prof. P. Fedorko.

### Teaching activities

The institute guarantees the Dipl. Eng. study program Nutrition and Health Protection, and Medical Engineering, which were found to be very attractive for students, and PhD study programs Biochemistry, and Nutrition and Health Protection. The key subjects taught at the Institute are Biology, Biochemistry (7 courses), Microbiology (4 courses), Molecular biology and genetics (2 courses), Immunochemistry, Cell Cultures, Principles of Nutrition, Food chemistry (2 courses), Food analysis (2 courses), etc. In education, our main effort is to develop the

abilities and critical thinking of our students. The basic courses of General Physics and Physical Chemistry are fundamental for studying other branches of chemistry. Besides the basic courses, we deliver also courses for the students specialised in Physical Chemistry. The students graduated in Physical Chemistry are educated in modern theoretical chemistry as well as its practical applications. We guarantee three PhD programs in Physical Chemistry, Chemical Physics and Theoretical and Computer Chemistry.

#### **Research profile**

The Institute of Physical Chemistry and Chemical Physics belongs to the most productive institutes at STU. The workers of the Institute publish approximately 60 CC publications yearly and their papers are cited about 500 times per year. The following research groups work at the Institute: Magnetic resonance methods (EPR and NMR), Electrical properties of conducting polymers and carbon nanotubes, Molecular distillation, X-ray structural analysis and statistics in the study of monocrystals, Theoretical and computational chemistry, Thermal analysis and chemical kinetics. A number of great persons of science have their origin at our Institute, among them prof. I. Hubač, prof. V. Kvasnička, prof. L. Lapčík, prof. S. Miertuš, prof. M. Remko, prof. L. Omelka and others.

## **Department of Physical Chemistry**

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## Projects

### APVV

Project Code:	<a href="#">APVV-20-037105</a>
Title (sl.):	Kvapalné palivá na báze rastlinných olejov a živočíšnych tukov pre dopravu a energetiku.
Title (eng.):	Liquid fuels based on vegetable oils and animal fats for transport and energetics.
Project duration:	01.05.2006 - 30.06.2009
Responsible person:	<b>doc. Ing. Ján Cvengroš, DSc.</b>

### APVV

Project Code:	<a href="#">APVV-0055-07</a>
Title (sl.):	Spektroskopická analýza prírodných a syntetických derivátov chinolínov s fotochemickými a fotobiologickými vlastnosťami
Title (eng.):	Spectroscopic analysis of natural and synthetic quinoline derivatives with photochemical and photobiological properties.
Project duration:	01.06.2008 - 31.12.2010
Responsible person:	<b>prof. Ing. Vlasta Brezová, DSc.</b>

### APVV

Project Code:	<a href="#">APVV-0093-07</a>
Title (sl.):	Molekulový dizajn modelových systémov "modrých" meďnatých proteínov ako zdroj energie.
Project duration:	01.09.2008 - 31.12.2010
Responsible person:	<b>prof. Ing. Stanislav Biskupič, DSc.</b>

### National project

Project Code:	<a href="#">28160</a>
Title (sl.):	Výskum technológie prípravy derivátov difenylamínu, ako stabilizátora polymérov a olejov
Project duration:	01.12.2008 - 31.12.2010
Responsible person:	<b>Šimon Peter, prof. Ing., DSc.</b>

### National project

Project Code:	<a href="#">RF-1011/09/02</a>
Title (sl.):	Vývoj a konštrukcia prístroja na meranie obsahu triacylglycerolov v motorovom oleji.
Project duration:	01.02.2009 - 30.11.2009
Responsible person:	<b>doc. Ing. Ján Cvengroš, DSc.</b>

### National project

Project Code: [29031](#)  
Title (sl.): Destilácia 2,2-diphenyl-4-brombutyronitr  
Project duration: 01.04.2009 - 31.12.2009  
Responsible person: **Cvengroš Ján, doc.ing., DSc.**

### National project

Project Code: [29028](#)  
Title (sl.): 8.letná škola termickej analýzy a kalorimetrie  
Project duration: 17.06.2009 - 30.06.2009  
Responsible person: **Šimon Peter, prof.ing.DSc.**

### National project

Project Code: [29059](#)  
Title (sl.): Kontinuálna laboratórna molekulová odparka so stieraným filmom typ MO 30  
Project duration: 03.08.2009 - 30.10.2009  
Responsible person: **Cvengroš Ján, doc.ing., DSc.**

### National project

Project Code: [29068](#)  
Title (sl.): Frakcionácia destilačného zvyšku z výroby ä-dodeka- laktónu na molekulovej odparke  
Project duration: 05.10.2009 - 10.10.2009  
Responsible person: **Cvengroš Ján, doc.ing., DSc.**

### KEGA

Project Code: [3/6285/08](#)  
Title (sl.): Vzdelávanie stredoškolských učiteľov chémie a biológie zamerané na osvojenie si nových poznatkov z oblasti prírodných vied, chemických a potravinárskych technológií a ekológie a na výučbu prírodovedných predmetov na stredných školách pomocou integrovaný  
Project duration: 01.01.2008 - 31.12.2010  
Responsible person: **doc. Ing. Pavel Kovařík, PhD**

### VEGA

Project Code: [1/0575/08](#)  
Title (sl.): Syntéza, spektroskopické vlastnosti a biologická aktivita komplexných zlúčenín prechodných prvkov s SOD aktivitou.  
Project duration: 01.01.2008 - 30.12.2010  
Responsible person: **doc. Ing. Marián Valko, DSc.**

## VEGA

Project Code: [1/0817/08](#)  
Title (sl.): Extrakcia chemických a fyzikálnochemických vlastností z difrakčných dát.  
Project duration: 01.01.2008 - 31.12.2010  
Responsible person: **doc. Ing. Jozef Kožíšek, PhD.**

## VEGA

Project Code: [1/0018/09](#)  
Title (sl.): Štúdium indukovaného prenosu elektrónu v prírodných a syntetických systémoch.  
Project duration: 01.01.2009 - 31.12.2011  
Responsible person: **prof. Ing. Vlasta Brezová, DSc.**

## VEGA

Project Code: [1/0091/09](#)  
Title (sl.): Využitie opotrebovaných fritovacích olejov vo výrobe metylesterov mastných kyselín.  
Project duration: 01.01.2009 - 31.12.2011  
Responsible person: **doc. Ing. Ján Cvengroš, DSc.**

## VEGA

Project Code: [1/0127/09](#)  
Title (sl.): Vývoj a aplikácia metód na štúdium systémov s neobvyklou elektrónovou štruktúrou.  
Project duration: 01.01.2009 - 31.12.2011  
Responsible person: **prof. Ing. Stanislav Biskupič, DSc.**

## VEGA

Project Code: [1/0660/09](#)  
Title (sl.): Materiály - fyzikálnochemické metódy štúdia ich stability a degradácie.  
Project duration: 01.01.2009 - 31.12.2011  
Responsible person: **prof. Ing. Peter Šimon, DSc.**

## 6 RP

Project Code: [NMP3-CT-2004-500311](#)  
Title (eng.): Innovation and sustainable development in the fibre based packaging value chain.  
Title (sl.): Inovácia a trvalo udržateľný rozvoj v hodnotovom reťazci obalov založených na celulózových vláknach.  
Project duration: 01.06.2004 - 31.12.2009  
Project coordinator: Thomas Johannesson  
Responsible person: **prof. Ing. Peter Šimon, DSc.**

**Bilateral cooperation**

Project Code: [SK-AU/2009](#)  
 Title (eng.):  
 Title (sl.): Štúdium prípravy palív pre dieselové motory katalytickým krakováním rastlinných olejov a živočíšnych tukov.  
 Project duration: 01.01.2009 - 31.12.2009  
 Responsible person: doc. Ing. Ján Cvengroš, DSc.

**Intergovernmental agreement**

Project Code: [SK-AT-0016-08](#)  
 Title (eng.): Electron-transfer induced processes in technology and biology. Reactivity and structural aspects.  
 Title (sl.): Procesy indukovaného prenosu elektrónu v technológii a biológii. Vzťahy medzi reaktivitou a štruktúrou.  
 Project duration: 01.02.2009 - 31.12.2010  
 Responsible person: doc. Ing. Dana Dvoranová, PhD.

**Intergovernmental agreement**

Project Code: [SK-AT-0018-08](#)  
 Title (eng.): Electronic structure of coordination compounds  
 Title (sl.): Elektrónová štruktúra koordinačných zlúčenín  
 Project duration: 01.02.2009 - 31.12.2010  
 Responsible person: doc. Ing. Jozef Kožíšek, PhD.

**List of bachelor (BT), diploma (DT) and dissertation (DissT) theses**

Type	Final thesis	Supervisor	Ent er
BT	<a href="#">Miroslava Magurová</a> Analýza slovenských bielych odrodových vín NMR spektroskopiou	<a href="#">doc. RNDr. Milan Mazúr, DSc.</a>	<input type="checkbox"/>
BT	<a href="#">Bc. Mária Mihálková</a> EPR a UV/VIS štúdium fotochemických procesov v homogénnych a heterogénnych systémoch	<a href="#">prof. Ing. Vlasta Brezová, DSc.</a>	<input type="checkbox"/>
BT	<a href="#">Bc. Danica Čechová</a> EPR spektroskopia biologicky aktívneho komplexu Cu(II) s glutatiónom	<a href="#">doc. Ing. Marián Valko, DSc.</a>	<input type="checkbox"/>
BT	<a href="#">Dušan Dolhy</a> EPR spektroskopia sól-gél procesu	<a href="#">doc. RNDr. Milan Mazúr, DSc.</a>	<input type="checkbox"/>
BT	<a href="#">Matúš Vázny</a> EPR štúdium reaktívnych foriem kyslíka v ožiareňých suspenziách oxidu titaničitého	<a href="#">prof. Ing. Vlasta Brezová, DSc.</a>	<input type="checkbox"/>
DT	<a href="#">Ing. Dušana Mocinecová</a> Fotoindukované procesy v suspenziách oxidu titaničitého (EPR a UV/VIS štúdium)	<a href="#">prof. Ing. Vlasta Brezová, DSc.</a>	<input type="checkbox"/>
DT	<a href="#">Ing. Karol Lušpaj</a> In situ EPR / UV-Vis spektroelektrochémia pí-konjugovaných derivátov pyrolu	<a href="#">doc. Ing. Peter Raptá, DSc.</a>	<input type="checkbox"/>

	<a href="#">Ing. Andrea Vargová, PhD.</a>		
Dist	Investigation of new materials with extended pi-system suitable for optoelectronic applications (EPR and UV/VIS studies)	<a href="#">doc. Ing. Peter Raptá, DSc.</a>	<input type="checkbox"/>
	<a href="#">Bc. Jozef Lengyel</a>		
BT	Katalytické krakovanie prírodných triacylglycerolov v prítomnosti zeolitov	<a href="#">doc. Ing. Ján Cvengroš, DSc.</a>	<input type="checkbox"/>
	<a href="#">Bc. Zuzana Mažeríková</a>		
BT	NMR spektroskopia slovenských červených odrodových vín	<a href="#">doc. RNDr. Milan Mazúr, DSc.</a>	<input type="checkbox"/>
	<a href="#">Ing. Lucia Husáriková</a>		
DT	NMR spektroskopia slovenských tokajských vín	<a href="#">doc. RNDr. Milan Mazúr, DSc.</a>	<input type="checkbox"/>
	<a href="#">Ing. Klaudia Czaniková</a>		
DT	Photochemical Processes of Quinolones and their Complexes with Transition Metal Ions	<a href="#">prof. Ing. Vlasta Brezová, DSc.</a>	<input type="checkbox"/>
	<a href="#">Ing. András Peller</a>		
DT	Predikcia termooxidačnej stability materiálov pomocou termoanalytických metód	<a href="#">prof. Ing. Peter Šimon, DSc.</a>	<input type="checkbox"/>
	<a href="#">Bc. Jana Semanová</a>		
BT	Röntgenová štruktúrna analýza biologicky aktívnych sulfonamidov	<a href="#">doc. Ing. Jozef Kožíšek, PhD.</a>	<input type="checkbox"/>
	<a href="#">Bc. Lenka Bellovičová</a>		
BT	Röntgenová štruktúrna analýza pyrolidínov	<a href="#">doc. Ing. Jozef Kožíšek, PhD.</a>	<input type="checkbox"/>
	<a href="#">Bc. Michal Malček</a>		
BT	Simulácia EPR spektier komplexných zlúčenín Cu(II) v tuhej fáze: analýza príspevkov spinového hamiltoniánu	<a href="#">doc. Ing. Marián Valko, DSc.</a>	<input type="checkbox"/>
	<a href="#">Bc. Dominika Molnárová</a>		
BT	Spektroskopické štúdium fotochemických procesov Irinotecanu v prítomnosti Co(II) iónov	<a href="#">doc. Ing. Dana Dvoranová, PhD.</a>	<input type="checkbox"/>
	<a href="#">Bc. Jana Tabačiarová</a>		
BT	Spektroskopické štúdium fotochemických procesov Irinotecanu v prítomnosti Fe(III) iónov	<a href="#">doc. Ing. Dana Dvoranová, PhD.</a>	<input type="checkbox"/>
	<a href="#">Ing. Zuzana Barbieríková</a>		
DT	Spektroskopické štúdium fotochemických procesov selenadiazolochinolónov	<a href="#">prof. Ing. Vlasta Brezová, DSc.</a>	<input type="checkbox"/>
	<a href="#">Ing. Lukáš Bučinský, PhD.</a>		
Dist	Štúdium medzimolekulových interakcií pre systémy vyžadujúce zahrnutie relativistických efektov	<a href="#">prof. Ing. Stanislav Biskupič, DSc.</a>	<input type="checkbox"/>
	<a href="#">Tibor Dubaj</a>		
BT	Využitie izokonverzných metód v predikcii životnosti organických materiálov	<a href="#">prof. Ing. Peter Šimon, DSc.</a>	<input type="checkbox"/>

## Selected publications

### Journals

- [1] Bradiaková, Ivana - Ďurčeková, Tatiana- Prónayová, Nadežda- Gatial, Anton - Krutošíková, Alžbeta: Synthesis and reaction of 2-[3-(trifluoromethyl) phenyl] furo [3,2-c]pyridine derivatives. In: Chemical Papers. - ISSN 0366-6352. - Vol. 63, No. 5 (2009), p. 586-591.
- [2] Brezová, Vlasta- Šlebodová, Anna- Staško, Andrej: Coffee as a source of antioxidants: An EPR study. In: Food Chemistry. - ISSN 0308-8146. - Vol. 114, Iss. 3 (2009), p. 859-868.
- [3] Brezová, Vlasta - Vrecková, Zuzana - Billik, Peter - Čaplovičová, Mária - Plesch, Gustav: Photoactivity of mechanochemically prepared nanoparticulate titanium dioxide investigated by EPR spectroscopy. In: Journal of Photochemistry and Photobiology A: Chemistry. - ISSN 1010-6030. - Vol. 206, Iss. 2-3 (2009), p. 177-187.

- [4] Gall, Marián - Breza, Martin: On electronic structure of tris(dimethylamino)sulphonium heptafluoro-oxocyclotetraphosphazenate. In: *Journal of Molecular Structure (Theochem)*. - ISSN 0166-1280. - Vol. 894 (2009), p. 32-35.
- [5] Gall, Marián - Breza, Martin: QTAIM study of transition metal complexes with cyclophosphazene-based multisite ligands I: Zinc(II) and nickel(II) complexes. In: *Polyhedron*. - ISSN 0277-5387. - Vol. 28 (2009), 521-524.
- [6] Gowda, Thimme D. - Tokarčík, Miroslav - Kožíšek, Jozef - Sowmya, B.P. - Fuess, Hartmut: N-(2,3-Dimethylphenyl)benzamide. In: *ACTA CRYSTALLOGRAPHICA SECTION E-STRUCTURE REPORTS ONLINE*. - ISSN 1600-5368. - E65 (2009), o965.
- [7] Gowda, Thimme D. - Tokarčík, Miroslav - Kožíšek, Jozef - Rodrigues, Vinola Zeena - Fuess, Hartmut: N-(2,4-Dimethylphenyl)-2-methylbenzamide. In: *ACTA CRYSTALLOGRAPHICA SECTION E-STRUCTURE REPORTS ONLINE*. - ISSN 1600-5368. - E65 (2009), p. 826 .
- [8] Gowda, Thimme D. - Tokarčík, Miroslav - Kožíšek, Jozef - Rodrigues, Vinola Zeena - Fuess, Hartmut: N-(2,6-Dichlorophenyl)-3-methylbenzamide. In: *ACTA CRYSTALLOGRAPHICA SECTION E-STRUCTURE REPORTS ONLINE*. - ISSN 1600-5368. - E65 (2009), o2713.
- [9] Gowda, Thimme D. - Tokarčík, Miroslav - Kožíšek, Jozef - Shakuntala, K. - Fuess, Hartmut: N-(2,6-Dimethylphenyl)maleamic acid. In: *ACTA CRYSTALLOGRAPHICA SECTION E-STRUCTURE REPORTS ONLINE*. - ISSN 1600-5368. - E65 (2009), o2807.
- [10] Gowda, Thimme D. - Tokarčík, Miroslav - Kožíšek, Jozef - Sowmya, B.P. - Fuess, Hartmut: N-(2,6-Dimethylphenyl)-4-methylbenzamide. In: *ACTA CRYSTALLOGRAPHICA SECTION E-STRUCTURE REPORTS ONLINE*. - ISSN 1600-5368. - E65 (2009), o1612.
- [11] Gowda, Thimme D. - Tokarčík, Miroslav - Kožíšek, Jozef - Rodrigues, Vinola Zeena - Fuess, Hartmut: N-(3,4-Dimethylphenyl)-4-methylbenzamide. In: *ACTA CRYSTALLOGRAPHICA SECTION E-STRUCTURE REPORTS ONLINE*. - ISSN 1600-5368. - E65 (2009), o2751.
- [12] Gowda, Thimme D. - Tokarčík, Miroslav - Kožíšek, Jozef - Rodrigues, Vinola Zeena - Fuess, Hartmut: N-(4-Chlorophenyl)-3-methylbenzamide. In: *ACTA CRYSTALLOGRAPHICA SECTION E-STRUCTURE REPORTS ONLINE*. - ISSN 1600-5368. - E65 (2009), o2778.
- [13] Gowda, Thimme D. - Tokarčík, Miroslav - Kožíšek, Jozef - Suchetan, P.A. - Fuess, Hartmut: Phenyl 4-methylbenzoate. In: *ACTA CRYSTALLOGRAPHICA SECTION E-STRUCTURE REPORTS ONLINE*. - ISSN 1600-5368. - E65 (2009), o2620.
- [14] Gowda, Thimme D. - Tokarčík, Miroslav - Kožíšek, Jozef - Suchetan, P.A. - Fuess, Hartmut: 2,4-Dichlorophenyl benzoate. In: *ACTA CRYSTALLOGRAPHICA SECTION E-STRUCTURE REPORTS ONLINE*. - ISSN 1600-5368. - E65 (2009), o947.
- [15] Gowda, Thimme D. - Tokarčík, Miroslav - Kožíšek, Jozef - Suchetan, P.A. - Fuess, Hartmut: 2,4-Dimethylphenyl 4-methylbenzoate. In: *ACTA CRYSTALLOGRAPHICA SECTION E-STRUCTURE REPORTS ONLINE*. - ISSN 1600-5368. - E65 (2009), o2599.
- [16] Gowda, Thimme D. [1%] - Tokarčík, Miroslav - Kožíšek, Jozef [37%] - Suchetan, P.A. [1%] - Fuess, Hartmut [1%]: 2,5-Dimethylphenyl benzoate. In: *ACTA CRYSTALLOGRAPHICA SECTION E-STRUCTURE REPORTS ONLINE*. - ISSN 1600-5368. - E65 (2009), o915.

- [17] Gowda, Thimme D. [1%] - Tokarčík, Miroslav - Kožíšek, Jozef [37%] - Chaithanya, U. [1%] - Fuess, Hartmut [1%]: 4-Methyl-N-(4-methylphenyl)benzamide. In: ACTA CRYSTALLOGRAPHICA SECTION E-STRUCTURE REPORTS ONLINE. - ISSN 1600-5368. - E65 (2009), p. 630.
- [18] Gróf, Martin - Gatial, Anton - Milata, Viktor - Prónayová, Nadežda - Kožíšek, Jozef - Breza, Martin - Matějka, Pavel: Konformačné a izomerizačné štúdium 3-N,N-dimetylhydrazino-2-metylsonyl propénnitrilu NMR a vibračnou spektroskopiou, rtg analýzou a ab initio výpočtami. In: Journal of Molecular Structure. - ISSN 0022-2860. - Vol. 924-926 (2009), p. 192-204.
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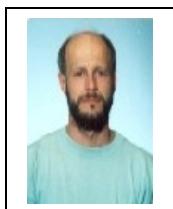
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## Projects

### APVV

Project Code: [LPP-0230-09](#)  
Title (sl.): Fyzika a chémia v našom živote dnes a zajtra  
Project duration: 01.09.2009 - 01.09.2012  
Responsible person: **doc. RNDr. Ol'ga Holá, PhD.**

### VEGA

Project Code: [1/0774/08](#)  
Title (sl.): Transportné vlastnosti vodivých polymérov a sietí z uhlíkových nanotrubíc.  
Project duration: 01.01.2008 - 31.12.2010  
Responsible person: **doc. Ing. Pavol Fedorko, PhD.**

### VEGA

Project Code: [1/0137/09](#)  
Title (sl.): Štúdium vzťahov medzi fyzikálnymi vlastnosťami, energetikou a štruktúrou aromatických zlúčenín s potenciálnymi antioxidačnými účinkami.  
Project duration: 01.01.2009 - 31.12.2011  
Responsible person: **doc. Ing. Vladimír Lukeš, PhD.**

### DAAD

Project Code: [DAAD 4/2008](#)  
Title (eng.): Transport Studies in Carbon Nanotube Networks  
Title (sl.): Štúdium transportu v sietiach z uhlíkových nanotrubíc.  
Project duration: 01.01.2008 - 31.12.2009  
Project coordinator: doc. Ing. Pavol Fedorko, PhD.  
Responsible person: **doc. Ing. Pavol Fedorko, PhD.**

### Intergovernmental agreement

Project Code: [SK-FR-0001-07](#)  
Title (eng.):  
Title (sl.): Elektrónový transport v dopovaných konjugovaných systémoch. Teória a experiment.  
Project duration: 01.02.2008 - 31.12.2009  
Project coordinator: doc. Ing. Pavol Fedorko, PhD.  
Responsible person: **doc. Ing. Pavol Fedorko, PhD.**

### Intergovernmental agreement

Project Code: [SK-AT-0002-08](#)  
Title (eng.): Semiempirical molecular dynamics study of pi-conjugated systems  
Title (sl.): Štúdium ď-konjugovaných systémov semiempirickou molekulovou dynamikou  
Project duration: 01.02.2009 - 31.12.2010  
Responsible person: **doc. Ing. Vladimír Lukeš, PhD.**

## List of bachelor (BT) and diploma (DT) theses

Type	Final thesis	Supervisor	Enter
BT	<a href="#">Bc. Jakub Kaizer</a> Rádiofarmaká - otvorené žiariče v nukleárnej medicíne <a href="#">Ing. Marcel Červenka</a>	<a href="#">doc. RNDr. Ol'ga Holá, PhD.</a>	<input type="checkbox"/>
DT	Štúdium slabých medzimolekulových interakcií medzi atómami 1a skupiny a vzácnymi plynmi	<a href="#">doc. Ing. Vladimír Lukeš, PhD.</a>	<input type="checkbox"/>

## Selected publications

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## INSTITUTE OF POLYMER MATERIALS

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### Foreword

The Institute of Polymer Materials consists of four departments:  
- Department of Chemical Technology of Wood, Pulp and Paper  
- Department of Fibres and Textile Chemistry  
- Department of Graphic Arts Technology and Applied Photochemistry  
- Department of Plastics and Rubber

The history of the Institute dates back to 1943, when the Department of wood technology and the Department of technology of organic substances were established and first lectures connected with polymer chemistry and polymer technology were opened. The Institute occupies of specific position within the Slovak Republic and relates to wide spectrum of chemical, wood, paper, textile, rubber, plastics and graphic arts industries.

### Teaching activities

The Institute of Polymer Materials has a widely oriented programme leading to the development of basic scientific fields in polymer chemistry, production and processing technology of plastics and rubber, fibres and textile technology, wood, pulps and paper technology and graphic arts and printing technology.

Institute offers study in two bachelor courses:

- Technology of Polymer Materials
- Plastics in Engineering and Technology of Plastics Processing

three master courses:

- Natural and Synthetic Polymers
- Polymers in Automotive Industry and
- Conservation Science and Technology

and two PhD courses:

- Technology of Polymer Materials and
- Macromolecular Chemistry

### Research profile

Preservation, stabilization and conservation of traditional carriers of information (books and archival documents) and graphical objects of cultural heritage. Surface treatment and modification of reinforcing materials, paper, textile materials and plastic films. Plasma treatment and applied plasma technology. Polymer blends and composites based on biopolymers and biodegradable materials. Polymer nanocomposites and composite materials based on rubber with magnetic fillers. Modification of fibres for multifunctional textiles. Optical properties and spectroscopy of structures of graphical images. -Renewable resources - materials and energy. Wood, pulp and paper science and technology. Recycling of polymer waste.

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### Projects

### National project

Project Code:	<a href="#">063-004STU-8/2008</a>
Title (sl.):	Patentová ochrana výsledkov výskumu nových technológií, látok a zariadení na stabilizáciu materiálov a materiálových nosičov informácií vytvorených v roku 2008
Title (eng.)	Patenting of research results of new technologies, compounds and devices for stabilization of materials and material carriers of information established in 2008
Project duration:	10.12.2008 - 31.10.2009
Responsible person:	<b>prof. Ing. Svetozár Katuščák, PhD.</b>

### National project

Project Code:	<a href="#">061-006STU-8/2008/FCHPT</a>
Title (sl.):	Vývoj algoritmov a softvéru UniScancel ESK
Title (eng.)	Development of algorithms and software UniScancel ESK
Project duration:	22.06.2009 - 10.11.2009
Responsible person:	<b>prof. Ing. Svetozár Katuščák, PhD.</b>

### National project

Project Code:	<a href="#">064-013STU-8/2008</a>
Title (sl.):	Skúšobná prevádzka multifunkčných modelových zariadení UnilabSK a UnisaverSK, príprava podkladov na realizáciu a transfer poznatkov do VŠ vzdelávania
Modification of fibres for multifunctional textiles.	Pilot run of multifunctional model devices UnilabSk and UnisaverSK, preparation of documents on the realization and transfer of research knowledge into university education
Project duration:	10.12.2008 - 31.10.2009
Responsible person:	<b>prof. Ing. Dušan Bakoš, DSc.</b>

### KEGA

Project Code:	<a href="#">3/7222/09</a>
Title (sl.):	Multimediálna učebnica "Lignocelulázové materiály, časť 1 - Výroba a spracovanie buničín"
Title (eng.)	Multimedial book „Lignocellulosics“, part 1. –processing and use of pulp.
Project duration:	01.01.2009 - 31.12.2011
Responsible person:	<b>Assoc. prof. Ing. Milan Vrška, PhD.</b>

### VEGA

Project Code:	<a href="#">1/0770/08</a>
Title (sl.):	Štúdium morfológických, chemických a fyzikálno-mechanických zmien lignocelulázových materiálov pri recyklácii.
Title (eng.)	The study of morphology, chemical and physico-mechanical change of lignocellulosics during recycling.
Project duration:	01. 01. 2008 - 30. 12. 2010
Responsible person:	<b>Assoc. prof. Ing. Milan Vrška, PhD.</b>

## VEGA

Project Code: [1/0660/09](#)  
Title (sl.): MATERIÁLY - fyzikálnochemické metódy štúdia ich stability a degradácie.  
Title (eng.): MATERIALS - physicochemical methods for the study of their stability and degradation.  
Project duration: 01. 01. 2009 - 31. 12. 2011  
Responsible person: **Ing. Igor Šurina, PhD.**

## EU FP7

Project Code: FP7-SME-2008-1-232296-DURAWOOD  
Title (eng.): DURAWOOD – Development of cost-effective, durable coating system with low fungicide content for wood surface using Plasma Discharge.  
Title (sl.): DURAWOOD - Vývoj odolného náterového systému na drevené povrchy s nízkym obsahom fungicídov, využitím plazmového výboja, so zreteľom na efektívnosti nákladov.  
Project duration: 1. 12. 2009 - 30. 11. 2011  
Responsible person: **Ing. Radovan Tiňo, PhD.**

## EU Structural Fund

Project Code: 26240120016  
Title (sl.): Národné centrum pre výskum a aplikácie obnoviteľných zdrojov energie  
Title (eng): National center for research and application of renewable energy sources  
Project duration: 01. 05. 2009 – 30. 04. 2011  
Responsible person: **Ing. Igor Šurina, PhD.**

## EU Structural Fund

Project Code: 26240120028  
Title (eng): Development of National Center for research and application of renewable energy sources  
Title (sl.): Dobudovanie Národného centra pre výskum a aplikáciu obnoviteľných zdrojov energie  
Project duration: 04. 01. 2010 – 31. 12. 2012  
Responsible person: **Ing. Igor Šurina, PhD.**

## List of diploma (DT) and dissertation (DissT) theses

Type	Final thesis	Supervisor	Enter
DT	<p><u>Ing. Monika Sklenářová</u> Zmena obsahu anorganických prvkov v buničinových vláknoch a ich vplyv na vlastnosti buničín počas recyklácie Content of Inorganic Elements in Pulp Fibres and their Influence on Pulp Properties During Recyclation</p>	<u>Ing. Štefan Šutý, PhD.</u>	<input type="checkbox"/>
DT	<p><u>Ing. Martina Kišová</u> Napučiavanie buničinových vláken v procese recyklácie Swelling of Pulp Fibres in Case of Recyclation</p>	<u>Ing. Štefan Šutý, PhD.</u>	<input type="checkbox"/>
DT	<p><u>Ing. Andrea Hačkóová</u> Optimalizácia modifikačnej sústavy na konzervovanie papiera. Optimization of modication systems for paper conservation</p>	<u>Ing. Katarina Vizarová, PhD.</u>	<input type="checkbox"/>
DisT	<p><u>Ing. Soňa Kirschnerová, PhD.</u> Vplyv multifunkčných modifikačných systémov na stálosť a kvalitu dokumentov Influence of Multifunctional Modification Systems on Durability and Quality of Treated Documents</p>	<u>prof. Ing. Svetozár Katuščák, PhD.</u>	<input type="checkbox"/>
DT	<p><u>Ing. Ivana Savkaničová</u> Zvýšenie efektívnosti jednotkových procesov pri deacidifikácii nevodnými sústavami Increasing of efficiency of unit processes for non-aqueous deacidification systems</p>	<u>Ing. Michal Jablonský, PhD.</u>	<input type="checkbox"/>
DT	<p><u>Ing. Lucia Kučerková</u> Zvýšenie účinnosti kyslíkovej delignifikácie a distribúcia neprocesových prvkov počas prania Increase of Oxygen Delignification Efficiency and Distribution of Non- process Elements During Pulp Washing</p>	<u>doc. Ing. Milan Vrška, PhD.</u>	<input type="checkbox"/>
DT	<p><u>Ing. Martina Botková</u> Životný cyklus buničinových vláken Life Cycle Assessment (LCA) of Pulp Fibres</p>	<u>Ing. Štefan Šutý, PhD.</u>	<input type="checkbox"/>

## Selected publications

### Journals

- [1] Havlínová, Bohuslava - Katuščák, Svetozár - Petrovičová, Miroslava - Maková, Alena - Brezová, Vlasta: A study of mechanical properties of papers exposed to various methods of accelerated ageing. Part I. The effect of heat and humidity on original wood-pulp paper. In: Journal of Cultural Heritage. - ISSN 1296-2074. - Vol. 10, Iss. 1 (2009), p. 222-231.
- [2] Hroboňová, Katarína - Lehota, Jozef - Jablonský, Michal - Katuščák, Svetozár: HPLC determination of sachrides in procesing of modeliong of speedy ageing of paper. In: Chemické listy. - ISSN 0009-2770. - Vol. 103, No. 9 (2009), p. 744 - 751. (in Slovak)
- [3] Kačík, František - Kačíková, Danica - Jablonský, Michal - Katuščák, Svetozár: Cellulose degradation in newsprint paper ageing. In: Polymer Degradation and Stability. - ISSN 0141-3910. - Vol. 94, Iss. 9 (2009), p. 1509-1514.

- [4] Mikula, Milan - Trnovec, Bystrík - Černáková, Ľudmila - Šutý, Štefan - Jančovičová, Viera: Stabilization of paper by nitrogen plasma assisted application of chitosan at atmospheric pressure. In: Acta Chimica Slovaca. - ISSN 1337-978X. - Vol. 2, No. 1 (2009), p. 62-69.
- [5] Hrvňák, Jozef - Tölgessy, Peter - Figedyová, Soňa - Katuščák, Svetozár: A solid-phase microcolumn extraction method for evaluation of the condition of aged paper. In: Chromatographia - ISSN 0009-5893. - Vol. 70, Iss. 3-4, (2009), p . 619-622
- [6] Hrvnák, Jozef - Tolgessy, Peter - Figedyová, Soňa - Katuščák, Svetozár: Solid phase microcolumn extraction and gas chromatography-mass spectrometry identification of volatile organic compounds emitted by paper. In: Talanta. – ISSN 0039-9140. – Vol. 80, Iss.2 (2009), p. 400-402
- [7] Jablonský, Michal: Optimization of ozone bleaching conditions of oxygen delignified hardwood kraft pulp with D-mannitol. In Wood Research. – ISSN 1336-4561. – Vol. 54, Iss. 2, (2009), p. 73-82
- [8] Katuščák, Dušan - Bukovský, Vladimír, Katuščák, Svetozár - Sabov, Peter - Bajziková, Martina - Trnková, Marta - Krištofová, Kristína - Katuščák, Martin: Štúdia k návrhu programu komplexnej ochrany knižničného písomného dedičstva Slovenska. In: Knižnica. - ISSN: 1335-7026 -(tlačené vydanie). ISSN: 1336-0965 (online vydanie) – Vol. 10, No. 1. (2009), p.7-12. (in Slovak)
- [9] Hudec, Ivan - Feranc, Jozef - Haydary, Juma - Šurina, Igor: PYROLYSIS OF USED TYRES. In: Chemické listy. - ISSN 0009-2770. - Vol. 103 - S (2009), p. 107-108.

## Conferences

- [1] Kučerková, Lucia - Vrška, Milan - Šmatko, Lukáš: Increase of oxygen delignification efficiency. In: VIII. International Symposium "Selected Processes at the Wood Processing", Štúrovo 2009. - : TU vo Zvolene, 2009. - ISBN 978-80-228-2006-6. (in Slovak)
- [2] Letko, Michal - Nováková, Erika - Vrška, Milan : Sulphur-free technologies - past or future of pulping industry? In: VIII. International Symposium "Selected Processes at the Wood Processing", Štúrovo 2009. - : TU vo Zvolene, 2009. - ISBN 978-80-228-2006-6. (in Slovak)
- [3] Nováková, Erika - Letko, Michal - Vrška, Milan - Šutý, Štefan - Jorík, Vladimír : Study of changes in crystallinity of pulp fibers by x-ray diffractometry during recycling treatment. In: VIII. International Symposium "Selected Processes at the Wood Processing", Štúrovo 2009. - : TU vo Zvolene, 2009. - ISBN 978-80-228-2006-6. (in Slovak)
- [4] Gemzická, Eva - Vrska Milan: The Effect of Sulphur Compounds in Black Liquor on Stiffness on Pulp, In: VIII. International Symposium "Selected Processes at the Wood Processing", Štúrovo 2009. - : TU vo Zvolene, 2009. - ISBN 978-80-228-2006-6.
- [5] ŠUTÝ, Štefan - SKLENÁŘOVÁ, Monika - VRŠKA, Milan: Degradation Reactions of Cellulose in Pulp Fibres During Recyclation - Influence of Process Water and Drying : VIII. International Symposium. In VIII. International Symposium "Selected Processes at the Wood Processing", Štúrovo 2009. TU vo Zvolene, 2009, s. 50. ISBN 978-80-228-2006-6.
- [6] BOTKOVÁ, Martina - ŠUTÝ, Štefan: Životný cyklus buničinových vláken : VIII. International Symposium. In VIII. International Symposium "Selected Processes at the Wood Processing", Štúrovo 2009. TU vo Zvolene, 2009, s. 53. ISBN 978-80-228-2006-6.

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## Projects

### APVV

Project Code: [\*\*APVV-0226-06\*\*](#)  
 Title (sl.): Vysokopevné a termopojivé polyolefínové vlákna.  
 Title (eng.): High tenacity and thermobonding metallocene polyolefine fibres.  
 Project duration: 01.02.2007 - 31.12.2009  
 Responsible person: **doc. Ing. Anna Ujhelyiová, PhD.**

## APVV

Project Code: [VMSP-P-0014-09](#)  
Title (sl.): Výskum a inovácia technologických procesov za účelom zlepšenia kvality a výroby inovovaných textilných výrobkov s vysokou pridanou hodnotou.  
Title (eng.): Research and innovation of technological processes for improvement of quality and preparation of innovated textile products with the high added value.  
Project duration: 03.09.2009 - 31.07.2011  
Responsible person: Ing. Dana Čižmárová, **doc. Ing. Anna Ujhelyiová, PhD.**

## APVV

Project Code: [VMSP-P-0007-09](#)  
Title (sl.): Progresívne polypropylénové vlákna pre silikátové kompozity.  
Title (eng.): Progressive polypropylene fibres for silicate composites.  
Project duration: 14.10.2009 - 31.08.2011  
Responsible person: Ing. Peter Michlík, PhD., **doc. Ing. Anna Ujhelyiová, PhD.**

## National project

Project Code: [28071](#)  
Title (sl.): Vývoj bioaktívnych vláken so zameraním na vývoj bioaktívnych polypropylénových vláken  
Title (eng.): Research of bioactive fibres with the view of development of bioactive polypropylene fibres.  
Project duration: 12.06.2008 - 31.12.2009  
Responsible person: **prof. Ing. Anton Marcinčin, PhD.**

## National project

Project Code: [29039](#)  
Title (sl.): Vyhodnotenie typu vlákna v dodanej vzorke  
Title (eng.): Determination of fibre type in the supplied sample  
Project duration: 05.05.2009 - 31.12.2009  
Responsible person: **doc. Ing. Anna Ujhelyiová, PhD.**

## National project

Project Code: [29052](#)  
Title (sl.): Príprava a vyhodnotenie syntetických vláken  
Title (eng.): Preparation and evaluation of synthetic fibres.  
Project duration: 06.07.2009 - 31.12.2009  
Responsible person: **doc. Ing. Anna Ujhelyiová, PhD.**

### National project

Project Code: [29057](#)  
Title (sl.): Reologické vlastnosti tavenín PP koncentrátov  
Title (eng.): Rheological properties of PP concentrates.  
Project duration: 24.07.2009 - 31.12.2009  
Responsible person: **doc. Ing. Anna Ujhelyiová, PhD.**

### National project

Project Code: [29060](#)  
Title (sl.): Reologické vlastnosti tavenín PP a PET koncentrátov  
Title (eng.): Rheological properties of PP and PET concentrates.  
Project duration: 20.08.2009 - 31.12.2009  
Responsible person: **doc. Ing. Anna Ujhelyiová, PhD.**

### National project

Project Code: [29083](#)  
Title (sl.): Reologické vlastnosti tavenín PA koncentrátov  
Title (eng.): Rheological properties of PA concentrates.  
Project duration: 27.11.2009 - 31.12.2009  
Responsible person: **doc. Ing. Anna Ujhelyiová, PhD.**

### VEGA

Project Code: [1/4456/07](#)  
Title (sl.): Zmesné nanokompozitné vlákna na báze syntetických polymérov.  
Title (eng.): Blend nanocomposite fibres based on synthetic polymers.  
Project duration: 01.01.2007 - 31.12.2009  
Responsible person: **doc. Ing. Anna Ujhelyiová, PhD.**

### VEGA

Project Code: [1/0406/08](#)  
Title (sl.): Štrukturalizácia a funkcionálizácia povrchov vláknitých materiálov.  
Title (eng.): Structuralisation and functionalization of surface of fibre materials.  
Project duration: 01.01.2008 - 31.12.2010  
Responsible person: **doc. Ing. Anna Murárová, PhD. (2008), doc. Ing. Michal Krištofič, PhD. (2009)**

### VEGA

Project Code: [1/0444/09](#)  
Title (sl.): Kompozitné vlákna na báze polypropylénu a vláknitých nanoplnív.  
Title (eng.): Composite fibres based on polypropylene and fibre nanoadditives.  
Project duration: 01.01.2009 - 31.12.2011  
Responsible person: **prof. Ing. Anton Marcinčin, PhD.**

## List of diploma (DT) and dissertation (DissT) theses

Type	Final thesis	Supervisor	Enter
	<b>Ing. Vincent Méry</b> Zmesné termopojivé vlákna na báze metallocénového polypropylénu Blended thermobonding fibres on basis of metallocene polypropylene	<a href="#">doc. Ing. Anna Ujhelyiová, PhD.</a>	<input type="checkbox"/>
DT	<b>Ing. Katarína Slivová</b> Vlákna na báze metalocénového polypropylénu so zlepšenými elasticími vlastnosťami Fibres based on metallocene polypropylene with improved elastic properties	<a href="#">Ing. Marcela Hricová, PhD.</a>	<input type="checkbox"/>
	<b>Ing. Petronela Vencelová</b> Úžitkové vlastnosti vlákien z metalocénového polypropylénu modifikovaného polyvinylalkoholom a nanoadditívom End-use properties of fibres from metallocene polypropylene modified with polyvinyl alcohol and nanoadditive	<a href="#">doc. Ing. Anna Ujhelyiová, PhD.</a>	<input type="checkbox"/>
DissT	Ing. Eva Bolhová, PhD. Farbenie modifikovaných polypropylénových vlákien vyťahovacím postupom Dyeing of modified polypropylene fibres by exhaust process	<a href="#">doc. Ing. Anna Ujhelyiová, PhD.</a>	<input type="checkbox"/>

## Selected publications

### Journals

- [1] Marcinčin, Anton - Hricová, Marcela – Marcinčin, Konštantín: Fibres based on metallocene polypropylene: rheology, mechanical and thermal properties, Vlákna a textil (Fibres and Textiles), 15(2-3), 2008, p. 9-18
- [2] Krištofič, Michal - Ujhelyiová, Anna: Thermal properties of poly- $\epsilon$ -caprolactam and copolyamides based on  $\epsilon$ -caprolactam, In: Journal of Thermal Analysis and Calorimetry. - ISSN 1388-6150. - Vol. 98 (2009), p. 145 - 150.
- [3] Michlík, Peter - Brejka, Ondrej - Krištofič, Michal: Štruktúra a vlastnosti vlákien s obsahom elektrovodivých aditív. In: Vlákna a textil. - ISSN 1335-0617. - Vol. 16, No. 1-2 (2009), p. 10 -16.
- [4] Murárová, Anna - Podobeková, Silvia: The functionalization of fibre material surfaces focused on electrical properties. - Publikované aj v zborníku: The 13th International Conference on Problems of Material Engineering, Mechanics and Design [elektronický zdroj] : Rajecké Teplice, August 25-28, 2008. Trenčín : Trenčianska univerzita Alexandra Dubčeka v Trenčíne, 2008. - ISBN 978-80-969728-2-1. - . - nestr. In: Sborník vedeckých prací Vysoké školy báňské - Technické univerzity Ostrava. Transactions of the VŠB - Technical University of Ostrava. - ISSN 0474-8484. - Vol. LII, No. 1. - , 2009. - ISBN 978-80-248-1964-8, p. 149-153.
- [5] Ryba, Jozef - Ujhelyiová, Anna - Michlík, Peter: Study of Thermal Behaviour of Metallocene polyolefins in Blended Fibers. In: Chemické listy. - ISSN 0009-2770. - Vol. 103 - S (2009), s128-s129.

- [6] Ujhelyiová, Anna - Michlík, Peter - Ryba, Jozef: Structure and Properties of Fibres Prepared from Metallocene and Ziegler-Natta Polypropylene. In: Chemické listy. - ISSN 0009-2770. - Vol. 103 - S (2009), s95-s97.
- [7] Vassová, Iveta - Krištofič, Michal - Ujhelyiová, Anna - Ryba, Jozef: Structural modification of PA 6 and PA6 fibres. In: Vlákna a textil. - ISSN 1335-0617. - Vol. 16, No. 1-2 (2009), p. 3 - 9.
- [8] Hricová, Marcela – Marcinčin, Anton: Reológia a spracovateľnosť metallocénových polyolefínov, Vlákna a textil (Fibres and Textiles), 15(2-3), 2008, p. 41-52
- [9] Ryba, Jozef – Ujhelyiová, Anna – Méry, Vincent: Thermomechanical properties of blended fibres prepared from metallocene and Ziegler-Natta polypropylenes, Vlákna a textil (Fibres and Textiles), 16(3), 2009, p. 9-14
- [10] Michlík, Peter – Krivoš, Štefan – Ujhelyiová, Anna – Vnenčáková, Jana: Structure and properties of POY metallocene polypropylene fibres (Fibres and Textiles), 16(3), 2009, p. 3-8
- [11] Krištofič, Michal - Ujhelyiová, Anna – Ryba, Jozef: Structuralization and Functionalization of fibre-forming metallocene polypropylene, Vlákna a textil (Fibres and Textiles), 15(2-3), 2008, p. 3-8
- [12] Marcinčin, Anton – Hricová, Marcela – Marcinčin, Konštantín – Hoferíková, Alena: The relation between mechanical and thermal properties of polypropylene fibres, Chemické listy (103), 2009, 28-31, Abstract book, ISSN 0009-2770

## Conferences

- [1] Ryba, Jozef - Ujhelyiová, Anna - Michlík, Peter - Krištofič, Michal: Thermo-mechanical properties of metallocene polypropylene in blended fibres. In: X international conference IMTEX 2009, 15-16 September 2009. ISBN 978-83-929372-0-3. - p. 16-17.
- [2] Ujhelyiová, Anna - Ryba, Jozef - Michlík, Peter: Thermal Behaviour of Oriented Polymer Blends on Basis of Metallocene Polypropylene. In: Book of abstracts and basic information about the congress of EPF 09, Graz, Austria, 2009. p. 252.
- [3] Hoferíková, Alena – Hricová, Marcela – Andrejková, Andrea – Marcinčin, Anton: Effect of structure on mechanical properties of PP-PTT blend fibres, Chemické listy (103), 2009, 135-138, Abstract book, ISSN 0009-2770
- [4] Podhradská, Silvia - Chodák, Ivan – Ujhelyiová, Anna: DMA Analysis of oriented Polypropylene Fibers, Chem Listy, 103 (S), 2009, pp. 120-121, ISSN 0009-2770
- [5] Marcinčin, Anton – Hricová, marcela – Marcinčin, Konštantín – Hoferíková, Alena: Thermal and mechanical properties of metallocene polypropylene fibres, ChemZi - Chemické zvesti (9) 2009, Roč. 5, 206, ISSN 1336-7242
- [6] Marcinčin, Anton – Marcinčin, Konštantín – Hricová, Marcela – Ujhelyiová, Anna: Effect of deformation of undrawn polypropylene fibres on their mechanical and thermal properties, Book of abstracts and basic information about the congress of EPF 09, Graz, Austria, 2009, 253
- [7] Marcinčin, Anton – Hricová, Marcela – Marcinčin, Konštantín – Hoferíková, Alena – Ujhelyiová, Anna: Thermal and mechanical properties of constrained polypropylene fibres, 11<sup>th</sup> Pacific Polymer Conference, 6 - 10 December 2009, Cairns, Australia, ISBN 978-0-9807176-0-0

- [8] Michlík, Peter – Krivoš, Štefan – Ujhelyiová, Anna – Vnenčáková, Jana: The preparation, structure and properties of POY metallocene polypropylene fibres, Conference Papers of 8<sup>th</sup> Internatilonal conference Advances in plastics technology APT '09, pp. 622-628, ISBN 978-83-917693-9-3, Poland, November 2009, Katowice (2009)
- [9] Michlík, Peter – Ujhelyiová, Anna – Hudák, Jozef – Vnenčáková, Jana: Structure and properties of bicomponent fibres on base of metallocene polypropylene, Book of abstracts of 16<sup>th</sup> International Conference STRUTEX 2009, pp. 70-72, ISBN 978-80-7372-542-6, Czech Republic, December 2009, Liberec (2009)
- [10] Ujhelyiová, Anna - Vencelová, Petronela - Podobeková, Silvia – Halenárová, Zuzana: Dyeing of metallocene polypropylene fibres modified by PVA and nanoadditive, In: Book of Abstracts of 16<sup>th</sup> International conference STRUTEX – Struture and Structural Mechanics of Textile Fabrics, Faculty of Textile Engineering TU of Liberec and Czech Section of Textile Institute Manchester, 2.-3. December 2009, Liberec, Česká republika, pp. 122-123, ISBN978-80-7372-542-6
- [11] Krištofič, Michal – Ujhelyiová, Anna – Vassová, Iveta – Michlík, Peter – Brejka, Ondrej: Mechanical properties of PA 6 fibres modified with copolyamides and nanoclays. In: X international conference IMTEX 2009, 15-16 September 2009. ISBN 978-83-929372-0-3. p. 83-84.
- [12] Hricová, Marcela - Marcinčin, Anton – Hoferíková, Alena: Effect of black pigments on spinning and non-uniformity of pigmented polyester fibres. In: X international conference IMTEX 2009, 15-16 September 2009. ISBN 978-83-929372-0-3. p. 53-56.

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### Projects

### National project

Project Code: [29042](#)  
Title (sl.): Porovnávacie hodnotenie ofsetových farieb.  
Title (eng.): Comparative evaluation of offset inks.  
Project duration: 11.05.2009 - 25.06.2009  
Responsible person: **doc. Ing. Ján Panák, PhD.**

### VEGA

Project Code: [1/0800/08](#)  
Title (sl.): Štúdium vlastností farebných a záznamových vrstiev objektov kultúrneho dedičstva.  
Title (eng.): Study of properties of color and writing layers of objects of cultural heritage.  
Project duration: 01.01.2008 - 31.12.2010  
Responsible person: **doc. Ing. Michal Čeppan, PhD.**

### VEGA

Project Code: [1/0815/08](#)  
Title (sl.): Povrchové úpravy papiera a plastových fólií pre tlač elektronických a informačných štruktúr štandardnými tlačovými technikami.  
Title (eng.): Surface modifications of paper and plastic foils for printing of electronic and information structures by standard printing techniques.  
Project duration: 01.01.2008 - 31.12.2010  
Responsible person: **doc. RNDr. Milan Mikula, PhD.**

### COST

Project Code: [COST D42/08](#)  
Title (eng.): Chemical interactions between cultural artefacts and indoor environment (ENVIART) - Deterioration of historical documents containing iron gall inks in polluted atmosphere.  
Title (sl.): Chemické interakcie medzi artefaktmi kultúrneho dedičstva a vnútorným prostredím (ENVIART) - Degradácia historických dokumentov so železogalovými atramentmi v znečistenej atmosfére.  
Project duration: 01.01.2008 - 31.12.2010  
Project coordinator: Dr John B.G.A. Havermans  
Responsible person: **doc. Ing. Michal Čeppan, PhD.**

## List of bachelor (BT) and diploma (DT) theses

Type	Final thesis	Supervisor	Enter
BT	<u>Bc. Katarína Zemaníková</u> Hodnotenie kvality tlačenej grafickej informácie The evaluation of quality of printed graphical information	<u>doc. Ing. Ján Panák, PhD.</u>	<input type="checkbox"/>
BT	<u>Bc. Peter Kosík</u> Porovnanie hĺbkotlače a akcidenčnej ofsetovej kotúčovej tlače z hľadiska dopadov na pracovné a životné prostredie v podmienkach Slovenskej Grafie, a.s. A comparison of the rotogravure and heat-set web offset printing on working and environmental conditions in Slovenska Grafia, a.s.	<u>doc. Ing. Ján Panák, PhD.</u>	<input type="checkbox"/>
BT	<u>Bc. Ján Čelko</u> Príprava a fotochemické vytvrdzovanie derivátov polyvinylalkoholu Preparation and photochemical curing of polyvinylalcohol derivate	<u>Ing. Viera Jančovičová, PhD.</u>	
BT	<u>Bc. Lucia Váryová</u> Spektroskopické štúdium grafických štruktúr historických dokumentov Spectroscopic study of graphical structures in historical documents	<u>doc. Ing. Michal Čeppan, PhD.</u>	<input type="checkbox"/>
DT	<u>Ing. Lukáš Gál</u> Spektroskopické vlastnosti modelových systémov atrament-papier pri starnutí Spectroscopic properties of model ink-paper systems during ageing	<u>doc. Ing. Michal Čeppan, PhD.</u>	<input type="checkbox"/>
DT	<u>Ing. Margaréta Chrenová</u> Štúdium starnutia modelových systémov papiera v atmosfére polutantov Study of ageing process of paper model systems in pollution atmosphere	<u>Ing. Milena Reháková, PhD.</u>	<input type="checkbox"/>
DT	<u>Ing. Michal Šandrelj</u> Tlač jemných štruktúr inkjetom a ich obrazová analýza Ink-jet printing of fine structures and image analysis	<u>Ing. Vladimír Dvonka, PhD.</u>	<input type="checkbox"/>
DT	<u>Ing. Jana Kmeťová</u> Tlač vodivých štruktúr na upravený povrch fólií a papiera Printing of conductive structures on modified surface of plastic foils and paper	<u>doc. RNDr. Milan Mikula, PhD.</u>	<input type="checkbox"/>
DT	<u>Ing. Michaela Ciglanská</u> Vplyv atramentov na zmenu vlastností pergamenu počas urýchleného starnutia Influence of inks on change of properties of parchment during accelerated ageing	<u>Ing. Viera Jančovičová, PhD.</u>	<input type="checkbox"/>

## Selected publications

### Journals

- [1] Černáková, Ľudmila - Szabová, Renáta - Wolfová, Magdaléna - Mikula, Milan: Textile materials with nano TiO<sub>2</sub> coating. In: Chemické listy. - ISSN 0009-2770. - Vol. 103 - S (2009), p. 51-53.
- [2] Hanus, Jozef - Maková, Alena - Čeppan, Michal - Mináriková, Jarmila - Hanusová, E. - Havlínová, Bohuslava: Survey of Historical Manuscripts Written with Iron Gall Inks in the Slovak Republic. In: Restaurator. - ISSN 0034-5806. - Vol. 30 (2009), p. 165 - 180.
- [3] Havlínová, Bohuslava - Katuščák, Svetozár - Petrovičová, Miroslava - Maková, Alena - Brezová, Vlasta: A study of mechanical properties of papers exposed to various methods of accelerated

- ageing. Part I. The effect of heat and humidity on original wood-pulp paper. In: Journal of Cultural Heritage. - ISSN 1296-2074. - Vol. 10, Iss. 1 (2009), p. 222-231.
- [5] Jurečka, Stanislav - Jurečková, Mária - Chovanec, Ferdinand - Kobayashi, Hikaru - Takahashi, Masao - Mikula, Milan - Pinčík, Emil: On the topographic and optical properties of SiC/SiO. In: Central European Journal of Physics. - ISSN 1895-1082. - Vol. 7, Iss. 2 (2009), p. 321-326.
- [6] Mikula, Milan - Trnovec, Bystrík - Černáková, Ľudmila - Šutý, Štefan - Jančovičová, Viera: Stabilization of paper by nitrogen plasma assisted application of chitosan at atmospheric pressure. In: Acta Chimica Slovaca. - ISSN 1337-978X. - Vol. 2, No. 1 (2009), p. 62-69.
- [7] Vaško, Karol - Noller, Klaus - Mikula, Milan- Amberg Schwab, Sabine- Weber, Ulrike: Multilayer coatings for flexible high-barrier materials. In: Central European Journal of Physics. - ISSN 1895-1082. - Vol. 7, Iss. 2 (2009), p. 371-378.

## Conferences

- [1] Dvonka, Vladimír - Mikula, Milan - Panák, Ján - Šandrelj, Michal: Image analysis of printed electronics : Conference proceedings. In: IX. Seminar in Graphic Arts : Conference proceedings. - : Univerzita Pardubice, 2009. - ISBN 978-80-7395-200-6. - p. 7-11.
- [2] Hojerová, Jarmila - Medovčíková, Andrea - Dömötvörövá, Elvíra - Mikula, Milan - Pažoureková, Silvia: Ako ochranné sú komerčné ochranné opaľovacie prípravky?. In: Mezinárodní kosmetologická konference Luhačovice 2009, Sborník přednášek. - : Kosmetologická společnost České republiky, 2009. - ISBN 987-80-254-5454-1. - nestr.
- [3] Jakucewicz, Stefan - Panák, Ján: The influence of lamination technology on quality of laminated prints. In: IX. Seminar in Graphic Arts : Conference proceedings. - : Univerzita Pardubice, 2009. - ISBN 978-80-7395-200-6. - p. 105-109.
- [4] Mikula, Milan - Panák, Ján- Jančovičová, Viera: Conductivity of Printed Structures on Plasma Treated Foils and Papers. In: 17th Symposium on Application of Plasma Processes and Visegrad Workshop on Research of Plasma Physics : Book of Contributed Papers. - : Comenius University in Bratislava, Faculty of Mathematics, Physics and Informatics, 2009. - ISBN 978-80-89186-45-7. - p. 211-212.
- [5] Mikula, Milan - Dvonka, Vladimír - Panák, Ján: Properties of Conductive Features Printed on Papers and Foils. In: IX. Seminar in Graphic Arts : Conference proceedings. - : Univerzita Pardubice, 2009. - ISBN 978-80-7395-200-6. - p. 54-60.
- [6] Dvonka, Vladimír - Panák, Ján - Čeppan, Michal: Image Analysis of Offset Prints. In: Printing Future Days 2009: Conference proceedings. - : Chemnitz University of Technology, 2009. - ISBN 978-3-89700-108-4. - p. 249-253.
- [7] Dvonka, Vladimír - Mikula, Milan - Panák, Ján - Šandrelj, Michal: Printed Structure Properties on Plasma Treated Foils and Paper. In: Printing Future Days 2009: Conference proceedings. - : Chemnitz University of Technology, 2009. - ISBN 978-3-89700-108-4. - p. 329-333.

## Books

- [1] Panák, Ján - Čeppan, Michal- Dvonka, Vladimír - Karpinský, Ľudovít - Kordoš, Pavol- Mikula, Milan - Jakucewicz, Stefan: Poligrafia, procesy i technika. - 4. vyd., prepř. - : COBRPP, 2009. - 278 p. - ISBN 978-83-915916-8-0. (in Polish)

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## Projects

### National project

Project Code: [29004](#)  
Title (sl.): Spracovanie odpadu z plastov na suroviny pre chemický priemysel  
Title (eng.): Processing of plastic waste for raw materials for chemical industry  
Project duration: 01.12.2008 - 30.06.2009  
Responsible person: **prof. Ing. Ivan Hudec, PhD.**

#### National project

Project Code: [064-013STU-8/2008](#)  
Title (sl.): Skúšobná prevádzka multifunkčných modelových zariadení UnilabSK a UnisaverSK, príprava podkladov na realizáciu a transfer poznatkov do VŠ vzdelávania  
Title (eng.): Pilot run of multifunctional model devices UnilabSk and UnisaverSK, preparation of documents on the realization and transfer of research knowledge into university education  
Project duration: 10.12.2008 - 31.10.2009  
Responsible person: **prof. Ing. Dušan Bakoš, DSc.**

#### National project

Project Code: [044-005STU-8/2008](#)  
Title (sl.): Národná digitálna polytechnická knižnica  
Title (eng.): National Digital Polytechnic Library  
Project duration: 15.12.2008 - 31.10.2009  
Responsible person: **prof. Ing. Dušan Bakoš, DSc.**

#### National project

Project Code: [RF-1009/09/30](#)  
Title (sl.): Propagácia, využívanie a aplikácia nových technológií recyklácie opotrebovaných pneumatík a plastového odpadu zo spracovaných ojazdených vozidiel  
Title (eng.): Propagation and application of new technologies of processing of using tyre and plastic waste from old vehicles  
Project duration: 01.02.2009 - 31.12.2009  
Responsible person: **prof. Ing. Ivan Hudec, PhD.**

#### National project

Project Code: [29015](#)  
Title (sl.): Povrchová úprava plazmou a hodnotenie adhéznych vlastností aramidových textilných výstužných materiálov  
Title (eng.): Surface modification and adhesion testing of aramide textile reinforcing materials by plasma  
Project duration: 25.02.2009 - 31.03.2009  
Responsible person: **prof. Ing. Ivan Hudec, PhD.**

#### National project

Project Code: [29033](#)  
Title (sl.): Povrchová úprava textílií plazmou pri atmosferickom tlaku  
Title (eng.): Surface treatment of textile materials by plasma at atmospheric pressure

Project duration: 15.04.2009 - 31.10.2009  
Responsible person: doc. Ing. Ľudmila Černáková, PhD.

#### National project

Project Code: [29054](#)  
Title (sl.): Metodický manuál pre zabezpečenie procesu deacidifikácie a reštaurovania  
Title (eng.): Metodical guide for process of deacidification and restoration  
Project duration: 30.06.2009 - 30.07.2009  
Responsible person: prof. Ing. Dušan Bakoš, DSc.

#### National project

Project Code: [SK 0094](#)  
Title (sl.): Centrum pre aplikovaný výskum environmentálne vhodných polymérnych materiálov  
Title (eng.): Centre for applied research of environmentally friendly polymer materials  
Project duration: 01.07.2009 - 30.04.2011  
Responsible person: prof. Ing. Dušan Bakoš, DSc.

#### National project

Project Code: [29064](#)  
Title (sl.): Príprava vzoriek na laboratórnom zariadení typu dvojzávitovka  
Title (eng.): Sample preparation using twin-screw extruder  
Project duration: 01.08.2009 - 15.12.2009  
Responsible person: doc. Ing. Pavol Alexy, PhD.

#### National project

Project Code: [29066](#)  
Title (sl.): Povrchová úprava plazmou a hodnotenie vlastností textilných výstužných materiálov  
Title (eng.): Surface treatment by plasma and evalution of properties of textile reinforcing materials  
Project duration: 02.09.2009 - 30.11.2009  
Responsible person: prof. Ing. Ivan Hudec, PhD.

#### KEGA

Project Code: [3/5200/07](#)  
Title (sl.): Hypertextová učebnica: Plasty – technické materiály.  
Title (eng.): Hypertext textbook: Plastics – technical materials.  
Project duration: 01.01.2007 - 31.12.2009  
Responsible person: doc. RNDr. Tatiana Liptáková, PhD., doc. Ing. Pavol Alexy, PhD.

#### VEGA

Project Code: [1/4455/07](#)  
Title (sl.): Modifikácia polymérnych zmesí a kompozitov s obsahom biodegradovateľných polymérov a biopolymérov z obnoviteľných zdrojov.

Title (eng.): Modification of polymer blends and composites containing biodegradable polymers and biopolymers from renewable sources.  
Project duration: 01.01.2007 - 31.12.2009  
Responsible person: **doc. Ing. Pavol Alexy, PhD.**

## VEGA

Project Code: [1/4095/07](#)  
Title (sl.): Povrchové úpravy materiálov plazmou pri atmosferickom tlaku.  
Title (eng.): Atmospheric-pressure plasma treatment of material surfaces.  
Project duration: 01.01.2007 - 31.12.2009  
Responsible person: **doc. Ing. Ľudmila Černáková, PhD.**

## VEGA

Project Code: [1/0662/08](#)  
Title (sl.): Vývoj nových polymérnych nanokompozitov na báze prírodných nanomateriálov.  
Title (eng.): Development of new polymer nanocomposites based on natural nanomaterials  
Project duration: 01.01.2008 - 31.12.2010  
Responsible person: **doc. Ing. Viera Khunová, PhD.**

## Štátne programy

Project Code: [2003 SP 20/028 03 01](#)  
Title (sl.): Záchrana, stabilizácia a konzervovanie tradičných nosičov informácií v Slovenskej republike.  
Title (eng.): Preservation, stabilization and conservation of traditional information supports in the Slovak Republic.  
Project duration: 01.10.2003 - 30.09.2009  
Responsible person: **prof. Ing. Dušan Bakoš, DSc.**

## EUREKA

Project Code: [EURB-0013-06 \(EI3866\)](#)  
Title (eng.): Ecological Liquidation of Rubber Waste by Mobile Equipment  
Title (sl.): Ekologická likvidácia odpadu z gumy mobilným zariadením.  
Project duration: 15.02.2007 - 31.12.2009  
Project coordinator: Ing. Stanislav Holemý  
Responsible person: **prof. Ing. Ivan Hudec, PhD.**

## List of bachelor (BT), diploma (DT) and dissertation (DissT) theses

Type	Final thesis	Supervisor	Enter
BT	<b>Ján Bočkaj</b> Polymérne materiály pre mostné závery Polymer materials for bridge lock  <b>Bc. Monika Botošová</b>	<a href="#">prof. Ing. Ivan Hudec, PhD.</a>	<input type="checkbox"/>
BT	Kompozitné materiály s magneticky aktívnymi plnivami Composite materials with magnetic active fillers  <b>Bc. Miroslava Dobošová</b>	<a href="#">prof. Ing. Ivan Hudec, PhD.</a>	<input type="checkbox"/>
BT	Modifikácia povrchov bioaktívnymi vrstvami Surface modification with bioactive layers  <b>Bc. Matej Jahnátek</b>	<a href="#">Dr.h.c. prof. Ing. Dušan Bakoš, DSc.</a>	<input type="checkbox"/>
BT	Využitie recyklovaného penového polystyrénu vo finálnych výrobkoch Utilisation of recycled polystyrene foam in final products  <b>Bc. Petra Michalovýchová</b>	<a href="#">prof. Ing. Ivan Hudec, PhD.</a>	<input type="checkbox"/>
BT	Modifikácia syntetických polymérnych materiálov prírodnými polymérmi Modification of synthetic polymer materials with natural polymers  <b>Bc. Michal Mihálík</b>	<a href="#">doc. Ing. Ľudmila Černáková, PhD.</a>	<input type="checkbox"/>
BT	Štúdium vplyvu zmäkčovadla na vlastnosti PLA/PHB zmesí Study of influence of plasticizer on the properties of PLA/PHB blends  <b>Bc. Roderik Plavec</b>	<a href="#">doc. Ing. Pavel Alexy, PhD.</a>	<input type="checkbox"/>
BT	Štúdium vlastností biodegradovateľných polymérnych zmesí PLA/Ecoflex Study of properties of biodegradable blends PLA/Ecoflex  <b>Bc. Silvia Slezáková</b>	<a href="#">doc. Ing. Pavel Alexy, PhD.</a>	<input type="checkbox"/>
BT	Štruktúra a vlastnosti kopolymérov polypropylénu Structure and properties of polypropylene copolymers  <b>Bc. Michal Valček</b>	<a href="#">doc. Ing. Ľudmila Černáková, PhD.</a>	<input type="checkbox"/>
BT	Hodnotenie vplyvu zmäkčovadiel na spracovateľské vlastnosti etylén-akrylátových elastomérov Evaluation of influence of plasticizer on the processing properties of ethylene-acrylate elastomers  <b>Ing. Katarína Borská</b>	<a href="#">Dr.h.c. prof. Ing. Dušan Bakoš, DSc.</a>	<input type="checkbox"/>
DT	Fotodegradácia poly(e-kaprolaktónu) dopovaného benzilom Photodegradation of poly(e-caprolactone) doped by benzile  <b>Ing. Slavomír Hudý</b>	<a href="#">Mgr. Jaroslav Mosnáček, PhD.</a>	<input type="checkbox"/>
DT	Kompatibilizácia zmesí biodegradovateľných plastov Compatibilization of biodegradable plastics blends  <b>Ing. Martin Jašo</b>	<a href="#">prof. Ing. Ivan Chodák, DSc.</a>	<input type="checkbox"/>
DT	Štúdium vlastností biodegradovateľných polymérnych zmesí PLA/PHB Study of properties of biodegradable blends PLA/PHB  <b>Ing. Eva Kameschová</b>	<a href="#">doc. Ing. Pavel Alexy, PhD.</a>	<input type="checkbox"/>
DT	Vplyv typu technológie výroby na vlastnosti a štruktúru polyetylénu Influence of technology type on the properties and the structure of polyethylene  <b>Ing. Ján Kratochvíla</b>	<a href="#">prof. Ing. Ivan Hudec, PhD.</a>	<input type="checkbox"/>
DT	Vplyv opakovanej spracovania na vlastnosti polypropylénu Influence of repeating processing on the properties of polypropylene  <b>prof. Ing. Ivan Hudec, PhD.</b>	<a href="#">prof. Ing. Ivan Hudec, PhD.</a>	<input type="checkbox"/>

	<u>Ing. Michal Krošlák</u> Príprava a vlastnosti biodegradovateľných zmesí na báze PCL a PHB Preparation and properties of biodegradable blends based on PCL	<u>doc. Ing. Pavel Alexy, PhD.</u> <input type="checkbox"/>
DT	<u>Ing. Ján Rusňák</u> Hodnotenie kvality vybraných gumových automobilových dielcov Quality evaluation of chosen rubber part of cars	<u>doc. Ing. Pavel Alexy, PhD.</u> <input type="checkbox"/>
DT	<u>Ing. Katarína Tomanová</u> Štúdium vlastností biodegradovateľných polymérnych zmesí PLA/Ecoflex Study of properties of biodegradable blends PLA/Ecoflex	<u>doc. Ing. Pavel Alexy, PhD.</u> <input type="checkbox"/>
DisT	<u>Ing. Ida Vašková, PhD.</u> Biodegradovateľné obalové materiály na báze viaczložkovej polymérnej matice Biodegradable packing materials based on multicomponent polymer matrix	<u>prof. Ing. Ivan Hudec, PhD.</u> <input type="checkbox"/>
DisT	<u>Ing. Zuzana Košťálová, PhD.</u> Príprava a štrukturálna charakterizácia bioaktívnych a iných funkčných polysacharidov z polnohospodársky významných Rastlín	<u>Ing. Zdena Hromádková, PhD.</u> <input type="checkbox"/>

## Selected publications

### Journals

- [1] Alexy, Pavol - Feranc, Jozef - Kramárová, Zuzana - Hajšová, Martina - Ilisch - Ďuračka, Miroslav - Mošková, Daniela - Chodák, Ivan : Application of lignins in rubber blends In: Chemické listy. - ISSN 0009-2770. - Vol. 103 - S (2009), p. 40-41.
- [2] Amir, Ihssan - Hudec, Ivan - Volovič, Milan : Surface modification of textile reinforcing materials by plasma treatment and plasma polymerization In: Chemické listy. - ISSN 0009-2770. - Vol. 103 - S (2009), p. 100-101
- [3] Černák, Mirko - Černáková, Ľudmila- Hudec, Ivan - Kováčik, Dušan - Zahoranová, Anna : Diffuse Coplanar Surface Barrier Discharge and its applications for in/line processing of low-added-value materials. In: European Physical Journal – Applied Physics - ISSN 1286-0042. - Vol. 47 (2009), 22806p1-p6.
- [4] Černáková, Ľudmila - Szabová, Renáta- Wolfová, Magdaléna - Mikula, Milan : Textile materials with nano TiO<sub>2</sub> coating. In: Chemické listy. - ISSN 0009-2770. - Vol. 103 - S (2009), p. 51-53.
- [5] Hudec, Ivan - Feranc, Jozef - Haydary, Juma- Šurina, Igor : Pyrolysis of used tyres In: Chemické listy. - ISSN 0009-2770. - Vol. 103 - S (2009), p. 107-108.
- [6] Hudec, Ivan - Jaššo, Michal - Černák, Mirko- Černáková, Ľudmila- Krump, Henrich : Study of adhesion strength between plasma polymer coated polyester cords and a rubber matrix. In: Polymer Surface Modification: Relevance to Adhesion. - Vol. 5 (2009), p. 255-267.

- [7] Khunová, Viera- Kelnar, Ivan- Kristof, János : Application of polymer nanocomposites in automotive: The present state and perspektive In: Chemické listy. - ISSN 0009-2770. - Vol. 103 - S (2009), p. 65-68.
- [8] Khunová, Viera- Liauw, C.- Kelnar, Ivan- Snauko, M.: Reactívne spracovanie komunálneho plastového odpadu na báze polyolefínov. In: Macromolecular Materials and Engineering. - ISSN 1438-7492. - Vol. 294, Iss. 8 (2009), p. 294 - 303.
- [9] Kruželák, Ján- Szabová, Renáta- Bellušová, Denisa - Kyselá, Gabriela - Hudec, Ivan : Magnetic elastomeric materials for intelligent tyres. In: Chemické listy. - ISSN 0009-2770. - Vol. 103 - S (2009), p. 70-72.
- [10] Mikula, Milan- Trnovec, Bystrík - Černáková, Ľudmila- Šutý, Štefan- Jančovičová, Viera : Stabilization of paper by nitrogen plasma assisted application of chitosan at atmospheric pressure. In: Acta Chimica Slovaca. - ISSN 1337-978X. - Vol. 2, No. 1 (2009), p. 62-69.
- [11] Podhradská, Silvia - Chodák, Ivan - Ujhelyiová, Anna : DMA Analysis of Oriented Polypropylene Fibers. In: Chemické listy. - ISSN 0009-2770. - Vol. 103 - S (2009), s120-s121.
- [12] Szabová, Renáta- Černáková, Ľudmila- Wolfová, Magdaléna- Černák, Mirko : Coating of TiO<sub>2</sub> nanoparticles on the plasma activated polypropylene fibers. In: Acta Chimica Slovaca. - ISSN 1337-978X. - Vol. 2, No. 1 (2009), p. 70-76.
- [13] Wolfová, Magdaléna - Černáková, Ľudmila - Szabová, Renáta- Černák, Mirko : Immobilisation of iron oxide nanopertocles onto the plasma-activated polymee surfaces. In: Chemické listy. - ISSN 0009-2770. - Vol. 103 - S (2009), p. 134.

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- [1] Bugaj, Peter- Vašková, Ida- Mlynský, Tomáš- Pavlačková, Miroslava- Nahálková, Anna - Alexy, Pavol- Chodák, Ivan : Structure and properties of PCL/PHB blends. In: Symposium Polymerblends and Nanocomposites, 25.-26.3.2009, Merseburg : 13. Problemseminar. - : Universitätsdruckerei, Martin-Luther-Universität Halle-Wittenberg, 2009. - ISBN 978-3-86829-117-9. - p. 61.
- [2] Černák, Mirko - Kováčik, Dušan- Zahoranová, Anna- Černáková, Ľudmila - Ráhel', Jozef : High/speed, low/cost atmospheric/pressure plasma processing using diffuse coplanar surface barrier discharge. In: Abstrakt Booklet 17 th International Colloquim on Plasma Precesses, Marseille, June 22-26, 2009. - : Editions SFV, 2009. - ISBN 978-2-918641-00-1. - p. 7.
- [3] Khunová, Viera- Golovkov, Andrej - Šooš, Ľubomír- Kelnar, Ivan : Compatibilisation of wood and glass fibre composites based on post-consumer polyolefin waste. In: Recykling i odzysk materialów polimerowych : Materiały - Technologie - Utylizacja. - Szczecin : Wydawnictwo Uczelniane Zachodniopomorskiego Uniwersytetu Technologicznego , 2009. - ISBN 978-83-7663-026-7. - p. 57-60.
- [4] Khunová, Viera - Kelnar, Ivan- Kaprálková, Ľudmila : Reaktívne spracovanie kompozitov na báze plastového odpadu a sklených vlákien. In: TOP 2009. Technika ochrany prostredia : Zborník prednášok z 15.ročníka medzinárodnej konferencie. - Častá-Papiernička, 17.-19. 6. 2009. - Bratislava : STU v Bratislave, 2009. - ISBN 978-80-227-3096-9. - p. 255-260.
- [5] Oravcová, Andrea - Hudec, Ivan- Šestáková, Viera- Homola, Tomáš : Improved Surface Properties of Polyethylene Films by Atmospheric Pressure Plasma Treatment : Book of Contributed Papers. In: 17th Symposium on Application of Plasma Processes and Visegrad Workshop on Research of Plasma Physics : Book of Contributed Papers. - : Comenius University in Bratislava, Faculty of Mathematics, Physics and Informatics, 2009. - ISBN

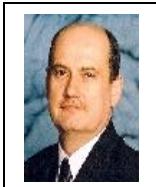
978-80-89186-45-7. - p. 219-220.

- [6] Oravcová, Andrea - Vitkovský, Peter - Šestáková, Viera- Hudec, Ivan - Homola, Tomáš : Improved Surface Properties of Polyolefine Film by Atmospheric Pressure Plasma : PMA 2009 Bratislava,21-23 April 2009. In: Chemické listy. - ISSN 0009-2770. - Vol. 103 - S (2009) English)
- [7] Szabová, Renáta- Černáková, Ľudmila - Wolfová, Magdaléna- Hudec, Ivan- Černák, Mirko : Study of the polypropylene surface modified by TiO<sub>2</sub> nanocoating. In: Symposium Polymerblends and Nanocomposites,25.-26.3.2009,Merseburg : 13. Problemseminar. - : Universitätsdruckerei, Martin-Luther-Universität Halle-Wittenberg, 2009. - ISBN 978-3-86829-117-9. - p. 58.
- [8] Uher, Michal- Bakoš, Dušan- Hudec, Ivan- Špírk, Eugen- Gašperík, Juraj Jr.: prof. Juraj Gasperík and polymer chemistry. In: Štúdie z dejín chémie a zdravotníctva na Slovensku. - : Ústav vedy a výskumu Univerzity Mateja Bela, v Banskej Bystrici, 2009. - ISBN 978-80-8083-554-5. - p. 110-125. (in Slovak)
- [9] Vašková, Ida- Alexy, Pavol- Bugaj, Peter- Pavlačková, Miroslava- Mlynský, Tomáš- Nahálková, Anna : Blends based on PHB/STARCH/PCL - preparation, structure and properties : Symposium Polymerblends and Nanocomposites. In: Symposium Polymerblends and Nanocomposites, 25.-26.3.2009,Merseburg : 13. Problemseminar. - : Universitätsdruckerei, Martin-Luther-Universität Halle-Wittenberg, 2009. - ISBN 978-3-86829-117-9. - p. 60.
- [10] Wolfová, Magdaléna- Černáková, Ľudmila- Szabová, Renáta- Zahoran, M. - Černák, Mirko : Immobilisation of Iron.Oxide Nano-Particles onto the Plasma Activated Textile Materials. In: 17th Symposium on Application of Plasma Processes and Visegrad Workshop on Research of Plasma Physics : Liptovský Ján, Book of Contributed Papers. - : Comenius University in Bratislava, Faculty of Mathematics, Physics and Informatics, 2009. - ISBN 978-80-89186-45-7. - p. 265-266.

## INSTITUTE OF BIOTECHNOLOGY AND FOOD SCIENCE

### Head of Institute

prof. Ján Šajbidor, DSc.



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### Foreword

The institute consists of the Department of Biochemical Technology and the Department of Food Science and Technology. It offers undergraduate and graduate courses as well as PhD studies in the fields: *Biotechnology* and *Food Science and Technology*.

### Teaching activities

*Biotechnology courses:* Biochemical and Biotechnological Information; Fundamentals of Fermentation Technology; Food Biotechnology; Bioanalytical Methods; Pharmaceutical Biotechnology; Fundamentals of Recombinant Technology; Gene Engineering, Enzymology and Enzyme Engineering; Biosynthesis and Transformation of Metabolites; Environmental Biotechnology; Malting and Brewing; Chemistry and Microbiology of Wine.  
*Food Science and Technology courses:* Hygiene and Health Protection; Information Technologies in Food Industry; Food and Biotechnological Raw Materials; Fundamentals of Food Technology; Packaging and Distribution of Foods; Food Safety; Food Engineering; Cosmetic and Household Chemistry; Chemistry and Technol. of Sacharides; Dairy Technology; Cereal Chemistry and Technology; Sugar technology; Preserved and Frozen Food Technology; Meat and Poultry Technology; Fats, Detergents and Oleochemistry; Microbiology of Milk, Fats and Cosmetics; Chemistry and Technology of Cosmetics; By-products in Food Industry.

### Research profile

*Department of Biochemical Technology:* microbiology, biochemistry and bioengineering of beer, wine, ethanol and microbial biomass production and technology, environmental biotechnology with emphasis on microbial degradation of pollutants, fermentative production of organic acids, lipids, pigments and biotransformation of carbohydrates, overproduction of secondary metabolites used in pharmacy and medicine, bioengineering  
*Department of Food Science and Technology:* chemistry and analysis of lipids, technology of edible oils and technical fats, technology hygiene and sanitation, cosmetic and household chemistry, cereal chemistry and technology, technology and microbiology of milk and milk products, meat chemistry and technology, biopreservation of vegetable products, sugar-making technology.

## Department of Biochemical Technology

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## Projects

### Slovak Research and Development Agency Projects

Project Code: [APVV-20-014105](#)  
 Title: Using the microorganisms living with the higher plants to alternative production of anticancer taxanes, phytochemicals of yew-tree Taxus sp..  
 Project duration: 02.05.2006 - 30.06.2009  
 Responsible person: **Mária Šturdíková, PhD., Assoc. prof.**

Project Code: [APVV-0310-06](#)  
 Title: Study and development of functional foods  
 Project duration: 08.02.2007 - 30.06.2010  
 Responsible person: **Ján Šajbíbor, DSc., prof.**

Project Code: [APVV-0488-07](#)  
 Title: Pure cultures of yeasts versus sensory and antioxidant properties of wine.  
 Project duration: 01.06.2008 - 31.12.2010  
 Responsible person: **Fedor Malík, DSc., prof.**

Project Code: [APVV-0681-07](#)  
 Title: Yeast as a tool for producing biotechnologically valuable sterols: the biochemical and genetic approach.  
 Project duration: 17.07.2008 - 31.12.2010  
 Responsible person: RNDr. Ivan Hapala, PhD., **Milan Čertík, PhD., Assoc. prof.**

Project Code: [VVCE-0064-07](#)  
 Title: Biomembranes: Membrane structure and dynamics in relation to cell functions.  
 Project duration: 28.08.2008 - 30.06.2011  
 Responsible person: RNDr. Ivan Hapala, PhD., **Milan Čertík, PhD., Assoc. prof.**

Project Code: [APVV-0043-07](#)  
 Title: The production of conjugated linoleic acid by influencing of diets in ruminants.  
 Project duration: 16.09.2008 - 31.12.2010  
 Responsible person: MVDr. Dušan Jalč, PhD., **Milan Čertík, PhD., Assoc. prof.**

Project Code: [APVV LPP-0079-09](#)  
 Title: Prototype of Biotechnology Laboratory Research for Development of Experimental Skills of High School Students  
 Project duration: 01.09.2009 - 31.08.2012  
 Responsible person: **Daniela Šmogrovičová, PhD., Assoc. prof.**

**Bilateral research project within the frame of Slovak – South African Science and Technology cooperation**

Project Code: [APVV SK-ZA-0010-07](#)  
Title Analysis of phenolic and flavour compounds of the mead varieties in South Africa and Slovakia.  
Project duration: 28.07.2008 - 31.12.2009  
Responsible person: **Daniela Šmogrovičová, PhD., Assoc. prof.**

**International commercial project**

Project Code: [28035](#)  
Title (sl.): Štúdium faktorov ovplyvňujúcich oxidáciu olejov používaných na vyprážanie a v nich vyprážaných produktov  
Title (eng.): Investigations of factors affecting oxidation of frying oils and fried products  
Project duration: 28.02.2008 - 31.12.2010  
Responsible person: **Čertík Milan, PhD., Assoc. prof.**

**National commercial projects**

Project Code: [29037](#).  
Title Production of biobutanol from renewable sources with immobilized biocatalyzators  
Project duration: 10.02.2009 - 10.12.2009  
Responsible person: **Rosenberg Michal, PhD., Assoc. prof.**

Project Code: [29043](#).  
Title Verification of isolation protocols for keto-acids salts  
Project duration: 12.02.2009 - 15.05.2009  
Responsible person: **Rosenberg Michal, PhD., Assoc. prof.**

Project Code: [29023](#).  
Title Cultivation of nitrification and denitrification bacterial biomass  
Project duration: 15.03.2009 - 22.12.2009  
Responsible person: **Rosenberg Michal, PhD., Assoc. prof.**

Project Code: [29044](#).  
Title Amylase activity verification in liquid and powder commercial samples  
Project duration: 15.05.2009 - 30.04.2010  
Responsible person: **Rosenberg Michal, PhD., Assoc. prof.**

Project Code: [29061](#).  
Title Identification of isolates from sea sediments  
Project duration: 25.08.2009 - 31.12.2009  
Responsible person: **Rebroš Martin, PhD.**

Project Code: [29069](#).  
Title Production and purification of N-acetyl neuramine acid  
Project duration: 05.10.2009 - 31.12.2009  
Responsible person: **Rosenberg Michal, PhD., Assoc. prof.**

### Scientific Grant Agency of SR Projects

Project Code:	<a href="#">VEGA 1/4357/07</a>
Title	Bioremediation of soil contaminated by degradation products of the pesticides of the chlorophenols series: potential use of organomineral complex (OMC), zeolite, and humic acids.
Project duration:	01.01.2007 - 31.12.2009
Responsible person:	<b>Katarína Dercová, PhD., Assoc. prof.</b>
Project Code:	<a href="#">VEGA 1/4452/07</a>
Title	Development of new immobilized biooxidation systems based on hyperoxygenated whole cell/enzyme biocatalysts for novel white biotechnologies.
Project duration:	01.01.2007 - 31.12.2009
Responsible person:	<b>Michal Rosenberg, PhD., Assoc. prof.</b>
Project Code:	<a href="#">VEGA 1/0747/08</a>
Title:	Biotechnological evaluation of national renewable resources to biologically active products applied for food, agriculture, pharmacy and veterinary uses.
Project duration:	01.01.2008 - 31.12.2010
Responsible person:	<b>Milan Čertík, PhD., Assoc. prof.</b>
Project Code:	<a href="#">VEGA 1/0786/08</a>
Title:	Development of new strains of microorganisms and fermentative systems for effective bio-ethanol production and beverages of specific properties
Project duration:	01.01.2008 - 31.12.2010
Responsible person:	<b>Daniela Šmogrovičová, PhD., Assoc. prof.</b>

### Central European Exchange Program for University Studies Project

Project Code:	<a href="#">CEEPUS CII-HR-0306</a>
Title	For Safe and Healthy Food in Middle-Europe
Project duration:	01.01.2008 - 31.08.2010
Responsible person:	Partner co-ordinator: <b>Daniela Šmogrovičová, PhD., Assoc. prof.</b>

### List of bachelor (BT), diploma (DT) and dissertation (DissT) theses

Type	Final thesis	Supervisor	Ent er
BT	<a href="#">Bc. Katarína Šágrová</a> Biotechnological Production of Useful Metabolites by Solid State Fermentations	<a href="#">doc. Ing. Milan Čertík, PhD.</a>	[ ]
BT	<a href="#">Bc. Lenka Priesolová</a> Characterisation of Genetically Modified Brewer's Yeast Strains	<a href="#">doc. Ing. Daniela Šmogrovičová, PhD.</a>	[ ]
BT	<a href="#">Bc. Alena Pospišilová</a> Microbial Utilization of Cereal Substrates on Pigment Production	<a href="#">doc. Ing. Milan Čertík, PhD.</a>	[ ]

BT	<a href="#">Bc. Martin Polák</a> New Technological Trends in Biobuthanol Production <a href="#">Bc. Eva Magyaricsová</a>	<a href="#">Ing. Martin Rebroš, PhD.</a>	<input type="checkbox"/>
BT	Optimization of Biotechnological Pigment Overproduction by Submerged Cultivations <a href="#">Bc. Andrej Chyba</a>	<a href="#">doc. Ing. Milan Čertík, PhD.</a>	<input type="checkbox"/>
BT	The Oxidative Degradation of the Natural Hydroxy Olefins <a href="#">Bc. Lucia Guothová</a>	<a href="#">doc. Ing. Daniela Šmogrovičová, PhD.</a>	<input type="checkbox"/>
BT	Solid State Fermentations as Tools for Preparation of Bioproducts Enriched with Polyunsaturated Fatty Acids and Pigments <a href="#">Bc. Anna Humayová</a> Production of Organic Acids by Nocardia sp.	<a href="#">doc. Ing. Milan Čertík, PhD.</a>	<input type="checkbox"/>
BT	Production of ethanol from lignocellulotic substrates <a href="#">Bc. Lukáš Lipták</a> <a href="#">Bc. Mariana Antalová</a>	<a href="#">doc. Ing. Michal Rosenberg, PhD.</a>	<input type="checkbox"/>
BT	Stress Conditions as a Regulator of Microbial Pigment Biosynthesis <a href="#">Bc. Rastislav Krampel</a>	<a href="#">doc. Ing. Milan Čertík, PhD.</a>	<input type="checkbox"/>
BT	Study of Bioactive Metabolites of Streptomyces Isolated from Plants <a href="#">Bc. Peter Gajdoš</a> Study of Lipid Biosynthesis in Yeasts <a href="#">Bc. Peter Seč</a>	<a href="#">doc. Ing. Mária Šturdíková, PhD.</a>	<input type="checkbox"/>
BT	Study of Fatty Acid Metabolism in Patients with Cystic Fibrosis <a href="#">Bc. Ondrej Jančovič</a>	<a href="#">doc. Ing. Milan Čertík, PhD.</a>	<input type="checkbox"/>
BT	Properties of Low-alcoholic Beer Produced Using Genetically Modified Yeast <a href="#">Bc. Jana Záhorecová</a>	<a href="#">doc. Ing. Daniela Šmogrovičová, PhD.</a>	<input type="checkbox"/>
BT	Effect of Pure Yeast Strains on Antioxidant Properties of Wines <a href="#">Bc. Lenka Medovčíková</a>	<a href="#">doc. Ing. Milan Čertík, PhD.</a>	<input type="checkbox"/>
BT	Effect of Physical and Chemical Factors on the Production of Bioactive Secondary Metabolites of Streptomyces sp. <a href="#">Bc. Eva Mešková</a>	<a href="#">doc. Ing. Mária Šturdíková, PhD.</a>	<input type="checkbox"/>
BT	Effect of Cultivation Conditions on Gamma-Linolenic Acid production by Fungi <a href="#">Bc. Jana Jandíková</a>	<a href="#">doc. Ing. Milan Čertík, PhD.</a>	<input type="checkbox"/>
BT	Effect of Cultivation Conditions on Sterol Derivatives Production by <i>Pichia Pastoris</i> <a href="#">Bc. Lenka Marcinčinová</a>	<a href="#">doc. Ing. Milan Čertík, PhD.</a>	<input type="checkbox"/>
BT	Effect of Cultivation Conditions on Yeast Polysaccharides Production <a href="#">Bc. Martina Vašková</a>	<a href="#">doc. Ing. Milan Čertík, PhD.</a>	<input type="checkbox"/>
BT	Effect of Morphological Stages of Yeasts on Production of Wall's Polysaccharides <a href="#">Bc. Marta Prnová</a>	<a href="#">doc. Ing. Milan Čertík, PhD.</a>	<input type="checkbox"/>
BT	Characterization of Bioactive Compounds Produced by Isolate <i>Streptomyces</i> sp. <a href="#">Ing. Andrea Schenkmaryerová</a>	<a href="#">doc. Ing. Mária Šturdíková, PhD.</a>	<input type="checkbox"/>
DT	Acetone butanol fermentation – butyric acid production <a href="#">Ing. Lucia Lukáčová</a>	<a href="#">Ing. Martin Rebroš, PhD.</a>	<input type="checkbox"/>
DT	Ecotoxicity and genotoxicity of sediments contaminated by	<a href="#">doc. Ing. Katarína Dercová, PhD.</a>	<input type="checkbox"/>

polychlorinated biphenyls

[Ing. Tatiana Klempová](#)

DT Isolation, analysis and characterization of fatty acid desaturase genes from *Thamnidium elegans*

[doc. Ing. Milan Čertík, PhD.](#)

-

[Ing. Katarína Ďurčanská](#)

DT Isolation, characterization and application of autochthonous cultures of *Saccharomyces cerevisiae* in winemaking

[prof. Ing. Fedor Malík, DSc.](#)

-

[Ing. Zuzana Bachratá](#)

DT Monitoring of contaminants in the environment using passive sampling and determination of their bioavailability

[doc. Ing. Katarína Dercová, PhD.](#)

-

[Ing. Dana Dudinská](#)

DT Study of antioxidant properties of wines

[doc. Ing. Milan Čertík, PhD.](#)

-

[Ing. Barbora Steinhübel](#)

DT Study of influence of autochthonous strains *Saccharomyces cerevisiae* on sensory characteristics of wine

[prof. Ing. Fedor Malík, DSc.](#)

-

## Selected publications

### Journals

- [1] Dercová, Katarína - Šeligová, Jana - Dudášová, Hana - Mikulášová, Mária - Šilhárová, Katarína - Tóthová, Lívia - Hucko, Pavol: Characterization of the bottom sediments contaminated with polychlorinated biphenyls: evaluation of ecotoxicity and biodegradability. In: International Biodeterioration and Biodegradation. - ISSN 0964-8305. - Vol. 63 (2009), p. 440-449.
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- [3] Lobpreis, Tomáš – Vrana, Branislav - Dercová, Katarína: Research and development of passive sampling on monitoring of organic pollutants in water environment. In: Chemické Listy. - ISSN 0009-2770. - Vol. 103(7) (2009), 548-558. (in Slovak, abstract in English)
- [4] Dercová, Katarína – Dudášová, Hana – Lovecká, Petra – Hucko, Pavol – Tóthová, Lívia: Isolation and identification of PCB-degrading microorganisms from contaminated sediment. 14<sup>th</sup> European Congress on Biotechnology Symbiosis (Science, Industry & Society), Barcelona, Spain 13-16 September 2009. In: New Biotechnology. - ISSN 1871-6784. - Vol. 25 (Supplement 1) (2009), p. 564 (2009)
- [5] Dercová, Katarína: Remediation technologies. 1. Technological approaches of destruction of obsolete POPs. Odpady (Waste). ISSN 1335-7808. Vol. 1: 3-8 (2009) (in Slovak)
- [6] Dercová, Katarína: Remediation technologies. 2. Decontamination of soils and sediments: physico-chemical approaches. Odpady (Waste). ISSN 1335-7808. Vol. 2: (2009) (in Slovak)
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- [10] Jalč, Dušan - Čertík, Milan, Kundríková, Katarína - Náměstková, Petra: Effect of microbial oil and fish oil on rumen fermentation and metabolism of fatty acids in artificial rumen. Czech Journal of Animal Science. – ISSN 1212-1819. Vol. 54(5), 2009, 229-237
- [11] Čertík, Milan - Adamechová, Zuzana: Cereal-based bioproducts containing polyunsaturated fatty acids. Lipid Technology. – ISSN 0956-666X. Vol. 21(11-12), 2009, 250-253
- [12] Čertík, Milan - Hanusová, Vladimíra - Breierová, Emília - Márová, Ivana - Raptá, Peter: Biotechnological production and properties of carotenoid pigments. In: Biocatalysis and Agricultural Biotechnology (Hou, C.T., Shaw, J.-F., eds.). Tailor and Francis-CRC Press, Boca Raton, FL, USA, 2009, 355-375 (ISBN: 1420077031, 9781420077032)
- [13] Furdíková, Katarína - Dudinská, Dana - Ďurčanská, Katarína - Raptá, Peter - Valach, Milan - Malík, Fedor [10%]: Autochthonous yeast cultures vs. antioxidative activity of wine. In: Vinič a víno. - ISSN 1335-7514. - Vol. 9, No. 3 (2009), p. 90-92. (in Slovak)
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- [10] Dercová, Katarína: Potenciálne technológie na deštrukciu PCB. In: Zborník Odborný seminár Polychlórované bifenly – environmentálne a zdravotné dopady kontaminácie v Slovenskej republike, s. 36-44 ([www.non-combustion.sk](http://www.non-combustion.sk)), VÚC Košice, 28.-29.1. 2009 (in Slovak)
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- [13] Čertík, Mialn - Adamechová, Zuzana - Hanusová, Vladimíra - Breierová, Emília: Biotechnological strategy for nutritional improvement of cereal-based materials with polyunsaturated fatty acids and pigments. Proceeding of 100<sup>th</sup> AOCS Annual Meeting & Expo, Orlando (FL), USA, May 3 – 6, 2009, 20-21 (ISBN: 978-0-9818936-2-4)
- [14] Hanusová, Vladimíra - Čertík, Milan, Breierová, Emília - Márová, Ivana: Biotechnological regulation of carotenoid pigments overproduction by red yeasts. Proceeding of 100<sup>th</sup> AOCS Annual Meeting & Expo, Orlando (FL), USA, May 3 – 6, 2009, 32 (ISBN: 978-0-9818936-2-4)
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## Projects

### APVV

Project Code: [APVV-0158-07](#)  
 Title (sl.): Využitie potenciálu kyslomliečnych baktérií v ekosystéme syrov za účelom zvýšenia zdravotnej bezpečnosti.  
 Project duration: 01.09.2008 - 31.12.2010  
 Responsible person: **doc. Ing. Mária Greifová, PhD.**

### VEGA

Project Code: [1/0438/08](#)  
 Title (sl.): In vitro hodnotenie prestupu kožou a účinnosti antioxidačných a UV fotoprotetívnych látok.  
 Project duration: 01.01.2008 - 31.12.2010  
 Responsible person: **doc. Ing. Jarmila Hojerová, PhD.**

### VEGA

Project Code: [1/0570/08](#)  
 Title (sl.): Predĺženie trvanlivosti a zvýšenie nutričnej hodnoty pekárenských výrobkov.  
 Project duration: 01.01.2008 - 31.12.2010  
 Responsible person: **Ing. Zlatica Kohajdová, PhD.**

### VEGA

Project Code: [1/0746/08](#)  
 Title (sl.): Štúdium vplyvu rizikových faktorov na bezpečnosť požívateľstva kozmetických prípravkov.  
 Title (eng.): Study of the risk factors influence on the safety of food and cosmetic products.  
 Project duration: 01.01.2008 - 31.12.2010  
 Responsible person: **prof. Ing. Štefan Schmidt, PhD.**

### VEGA

Project Code: [1/0234/09](#)  
 Title (sl.): Štúdium vlastností vybraných potravín a ich vplyv na kvalitu a bezpečnosť potravín a zdravie obyvateľstva.  
 Title (eng.): Study of selected food components and their influence on foods quality and population health.  
 Project duration: 01.01.2009 - 31.12.2011  
 Responsible person: **Ing. Ladislav Staruch, PhD.**

## List of bachelor (BT), diploma (DT) and dissertation (DissT) theses

Type	Final thesis	Supervisor	Enter
BT	<a href="#">Bc. Jana Potisková</a> Akceleračné faktory oxidácie lipidov	<a href="#">Ing. Stanislav Sekretár, PhD.</a>	<input type="checkbox"/>
BT	<a href="#">Bc. Jana Farkašová</a> Akrylamid v pekárenských výrobkoch	<a href="#">Ing. Zlatica Kohajdová, PhD.</a>	<input type="checkbox"/>
BT	<a href="#">Marek Medved</a> Bielkoviny mlieka, technologický a nutričný význam	<a href="#">doc. Ing. Mária Greifová, PhD.</a>	<input type="checkbox"/>
BT	<a href="#">Bc. Petra Onuferová</a> Cukrová repa - základná surovina pre výrobu sacharózy	<a href="#">prof. Ing. Alexander Dandár, DSc.</a>	<input type="checkbox"/>
BT	<a href="#">Bc. Zuzana Horváthová</a> Čaj a čajové nápoje ako súčasť nášho života	<a href="#">doc. PharmDr. Jozef Augustin, PhD.</a>	<input type="checkbox"/>
BT	<a href="#">Bc. Zlatica Kožinová</a> Čaj, čajovníkové nápoje	<a href="#">doc. PharmDr. Jozef Augustin, PhD.</a>	<input type="checkbox"/>
BT	<a href="#">Bc. Marta Uhliarová</a> Čajovník a obsahové látky v pravých čajovníkových listoch (Camellia sinensis)	<a href="#">doc. PharmDr. Jozef Augustin, PhD.</a>	<input type="checkbox"/>
BT	<a href="#">Bc. Mária Vargovičová</a> Heteroglykozidy v potravinách (solanín, tomatín)	<a href="#">Ing. Gabriel Greif, PhD.</a>	<input type="checkbox"/>
BT	<a href="#">Eva Kocková</a> História výroby čokolády	<a href="#">Ing. Zlatica Kohajdová, PhD.</a>	<input type="checkbox"/>
BT	<a href="#">Bc. Elvíra Dömö törová</a> Hodnotenie fotostability modelových opaľovacích prípravkov	<a href="#">Ing. Andrea Medovčíková</a>	<input type="checkbox"/>
DT	<a href="#">Ing. Veronika Štrbová</a> Hodnotenie ochranej kapacity UV filtrov v opaľovacej kozmetike metódami in vitro	<a href="#">doc. Ing. Jarmila Hojerová, PhD.</a>	<input type="checkbox"/>
BT	<a href="#">Bc. Lenka Zuščáková</a> Chlieb náš každodenný	<a href="#">Ing. Zlatica Kohajdová, PhD.</a>	<input type="checkbox"/>
DT	<a href="#">Ing. Silvia Pažoureková</a> In vitro hodnotenie prestupu látok kožou z hľadiska ochrany zdravia človeka	<a href="#">doc. Ing. Jarmila Hojerová, PhD.</a>	<input type="checkbox"/>
BT	<a href="#">Michal Bončík</a> Jogurt náš každodenný	<a href="#">doc. Ing. Mária Greifová, PhD.</a>	<input type="checkbox"/>
BT	<a href="#">Bc. Angéla Szamaránszká</a> Kvalita potravín a spôsoby autentifikácie potravinárskych výrobkov	<a href="#">doc. Ing. Jolana Karovičová, PhD.</a>	<input type="checkbox"/>
BT	<a href="#">Bc. Martina Rovňáková</a> Látky zlepšujúce vlastnosti pekárenských výrobkov	<a href="#">Ing. Zlatica Kohajdová, PhD.</a>	<input type="checkbox"/>
BT	<a href="#">František Valach</a> Lipidy mlieka	<a href="#">doc. Ing. Mária Greifová, PhD.</a>	<input type="checkbox"/>
BT	<a href="#">Bc. Katarína Lukawetzová</a> Massages Vegetable Oils	<a href="#">prof. Ing. Štefan Schmidt, PhD.</a>	<input type="checkbox"/>
BT	<a href="#">Bc. Alena Hricindová</a> Metódy prípravy metylesterov repkového oleja	<a href="#">Ing. Stanislav Sekretár, PhD.</a>	<input type="checkbox"/>
BT	<a href="#">Bc. Jana Osipčáková</a> Mikroflóra surového mlieka	<a href="#">doc. Ing. Mária Greifová, PhD.</a>	<input type="checkbox"/>
BT	<a href="#">Bc. Zuzana Poláčeková</a> Mlieko áno alebo nie	<a href="#">doc. Ing. Mária Greifová, PhD.</a>	<input type="checkbox"/>
BT	<a href="#">Bc. Zuzana Klimová</a> Možnosti a riziká organických UV filtrov	<a href="#">Ing. Andrea Medovčíková</a>	<input type="checkbox"/>

BT	<u>Martina Šedzmáková</u> Nečokoládové cukrovinky <u>Ing. Zuzana Sopčáková</u>	<u>Ing. Ladislav Starúch,</u> <u>PhD.</u>	<input type="checkbox"/>
DT	Ochranný a technologický potenciál kokov izolovaných z bryndze <u>Ing. Jana Smetanková</u>	<u>doc. Ing. Mária Greifová,</u> <u>PhD.</u>	<input type="checkbox"/>
DT	Ochranný a technologický potenciál laktobacilov izolovaných z bryndze <u>Matúš Gajdzík</u>	<u>doc. Ing. Mária Greifová,</u> <u>PhD.</u>	<input type="checkbox"/>
BT	Patogénne baktérie v surovom mlieku <u>Bc. Zuzana Horvátová</u>	<u>doc. Ing. Mária Greifová,</u> <u>PhD.</u>	<input type="checkbox"/>
BT	Pektín a pektínové látky v ovocí a zelenine <u>Bc. Ondrej Chalčák</u>	<u>Ing. Gabriel Greif, PhD.</u>	<input type="checkbox"/>
BT	Pochutiny (orech, mak, med) <u>Jarmila Burcinová</u>	<u>doc. PharmDr. Jozef</u> <u>Augustin, PhD.</u> <u>prof. Ing. Štefan Schmidt,</u> <u>PhD.</u>	<input type="checkbox"/>
BT	Potencionálne zdroje prírodných antioxidantov v potravinách <u>Miroslav Gaľo</u>	<u>doc. PharmDr. Jozef</u> <u>Augustin, PhD.</u>	<input type="checkbox"/>
BT	Potraviny ako súčasť výživy detí a mládeže <u>Bc. Lenka Tmáková</u>	<u>Ing. Stanislav Sekretár,</u> <u>PhD.</u>	<input type="checkbox"/>
BT	Prírodné povrchovo aktívne látky <u>Bc. Marcel Mati</u>	<u>Ing. Ladislav Starúch,</u> <u>PhD.</u>	<input type="checkbox"/>
BT	Probiotika v mäsových výrobkoch <u>Bc. Petra Košíková</u>	<u>doc. Ing. Jarmila Hojerová,</u> <u>PhD.</u>	<input type="checkbox"/>
BT	Prospešnosť a riziká použitia anorganických UV filtrov pre zdravie človeka <u>Bc. Kateřina Tabišová</u>	<u>Ing. Zlatica Kohajdová,</u> <u>PhD.</u>	<input type="checkbox"/>
BT	Pseudocereálie a ich využitie v pekárenstve <u>Bc. Jarmila Bukajová</u>	<u>Ing. Zlatica Kohajdová,</u> <u>PhD.</u>	<input type="checkbox"/>
BT	Pšenica špaldová ako alternatívna cereália <u>Bc. Andrea Katušinová</u>	<u>doc. Ing. Mária Greifová,</u> <u>PhD.</u>	<input type="checkbox"/>
BT	Rámcová charakteristika mlieka <u>Bc. Anna Tisoňová</u>	<u>Mgr. Marianna Lucová</u>	<input type="checkbox"/>
BT	Riziká kozmetických farbív <u>Bc. Lenka Balážová</u>	<u>Mgr. Marianna Lucová</u>	<input type="checkbox"/>
BT	Riziká potravinárskych farbív <u>Mária Lacová</u>	<u>doc. PharmDr. Jozef</u> <u>Augustin, PhD.</u>	<input type="checkbox"/>
BT	Spracovanie čajovníkových listov ( <i>Camellia sinensis</i> ) a ich využitie v potravinárstve <u>Slavomíra Kohutová</u>	<u>prof. Ing. Štefan Schmidt,</u> <u>PhD.</u>	<input type="checkbox"/>
DisT	Stabilizácia rastlinných olejov antioxidantami <u>Ing. Michala Palatášová, PhD.</u>	<u>prof. Ing. Alexander</u> <u>Dandár, DSc.</u>	<input type="checkbox"/>
	Štúdium kvalitatívnych vlastností obilnín <u>Bc. Marcela Szabová</u>	<u>doc. Ing. Jolana</u> <u>Karovičová, PhD.</u>	<input type="checkbox"/>
BT	Tradičné potraviny, etnické potraviny a nové spôsoby konzervácie potravín <u>Bc. Kristína Hovančíková</u>	<u>Ing. Stanislav Sekretár,</u> <u>PhD.</u>	<input type="checkbox"/>
BT	Trendy v balení potravín <u>Bc. František Kreps</u>	<u>prof. Ing. Štefan Schmidt,</u> <u>PhD.</u>	<input type="checkbox"/>
BT	Vplyv antioxidantov na stabilitu rastlinných olejov <u>Bc. Vladimír Bielik</u>	<u>doc. Ing. Jolana</u> <u>Karovičová, PhD.</u>	<input type="checkbox"/>
BT	Vplyv kyseliny listovej na zdravie človeka <u>Alexandra Kimáková</u>	<u>prof. Ing. Štefan Schmidt,</u> <u>PhD.</u>	<input type="checkbox"/>
BT	Vplyv prírodných antioxidantov na zdravie človeka		

DisT	<a href="#">Mgr. Oybek Zufarov, PhD.</a> Vplyv rafinácie rastlinných olejov na ich kvalitu <a href="#">Veronika Kuchtová</a>	<a href="#">prof. Ing. Štefan Schmidt, PhD.</a> <input type="checkbox"/>
BT	Využitie a aplikácia vybraných funkčných zložiek v potravinárskom priemysle a ich zdravotné účinky na ľudský organizmus	<a href="#">doc. Ing. Jolana Karovičová, PhD.</a> <input type="checkbox"/>
BT	<a href="#">Bc. Michaela Zimanová</a> Význam a funkcie kyslomliečnych baktérii	<a href="#">doc. Ing. Mária Greifová, PhD.</a> <input type="checkbox"/>
BT	<a href="#">Monika Šedzmáková</a> Význam aditívnych látok v pekárskom priemysle	<a href="#">Ing. Zlatica Kohajdová, PhD.</a> <input type="checkbox"/>
BT	<a href="#">Bc. Antónia Gurňáková</a> Zdravotné aspekty mikrovlnného ohrevu potravín	<a href="#">Ing. Stanislav Sekretár, PhD.</a> <input type="checkbox"/>

## Selected publications

### Journals

- [1] Augustín, Jozef: Tea. In: *Epicure*. - ISSN 1336-9539. - jar 2009, No. 11 (2009), p. 44-50. (in Slovak)
- [2] Augustín, Jozef: Food seasoning in our diet and their nutritional value. In: *Epicure*. - ISSN 1336-9539. - zima 2008/2009, No. 10 (2009), p. 61-69. (in Slovak)
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- [5] Hojerová, Jarmila: Biocosmetic products - high standard quality. In: *Slovenský Výber - mesačník manažmentu obchodu*. - ISSN 1335-9266. - Vol. 13, No. 1-2 (2009), p. 36-38. (in Slovak)
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- [7] Hojerová, Jarmila: Microorganisms - beneficial or harmful?. In: *Zdravie Krásy Špeciál-Moderná žena*. - ISSN 1336-9911. - jún (2009), p. 34-36. (in Slovak)
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- [9] Kohajdová, Zlatica - Karovičová, Jolana - Schmidt, Štefan: Significance of emulsifiers and hydrocolloids in bakery industry. In: *Acta Chimica Slovaca*. - ISSN 1337-978X. - Vol. 2, No. 1 (2009), p. 46-61.
- [10] Kohajdová, Zlatica - Karovičová, Jolana .. Application of hydrocolloids as baking improvers. In: *Chemical Papers*. - SSN 0366-6352. - Vol. 63, No. 1 (2009), p. 26-38. (in English)
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- [12] Šimonová, Ivana - Karovičová, Jolana - Mastihuba, Vladimír: Using of enzymatic preparation to the determination of inulin. In: *Potravinárstvo*. - ISSN 1338-0230. - Vol. 3, No. 1 (2009), p. 16-17. (in Slovak)
- [13] Staruch, Ladislav - Pipek, Petr. (2009): Nutričné postavenie mäsa vo výžive IV. Hydinové mäso. *Maso* 20 (4) 30-35. ISSN 1210-4086 (in Slovak)

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- [13] Karovičová, Jolana - Kohajdová, Zlatica - Greifová, Mária - Greif, Gabriel: Fermentácia zeleninových štiav s využitím mliečnych baktérií a kvasiniek. In Zborník prednáškových a posterových príspevkov LABORALIM 2009 Recent progress in analytical methods of food B. Bystrica, 3.-4. 2. 2009. Vydavateľstvo STU, 2009. - ISBN 978-80-227-3071-6. -p. 204—207. (in Slovak)
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- [1] Hojerová, Jarmila - Boskovičová, Eva: COSMETIC-HEALTH-BEAUTY Bare Enigma :. - 1. vyd. - : MetroMedia, 2009. - 359 p. - ISBN 978-80-89327-02-7. (in Slovak)
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## INSTITUTE OF BIOCHEMISTRY, NUTRITION AND HEALTH PROTECTION

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### Foreword

The institute consists of the Department of Biochemistry and Microbiology and the Department of Nutrition and Food Assesment. It offers interesting undergraduate and graduate courses as well as PhD studies. Long history of research is supported by grants, good scientific equipment and laboratories for sensory analysis, genetics, cell culture and radioactive measurements.

### Teaching activities

The institute guarantees the Dipl. Eng. study program Nutrition and Health Protection, and Medical Engineering, which were found to be very attractive for students, and PhD study programs Biochemistry, and Nutrition and Health Protection. The key subjects taught at the Institute are Biology, Biochemistry (7 courses), Microbiology (4 courses), Molecular biology and genetics (2 courses), Immunochemistry, Cell Cultures, Principles of Nutrition, Food chemistry (2 courses), Food analysis (2 courses), etc.

### Research profile

Our research includes the metabolic and biological aspects of microbes. Main areas are the study of fungal transport, metabolism and enzyme secretion, evaluation of food quality and safety, designing functional foods and nutraceutics, predictive microbiology and testing of biological effects of xenobiotics.

## Department of Biochemistry and Microbiology

**Head of Department** prof. Ľudovít Varečka, DSc.



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## Projects

### APVV

Project Code: [LPP-0092-06](#)  
 Title (sl.): Pilotný program rozvoja experimentálnych schopností z biológie a chémie u stredoškolských študentov.  
 Title (eng.): Pilot program for the development of experimental skills in high school students in biology and chemistry.  
 Project duration: 01.10.2006 - 30.11.2009  
 Responsible person: **prof. RNDr. Ľudovít Varečka, DSc.**

### APVV

Project Code: [APVV-0642-07](#)  
 Title (sl.): Využitie komplexných prírodných organických materiálov (KПOM) na energetické účely s použitím netradičných mikroorganizmov.  
 Title (eng.): Exploitation of complex organic materials (CNOM) by means of non-traditional micro-organisms for energetic purposes.  
 Project duration: 01.09.2008 - 31.12.2010  
 Responsible person: **prof. RNDr. Ľudovít Varečka, DSc.**

### VEGA

Project Code: [1/4305/07](#)  
 Title (sl.): Štúdium cytotoxicity a mechanizmu účinku nových xenobiotík  
 Title (eng.): Study of cytotoxicity and mode of action of novel xenobiotics  
 Project duration: 01.01.2007 - 31.12.2009  
 Responsible person: **doc. Ing. Soňa Jantová, PhD.**

### VEGA

Project Code: [1/0462/08](#)  
 Title (sl.): Mikroorganizmy izolované z lignitu - impulz pre štúdium regulácie metabolického obratu a potenciálnej zdroj nových sekundárnych metabolitov.  
 Title (eng.): Microbial isolates from lignite – an impetus for the study of metabolic turnover and a potential source of novel secondary metabolites.  
 Project duration: 01.01.2008 - 31.12.2010  
 Responsible person: **doc. RNDr. Daniela Hudecová, PhD.**

## VEGA

Project Code:	<a href="#">1/0589/08</a>
Title (sl.):	Polymorfizmus génov pre vybrané subjednotky proteínského kináz závislej na 5'-AMP (AMPK) a jej vzťah k obezite a pohybovej výkonnosti.
Title (eng.):	Polymorphism of the genes for selected subunits of 5'-AMP dependent protein kinase (AMPK) and its relationship to the obesity and physical fitness
Project duration:	01.01.2008 - 31.12.2010
Responsible person:	<b>Ing. Boris Lakatoš, PhD.</b>

## VEGA

Project Code:	<a href="#">1/0434/08</a>
Title (sl.):	Mechanizmy sekrecie extracelulárnych proteáz vláknitej huby Trichoderma viride.
Title (eng.):	Mechanisms of extracellular protease secretion in filamentous fungus Trichoderma viride.
Project duration:	01.01.2008 - 31.12.2010
Responsible person:	<b>Ing. Martin Šimkovič, PhD.</b>

## VEGA

Project Code:	<a href="#">2/066/08</a>
Title (sl.):	Antioxiadačná génová terapia in vivo pri liečbe hypertenzie.
Title (eng.):	In-vivo antioxidant gene transfer in the therapy of hypertension.
Project duration:	01.01.2008 - 31.12.2010
Responsible person:	<b>RNDr. Ima Dovinová, PhD.</b>
Responsible person STU:	<b>RNDr. Helena Paulíková, PhD.</b>

## VEGA

Project Code:	<a href="#">1/0650/09</a>
Title (sl.):	Mechanizmy zabezpečujúce špecifickosť Ca <sup>2+</sup> signálov v živočíšnych bunkách.
Title (eng.):	Mechanisms providing specificity of Ca <sup>2+</sup> signals in animal cells.
Project duration:	01.01.2009 - 31.12.2011
Responsible person:	<b>prof. RNDr. Ľudovít Varečka, DSc.</b>

## Sixth Framework Programme

Project Code:	<a href="#">HENVINET No 037019</a>
Title (eng.):	Health and environment network.
Title (sl.):	Prepojenie zdravia a životného prostredia.
Project duration:	01.11.2006 - 30.04.2010
Project coordinator:	Dr. Inga Floisand
Responsible person:	<b>Ing. Andrea Šovčíková, PhD.</b>

## List of bachelor (BT), diploma (DT) and dissertation (DissT) theses

Type	Final thesis	Supervisor	Enter
BT	<u>Tomáš Cisárik</u> Antifungálna aktivita metabolitov izolátu 9b (Epicoccum sp.) z lignitu	<u>Ing. Barbora Kaliňáková, PhD.</u>	<input type="checkbox"/>
BT	<u>Bc. Mariana Padušáková</u> Bioinformatic and Molecular Biological Characterization of an ABC Transporter in Trichoderma Strains	<u>Ing. Svetlana Kryštofová, PhD.</u>	<input type="checkbox"/>
DT	<u>Ing. Veronika Plavinová</u> Biological effects of new metalofenamates <u>Ing. Barbora Kaliňáková, PhD.</u>	<u>doc. RNDr. Daniela Hudecová, PhD.</u>	<input type="checkbox"/>
DisT	Biologické účinky biokoordinačných zlúčenín s atómom medi v molekule. <u>Ing. Petra Olejníková, PhD.</u>	<u>doc. RNDr. Daniela Hudecová, PhD.</u>	
DisT	Izolácia a charakterizácia mikroskopických vláknitých húb z lignitu.	<u>doc. RNDr. Daniela Hudecová, PhD.</u>	
BT	<u>Bc. Petra Píšová</u> Biologická aktivita novosyntetizovaných 4-anilínochinchinolínov <u>Bc. Júlia Kluka</u>	<u>Ing. Katarína Koňariková</u>	<input type="checkbox"/>
BT	Citlivosť ľudských lymfocytov a nádorových buniek k novým akridínovým derivátom <u>Bc. Peter Žemla</u>	<u>doc. RNDr. Helena Paulíková, PhD.</u>	<input type="checkbox"/>
BT	Enzýmové aktivity markerových enzýmov počas klíčenia konídium Trichoderma viride <u>Monika Záškvarová</u>	<u>prof. RNDr. Ľudovít Varečka, DSc.</u>	<input type="checkbox"/>
BT	Glutatión v leukemických bunkách a cytotoxické pôsobenie nových akridínových látok <u>Ing. Patrik Matejov</u>	<u>doc. RNDr. Helena Paulíková, PhD.</u>	<input type="checkbox"/>
DT	Hodnotenie cytotoxicity a biokompatibility nových biomateriálov využiteľných v medicíne	<u>doc. Ing. Soňa Jantová, PhD.</u>	<input type="checkbox"/>
BT	<u>Alexandra Bujnová</u> Charakterizácia klíčenia konídium Trichoderma viride <u>Bc. Anežka Helcová</u>	<u>Ing. Barbora Kaliňáková, PhD.</u>	<input type="checkbox"/>
BT	Charakterizácia proteolytických enzýmov produkovaných počas kultivácie živočíšnych bunkových línii <u>Ing. Lucia Laubertová</u>	<u>Ing. Boris Lakatoš, PhD.</u>	<input type="checkbox"/>
DT	Indukcia bunkovej smrti a mechanizmus apoptózy nádorových buniek vyvolanej extraktmi z <i>Philadelphus schrenkii</i> <u>Ing. Andrej Repický, PhD.</u>	<u>doc. Ing. Soňa Jantová, PhD.</u>	<input type="checkbox"/>
DisT	Indukcia inhibície bunkovej proliferácie a smrti novými dusíkovými heterocyklickými zlúčeninami a ich mechanizmus účinku	<u>doc. Ing. Soňa Jantová, PhD.</u>	<input type="checkbox"/>
BT	<u>Martina Kurucová</u> Indukcia rezistencie voči antimikrobiálnym zlúčeninám	<u>Ing. Petra Olejníková, PhD.</u>	<input type="checkbox"/>
BT	<u>Jakub Lazorík</u> Interakcia DNA a RNA s antifungálnymi látkami typu tioflavínu <u>Ing. Ľuboš Nižňanský</u>	<u>prof. RNDr. Ľudovít Varečka, DSc.</u>	<input type="checkbox"/>
DT	Izolácia a fenotypická charakterizácia kmeňov Trichoderma viride defektných v expresii glutamátdekarboxylázy	<u>Ing. Svetlana Kryštofová, PhD.</u>	<input type="checkbox"/>
BT	<u>Alžbeta Babicová</u> Izolácia a identifikácia fungálnych izolátov z pôdy <u>Ing. Lenka Farkašová</u>	<u>Ing. Petra Olejníková, PhD.</u>	<input type="checkbox"/>
DT	Komparatívne štúdium transportných procesov vláknitých húb počas ich klíčenia	<u>Ing. Martin Šimkovič, PhD.</u>	<input type="checkbox"/>

BT	<a href="#">Bc. Katarína Stančeková</a> Medicínske využitie biomateriálov <a href="#">Lucia Klimová</a>	<a href="#">doc. Ing. Soňa Jantová, PhD.</a>	<input type="checkbox"/>
BT	Metabolity izolátu 9b (Epicoccum sp.) z lignitu s antibakteriálnou aktivitou <a href="#">Bc. Stanislava Tichá</a>	<a href="#">Ing. Barbora Kaliňáková, PhD.</a>	<input type="checkbox"/>
BT	Mikroorganizmy v prírodných a pitných vodách. Metódy stanovenia mikroorganizmov v pitných vodách. <a href="#">Zuzana Madáková</a>	<a href="#">doc. RNDr. Daniela Hudecová, PhD.</a>	<input type="checkbox"/>
BT	Mutagénnne a antimutagénnne vlastnosti vybraných novosyntetizovaných derivátov indolizínu <a href="#">Matej Badžoň</a>	<a href="#">Ing. Lucia Birošová, PhD.</a>	<input type="checkbox"/>
BT	Optimalizácia podmienok extrakcie a elektroforézy bielkovín z konídii Trichoderma viride	<a href="#">Ing. Barbora Kaliňáková, PhD.</a>	<input type="checkbox"/>
DT	<a href="#">Ing. et Ing. Katarína Bartková</a> Oxidačný stres pri hypertenzií	<a href="#">doc. RNDr. Helena Paulíková, PhD.</a>	<input type="checkbox"/>
DT	Sledovanie metabolizmu vláknitých hub pomocou NMR <a href="#">Stanislav Kušnér</a>	<a href="#">Ing. Barbora Kaliňáková, PhD.</a>	<input type="checkbox"/>
BT	Stanovenie antifungálnej aktivity novosyntetizovaných derivátov indolizínu <a href="#">Tomáš Molnár</a>	<a href="#">Ing. Petra Olejníková, PhD.</a>	<input type="checkbox"/>
BT	Štúdium interakcie nukleových kyselín s antimikrobiálnymi látkami typu pyronínu	<a href="#">prof. RNDr. Ľudovít Varečka, DSc.</a>	<input type="checkbox"/>
DT	<a href="#">Ing. Viera Vilimová</a> Transportné procesy počas klíčenia vláknitej huby Trichoderma viride <a href="#">Bc. Vladimíra Čambálová</a>	<a href="#">Ing. Martin Šimkovič, PhD.</a>	<input type="checkbox"/>
BT	Úloha biologicky aktívnych látok vyskytujúcich sa v potravinách v prevencii rakoviny <a href="#">Ing. Miroslava Smolinská</a>	<a href="#">doc. Ing. Soňa Jantová, PhD.</a>	<input type="checkbox"/>
DT	Vlastnosti pôdnych mikroorganizmov izolovaných z vysokohorských oblastí Nepálu <a href="#">Bc. Miroslava Gazdaricová</a>	<a href="#">Ing. Petra Olejníková, PhD.</a>	<input type="checkbox"/>
BT	Vplyv fyziologicky účinných subminoritných obsahových látok z Melaleuca alternifolia a Cinnamomum cassia na proliferáciu nádorových buniek. <a href="#">Bc. Tomáš Sladovník</a>	<a href="#">doc. Ing. Soňa Jantová, PhD.</a>	<input type="checkbox"/>
BT	Vplyv zloženia kultivačného média na sekréciu proteolytických enzýmov vláknitou hubou Trichoderma viride	<a href="#">Ing. Martin Šimkovič, PhD.</a>	<input type="checkbox"/>
BT	<a href="#">Bc. Jana Paceková</a> Využitie Trichoderma sp. v procese biologickej ochrany rastlín	<a href="#">Ing. Petra Olejníková, PhD.</a>	<input type="checkbox"/>
DT	<a href="#">Ing. Eva Harnišová</a> Vzťah AMP závislej proteín kinázy k obezite <a href="#">Bc. Matej Maťaťa</a>	<a href="#">Ing. Boris Lakatoš, PhD.</a>	<input type="checkbox"/>
BT	Zmeny enzymových aktivít sprevádzajúce klíčenie konídii Trichoderma viride	<a href="#">prof. RNDr. Ľudovít Varečka, DSc.</a>	<input type="checkbox"/>

## Selected publications

### Journals

- [1] Birošová, Lucia - Mikulášová, Mária - Vaverková, Štefánia: Spojitosť medzi látkami prítomnými v potrave a rezistenciou voči ciprofloxacínu. In: *Scientia Pharmaceutica*. - ISSN 0036-8709. - Vol. 77, No. 1 (2009), p. 247.
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- [3] Brindzová, Lucia - Zalibera, Michal - Jakubík, Tibor - Mikulášová, Mária - Takácsiová, Maria - Mošovská, Silvia - Rapta, Peter: Antimutagenic and Radical Scavenging Activity of Wheat Bran. In: *Cereal Research Communications*. - ISSN 0133-3720. - Vol. 37, Iss. 1 (2009), p. 45-55.
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- [6] Jantová, Soňa - Repický, Andrej - Čipák, Ľuboš: 3-(5-nitro-2-tienyl)-9-chlóro-5-morfolín-4-yl[1,2,4]triazolo[4,3-c]chinazolín indukuje na ROS závislú smrť mitochondriovou signálnou dráhou a aktiváciu p38 MAPK. In: *Neoplasma*. - ISSN 0028-2685. - Vol. 56, Iss. 6 (2009), p. 494-499.
- [7] Mikulášová, Mária- Vaverková, Štefánia- Birošová, Lucia : Antimikrobiálna aktivita esenciálnyc olejov z vybraných rastlín rastúcich pri rôznych podmienkach. In: *Scientia Pharmaceutica*. - ISSN 0036-8709. - Vol. 77, No. 1 (2009), p. 248.
- [8] Puterová, Zita - Andicsová, Anita - Moncoľ, Ján - Rabong, Constantin - Végh, Daniel-substituted thiophenes from  $\alpha\omega$  : A facile synthesis of functionalized 2-aminothiophene by homo- and cross-coupling reactions. In: *Tetrahedron letters*. - ISSN 0040-4039. - Vol. 50, Iss. 32 (2009), p. 4670-4673.
- [9] Repická (Púčeková), Zuzana - Krupková, Lenka - Korabík, Maria - Moncoľ, Ján- Hudecová, Daniela- Valigura, Dušan : Bis(5-Me(O)salicylato)copper(II) Complexes with/without Diethylnicotinamide - Preparation, Structure and Properties. - , 2009. In: *Acta Chimica Slovaca*. - ISSN 1337-978X. - Vol. 2, No. 2. - , 2009, p. 60-70
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- [4] Andicsová, Anita - Végh, Daniel: Synthesis of well defined thiophene-oligomers utilising Vilsmeier-Hack-Arnold reaction. In: The 13th Blue Danube Symposium on Heterocyclic Chemistry, September 20-23, 2009, Slovenia. - , 2009. - ISBN 247246592. - p. 60.
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- [12] Mackuľák, Tomáš - Ševčík, Peter - Olejníková, Petra - Prousek, Jozef: Toxicity Change Before and After Fenton Reaction Treatment of 2-(5-Nitrofuryl)Acrylic Acid Measured by Means of Escherichia Coli Assay : June 16-18, 2009, Svit, Slovak Republic. In: 29-th International Symposium "Industrial Toxicology 09", June 16-18 2009, Svit, Slovak Republik. - : ZSVTS, 2009. - ISBN 978-80-969710-3-9. - p. 138-142.
- [13] Majerová, Bronislava - Olejníková, Petra - Kryštofová, Svetlana - Varečka, Ľudovít: Paradoxical differences in UV light sensitivity between conidia and mycelium of filamentous fungi : Zborník príspevkov. In: Zborník príspevkov konferencie Drobnicov memoriál 5. ročník, Rajecká Lesná, 2.-4. 9. 2009. - : Ústav molekulárnej fyziológie a genetiky SAV, 2009. - ISBN 978-80-970164-1-8. - p. 58-59. (in Slovak)
- [14] Olejníková, Petra - Birošová, Lucia - Švorc, Ľubomír: antimikrobiálne a antimutagénne vlastnosti novosyntetizovaných derivátov indolizínu. In: Scientia Pharmaceutica. - ISSN 0036-8709. - Vol. 77, No. 1 (2009), p. 216.
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- [20] Vantová, Zuzana - Paulíková, Helena- Kožurková, Mária- Sabolová, Danica - Kristián, Pavol [59%] - Imrich, Ján - Ungvarský, Ján - Janovec, Ladislav - Dovinová, Ima: Nové akridínové interkalátory a ich účinok na proliferáciu leukemických bunkových linií. In: XXV. Xenobiochemické sympózium, Mikulov, 22.-25.9.2009. - : Výskumný ústav veterinárneho lekařství, v.v.i., 2009. - p. 55.
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## Projects

### APVV

Project Code:	<a href="#"><u>APVV-20-005605</u></a>
Title (sl.):	Bezpečnosť a originalita remeselné vyrábaných syrov zo surového mlieka - aplikácia metód prediktívnej mikrobiológie a PCR pri hodnotení rizika (risk assessment)
Title (eng.):	Safety and originality of cheeses produced artisanally from raw milk - application of predictive microbiology and PCR methods in risk assessment
Project duration:	01.05.2006 - 31.10.2009
Responsible person:	<b>doc. Ing. Ľubomír Valík, PhD.</b>

### APVV

Project Code:	<a href="#"><u>VMSPP-0073-09</u></a>
Title (sl.):	Vreckový analytický systém pre jednoduchú a rýchlu analýzu v potravinárstve a diagnostike na báze jednorazových biosenzorov s využitím nanotechnológie
Title (eng.):	Pocket analysis system for easy and rapid analysis in food and diagnostics based on disposable biosensors using nanotechnology.
Project duration:	01.09.2009 - 31.08.2011
Responsible person:	<b>Ing. Miroslav Stredanský, PhD., Ing. Eva Hybenová, PhD.</b>

### RAV MŠ SR

Project Code:	<a href="#"><u>4/0013/07</u></a>
Title (sl.):	Monitoring, frakcionácia a využitie cereálií pre produkciu zdraviu prospešných potravinárskych výrobkov.
Title (eng.):	Monitoring, fractionation and cereals utilization for healthy foods production.
Project duration:	01.01.2007 - 31.12.2009
Responsible person:	<b>doc. Ing. Ernest Šturdík, PhD.</b>

### VEGA

Project Code:	<a href="#"><u>1/0845/08</u></a>
Title (sl.):	Analýza zdraviu prospešných látok cereálií a ich využitie v pekárskych výrobkoch s preventívno-lekárskymi vlastnosťami.
Title (eng.):	Analysis of health benefit cereal components and their use in bakery products with preventive and medicinal properties.
Project duration:	01.01.2008 - 31.12.2010
Responsible person:	<b>doc. Ing. Mária Takácsiová, PhD. (2008), Ing. Eva Hybenová, PhD. (since 2009)</b>

## List of bachelor (BT), diploma (DT) and dissertation (DissT) theses

Type	Final thesis	Supervisor	Enter
DT	<u>Ing. Katarína Munková</u> Antioxidačné a antimutagénne účinky ovsy siateho <u>Ing. Alžbeta Medveďová, PhD.</u>	<u>Ing. Lucia Brindzová, PhD.</u>	<input type="checkbox"/>
DisT	Aplikácia kvantitatívnej a prediktívnej mikrobiológie pri zvyšovaní hygienickej bezchybnosti potravín <u>RNDr. Jana Viskupičová, PhD.</u>	<u>doc. Ing. Ľubomír Valík, PhD.</u>	<input type="checkbox"/>
DisT	Enzýmová lipofilizácia glykozylovaných flavonoidov a ich príbuzných látok pre účely zlepšovania ich zdraviu prospešných vlastností <u>RNDr. Zuzana Šramková, PhD.</u>	<u>doc. Ing. Ernest Šturdík, PhD.</u>	<input type="checkbox"/>
DisT	Charakterizácia chemického zloženia a ďalších parametrov rôznych genotypov pšenice letnej pre účely ich šľachtenia <u>Ing. Monika Kocková</u>	<u>doc. Ing. Ernest Šturdík, PhD.</u>	<input type="checkbox"/>
DT	Kysomliečne baktérie ako štartovacie kultúry pre cereálne fermentácie <u>Ing. Zuzana Píšová</u>	<u>Ing. Eva Hybenová, PhD.</u>	<input type="checkbox"/>
DT	Matematická analýza rastu Mucor circinelloides v závislosti od teploty a pH <u>Bc. Ján Šnelcer</u>	<u>Ing. Denisa Liptáková, PhD.</u>	<input type="checkbox"/>
BT	Mediteránska strava a jej vplyv na civilizačné ochorenia <u>Bc. Natália Káňavová</u>	<u>Ing. Eva Hybenová, PhD.</u>	<input type="checkbox"/>
BT	Mikroflóra tráviaceho traktu <u>Ing. Daniel Dubnický</u>	<u>Ing. Denisa Liptáková, PhD.</u>	<input type="checkbox"/>
DT	Možnosti aplikácie vedľajšieho produktu spracovania kakaových bôbov do potravín <u>Bc. Nikoleta Šaková</u>	<u>Ing. Mária Kováčová, PhD.</u>	<input type="checkbox"/>
BT	Nutrition Impact on the Cancer <u>Jana Uhliarová</u>	<u>Ing. Eva Hybenová, PhD.</u>	<input type="checkbox"/>
BT	Obezita - rizikový faktor civilizačných ochorení <u>Bc. Patrik Homola</u>	<u>Ing. Mária Kováčová, PhD.</u>	<input type="checkbox"/>
BT	Popis mikroflóry vybraného mliečneho produktu <u>Ing. Lukáš Žemlička</u>	<u>Ing. Denisa Liptáková, PhD.</u>	<input type="checkbox"/>
DT	Porovnanie antioxidačných účinkov fenolových kyselín vo vybraných genotypoch ovsy <u>Bc. Dorota Matiašková</u>	<u>Ing. Lucia Brindzová, PhD.</u>	<input type="checkbox"/>
BT	Probiotiká a materské mlieko <u>Bc. Tatiana Citriaková</u>	<u>Ing. Eva Hybenová, PhD.</u>	<input type="checkbox"/>
BT	Probiotiká v materskom mlieku a náhradnej dojčenskej výžive <u>Ing. Zuzana Petrušáková, PhD.</u>	<u>Ing. Eva Hybenová, PhD.</u>	<input type="checkbox"/>
DisT	Selekcia, charakterizácia, výber a využitie laktobacilov ako štartovacích kultúr pre zdraviu prospešné chlebové výrobky <u>Bc. Peter Šilhár</u>	<u>doc. Ing. Ernest Šturdík, PhD.</u>	<input type="checkbox"/>
BT	Sledovanie vybraných fyzikálno-chemických parametrov syrov z obchodnej siete <u>Róbert Zapletal</u>	<u>Ing. Alžbeta Medveďová, PhD.</u>	<input type="checkbox"/>
BT	Štartovacie kultúry v pekárskom priemysle <u>Bc. Juraj Mendel</u>	<u>Ing. Eva Hybenová, PhD.</u>	<input type="checkbox"/>
BT	Štartovacie kultúry v pekárskom priemysle <u>Ing. Rastislav Monošík</u>	<u>Ing. Eva Hybenová, PhD.</u>	<input type="checkbox"/>
DT	Vplyv expresie P-glykoproteínu na väzbu lektínov a efekt derivátov kyseliny ferulovej u myšej leukemickej línie L1210	<u>doc. Ing. Ernest Šturdík, PhD.</u>	<input type="checkbox"/>

DT	<a href="#">Ing. Ivana Mečiarová</a>	<a href="#">doc. Ing. Ľubomír Valík, PhD.</a>	<input type="checkbox"/>
	Vplyv vybraných faktorov prostredia na rast Geotrichum candidum		
BT	<a href="#">Bc. Lenka Hlavatá</a>	<a href="#">Ing. Eva Hybenová, PhD.</a>	<input type="checkbox"/>
	Vplyv výživy na srdcovocievne ochorenia		
BT	<a href="#">Elena Ježová</a>	<a href="#">Ing. Mária Kováčová, PhD.</a>	<input type="checkbox"/>
	Význam probiotík a prebiotík v ľudskej výžive		
	<a href="#">Bc. Zuzana Ferencová</a>	<a href="#">Ing. Denisa Liptáková, PhD.</a>	<input type="checkbox"/>
BT	Význam probiotík pre ľudský organizmus a ich využitie v potravinárstve		
BT	<a href="#">Anna Bizubová</a>	<a href="#">Ing. Eva Hybenová, PhD.</a>	<input type="checkbox"/>
	Výživa a kardiovaskulárne ochorenia		
BT	<a href="#">Bc. Anežka Berciková</a>	<a href="#">Ing. Eva Hybenová, PhD.</a>	<input type="checkbox"/>
	Výživa a kolorektálny karcinóm		
	<a href="#">Bc. Ladislav Ondruš</a>	<a href="#">doc. Ing. Ľubomír Valík, PhD.</a>	<input type="checkbox"/>
BT	Základy kvantitatívnej potravinárskej mikrobiológie: rastové čiary Mucor racemosus		
	<a href="#">Ing. Dominika Šedivá</a>	<a href="#">Ing. Anna Mikulajová, PhD.</a>	<input type="checkbox"/>
DT	Zastúpenie vybraných zložiek a antioxidačné vlastnosti genotypov pohánky a moharu		

## Selected publications

### Journals

- [1] Brindzová, Lucia - Zalibera, Michal - Jakubík, Tibor - Mikulášová, Mária - Takácsová, Maria - Mošovská, Silvia - Raptá, Peter: Antimutagenic and Radical Scavenging Activity of Wheat Bran. In: Cereal Research Communications. - ISSN 0133-3720. - Vol. 37, Iss. 1 (2009), p. 45-55.
- [2] Brindzová, Lucia - Mikulášová, Mária - Takácsová, Maria - Mošovská, Silvia - Opatová, Alena: Evaluation of the mutagenicity and antimutagenicity of extracts from oat, buckwheat and wheat bran in the Salmonella/microsome assay. In: Journal of Food Composition and Analysis. - ISSN 0889-1575. - Vol. 22, Iss. 1 (2009), p. 87-90.
- [3] Brindzová, Lucia - Zalibera, Michal- Šimon, Peter - Čertík, Milan - Takácsová, Maria - Mikulajová, Anna - Mikušová, Lucia - Raptá, Peter : Screening of cereal varieties for antioxidant and radical scavenging properties applying various spectroscopic and thermoanalytical methods. In: International Journal of Food Science and Technology. - ISSN 0950-5423. - Vol. 44 (2009), p. 784-791.
- [4] Grosová, Zuzana - Rosenberg, Michal - Gdovin, Miroslav- Rebroš, Martin - Sláviková, Lucia: Production of d-galactose using  $\beta$ -galactosidase and *Saccharomyces cerevisiae* entrapped in poly(vinylalcohol) hydrogel. In: Food Chemistry. - ISSN 0308-8146. - Vol. 116, Iss. 1 (2009), p. 96-100.
- [5] Hronská, Helena - Grosová, Zuzana - Rosenberg, Michal: Hydrolysis of lactose in milk by *Kluyveromyces lactis* beta-galactosidase immobilized in polyvinylalcohol gel. In: Journal of Food and Nutrition Research. - ISSN 1336-8672. - Vol. 48, No. 2 (2009), p. 87-91.
- [6] Petruláková, Zuzana - Hybenová, Eva - Mikušová, Lucia - Gereková, Petra- Kocková, Monika - Šturdík, Ernest: The effect of lactobacilli starter culture on quality of bread. - , 2009. In: Acta Chimica Slovaca. - ISSN 1337-978X. - Vol. 2, No. 2. - , 2009, p. 128-136

- [7] Zalibera, Michal - Raptá, Peter - Staško, Andrej - Brindzová, Lucia - Brezová, Vlasta: Thermal generation of stable SO<sub>4</sub>?? spin trap adducts with super-hyperfine structure in their EPR spectra: An alternative EPR spin trapping assay for radical sca. In: Free Radical Research. - ISSN 1071-5762. - Vol. 43, Iss. 5 (2009), p. 457-469.

## Conferences

- [1] Gereková, Petra - Hybenová, Eva - Petrušáková, Zuzana - Simonidesová, Dagmar - Kocková, Monika - Valík, Ľubomír: Laktobacily ako štartéry v pekárskom priemysle. In: Zborník prednáškových a posterových príspevkov LABORALIM 2009 Recent progress in analytical methods of food B. Bystrica, 3.-4. 2. 2009. - : Vydavateľstvo STU, 2009. - ISBN 978-80-227-3071-6. - p. 166-169
- [2] Hronská, Helena - Grosová, Zuzana - Rosenberg, Michal: Milk lactose hydrolysis by beta-galactosidase immobilized in polyvinylalcohol hydrogel : Abstracts of the 14th European Congress on Biotechnology. In: New Biotechnology. - ISSN 1871-6784. - Vol. 25, Suppl. 1. - , 2009, S118.
- [3] Mikušová, Lucia - Mošovská, Silvia - Šturdík, Ernest - Brindzová, Lucia - Mikulajová, Anna: Antioxidant properties of bakery products enriched with whole grain flours and HPCL analysis of their phenolic acids. In: XLVII. Medzinárodná konferencia z technológie a analytiky tukov : Zborník prednášok. - : STU v Bratislave, 2009. - ISBN 987-80-227-3097-6. - p. 154-159. (in Slovak)
- [4] Mikušová, Lucia - Šturdík, Ernest - Mošovská, Silvia - Brindzová, Lucia - Mikulajová, Anna: Development of new bakery products with high dietary fibre content and antioxidant activity for obesity prevention. In: Book of Abstracts - 4th International Dietary Fibre Conference 2009. - : ICC Services GmbH, 2009. - ISBN 978-3-9501610-0-7. - p. 185.
- [5] Mošovská, Silvia - Mikušová, Lucia - Valík, Ľubomír - Brindzová, Lucia - Mikulajová, Anna: Identification of phenolic acids and antioxidant activity of pseudocereals. In: XLVII. Medzinárodná konferencia z technológie a analytiky tukov : Zborník prednášok. - : STU v Bratislave, 2009. - ISBN 987-80-227-3097-6. - p. 150-153. (in Slovak)
- [6] Petrušáková, Zuzana - Hybenová, Eva - Gereková, Petra - Kocková, Monika - Šturdík, Ernest: Lactobacilli as starter cultures for bakery industry. In: Zborník príspevkov konferencie Drobničov memoriál 5. ročník, Rajecká Lesná, 2.-4. 9. 2009. - : Ústav molekulárnej fyziológie a genetiky SAV, 2009. - ISBN 978-80-970164-1-8. - p. 66. (in Slovak)
- [7] Petrušáková, Zuzana - Hybenová, Eva - Gereková, Petra - Simonidesová, Dagmar - Kocková, Monika - Šturdík, Ernest: Monitoring fermentative properties of lactobacilli in sourdoughs. In: Zborník prednáškových a posterových príspevkov LABORALIM 2009 Recent progress in analytical methods of food B. Bystrica, 3.-4. 2. 2009. - : Vydavateľstvo STU, 2009. - ISBN 978-80-227-3071-6. - p. 247. (in Slovak)
- [8] Rebroš, Martin - Rosenberg, Michal - Grosová, Zuzana - Šipocz, Matej: Simultaneous Saccharification and Fermentation of Starch Hydrolysates : Recent Progress in Analytical Methods of Food. In: Zborník prednáškových a posterových príspevkov LABORALIM 2009 Recent progress in analytical methods of food B. Bystrica, 3.-4. 2. 2009. - : Vydavateľstvo STU, 2009. - ISBN 978-80-227-3071-6. - p. 269-271.
- [9] Rebroš, Martin - Rosenberg, Michal - Grosová, Zuzana - Krištofíková, Ľudmila: Sucrose hydrolysis with invertase entrapped in polyvinyl alcohol gel : Abstracts of the 14th European Congress on Biotechnology. In: New Biotechnology. - ISSN 1871-6784. - Vol. 25, Suppl. 1. - , 2009, S123.
- [10] Simonidesová, Dagmar - Hybenová, Eva - Gereková, Petra - Petrušáková, Zuzana - Kocková, Monika [12%] - Šturdík, Ernest [3%]: Selection of isolated strains of lactobacilli for preparation of starter cultures for bakery products. - , 2009. In: Zborník prednáškových a posterových príspevkov LABORALIM 2009 Recent progress in analytical methods of food B. Bystrica, 3.-4. 2. 2009. - : Vydavateľstvo STU, 2009. - ISBN 978-80-227-3071-6. - p. 279-282

# INSTITUTE OF INFORMATION ENGINEERING, AUTOMATION AND MATHEMATICS

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## Foreword

Our institute was established in 1.1.2006 from two departments:  
Department of Information Engineering and Process Control and  
Department of Mathematics. It offers interesting undergraduate and  
graduate courses as well as PhD studies.

## Teaching activities

Department of Information Engineering and Process Control guarantees  
three study programs: bachelor study program Information Engineering,  
Automation and Management in Chemical and Food Industry, master  
study program Information Engineering, Automation and Management in  
Chemical and Food Industry and PhD study program Process Control.  
Department of Mathematics provides basic and advanced courses of  
Mathematics, Informatics, Mathematical Statistics and Numerical  
Mathematics in all study programs.

## Research profile

Our research has focused on the following areas: modelling, identification,  
optimisation and process control in chemical and food industries, design  
and projection, measurement and data processing, process automation  
and visualisation, mathematical statistics, fuzzy sets and fuzzy logic,  
ordered algebraic structures.

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## Projects

### APVV

Project Code: [LPP-0092-07](#)  
 Title (sl.): Prediktívne riadenie hybridných systémov.  
 Project duration: 01.06.2008 - 31.05.2011  
 Responsible person: **prof. Ing. Miroslav Fikar, DSc.**

### APVV

Project Code: [APVV-0029-07](#)  
 Title (sl.): Algoritmy pre optimálne riadenie procesov prestupu tepla a látky s hybridnou dynamikou.  
 Project duration: 01.09.2008 - 31.12.2010  
 Responsible person: **prof. Ing. Miroslav Fikar, DSc.**

### VEGA

Project Code: [1/4055/07](#)  
 Title (sl.): Moderné prístupy k riadeniu chemických a biochemických procesov s neurčitosťami.  
 Title (eng.): Advanced approaches to control of chemical and biochemical processes with uncertainties.  
 Project duration: 01.01.2007 - 31.12.2009  
 Responsible person: **doc. Ing. Monika Bakšová, PhD.**

### VEGA

Project Code: [1/0071/09](#)  
 Title (sl.): Pokročilé metódy optimálneho riadenia chemických a biochemických procesov.  
 Project duration: 01.01.2009 - 31.12.2011  
 Responsible person: **prof. Ing. Miroslav Fikar, DSc.**

**Intergovernmental agreement**

Project Code: [\*\*SK-CZ-0042-07\*\*](#)  
 Title (eng.): Algorithms for control of processes with mass and heat transfer.  
 Title (sl.): Algoritmy pre riadenie procesov prestupu látky a tepla.  
 Project duration: 01.01.2008 - 31.12.2009  
 Project coordinator: doc. Ing. Monika Bakošová, PhD.  
 Responsible person: **doc. Ing. Monika Bakošová, PhD.**

**Intergovernmental agreement**

Project Code: [\*\*SK-FR-0003-07\*\*](#)  
 Title (eng.): Dynamic and global optimisation of processes  
 Title (sl.): Dynamická a globálna optimalizácia procesov.  
 Project duration: 01.02.2008 - 31.12.2009  
 Project coordinator: prof. Ing. Miroslav Fikar, DSc.  
 Responsible person: **prof. Ing. Miroslav Fikar, DSc.**

**Intergovernmental agreement**

Project Code: [\*\*SK-HU-0023-08\*\*](#)  
 Title (eng.): Advanced optimisation and control strategies in energy saving processes  
 Title (sl.): Moderné metódy optimalizácie a riadenia v procesoch s úsporou energie.  
 Project duration: 01.02.2009 - 31.12.2010  
 Project coordinator: prof. Ing. Alojz Mészáros, PhD.  
 Responsible person: **prof. Ing. Alojz Mészáros, PhD.**

**List of bachelor (BT), diploma (DT) and dissertation (DissT) theses**

Type	Final thesis	Supervisor	Enter
BT	<a href="#"><u>Bc. Gabriela Kureková</u></a> Digitalizácia kultúrneho dedičstva na lignocelulózových nosičoch informácií	<a href="#"><u>prof. Dr. Ing. Miroslav Fikar</u></a>	<input type="checkbox"/>
DT	<a href="#"><u>Ing. Róbert Lanák</u></a> Dovolenkový modul pre webový systém ÚIAM	<a href="#"><u>Ing. Ľuboš Čirka, PhD.</u></a>	<input type="checkbox"/>
BT	<a href="#"><u>Bc. Pavel Bodnár</u></a> Dynamické generovanie obrázkov vo formáte SVG	<a href="#"><u>Ing. Ľuboš Čirka, PhD.</u></a>	<input type="checkbox"/>
DT	<a href="#"><u>Ing. Tomáš Rubický</u></a> Fuzzy riadenie s vnútorným modelom sústavy (IMC)	<a href="#"><u>Ing. Anna Vasičkaninová</u></a>	<input type="checkbox"/>
BT	<a href="#"><u>Bc. Mgr. Dávid Dubovský</u></a> Generovanie prechodových charakteristík s využitím technológie AJAX	<a href="#"><u>Ing. Ľuboš Čirka, PhD.</u></a>	<input type="checkbox"/>
BT	<a href="#"><u>Bc. František Tomeček</u></a> Identifikácia vybraných procesov metódou ANFIS	<a href="#"><u>Ing. Anna Vasičkaninová</u></a>	<input type="checkbox"/>
BT	<a href="#"><u>Bc. Jozef Wenchich</u></a> Identifikácia vybraných procesov metódou ANFIS	<a href="#"><u>Ing. Anna Vasičkaninová</u></a>	<input type="checkbox"/>
BT	<a href="#"><u>Bc. Branislav Mitterpach</u></a> Konvexná optimalizácia a prediktívne riadenie s modelom	<a href="#"><u>Ing. Michal Kvasnica, PhD.</u></a>	<input type="checkbox"/>

	<b>Bc. Katarína Mikušová</b>		
BT	Modelovanie a riadenie laboratórneho zariadenia PCT40	<a href="#">doc. Ing. Monika Bakošová, PhD.</a>	<input type="checkbox"/>
BT	<b>Ján Karško</b> Modelovanie diskrétnych a spojitych dát	<a href="#">doc. RNDr. Štefan Varga, PhD.</a>	<input type="checkbox"/>
BT	<b>Luboš Mičenec</b> Modelovanie hybridných systémov	<a href="#">Ing. Michal Kvasnica, PhD.</a>	<input type="checkbox"/>
BT	<b>Bc. Tomáš Hulata</b> Návrh neuro-fuzzy regulátorov v prostredí Matlab.	<a href="#">Ing. Anna Vasičkaninová</a>	<input type="checkbox"/>
BT	<b>Bc. Jana Kunovská</b> Porovnanie projektov pre riešenie generovania rozvrhu hodín	<a href="#">prof. Dr. Ing. Miroslav Fikar</a>	<input type="checkbox"/>
BT	<b>Bc. Katarína Náglová</b> Práca s laboratórnym procesom PCT 40	<a href="#">prof. Dr. Ing. Miroslav Fikar</a>	<input type="checkbox"/>
BT	<b>Ing. Peter Hunčár</b> Predikcia časových radov pomocou neurónových sietí a regresných modelov	<a href="#">Ing. Štefan Babinec, PhD.</a>	<input type="checkbox"/>
DT	<b>Ing. Martin Herceg, PhD.</b>	<a href="#">prof. Dr. Ing. Miroslav Fikar</a>	<input type="checkbox"/>
DisT	Real-time explicit model predictive control of processes	<a href="#">Ing. Štefan Babinec, PhD.</a>	<input type="checkbox"/>
BT	<b>Bc. Michal Sónak</b> Riadenie laboratórnych zásobníkov kvapaliny	<a href="#">Ing. Jana Závacká</a>	<input type="checkbox"/>
BT	<b>Bc. Katarína Chroustová</b> Riadenie LEGO robotov	<a href="#">Ing. Michal Kvasnica, PhD.</a>	<input type="checkbox"/>
BT	<b>Bc. Jarmila Grancová</b> Riadenie LEGO robotov	<a href="#">Ing. Michal Kvasnica, PhD.</a>	<input type="checkbox"/>
BT	<b>Jana Matisková</b> Riadenie rúrkového výmenníka tepla	<a href="#">doc. Ing. Monika Bakošová, PhD.</a>	<input type="checkbox"/>
BT	<b>Ing. Jozef Gocian</b>	<a href="#">prof. Ing. Alojz Mészáros, PhD.</a>	<input type="checkbox"/>
DT	Riadenie systémov pomocou adaptívnych neurónových regulátorov	<a href="#">prof. Ing. Alojz Mészáros, PhD.</a>	<input type="checkbox"/>
BT	<b>Bc. Miroslava Babulíková</b> Riadenie systémov pri pôsobení porúch využitím rozvetvených regulačných obvodov	<a href="#">Ing. Mária Karšaiová, PhD.</a>	<input type="checkbox"/>
BT	<b>Bc. Monika Hodasová</b> SAP - Zavádzanie čiarových kódov pri evidovaní investičného majetku.	<a href="#">Ing. Anna Vasičkaninová</a>	<input type="checkbox"/>
DT	<b>Ing. Martin Zubček</b> Systém na správu protetických výkonov	<a href="#">Ing. Ľuboš Čirka, PhD.</a>	<input type="checkbox"/>
BT	Tvorba dynamických webových stránok	<a href="#">Ing. Ľuboš Čirka, PhD.</a>	<input type="checkbox"/>
BT	<b>Slavomír Piatka</b> Tvorba webových stránok	<a href="#">Ing. Ľuboš Čirka, PhD.</a>	<input type="checkbox"/>
BT	<b>Bc. Stanislav Kušev</b> Tvorba webových stránok	<a href="#">Ing. Ľuboš Čirka, PhD.</a>	<input type="checkbox"/>
BT	<b>Ľuboš Osif</b> Web aplikácia na spracovanie a analýzu údajov	<a href="#">Ing. Ľuboš Čirka, PhD.</a>	<input type="checkbox"/>
BT	<b>Ing. Roman Zika</b> Zavedenie nového systému spracovania údajov pri projektovaní v Intech Control	<a href="#">prof. Ing. Alojz Mészáros, PhD.</a>	<input type="checkbox"/>
DT			

## Selected publications

### Journals

- [1] Bakošová, Monika - Puna, Dalibor - Dostál, Petr - Závacká, Jana : Robust stabilization of a chemical reactor. In: Chemical Papers. - ISSN 0366-6352. - Vol. 63, No. 5 (2009), p. 527-536.
- [2] Čižniar, Michal - Podmajerský, Marián - Hirmajer, Tomáš - Fikar, Miroslav - Latifi, M.A.: Global optimization for parameter estimation of differential-algebraic. In: Chemical Papers. - ISSN 0366-6352. - Vol. 63, No. 3 (2009), 274?283.
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- [4] Herceg, Martin - Kvasnica, Michal - Fikar, Miroslav - Čirka, Ľuboš: Real-time Control of a Thermo-Optical Device Using Polynomial Approximation of MPC Scheme. In: AT&P Journal Plus. - ISSN 1336-5010. - No. 2 Riadenie procesov (2009), p. 36-42.
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- [9] Podmajerský, Marián - Fikar, Miroslav: On-Line Neighbouring-Extremal Controller Design for Setpoint-Transition in Presence of Uncertainty. - Publikované aj v zborníku: Process Control 2009 : Proceedings of the 17th International Conference on Process Control 2009. Štrbské pleso, Slovak Republic, 9.-12.6.2009. Bratislava : STU v Bratislave, 2009. - ISBN 978-80-227-3081-5. - . - S. 107-113. In: AT&P Journal Plus. - ISSN 1336-5010. - No. 2 Riadenie procesov (2009), p. 77-83.
- [10] Vaneková, Katarína - Bakošová, Monika - Matušů, Radek - Závacká, Jana: Robust control of a laboratory process. - Publikované aj v zborníku: Process Control 2009 : Proceedings of the 17th International Conference on Process Control 2009. Štrbské pleso, Slovak Republic, 9.-12.6.2009. Bratislava : STU v Bratislave, 2009. - ISBN. - . In: AT&P Journal Plus. - ISSN 1336-5010. - No. 2 Riadenie procesov (2009), p. 98-103.
- [11] Vöröš, Juraj- Mikleš, Ján- Čirka, Ľuboš : A Comparision of Different EKF Approaches for Parameters Estimation. - Publikované aj v zborníku Process Control 2009 : Proceedings of the 17th International Conference on Process Control 2009. In: AT&P Journal Plus. - ISSN 1336-5010. - No. 2 Riadenie procesov (2009), p. 31-35.
- [12] Závacká, Jana - Bakošová, Monika - Vaneková, Katarína: Control of a Laboratory Chemical Reactor Using Robust PI Controller. In: Process Control 2009 : Proceedings of the 17th International Conference on Process Control 2009. Štrbské pleso, Slovak Republic, 9.-12.6.2009. - Bratislava : STU v Bratislave, 2009. - ISBN 978-80-227-3081-5. - 363?367.
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- [14] Závacká, Jana - Bakošová, Monika - Vaneková, Katarína: Riadenie laboratórneho chemického reaktora robustným PI regulátorom. In: Automatizace. - ISSN 0005-125X. - Vol. 52, No. 6 (2009), p. 362-365. (in Slovak)

- [15] Závacká, Jana - Bakošová, Monika - Matušů, Radek - Vaneková, Katarína: Robust control of a mixing unit. In: Transfer inovácií. - ISSN 1337-7094. - No. 14 (2009), p. 65-70.

### Conferences

- [1] Bakošová, Monika - Puna, Dalibor - Vasičkaninová, Anna - Karšaiová, Mária: Robust PI and PID Stabilization of a Chemical Reactor. In: Process Control 2009 : Proceedings of the 17th International Conference on Process Control 2009. Štrbské pleso, Slovak Republic, 9.-12.6.2009. - Bratislava : STU v Bratislave, 2009. - ISBN 978-80-227-3081-5. - p. 443-452.
- [2] Hulkó, Gabriel - Belavý, Cyril- Mészáros, Alojz- Buček, Pavol- Ondrejkovič, Karol- Zajíček, Peter : Engineering methods and software support for modeling and design of discrete-time control of distributed parameter systems. In: European Control Conference 2009. ECC '09 : Budapest, Hungary, 23.-26.8.2009. - : EUCA, 2009. - ISBN 978-963-311-369-1. - p. 272-281.
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- [5] Rauová, Ivana - Kvasnica, Michal - Čirka, Ľuboš - Fikar, Miroslav: Real-Time Model Predictive Control of a Laboratory Liquid Tanks System. In: Process Control 2009 : Proceedings of the 17th International Conference on Process Control 2009. Štrbské pleso, Slovak Republic, 9.-12.6.2009. - Bratislava : STU v Bratislave, 2009. - ISBN 978-80-227-3081-5. - p. 304-308.
- [6] Vaneková, Katarína - Bakošová, Monika - Závacká, Jana: Robust Control of a Laboratory Time Delay Process. In: Proceedings of the 36th International Conference of Slovak Society of Chemical Engineering, 25.-29.5.2009, Tatranské Matliare. - , 2009. - ISBN 978-80-227-3072-3. - 117?1?117?9.
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## Projects

### VEGA

Project Code: [1/0374/08](#)  
 Title (sl.): Viachodnotové logiky v rozhodovacích procesoch.  
 Project duration: 01.01.2008 - 31.12.2010  
 Responsible person: doc. RNDr. Michal Šabo, PhD.

### VEGA

Project Code: [1/0198/09](#)  
 Title (sl.): Zúplňovanie čiastočných informácií v prostredí neurčitosti.  
 Project duration: 01.01.2009 - 31.12.2011  
 Responsible person: prof. RNDr. Anna Kolesárová, PhD.

## List of bachelor (BT) and diploma (DT) theses

Type	Final thesis	Supervisor	Enter
BT	Ján Karško Modelovanie diskrétnych a spojitéh dát <a href="#">Ing. Peter Hunčár</a>	<a href="#">doc. RNDr. Štefan Varga, PhD.</a>	<input type="checkbox"/>
DT	Predikcia časových radov pomocou neurónových sietí a regresných modelov	<a href="#">Ing. Štefan Babinec, PhD.</a>	<input type="checkbox"/>

## Selected publications

### Journals

- [1] Kolesárová, Anna - Maes, Koen C.: Editorial. Selected papers from AGOP 2007, the Forth International summer School on Aggregation Operators. In: Fuzzy Sets and Systems. - ISSN 0165-0114. - Vol. 160, Issue 6 (2009), 715?716.
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### Conferences

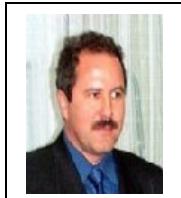
- [1] Janiga, Ivan - Garaj, Ivan: On exact two-sided statistical tolerance intervals for normal distributions with unknown means and unknown common variability. In: Quality and productivity research conference 2009 : New York, June 3-5, 2009. - b.m. : ASA - American Statistical Association, 2009. - p. 5617-5626.
- [2] Janiga, Ivan - Garaj, Ivan: On two-sided statistical tolerance intervals for normal distributions with unknown parameters. In: Measurement 2009 : Proceedings. 7th International Conference on Measurement. Smolenice, Slovak Republic, 20.-23.5.2009. - Bratislava : Institute of Measurement Science Slovak Academy of Sciences, 2009. - ISBN 978-80-969672-1-6. - p. 57-60.

- [3] Klement, Erich Peter - Kolesárová, Anna - Mesiar, Radko - Stupňanová, Andrea: Universal integrals based on level dependent capacities. In: IFSA-EUSFLAT 2009. International Fuzzy Systems Association World Congress : Proceedings. Lisbon, Portugal, 20.-24.7.2009. - : IFSA/EUSFLAT, 2009. - ISBN 978-989-95079-6-8. - p. 114-118.
- [4] Klement, Erich Peter - Kolesárová, Anna - Mesiar, Radko - Stupňanová, Andrea: Universal Integrals Based on Level Dependent Capacities(abstract). In: IFSA/EUSFLAT 2009. International Fuzzy Systems Association World Congress : Final Program. Book of Abstracts. Lisbon, Portugal, 20.-24.7.2009. - : IFSA/EUSFLAT, 2009. - ISBN 978-989-95079-5-1. - p. 78.
- [5] Kolesárová, Anna - Mesiar, Radko: Lipschitzian De Morgan triplets with strong negations. In: 30th Linz seminar on Fuzzy Set Theory, February 3-7, 2009 : Abstracts. - : Johannes Kepler Universität, 2009. - p. 64-69.
- [6] Kolesárová, Anna: Sequential aggregation. In: AGOP 2009 : Proceedings of the Fifth International Summer School on Aggregation Operators. Palma, Spain, 6.-10.7.2009. - Palma : Universitat de les Illes Balears, 2009. - ISBN 978-84-8384-101-3. - p. 183-187.
- [7] Medera, Dušan - Babinec, Štefan: Incremental learning of convolutional neural networks. In: Proceedings of International Joint Conference on Computational Intelligence 2009. - , 2009. - ISBN 978-989-674-014-6. - p. 547-550. -

## INSTITUTE OF CHEMICAL AND ENVIRONMENTAL ENGINEERING

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### Foreword

The Institute has a unique position among academic institutions in Slovakia being the only one in the country providing full three-stage university education and academic research in the field of chemical engineering. It is organized into two departments – Department of Chemical and Biochemical Engineering and Department of Environmental Engineering that carry out education and research in the areas of chemical, biochemical, food, safety and environmental engineering.

### Teaching activities

The institute guarantees Bachelor Study Program of Chemical Engineering, Master Study Programs of Chemical Engineering and of Environmental Chemistry and Technology and PhD. Study Programs of Chemical Engineering and of Environmental Engineering. The teachers of the institute provide most study program courses on the master and PhD level and about half of the courses on the bachelor level. Besides, they provide courses for other study programs at the Faculty which include Chemical Engineering I and II, Material (and Energy) Balances, Equipment in Chemical and Food Industry, Chemical Engineering Thermodynamics, Reaction Engineering, Biochemical Engineering, and Safety Engineering.

### Research profile

The research at the Institute is carried out within seven research groups: Bioprocess Engineering, Diffusional and Separation Processes, Reactor and Safety Engineering, Membrane Processes, Momentum and Heat Transfer, Environmental Engineering: Water Treatment and Purification, and Chemical Waste Disposal and Environmental Risk Assessment. Besides usual research and technical projects, publication activities, the Institute co-organizes together with the Slovak Society of Chemical Engineering and Association of Water Treatment of Slovak annual international conferences of chemical engineering and biannual conferences on wastewater treatment.

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Project Code: [APVT-99-018602](#)  
 Title (sl.): Syntéza polykryštálického indium fosfidu InP a jeho charakterizácia.  
 Title (eng.): Synthesis of polycrystalline indium phosphide InP and its characterisation.  
 Project duration: 14.07.2003 - 31.12.2009  
 Responsible person: Ing. Jozef Matuška, PhD., **doc. Ing. Ján Stopka, PhD.**

### APVV

Project Code: [APVV-51-033205](#)  
 Title (sl.): Geneticky modifikované mikroorganizmy ako celobunkové katalyzátory enantioselektívnych biooxidácií pre nové imobilizované biotechnológie.  
 Title (eng.): Genetically engineered microorganisms as whole-cell catalysts of enantioselective biooxidations performing by novel immobilization biotechnologies.  
 Project duration: 01.05.2006 - 30.04.2009  
 Responsible person: Ing. Peter Gemeiner, DSc., **doc. Ing. Vladimír Štefuca, PhD.**

### APVV

Project Code: [LPP-0234-06](#)  
 Title (sl.): Chromatografická separácia fruktooligosacharidov.  
 Title (eng.): Chromatographic separation of fructooligosaccharides.  
 Project duration: 13.11.2006 - 30.11.2009

Responsible person: **doc. Ing. Milan Polakovič, PhD.**

### **APVV**

Project Code: [\*\*LPP-0175-06\*\*](#)  
Title (sl.): Veda a výskum - hnacia sila prosperity.  
Title (eng.): Science a research - driving force of prosperity.  
Project duration: 01.01.2007 - 31.12.2009  
Responsible person: **prof. Ing. Vladimír Báleš, DSc.**

### **APVV**

Project Code: [\*\*APVV – 0492-06\*\*](#)  
Title (sl.): Modelovanie disperzie nebezpečných látok v atmosfére pomocou CFD prístupu.  
Title (eng.): Mathematical modeling of dispersion hazardous materials in atmosphere by CFD approach.  
Project duration: 01.02.2007 - 31.12.2009  
Responsible person: **doc. Ing. Ľudovít Jelemenský, PhD.**

### **APVV**

Project Code: [\*\*APVV-0353-06\*\*](#)  
Title (sl.): Spresnenie termodynamického opisu viaczložkovej rovnováhy kvapalina-para a kvapalina-kvapalina-para pre potreby modelovania separačných zariadení.  
Title (eng.): Improvement of thermodynamic description of multicomponent vapour-liquid and liquid-liquid-vapour equilibrium systems for design of separation columns.  
Project duration: 01.02.2007 - 31.12.2009  
Responsible person: **doc. Ing. Elena Graczová, PhD.**

### **APVV**

Project Code: [\*\*APVV-0518-07\*\*](#)  
Title (sl.): Integrované reakčné systémy na biokatalytickú redukciu prochirálnych karbonylových zlúčenín.  
Project duration: 01.06.2008 - 31.12.2010  
Responsible person: **prof. Ing. Jozef Markoš, DSc.**

### APVV

Project Code: [LPP-0181-06](#)  
Title (sl.): Modelovanie procesov reaktívnej separácie  
Project duration: 01.11.2006 - 31.11.2009  
Responsible person: **prof. Ing. Jozef Markoš, DSc.**

### APVV

Project Code: [LPP-0230-07](#)  
Title (sl.): Štúdium kinetiky splyňovania biomasy na procesný plyn.  
Project duration: 01.07.2008 - 30.06.2012  
Responsible person: **doc. Ing. Ľudovít Jelemenský, PhD.**

### APVV

Project Code: [LPP-0221-07](#)  
Title (sl.): Transportné a kinetické javy v membránovej chromatografii.  
Project duration: 01.07.2008 - 30.06.2012  
Responsible person: **doc. Ing. Milan Polakovič, PhD.**

### APVV

Project Code: [APVV-0355-07](#)  
Title (sl.): Modelovanie membránových reaktorov.  
Project duration: 01.09.2008 - 31.12.2010  
Responsible person: **Ing. Zuzana Švandová, PhD.**

### APVV

Project Code: [LPP-0258-09](#)  
Title (sl.): Rovnováha a kinetika adsorpcie proteínov na iónomeničových chromatografických membránach s vrúbľovanou polymérnou vrstvou  
Project duration: 01.09.2009 - 30.08.2013  
Responsible person: **doc. Ing. Milan Polakovič, PhD.**

### National project

Project Code: [29040](#)  
Title (sl.): Štúdia o úspore energie  
Project duration: 27.04.2009 - 31.12.2009  
Responsible person: **doc. Ing. Jelemenský Ľudovít, PhD.**

### National project

Project Code: [29047](#)  
Title (sl.): Stanovenie teplotných vodivostí penových polystyrénov  
Project duration: 09.06.2009 - 31.12.2009  
Responsible person: **Ing.Haydary Juma, PhD.**

### VEGA

Project Code: [1/4446/07](#)  
Title (sl.): Charakterizácia produktov pyrolýzy odpadových pneumatík.  
Title (eng.): Characterization of waste tire pyrolysis products.  
Project duration: 01.01.2007 - 31.12.2009  
Responsible person: **Ing. Juma Haydary, PhD.**

### VEGA

Project Code: [1/4447/07](#)  
Title (sl.): Zlepšenie bezpečnosti priemyselných chemických procesov pomocou virtuálneho dynamického simulátora.  
Title (eng.): Improve safety of chemical processes using virtual dynamic simulators.  
Project duration: 01.01.2007 - 31.12.2009  
Responsible person: **doc. Ing. Ľudovít Jelemenský, PhD.**

### VEGA

Project Code: [1/0876/08](#)  
Title (sl.): Afinitné mikročastice, nanočastice a micely a ich použitie na uskutočnenie separácií a reakcií v sústavách s membránami.  
Project duration: 01.01.2008 - 31.12.2010  
Responsible person: **Ing. Štefan Schlosser, PhD.**

### VEGA

Project Code: [1/0655/09](#)  
Title (sl.): Modelovanie a scale up membránovej chromatografie pre separácie proteínov.  
Project duration: 01.01.2009 - 31.12.2011  
Responsible person: **doc. Ing. Milan Polakovič, PhD.**

### 6 RP

Project Code: [NMP2-CT-2005-515831](#)  
Title (eng.): Virtual reality and human factors applications for improving safety.  
Title (sl.): Využitie virtuálnej reality a ľudského činiteľa na zlepšenie bezpečnosti.  
Project duration: 01.05.2005 - 30.04.2009  
Project coordinator: prof. Alberto Cigada  
Responsible person: **doc. Ing. Ľudovít Jelemenský, PhD.**

### Intergovernmental agreement

Project Code: [147-063](#)  
 Title (eng.): A Euro-Asia partnership for development human resource capacity of engineering education in Afghanistan.  
 Title (sl.):  
 Project duration: 01.01.2008 - 30.12.2010  
 Project coordinator: Ing. Juma Haydary, PhD.  
 Responsible person: **Ing. Juma Haydary, PhD.**

### Intergovernmental agreement

Project Code: [SK-BG-0042-08](#)  
 Title (eng.): A new extractive methods for recovery of organic acids from biotechnological and waste solutions.  
 Title (sl.): Nové extraktívne metódy získavania organických kyselín z biotechnologických a odpadových roztokov.  
 Project duration: 01.02.2009 - 31.12.2010  
 Responsible person: **Ing. Štefan Schlosser, PhD.**

### List of bachelor (BT), diploma (DT) and dissertation (DissT) theses

Type	Final thesis	Supervisor	Ent er
BT	<a href="#">Bc. Martin Bielak</a> Analýza výroby cyklohexánu z benzénu <a href="#">Ing. Peter Dreveňák</a>	<a href="#">doc. Ing. Jozef Dudáš, PhD.</a>	<input type="checkbox"/>
DT	Dynamika adsorpcie BSA na membráne Sartobind S pri rôznych podmienkach mobilnej fázy <a href="#">Ing. Marek Blahušiak</a>	<a href="#">Ing. Michal Gramblička</a>	<input type="checkbox"/>
DT	Extrakcia a pertrakcia karboxylových kyselín so zakotvenými iónovými kvapalinami a ich využitie v hybridných procesoch <a href="#">Ing. Michal Canev</a>	<a href="#">Ing. Štefan Schlosser, PhD.</a>	<input type="checkbox"/>
DT	Charakterizácia hydrofóbnej membrány Sartobind Phenyl <a href="#">Ing. Katarína Vaňková, PhD.</a>	<a href="#">Ing. Monika Antošová, PhD.</a>	<input type="checkbox"/>
DisT	Chromatografická separácia fruktooligosacharidov <a href="#">Ing. Jakub Pinčiar</a>	<a href="#">doc. Ing. Milan Polakovič, PhD.</a>	<input type="checkbox"/>
DT	Matematické a experimentálne modelovanie hybridného bioreaktora s membránovou separáciou <a href="#">Ing. Juraj Sláva, PhD.</a>	<a href="#">prof. Ing. Jozef Markoš, DSc.</a>	<input type="checkbox"/>
DisT	Matematické modelovanie procesov reaktívnych separácií <a href="#">Ing. Mário Mihal'</a>	<a href="#">prof. Ing. Jozef Markoš, DSc.</a>	<input type="checkbox"/>
DT	Modelovanie hybridných reaktívno-separačných procesov <a href="#">Bc. Jakub Kopáč</a>	<a href="#">Ing. Zuzana Švandová, PhD.</a>	<input type="checkbox"/>
BT	Návrh a energetická analýza výroby anilínu <a href="#">Bc. Barbora Mináriková</a>	<a href="#">prof. Ing. Jozef Markoš, DSc.</a>	<input type="checkbox"/>
BT	Návrh bioreaktora na acetón-butanolovú fermentáciu <a href="#">Bc. Richard Vereš</a>	<a href="#">doc. Ing. Vladimír Štefuca, PhD.</a>	<input type="checkbox"/>
BT	Návrh hybridného air - lift bioreaktora s membránovým modulom <a href="#">Bc. Lukáš Václavík</a>	<a href="#">prof. Ing. Jozef Markoš, DSc.</a>	<input type="checkbox"/>
BT	Návrh jednotky na odstraňovanie bóru z permeátu obrátenej osmózy <a href="#">Ing. Štefan Schlosser, PhD.</a>	<a href="#">Ing. Štefan Schlosser, PhD.</a>	<input type="checkbox"/>

BT	<u>Bc. Lukáš Šugár</u> Návrh technologickej linky na výrobu etanolamínov <u>Bc. Milan Tinák</u>	<u>prof. Ing. Jozef Markoš, DSc.</u>	<input type="checkbox"/>
BT	Návrh technologickej linky na výrobu formaldehydu oxidáciou metanolu <u>Bc. Ladislav Bánky</u>	<u>doc. Ing. Ján Stopka, PhD..</u>	<input type="checkbox"/>
BT	Návrh technológie na výrobu monochlór benzénu priamou chloráciou benzénu <u>Bc. Katarína Fabičovicová</u>	<u>Ing. Juraj Labovský, PhD.</u>	<input type="checkbox"/>
BT	Návrh vsádzkového miešaného bioreaktora na výrobu kyseliny glukónovej aeróbnej fermentáciou <u>Bc. Michal Krištín</u>	<u>Ing. Pavel Ačai, PhD.</u>	<input type="checkbox"/>
BT	Návrh výrobnej linky na separáciu aromátov zo zmesi uhľovodíkov <u>Bc. Daniela Andoková</u>	<u>Ing. Pavol Steltenpohl, PhD.</u> <u>Ing. Zuzana Švandová, PhD.</u>	<input type="checkbox"/>
BT	Návrh výroby butyl esteru kyseliny octovej <u>Bc. Andrej Kučma</u>	<u>doc. Ing. Milan Polakovič, PhD.</u>	<input type="checkbox"/>
BT	Návrh výroby izomaltulózy prostredníctvom glukozyltransferázy z Erwinia sp. D12 <u>Bc. Andrej Dojčan</u>	<u>Ing. Monika Antošová, PhD.</u>	<input type="checkbox"/>
DT	Návrh využitia odpadného tepla z kompresorov na výrobu stlačeného vzduchu a návrh riešenia chladiaceho systému vo Fibrochem, a.s. Svit <u>Ing. Dávid Kállay</u>	<u>doc. Ing. Otto Mierka, PhD.</u>	<input type="checkbox"/>
DT	Optimalizácia chodu rektifikačných kolón na prevádzke Superfrakcionácia rafinátu Slovnaft, a.s. Bratislava <u>Ing. Dušan Konečný</u>	<u>doc. Ing. Otto Mierka, PhD.</u>	<input type="checkbox"/>
DT	Optimalizácia podmienok pre prestup tepla pri vákuovom odparovaní olejov <u>Ing. Zuzana Špaňová</u>	<u>Ing. Pavel Timár, PhD.</u>	<input type="checkbox"/>
DT	Porovnanie hospodárnosti prevádzkovania VJ PP3 Petchem, a.s. Bratislava v neštandardných prevádzkových stavoch	<u>doc. Ing. Otto Mierka, PhD.</u>	<input type="checkbox"/>
BT	Porovnanie účinnosti rozpúšťadiel pri extrakčnej destilácii <u>Bc. Lívia Janykárová</u>	<u>Ing. Pavol Steltenpohl, PhD.</u>	<input type="checkbox"/>
BT	Pyrolýza odpadových polymérov <u>Bc. Dalibor Susa</u>	<u>Ing. Juma Haydary, PhD.</u>	<input type="checkbox"/>
BT	Redukcia emisií oxidu uhličitého zo spaľovania uhlia v tepelnej elektrárni <u>Bc. Matúš Datko</u>	<u>doc. Ing. Jozef Dudáš, PhD.</u>	<input type="checkbox"/>
BT	Simulácia a optimalizácia rektifikačných kolón <u>Ing. Mária Moravčíková</u>	<u>Ing. Juma Haydary, PhD.</u>	<input type="checkbox"/>
DT	Termogravimetrická charaktirizácia biomasy ako suroviny pre splyňovanie <u>Ing. Igor Gál</u>	<u>doc. Ing. Ľudovít Jelemenský, PhD.</u>	<input type="checkbox"/>
DT	Vplyv kvality predpovede viaczložkovej rovnováhy na návrh rektifikačnej kolóny <u>Bc. Daniel Porubský</u>	<u>Ing. Pavol Steltenpohl, PhD.</u>	<input type="checkbox"/>
BT	Vplyv presnosti opisu rovnovážnych údajov kvapalina - para trojzložkových systémov na vypočítaný počet teoretických etáží rektifikačnej kolóny <u>Bc. Michal Ševčík</u>	<u>doc. Ing. Elena Graczová, PhD.</u>	<input type="checkbox"/>
BT	Výroba fenyletanolu a návrh membránového separačného zariadenia	<u>doc. Ing. Ján Stopka, PhD.</u>	<input type="checkbox"/>

	<a href="#"><u>Bc. Ľubomír Činčala</u></a>		
BT	Výroba prírodného farbiva astaxantínu kvasinkami rodu Phaffia rhodozyma	<a href="#"><u>Ing. Viera Illeová, PhD.</u></a>	<input type="checkbox"/>
BT	<a href="#"><u>Bc. Zuzana Ivanová</u></a> Zníženie spotreby zemného plynu pri sušení sladu	<a href="#"><u>Ing. Pavel Timár, PhD.</u></a>	<input type="checkbox"/>

## Selected publications

### Journals

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- [2] Barrande, M. - Beurroies, I. - Denoyel, Renaud - Tatárová, Ivana - Gramblička, Michal - Polakovič, Milan - Joehnck, Matthias - Schulte, M.: Characterization of porous materials for bioseparation. In: Journal of Chromatography. - ISSN 0021-9673. - A 1216 (2009), p. 6906-6916.
- [3] Blahušiak, Marek - Onderková, Barbora - Schlosser, Štefan - Annus, Július : Microfiltration of Microparticulate Boron Adsorbent Suspensions in Submerged Hollow Fiber and Capillary Modules. In: Desalination. - ISSN 0011-9164. - Vol. 241 (2009), p. 138-147.
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- [5] Buddoo, Subash - Siyakatshana, Njabulo - Zeelie, Ben - Dudáš, Jozef: Study of the pyrolysis of 2-pinanol in tubular and microreactor systems with reaction kinetics and modelling. In: Chemical Engineering and Processing. - ISSN 0255-2701. - Vol. 48, Iss. 9 (2009), p. 1419-1426.
- [6] Dudáš, Jozef - Hanika, Jiří: Design, scale up and safe piloting of thymol hydrogenation and menthol racemisation. In: Chemical Engineering Research and Design. - (Transactions of the Institution of chemical Engineers; Part A). - ISSN 0263-8762. - Vol. 87, Iss. 1 (2009), p. 83-90.
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- [9] Kiša, Michal - Jelemenský, Ľudovít: CFD dispersion modelling for emergency preparedness. In: Journal of Loss Prevention in the Process Industries. - ISSN 0950-4230. - Vol. 22 (2009), p. 97-104.
- [10] Kotora, Marcel- Švandová, Zuzana- Markoš, Jozef : A three-phase nonequilibrium model for catalytic distillation. In: Chemical Papers. - ISSN 0366-6352. - Vol. 63, No. 2 (2009), p. 197-204.
- [11] Onderková, Barbora - Schlosser, Štefan - Blahušiak, Marek - Búgel, Milan: Microfiltration of suspensions of microparticulate boron adsorbent through a ceramic membrane. In: Desalination. - ISSN 0011-9164. - Vol. 241 (2009), p. 148-155.

- [12] Polata, Halina - Wilinska, Alina - Bryjak, Jolanta - Polakovič, Milan: Thermal inactivation kinetics of vegetable peroxidases. In: Journal of Food Engineering. - ISSN 0260-8774. - Vol. 91, Iss. 3 (2009), 387?391.
- [13] Sláva, Juraj- Jelemenský, Ľudovít- Markoš, Jozef : Numerical algorithm for modeling of reactive separation column with fast. In: Chemical Engineering Journal. - ISSN 1385-8947. - Vol. 150, Iss. 1 (2009), 252?260.
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- [15] Švandová, Zuzana - Labovský, Juraj - Markoš, Jozef - Jelemenský, Ľudovít: Impact of Mathematical Model Selection on Prediction of Steady State and Dynamic Behaviour of a Reactive Distillation Column. In: Computers and Chemical Engineering. - ISSN 0098-1354. - Vol. 33 (2009), p. 788-793.
- [16] Tatárová, Ivana - Fáber, René - Denoyel, Renaud - Polakovič, Milan: Characterization of pore structure of a strong anion-exchange membrane adsorbent under different buffer and salt concentration conditions. In: Journal of Chromatography. - ISSN 0021-9673. - A 1216 (2009), 941?947.
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- [22] Haydary, Juma- Jelemenský, Ľudovít- Annus, Július : Laboratory Unit for Scrap Tire Pyrolysis. In: Chemické listy. - ISSN 0009-2770. - Vol. 103 - S (2009), p. 56-57.

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- [2] Gramblička, Michal- Wrzosek, Katarzyna- Polakovič, Milan : Complex description of uptake process of a large protein by chromatographic materials with varying ligand density. In: Proceedings of the 36th International Conference of Slovak Society of Chemical Engineering, 25.-29.5.2009, Tatranské Matliare.. - ISBN 978-80-227-3072-3. (2009) p. 324, full text on CD

- [3] Gramblička, Michal- Dreveňák, Peter- Polakovič, Milan : Properties of membrane ion exchanger Sartobind S at adsorption of bovine serum albumin in a chromatographic mode. In: Proceedings of the 36th International Conference of Slovak Society of Chemical Engineering, 25.-29.5.2009, Tatranské Matliare. - ISBN 978-80-227-3072-3. (2009) p. 244, full text on CD
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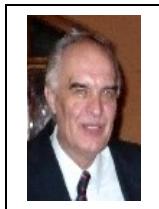
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## Projects

### APVV

Project Code: [APVV-0417-07](#)  
Title (sl.): Denitrifikácia v reaktoroch s anoxickou granulovanou biomasou.  
Project duration: 01.06.2008 - 31.12.2010  
Responsible person: **doc. Ing. Miloslav Drtil, PhD.**

### APVV

Project Code: [APVV-0491-07](#)  
Title (sl.): Príprava chemického povlaku na povrchu sklených vláken.  
Project duration: 01.06.2008 - 31.12.2010  
Responsible person: doc. Ing. Dušan Velič, PhD., **prof. Ing. Gabriel Čík, PhD.**

### APVV

Project Code: [APVV-0144-07](#)  
Title (sl.): Aplikácie membránových reaktorov na čistenie priemyselných odpadových vód v a.s. Duslo, Šaľa.  
Title (eng.): Application of membrane reactors for industrial wastewater treatment in Duslo Šaľa.  
Project duration: 01.09.2008 - 31.12.2009  
Responsible person: **doc. Ing. Igor Bodík, PhD.**

### APVV

Project Code: [VMSP-P-0101-09](#)  
Title (sl.): Čistenie odpadových vód vo vidieckych sídlach v súbehu s využitím biomasy ako obnoviteľného zdroja  
Project duration: 01.09.2009 - 31.07.2011  
Responsible person: Ing. Vladimír Kuderavý, **doc. Ing. Igor Bodík, PhD.**

### APVV

Project Code: [LPP-0019-09](#)  
Title (sl.): Produkcia bioplynu z biologicky rozložiteľných odpadov  
Project duration: 01.09.2009 - 31.08.2013  
Responsible person: **doc. Ing. Igor Bodík, PhD.**

### National project

Project Code: [SK0023](#)  
Title (sl.): Vytvorenie centra excelentnosti pre využívanie obnoviteľných zdrojov energie na Slovensku.  
Title (eng.): Establishment of a Slovak centre of excellence for utilization of renewable energy sources.  
Project duration: 01.03.2008 - 30.04.2011  
Responsible person: **doc. Ing. Igor Bodík, PhD.**

### National project

Project Code: [29027](#)  
Title (sl.): Biorozložiteľnosť odpadovej vody s farbou  
Project duration: 11.03.2009 - 31.12.2009  
Responsible person: **doc. Ing. Igor Bodík, PhD.**

### National project

Project Code: [29034](#)  
Title (sl.): Odborné sledovanie prevádzky membrány ČOV v PP Lozorno  
Project duration: 15.04.2009 - 30.12.2009  
Responsible person: **doc. Ing. Igor Bodík, PhD.**

### National project

Project Code: [29050](#)  
Title (sl.): Biorozložiteľnosť odpadovej vody s farbou  
Project duration: 18.06.2009 - 31.12.2009  
Responsible person: **doc. Ing. Igor Bodík, PhD.**

### National project

Project Code: ITMS 26240120004  
Title (sl.): Vytvorenie centra excelentnosti integrovanej protipovodňovej ochrany územia  
Project duration: 01.06.2009 – 30.04.2011  
Responsible person: **doc. Ing. Miloslav Drtil, PhD.**

### VEGA

Project Code: [1/0866/08](#)  
Title (sl.): Využitie progresívnych oxidačných postupov na rozklad prioritných, nebezpečných a rezistentných látok a minimalizáciu produkcie prebytočného kalu.  
Project duration: 01.01.2008 - 31.12.2010  
Responsible person: **doc. Ing. Ján Dercó, PhD.**

### VEGA

Project Code: [1/0145/08](#)  
Title (sl.): Využitie vedľajších produktov výroby bionafy s cieľom produkcie bioplynu a odstraňovania nutrientov z odpadových vôd.  
Project duration: 01.01.2008 - 31.12.2010  
Responsible person: **doc. Ing. Miroslav Hutná, PhD.**

**VEGA**

Project Code: [1/4453/07](#)  
 Title (sl.): Štúdium syntézy nových pi-konjugovaných heterocyklických zlúčenín vykazujúcich optoelektronické vlastnosti, špecifickú biologickú aktivitu a apoptózu  
 Project duration: 01.01.2007.- 31.12.2009  
 Responsible person: **Ing. Daniel Végh, DSc., prof. Ing. Gabriel Čík, PhD.**

**International project**

Project Code: [SK0023](#)  
 Title (eng.): Establishment of a Slovak centre of excellence for utilization of renewable energy sources.  
 Title (sl.): Vytvorenie centra excelentnosti pre využívanie obnoviteľných zdrojov energie na Slovensku  
 Project duration: 01.03.2008 - 30.04.2011  
 Project coordinator: doc. Ing. Igor Bodík, PhD.  
 Responsible person: **doc. Ing. Igor Bodík, PhD.**

**Human Resources and Mobility Activity**

Project Code: [MSCF-CT-2005-029529](#)  
 Title (eng.): Postgraduate School of Industrial Ecology.  
 Title (sl.): Postgraduálna škola priemyselnej ekológie.  
 Project duration: 01.06.2006 - 31.05.2009  
 Project coordinator: Norwegian University of Science and Technology [NTNU]  
 Responsible person: **prof. Ing. Gabriel Čík, PhD.**

**List of bachelor (BT), diploma (DT) and dissertation (DissT) theses**

Type	Final thesis	Supervisor	Enter
BT	<a href="#"><u>Bc. Jana Škôrnová</u></a> Anoxická granulovaná biomasa - problematika mikrobiologického zloženia	<a href="#"><u>doc. Ing. Miloslav Drtil, PhD.</u></a>	<input type="checkbox"/>
BT	<a href="#"><u>Bc. Molnár Viktor</u></a> Bilancia procesu anaeróbneho spracovania g-fázy vedľajšieho produktu výroby biomasy	<a href="#"><u>doc. Ing. Miroslav Hutňan, PhD.</u></a>	
BT	<a href="#"><u>Bc. Tomáš Ježovič</u></a> Porovnanie prevádzky bioplynovej stanice pri spracovaní rôznych substrátov	<a href="#"><u>doc. Ing. Miroslav Hutňan, PhD.</u></a>	<input type="checkbox"/>
BT	<a href="#"><u>Bc. Lenka Hrušková</u></a> Produkcia bioplynu z reštauračných odpadov	<a href="#"><u>doc. Ing. Igor Bodík, PhD.</u></a>	<input type="checkbox"/>
BT	<a href="#"><u>Bc. Jana Uličná</u></a> Vplyv chemickej modifikácie na povrchy a sorpčné vlastnosti slovenských zeolitov	<a href="#"><u>RNDr. Mária Földesová</u></a>	
BT	<a href="#"><u>Bc. Peter Cirják</u></a> Posudzovanie stredne a nízkorádioaktívnych odpadov	<a href="#"><u>prof. Ing. Vasil Koprda, DSc.</u></a>	

DT	<a href="#">Ing. Lenka Babjaková</a> Denitrifikácia v USB reaktore s granulovanou biomasou	<a href="#">doc. Ing. Miloslav Drtíl, PhD.</a>	<input type="checkbox"/>
DT	<a href="#">Ing. Michal Geschwandtner</a> Intensification Possibilities of Anaerobic Processes at Biogas Stations	<a href="#">doc. Ing. Miroslav Hutňan, PhD.</a>	<input type="checkbox"/>
DT	<a href="#">Ing. Michal Melicher</a> Možnosti zníženia organických látok v produkovaných kaloch v JMS a.s. Trnava	<a href="#">doc. Ing. Ján Dercek, PhD.</a>	<input type="checkbox"/>
DT	<a href="#">Ing. Miroslava Kubaská</a> Reštauračné odpady ako organický substrát pre produkciu bioplynu a ich následné energetické využitie	<a href="#">doc. Ing. Igor Bodík, PhD.</a>	<input type="checkbox"/>
DT	<a href="#">Ing. Katarína Vladová</a> Stanovenie alfa a beta objemovej aktivity vo vodách kvapalinovou scintilačnou spektrometriou	<a href="#">RNDr. Mária Fóldesová</a>	<input type="checkbox"/>
DT	<a href="#">Ing. Monika Hipíková</a> Vplyv rôznych komplexačných látok na oxidačnú silu Fentonovej reakcie	<a href="#">doc. Ing. Jozef Prousek, PhD.</a>	<input type="checkbox"/>
DT	<a href="#">Fajer FHSF Alrefaeay</a> Problems of Waste and Water Management in Kuwait	<a href="#">doc. Ing. Miloslav Drtíl, PhD.</a>	<input type="checkbox"/>
DisT	<a href="#">Ing. Zuzana Matulová, PhD.</a> Čistenie odpadových vôd so separáciou kalu ponoreným membránovým modulom	<a href="#">doc. Ing. Igor Bodík, PhD.</a>	<input type="checkbox"/>
DisT	<a href="#">Ing. Peter Ševčík, PhD.</a> Fotokatalytický rozklad organických látok hydroxylovými radikálmi na tuhých polovodičoch	<a href="#">prof. Ing. Gabriel Čík, PhD.</a>	<input type="checkbox"/>
DisT	<a href="#">Ing. Andrea Blšáková, PhD.</a> Membránové procesy a ich využitie pri biologickom čistení odpadových vôd	<a href="#">doc. Ing. Igor Bodík, PhD.</a>	<input type="checkbox"/>
DisT	<a href="#">Ing. Petra Pagáčová, PhD.</a> Optimalizácia procesov zvýšeného biologického odstraňovania dusíka a fosforu pri čistení odpadových vôd	<a href="#">doc. Ing. Miloslav Drtíl, PhD.</a>	<input type="checkbox"/>
DisT	<a href="#">Ing Soňa Priesolová, PhD.</a> Fotodegradácia perzistentných organických látok	<a href="#">prof. Ing. Gabriel Čík, PhD.</a>	<input type="checkbox"/>
DisT	<a href="#">Ing. Lucia Dančová</a> Využitie membránových technológií pri čistení odpadových vôd	<a href="#">doc. Ing. Igor Bodík, PhD.</a>	<input type="checkbox"/>

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### Foreword

The Department of Physical Education and Sports at the Faculty of Chemical and Food Technology at the Slovak University of Technology can be divided into three basic areas: pedagogy, scientific research, and others. The management abilities of our lecturers and departments were checked by AM SR/in 1988 and 1998, which also organized the university games of 1989 and 2008 wherein our teachers played key roles. The performance of an enduring positive attitude of our faculty management is because of the fact that our faculty built a PE complex (2 gymnasiums-the last one made of artificial turf cover in 2009, 1 sauna, 2 fitness centres, a table tennis room and 2 PE laboratories to diagnose physical ability and bodily performance.

### Teaching activities

Our teaching activities are in the following areas: Aerobic, Kalanethics, Harmonic gymnastics, Healing gymnastic, Basketball, Football, Handball, Body building, Swimming, Canoeing and kayak, Volleyball, Winter sports camp /skiing/, Summer sports camp / Floorball.

### Research profile

Our research concentrates on solving questions of fitness, bodily performance, physical ability and the physical education of undergraduates as well as on the history of physical education and sports. The lecturers at our department have published more than 250 scientific, specialist and methodological in both domestic and foreign publications. The members of our department have proven their specialization working as trainers and national trainers in top physical educational bodies in our country and abroad. The staff and the technical and sports facilities for scientific research enable the lecturers of our department to become involved in projects, to publish their presentations at home and abroad and to take an active part with their scientific results in the training process at a top level.

## Staff

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## Projects

### National project

Project Code:	.1/0589/08
Title (sl.):	Polymorfizmus génov pre vybrané subjednotky proteínkinázy závislej na 5'-AMP (AMPK) a jej vztah ku obezite a pohybovej výkonnosti." (číslo: 1/0589/08). Vedúci grantovej úlohy Ing. B. Lakatoš, PhD.
Title (eng.):	Polymorphism of the genes for selected subunits of 5'-AMP dependent protein kinase (AMPK) and its relationship to the obesity and physical fitness. (Nr.: 1/0589/08). Principal investigator: B. Lakatoš, Ph.D.
Project duration:	2006-2009,
Responsible person:	<b>doc.PhDr. Miroslav Bobrík, PhD.</b> Ondrušová, L., Križan, M.

Project Code	305/06
Title (sl.):	Úroveň telesného a funkčného rozvoja poslucháčov FCHPT STU. Inštitucionálny projekt výskumnej úlohy 2006 – 2009. Hlavný riešiteľ doc. PhDr. Bobrík, M., PhD.
Title (eng.):	Level of physical and functional development of the students at FCHPT STU. Institutional project of research task 2006-2009
Project duration:	2008 - 2010
Responsible person:	<b>doc.PhDr. Miroslav Bobrík, PhD.</b>

## Selected publications

### Journals

- [1] Mikušová, Lucia - Šturdík, Ernest - Mošovská, Silvia - Bobrík, Miroslav: Biochemical aspects of exercise in prevention of overweight and obesity. - , 2009.
- [2] Ondrušová, Lucia: Jazda v kolektíve na stacionárnych bicykloch (Indoor cycling). - , 2009. In: Telesná výchova a šport. - ISSN 1335-2245. - Vol. 19, No. 3-4. - , 2009, p. 47-48

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- [1] Báleš, Vladimír - Bobrík, Miroslav: Význam športu v príprave budúcej inteligencie. - , 2009. In: Slovenský školský šport. Národná konferencia o školskom športe 2009, Štrbské pleso, 5.-6.11.2009. - : Ministerstvo školstva Slovenskej republiky, 2009. - p. 43-48
- [2] Bobrík, Miroslav: Telesná výchova a šport v podmienkach Slovenskej technickej univerzity v Bratislave. - , 2009. In: Slovenský školský šport. Národná konferencia o školskom športe 2009, Štrbské pleso, 5.-6.11.2009. - : Ministerstvo školstva Slovenskej republiky, 2009. - p. 192-198
- [3] Bobrík, Miroslav: Úroveň intenzity zaťaženia na hodinách telesnej výchovy u študentov. In: Ošetrovateľstvo a zdravie III, Pohyb a zdravie VI. : Zborník z vedeckej konferencie s medzinárodnou účasťou. 2. apríl 2009, Trenčín, SR. - Trenčín : Trenčianska univerzita Alexandra Dubčeka v Trenčíne, 2009. - ISBN 978-80-8075-384-9. - p. 372 - 381. (in Slovak)
- [4] Bobrík, Miroslav: Vzťah obsahového zamerania telesnej výchovy a úroveň intenzity zaťaženia na hodinách telesnej výchovy u študentov Fakulty chemickej a potravinárskej technológie STU v Bratislave. In: Optimalizácia zaťaženia v telesnej a športovej výchove : Medzinárodná vedecká konferencia. - Bratislava, 23.4. 2009. - Bratislava : STU v Bratislave SjF, 2009. - ISBN 978-80-227-3058-7. - p. 9 - 15. (in Slovak)
- [5] Križan, Martin: Intenzita zaťaženia študentov FCHPT STU v Bratislave na hodinách telesnej výchovy so zameraním na stolný tenis a posilňovanie. In: Ošetrovateľstvo a zdravie III, Pohyb a zdravie VI. : Zborník z vedeckej konferencie s medzinárodnou účasťou. 2. apríl 2009, Trenčín, SR. - Trenčín : Trenčianska univerzita Alexandra Dubčeka v Trenčíne, 2009. - ISBN 978-80-8075-384-9. - p. 398 - 405. (in Slovak)
- [6] Križan, Martin - Laurenčík, Tomáš: Vnútorné zaťaženie pravidelne a náhodne športujúcich osôb pri pohybovej aktivite floorball. In: Optimalizácia zaťaženia v telesnej a športovej výchove : Medzinárodná vedecká konferencia. - Bratislava, 23.4. 2009. - Bratislava : STU v Bratislave SjF, 2009. - ISBN 978-80-227-3058-7. - p. 94 - 99. (in Slovak)
- [7] Laurenčík, Tomáš - Križan, Martin: Intenzita zaťaženia študentov FCHPT STU v Bratislave na hodinách telesnej výchovy so zameraním na športové hry. In: Ošetrovateľstvo a zdravie III, Pohyb a zdravie VI. : Zborník z vedeckej konferencie s medzinárodnou účasťou. 2. apríl 2009, Trenčín, SR. - Trenčín : Trenčianska univerzita Alexandra Dubčeka v Trenčíne, 2009. - ISBN 978-80-8075-384-9. - p. 412 - 422. (in Slovak)
- [8] Laurenčík, Tomáš - Ondrušová, Lucia: Intenzita zaťaženia u študentov FCHPT STU na hodine plávania s rôznym obsahom vyučovacej jednotky. In: Optimalizácia zaťaženia v telesnej a športovej výchove : Medzinárodná vedecká konferencia. - Bratislava, 23.4. 2009. - Bratislava : STU v Bratislave SjF, 2009. - ISBN 978-80-227-3058-7. - p. 105 - 110. (in Slovak)
- [9] Nagyová, Lenka- Ondrušová, Lucia- Šerešová, Erika [29%]: Intenzita zaťaženia a subjektívne vnímanie námahy v aerobiku u vysokoškoláčok. In: Vedecké práce 2009. Research papers 2009 : Vedecký zborník. - Bratislava : STU v Bratislave, 2009. - ISBN 978-80-227-3095-2. - p. 163 - 169. (in Slovak)
- [10] Ondrušová, Lucia: Intenzita zaťaženia študentov FCHPT STU v Bratislave na hodinách plávania. In: Ošetrovateľstvo a zdravie III, Pohyb a zdravie VI. : Zborník z vedeckej konferencie s medzinárodnou účasťou. 2. apríl 2009, Trenčín, SR. - Trenčín : Trenčianska univerzita Alexandra Dubčeka v Trenčíne, 2009. - ISBN 978-80-8075-384-9. - p. 440 - 445. (in Slovak)

## Parts of Books

- [1] Bobrík, Miroslav: Telovýchovná historiografia-historické svedomie športovej humanistiky ako súčasti vied o športe. In: Šport a spoločenské a humanitné vedy 2009. - : ICM Agency, 2009. - ISBN 978-80-89257-14-0. - p. 18-20. (in Slovak)
- [2] Bobrík, Miroslav: Nemci a Maďari v zrkadle telovýchovy a športu na Slovensku a ich vzťah k Československej republike v rokoch 1918-1938. In: Česko – Slovenská historická ročenka 2008, Brno 2008, s. 129 – 172. ISBN 978-80-87192-03-0, ISSN 1214-8334. (in Slovak)

## DEPARTMENT OF LANGUAGES

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### Foreword

Foreign language tuition at this department began in the school year 1951-52 when the Russian language became a compulsory subject. Since 1954, students were expected to study another foreign language other than Russian; they could have chosen English, German or French. The language department was established as an all-university body and its first head was Boris Cebotarev, Ph.D. In 1960, independent language departments were set up at each individual faculty with the aim to meet the specific language needs of their students. The head of the Chemical Faculty Language Department became Jozef Priputen, later it was Stefan Bachraty, Irina Parnahajova, Ph.D., Alzbeta Oreska, Mgr. (M.A.) and others. At present, the department is led by Magdaléna Horáková, M. A.

### Teaching activities

The English or German language represents a compulsory subject for each student of this faculty. Our objectives are not to teach the general language, but the language for specific-prospective professional purposes. The long-term aim is to finally enable all faculty graduates to present the essential part of their thesis in the state exams also in a foreign language. Besides the above-mentioned compulsory courses, our Department offers courses of Russian and Spanish languages according to the interests of students in the current year. These are also available to SUT PhD students and employees.

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