ANNUAL REPORT 2023

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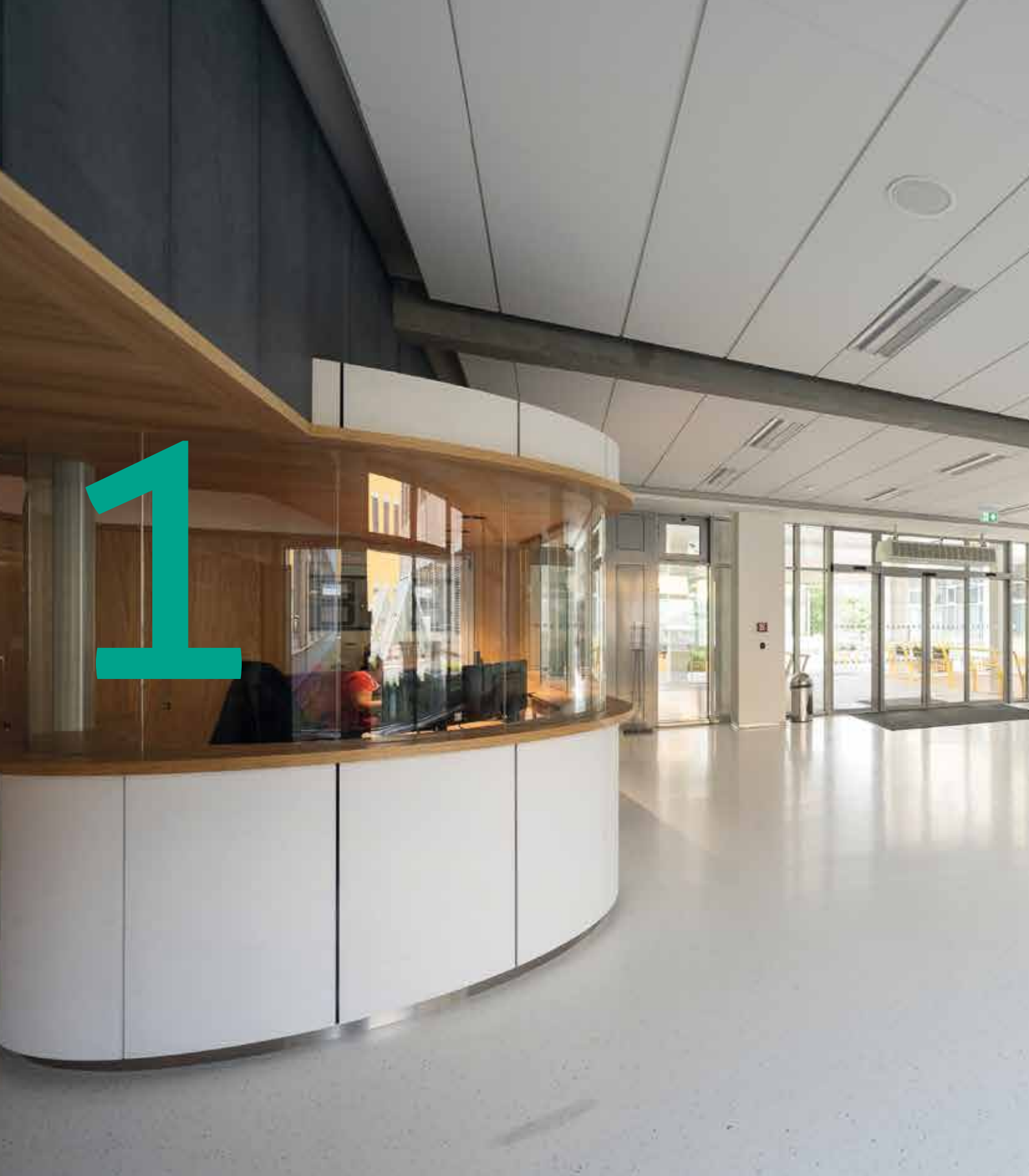
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BASIC INFORMATION ABOUT THE FACULTY

Brno University of Technology
Faculty of Chemistry
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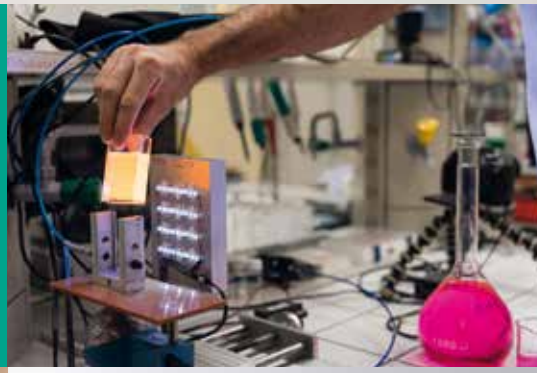

INTRODUCTORY WORD OF THE DEAN

We have compiled an annual report on the activities of the Faculty of Chemistry at the BUT, which summarizes everything important that happened at the Faculty in 2023. The last year was full of new challenges, similar to the previous one, in which a competition for the right to submit OP JAK projects was started and in 2023 this competition continued with more projects. On the other hand, record inflation and energy prices had a very negative impact on the faculty's economy. On the other hand, we managed to get new projects, we organized 4 international conferences, we prepared new study programs for accreditation, we prepared study supports, and we improved the infrastructure of the faculty, not only with instruments, but also by properly replacing the floor in the laboratory wing.

We could not erase from our minds the war waged by the Russian Federation near our borders, we faced disinformation, cyber attacks, especially from Russia, but we still focused on continuously improving the teaching process and research.

Looking back to 2023, I am pleased to say that even in these conditions we have met all our commitments in the pedagogical field and the students have also managed to fulfil their study obligations and complete their bachelor's and master's theses. Our current achievements allow us to look to the future with optimism and pride.

In conclusion, I would like to thank all the staff and students of the Faculty who have contributed to the current successful development of the Faculty through their work and efforts. Once again we have been able to take the faculty a step forward. Let us keep our fingers crossed that we can prove it every year.

prof. Ing. Michal Veselý, CSc.

ACADEMIC OFFICIALS

Dean
prof. Ing. Michal Veselý, CSc.

Vice-Deans
doc. Ing. Petr Dzik, Ph.D. – Vice Dean for External Relations and Cooperation with Industry
prof. Ing. Adriána Kovalčík, Ph.D. – Vice-Dean for Continuing Master's and Doctoral Studies, until 30 April 2023
prof. Mgr. Martin Vala, Ph.D. – Vice-Dean for Creative Activities; Statutory Deputy of the Dean
doc. Mgr. Michaela Vašinová Galiová, Ph.D. – Vice-Dean for Bachelor's Studies, from 1 May 2023 Vice-Dean for Bachelor's and Continuing Studies

Faculty Secretary
Ing. Roman Hladík

SCIENTIFIC BOARD

Chairman of the Scientific Board
prof. Ing. Michal Veselý, CSc., dean

Internal members
prof. RNDr. Jaroslav Cihlář, CSc.
prof. RNDr. Vladimír Čech, Ph.D.
doc. Ing. Pavel Diviš, Ph.D.
doc. Ing. Petr Dzik, Ph.D.
prof. RNDr. Josef Jančář, CSc.
doc. Mgr. Renata Komendová, Ph.D.
prof. Ing. Adriána Kovalčík, Ph.D.
prof. Ing. Jozef Krajčovič, Ph.D.
prof. RNDr. František Krčma, Ph.D.
prof. Ing. Jiří Kučerík, Ph.D.
prof. RNDr. Ivana Márová, CSc.
prof. Ing. Stanislav Obruča, Ph.D.
doc. Ing. Tomáš Opravil, Ph.D.
prof. Ing. Miloslav Pekař, CSc.
doc. Ing. František Šoukal, Ph.D.
prof. Mgr. Martin Vala, Ph.D.
doc. Ing. Michaela Vašinová Galiová, Ph.D.
prof. Ing. Michal Veselý, CSc.
doc. Ing. Lucy Vojtová, Ph.D.
prof. Ing. Martin Weiter, Ph.D.
prof. Ing. Oldřich Zmeškal, CSc.

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prof. Dr. Ing. Karel Bouzek, VŠCHT v Praze
prof. Ing. Roman Čermák, Ph.D., UTB ve Zlíně
prof. Ing. Milan Čertík, Ph.D., STU Bratislava
prof. Ing. Anton Gatial, DrSc., STU Bratislava
prof. Ing. Aleš Helebrant, CSc., VŠCHT v Praze
prof. Ing. Petr Kalenda, CSc., Univerzita Pardubice
doc. Dr. Ing. Petr Klusoň, DSc., ÚCHP AVČR Praha
prof. Ing. Marek Koutný, Ph.D., UTB Zlín
doc. Ing. Irena Kratochvílová, Ph.D., FÚ AVČR Praha
prof. Ing. Petr Mikulášek, CSc., Univerzita Pardubice
prof. Ing. Jiří Mlček, Ph.D., UTB Zlín
prof. Ing. Jozef Vlček, Ph.D., VŠB-TUO
prof. RNDr. Jaroslav Turánek, DSc., UPOL

STUDY PROGRAMME COUNCILS

Bachelor's degree programs
Applied Analytical, Environmental and Forensic Chemistry
doc. MVDr. Helena Zlámalová Gargošová, Ph.D., FCH VUT (Chairwoman)
prof. Ing. Vladimír Adamec, CSc., FCH VUT
doc. Mgr. Michaela Vašinová Galiová, Ph.D., FCH VUT
doc. Mgr. Renata Komendová, Ph.D., FCH VUT
doc. Ing. Jozef Krajčovič, Ph.D., FCH VUT
prof. Ing. Jiří Kučerík, Ph.D., FCH VUT
Ing. Michal Šubrt, ASIO TECH, spol. s. r. o.

Environmental Chemistry, Safety and Management
doc. Mgr. Renata Komendová, Ph.D., FCH VUT (Chairwoman)
prof. Ing. Vladimír Adamec, CSc., FCH VUT
doc. Mgr. Michaela Vašinová Galiová, Ph.D., FCH VUT
doc. MVDr. Helena Zlámalová Gargošová, Ph.D., FCH VUT
prof. Ing. Jozef Krajčovič, Ph.D., FCH VUT
prof. Ing. Jiří Kučerík, Ph.D., FCH VUT
Ing. Michal Šubrt, ASIO TECH, s. r. o.

Chemistry and Chemical Technologies
doc. Ing. Petr Dzik, Ph.D., FCH VUT (Chairman)
prof. Ing. Martina Klučáková, Ph.D., FCH VUT
doc. Ing. Filip Mravec, Ph.D., FCH VUT
RNDr. Petr Pikal, PRECHEZA, a. s.
Ing. Jiří Smilek, Ph.D., FCH VUT
prof. Mgr. Martin Vala, Ph.D., FCH VUT

Chemistry and Technology of Materials
doc. Ing. František Šoukal, Ph.D., FCH VUT (Chairman)
Ing. Pavel Heinrich, HELUZ cihlářský průmysl, v. o. s.
prof. RNDr. Josef Jančář, CSc., FCH VUT
doc. Ing. Lukáš Kalina, Ph.D., FCH VUT
Ing. Lucie Keršnerová, Ph.D., P-D Refractories CZ, a. s.
Mgr. František Kučera, Ph.D., FCH VUT
Ing. Jiří Lerch, Českomoravský cement, a. s.
Ing. et Ing. Daniel Orel, Ph.D., ARBURG, s. r. o.
Ing. Roman Snop, Ph.D., ČEZ Energetické produkty, s. r. o.
Ing. Jan Šimeček, TDK Electronics, s. r. o.

Environmental Chemistry and Technology
doc. Ing. Jozef Krajčovič, Ph.D., FCH VUT (Chairman)
prof. Ing. Vladimír Adamec, CSc., FCH VUT
doc. Mgr. Michaela Vašinová Galiová, Ph.D., FCH VUT
doc. MVDr. Helena Zlámalová Gargošová, Ph.D., FCH VUT
doc. Mgr. Renata Komendová, Ph.D., FCH VUT
prof. Ing. Jiří Kučerík, Ph.D., FCH VUT
Ing. Michal Šubrt, ASIO TECH, s. r. o.

Chemistry and Technology of Foodstuffs
doc. Ing. Pavel Diviš, Ph.D., FCH VUT (Chairman)
prof. Ing. Adriána Kovalčík, Ph.D., FCH VUT
Ing. Blanka Kremláčková, PENAM, a. s.
prof. RNDr. Ivana Márová, CSc., FCH VUT
prof. Ing. Stanislav Obruča, Ph.D., FCH VUT
RNDr. Petr Ryšávka, Ph.D., Medi Pharma Vision, s. r. o.
doc. Ing. Eva Vítová, Ph.D., FCH VUT

Chemistry for Medical Application
prof. Ing. Stanislav Obruča, Ph.D., FCH VUT (Chairman)
RNDr. Aleš Gavenda, Ph.D., TEVA Czech Industries, s. r. o.
prof. RNDr. Ivana Márová, CSc., FCH VUT
doc. Ing. Filip Mravec, Ph.D., FCH VUT
prof. Ing. Miloslav Pekař, CSc., FCH VUT
Ing. Iva Pernicová, Ph.D., FCH VUT
doc. Ing. Petr Sedláček, Ph.D., FCH VUT

Master´s degree programs
Environmental Sciences and Engineering
prof. Ing. Jiří Kučerík, Ph.D., FCH VUT (Chairman)
prof. Ing. Vladimír Adamec, CSc., FCH VUT
doc. Mgr. Michaela Vašinová Galiová, Ph.D., FCH VUT
prof. Ing. Jozef Krajčovič, Ph.D., FCH VUT
doc. RNDr. Václav Slovák, Ph.D., PřF OU
Ing. Michal Šubrt, ASIO TECH, s. r. o.

Environmental Chemistry and Technology
doc. Mgr. Michaela Vašinová Galiová, Ph.D., FCH VUT (Chairwoman)
prof. Ing. Vladimír Adamec, CSc., FCH VUT
prof. Ing. Jozef Krajčovič, Ph.D., FCH VUT
prof. Ing. Jiří Kučerík, Ph.D., FCH VUT
doc. RNDr. Václav Slovák, Ph.D., PřF OU
Ing. Michal Šubrt, ASIO TECH, s. r. o.

Chemistry and Chemical Technologies
prof. Ing. Miloslav Pekař, CSc., FCH VUT (Chairman)
prof. Ing. Martina Klučáková, Ph.D., FCH VUT
doc. Ing. Filip Mravec, Ph.D., FCH VUT
RNDr. Petr Pikal, PRECHEZA, a. s.
Ing. Jiří Smilek, Ph.D., FCH VUT
prof. Mgr. Martin Vala, Ph.D., FCH VUT

Chemistry and Technology of Materials
doc. Ing. František Šoukal, Ph.D., FCH VUT (Chairman)
Ing. Pavel Heinrich, HELUZ cihlářský průmysl, v. o. s.
prof. RNDr. Josef Jančář, CSc., FCH VUT
Ing. Lucie Keršnerová, Ph.D., P-D Refractories CZ, a. s.
Mgr. František Kučera, Ph.D., FCH VUT

Ing. Jiří Lerch, Českomoravský cement, a. s.
Ing. et Ing. Daniel Orel, Ph.D., ARBURG spol., s. r. o.
prof. Ing. Petr Ptáček, Ph.D., FCH VUT
Ing. Roman Snop, ČEZ Energetické produkty, s. r. o.
Ing. Jan Šimeček, TDK Electronics, s. r. o.
doc. Ing. Jaromír Wasserbauer, Ph.D., FCH VUT

Chemistry and Technology of Foodstuffs
prof. RNDr. Ivana Márová, CSc., FCH VUT (Chairwoman)
doc. Ing. Pavel Diviš, Ph.D., FCH VUT
Ing. Blanka Kremláčková, Delta pekárny, a. s.
doc. RNDr. Renata Mikulíková, Ph.D., FCH VUT
prof. Ing. Stanislav Obruča, Ph.D., FCH VUT
doc. Ing. Eva Vítová, Ph.D., FCH VUT

Chemistry for Medical Application
prof. Ing. Stanislav Obruča, Ph.D., FCH VUT (Chairman)
RNDr. Aleš Gavenda, Ph.D., TEVA Czech Industries, s. r. o.
prof. RNDr. Ivana Márová, CSc., FCH VUT
doc. Ing. Filip Mravec, Ph.D., FCH VUT
prof. Ing. Miloslav Pekař, CSc., FCH VUT
Ing. Iva Pernicová, Ph.D., FCH VUT
doc. Ing. Petr Sedláček, Ph.D., FCH VUT

Chemistry of Natural Products
doc. Ing. Pavel Diviš, Ph.D., FCH VUT (Chairman)
prof. Ing. Adriána Kovalčík, Ph.D., FCH VUT
prof. RNDr. Ivana Márová, Ph.D., FCH VUT
prof. Ing. Stanislav Obruča, Ph.D., FCH VUT
RNDr. Petr Ryšávka, Ph.D., Media Pharma Vision, s. r. o.

Doctoral study programs
Biophysical Chemistry
prof. Ing. Miloslav Pekař, CSc., FCH VUT (Chairman)
prof. Ing. Martina Klučáková, Ph.D., FCH VUT
prof. Mgr. Marek Koutný. Ph.D., FT UTB
prof. Ing. Adriána Kovalčík, Ph.D., FCH VUT
prof. RNDr. Ivana Márová, CSc., FCH VUT
doc. Ing. Filip Mravec, Ph.D., FCH VUT
Ing. Lukáš Nejdl, Ph.D., MENDELU
prof. Ing. Stanislav Obruča, Ph.D., FCH VUT
prof. RNDr. Dalibor Štys, CSc., FROV, JU
prof. RNDr. Jaroslav Turánek, DSc., LF UPOL
prof. RNDr. Zbyněk Zdráhal, Dr., PřF MU

Physical Chemistry
prof. RNDr. František Krčma, Ph.D., FCH VUT (Chairman)
prof. Ing. Michal Čeppan, CSc., FCHPBT STU
doc. Ing. Pavel Čičmanec, Ph.D., FCHT UP
doc. Ing. Petr Dzik, Ph.D., FCH VUT
prof. Ing. Martina Klučáková, Ph.D., FCH VUT
prof. Ing. Miloslav Pekař, CSc., FCH VUT
doc. Ing. Květoslav Růžička, CSc., FCHI VŠCHT
prof. Ing. Peter Šimon, DrSc., FCHPT STU
prof. Ing. Martin Vala, Ph.D., FCH VUT
prof. Ing. Michal Veselý, CSc., FCH VUT

Chemistry, Technol. and Properties of Materials
prof. Ing. Martin Weiter, Ph.D., FCH VUT (Chairman)
prof. RNDr. Vladimír Čech, Ph.D., FCH VUT
prof. Ing. Jaromír Havlica, DrSc., FCH VUT
prof. Ing. Jozef Krajčovič, Ph.D., FCH VUT
doc. Ing. Irena Kratochvílová, Ph.D., Fyzik. AV ČR
doc. Ing. Petr Ptáček, Ph.D., FCH VUT
doc. Ing. Tomáš Syrový, PhD., FCHT UP
doc. Ing. František Šoukal, Ph.D., FCH VUT
doc. Ing. Jozef Vlček, PhD., FMT VŠB-TUO
prof. Ing. Oldřich Zmeškal, CSc., FCH VUT

Chemistry and technology of environmental protection
prof. Ing. Jiří Kučerík, Ph.D., FCH VUT (Chairman)
doc. Ing. Petr Dolejš, CSc., W&ET Team Tábor
doc. Mgr. Michaela Vašinová Galiová, Ph.D., FCH VUT
doc. MVDr. Helena Zlámalová Gargošová, Ph.D., FCH VUT
prof. Ing. Jaromíra Chýlková, CSc., FCHT UP
prof. Ing. Pavel Janoš, CSc., PřF UJEP
doc. Mgr. Renata Komendová, Ph.D., FCH VUT
doc. RNDr. Václav Slovák, Ph.D., PřF OU
prof. Ing. Tomáš Svěrák, CSc., FCH VUT
doc. Ing. Branislav Vrana, Ph.D., PřF MU

Food Chemistry
prof. RNDr. Ivana Márová, CSc., FCH VUT (Chairwoman)
doc. Mgr. Václav Brázda, Ph.D., FCH VUT
prof. Ing. Milan Čertík, Ph.D., FCHPT STU
doc. Ing. Pavel Diviš, Ph.D., FCH VUT
prof. RNDr. Jiří Doškař, CSc., PřF MU
prof. Ing. Adriána Kovalčík, Ph.D., FCH VUT

prof. Ing. Stanislav Obruča, Ph.D., FCH VUT
prof. Ing. Miloslav Pekař, CSc., FCH VUT
Ing. Martin Polovka, Ph.D., VÚP
doc. Ing. Eva Vítová, Ph.D., FCH VUT

Macromolecular Chemistry
prof. RNDr. Josef Jančář, CSc., FCH VUT (Chairman)
prof. RNDr. Vojtěch Adam, CSc., MZLU
prof. Ing. Petr Humpolíček, Ph.D., UTB
doc. Ing. Marian Lehocký, Ph.D., Univerzitní institut, UTB
prof. Dipl. Ing. Robert Liska, Ph.D., TU Wien
RNDr. Libor Matějka, CSc., Ústav makromolekulární chemie, AV ČR
prof. Ing. Jan Merna, Ph.D., VŠCHT
doc. Dr. Abdel Mohsan-Latiff, CEITEC VUT
Ing. Mária Omastová, DrSc., ÚP SAV
doc. Ing. Lucy Vojtová, Ph.D., CEITEC VUT

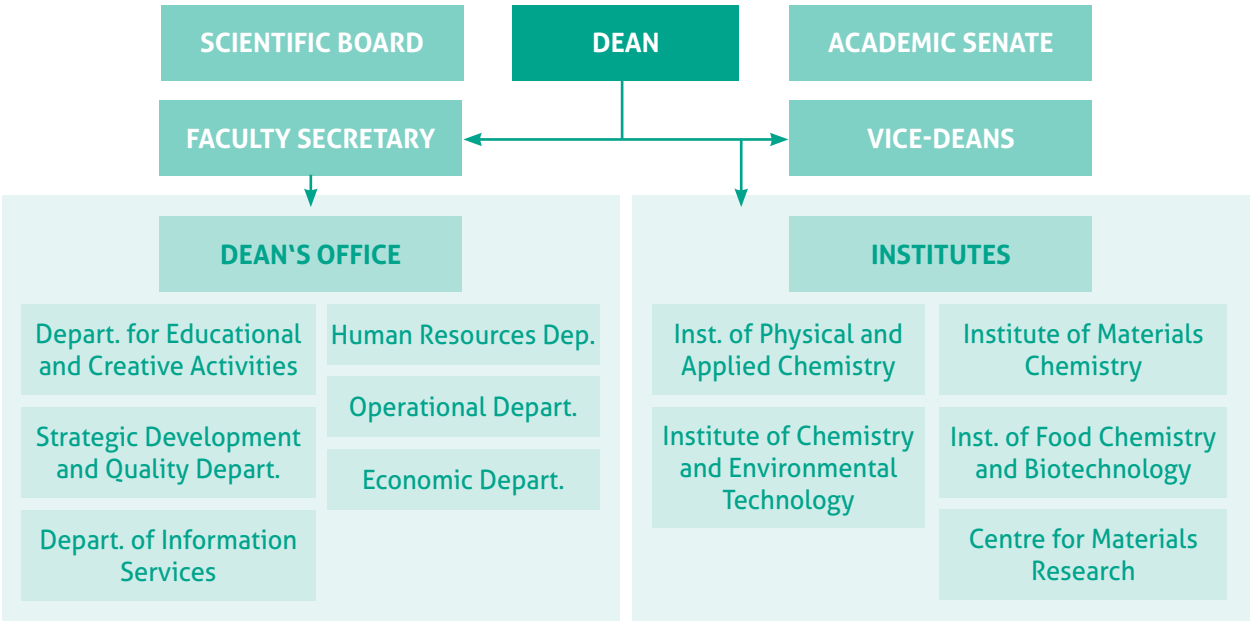
ACADEMIC SENATE OF THE FACULTY

Chairman
doc. Ing. Pavel Diviš, Ph.D.

Student Chamber
Ing. Jan Zahrádka (Chairman)
Bc. Michaela Adamczyková
Ing. Xenie Kouřilová
Ing. Jiří Lindovský
Bc. Jan Vacula

Chamber of Academic Staff
prof. Ing. Stanislav Obruča, Ph.D. (Chairman)
doc. Ing. Pavel Diviš, Ph.D.
doc. Ing. Lukáš Kalina, Ph.D.
doc. Mgr. Renata Komendová, Ph.D.
Ing. Jitka Krouská, Ph.D.
RNDr. Ivana Pilátová, CSc.
Ing. Jaromír Pořízka, Ph.D.
Mgr. Radek Přikryl, Ph.D.
doc. Ing. Petr Sedláček, Ph.D.
Ing. Jiří Smilek, Ph.D.

ORGANISATIONAL CHART



MISSION, VISION AND STRATEGIC GOALS OF THE FACULTY

The Faculty of Chemistry of the Brno University of Technology continues its activities in the long tradition of chemical higher education in Brno, which began with the establishment of the chemical department of the Czech Technical University in November 1911 and was interrupted in 1951 by the transformation of the Brno Technical University into a military Technical Academy. The re-establishment of the Faculty of Chemistry of the Brno University of Technology in 1992 was a necessity both in terms of supplementing the Brno Technical University with a branch of study necessary for its integrated educational activities and comprehensive scientific research activities, and above all in terms of the needs of industrial development of the region, where a gap in the education of chemists with an engineering education, lasting several decades, was clearly felt. The concept of study fields, constituted since the resumption of the faculty's activity and in the future, is based on the needs of the BUT development and reflects the needs and requirements of society and the labour market in the near and distant future. Therefore, currently the Faculty of Chemistry of the BUT is an established and respected educational institution with significant research activities and strong links to the industrial and other application spheres.

MISION

The mission of the Faculty of Chemistry of BUT is to provide quality education in chemical disciplines and related fields. Within the framework of educational activities, the Faculty emphasizes the connection of educational and creative activities with the needs of the labour market, the application sphere, the region and other relevant partners. For this purpose, the Faculty makes use of excellent research infrastructure, the high potential of its staff and students and a harmonised environment that creates individualised and optimised conditions for students' studies and staff work.

VISION

A research-oriented faculty competitive in an international context, with strong links to industry, delivering teaching with an emphasis on the quality foundation of chemical disciplines and linking teaching with excellent materials research in materials science and related fields.

FACULTY INSTITUTES AND DEPARTMENTS

DEAN´S OFFICE

Dean's Secretariat
Mgr. Ilona Pipková

Department for Educational and Creative Activities
Ing. Hana Alexová
(Head of Department)
Bc. Petra Jurčeková
Bc. Romana Němcová
Mgr. Alena Sýkorová
Eva Šmírová

Economic Department
Ing. Markéta Večeřová
(Head of Department)
Eva Čermáková
Ing. Martina Haluzová
(from 1 April 2023)
Stanislava Pokorná
Ing. Ladislav Poláček
Lucie Smetanová
Ivana Vyskočilová

Human Resources Department
JUDr. Pavla Zapletalová
(Head of Department)
Mgr. Jana Hanáková
Ing. Renata Manhalterová
(from 1 November 2023)
Ing. Pavlína Samcová

Strategic Development and Quality Department
Mgr. Michaela Benešová
Ing. Jan Pernica
Renata Svojanovská
Mgr. Lucie Vítámvásová
Filip Volf

Department of Information Services
Ing. Jan Brada
(Head of Department)
Marek Forman, DiS.
(from 1 October 2023)
Bc. Igor Kvita
Milada Nečasová
Veronika Richterová, DiS.
Petr Žampach

Operational Department
Ing. Jiří Toufar
(Head of Department)
Ing. Petr Bartoň
Blanka Boháčová
Roman Buriánek
Zuzana Ceypová
Marta Černá
Eliška Fadrná
Pavel Fadrný
Hana Filipská
Zdeňka Hajzlerová
Oleksandr Hotko
Jana Charvátová
Miroslava Kolářová
Věra Micová
Magdalena Nováková
Lukáš Ondráček
Eva Svánovská
Karel Štefka
Romana Veselá
Josef Vozábal
Simona Vozábalová
Bc. Danuše Žaloudková
(until 31 Aug 2023)
Ing. Pavel Žampach

QUALIFICATION STRUCTURE OF FACULTY STAFF

Converted number of faculty employees

	Teaching staff	Researchers	Technicians, Laboratory technicians	Administrative, Technical-economic staff	Workers	Total
Total	72,75	30,5	12,6	41,875	15,752	173,45
Women	27	16	10,8	30,875	10,85	95,525
Men	45,75	14,5	1,8	11	4,875	77,925

Qualification structure of teaching staff

Working positions	Physical number			Converted number
	Total	Women	Men	
Professors	18	3	15	15,8
Associate Professors	15	6	9	15
Assistant Professors	39	15	24	36,65
Assistants	1	0	1	0,5
Lecturers	1	1	0	0,8
Other teaching staff	4	3	1	4

Age structure of teaching staff

Age	Teaching staff						Other teaching staff
	Professors	Associate Professors	Ass. Professors asistenti	Assistants	Lecturers	Tutors	
up to 29 years	0	0	0	1	0	0	36
30–39 years	0	3	19	0	0	3	10
40–49 years	5	9	14	0	1	1	2
50–59 years	5	1	4	0	0	0	1
60–69 years	6	2	2	0	0	0	0
over 70 years	2	0	0	0	0	0	1

Average age in individual groups of academic staff

Teaching staff						Other teaching staff
Professors	Associate Professors	Assistant Professors asistenti	Assistants	Lecturers	Tutors	
58	46	41	29	49	35	30

INSTITUTE OF PHYSICAL AND APPLIED CHEMISTRY

DIRECTOR
prof. Ing. Miloslav Pekař, CSc., 541 149 330, pekar@fch.vut.cz

DEPUTY DIRECTOR
prof. RNDr. František Krčma, Ph.D., 541 149 407, krcma@fch.vut.cz

SECRETARY
Karla Bachová, 541 149 331, bachova@fch.vut.cz

In 2023, the Institute fully returned to normal operations in its educational and creative activities. The implementation of new Bachelor's and Master's degree programmes in Chemistry and Chemical Technology, which replaced the long-standing Consumer Chemistry programmes, is well underway. In doing so, a modernized undergraduate degree has been developed and submitted for accreditation. The goal of the Chemistry and Chemical Technology degree is to provide a complete undergraduate education in chemistry and the theoretical foundations of chemical technology. The study prepares the graduate to pursue skilled activities in chemistry and related fields or to pursue a doctoral degree.

Traditionally, the Institute provides, in cooperation with the Institute of Food Chemistry and Biotechnology, the Bachelor's and the follow-up Master's programme Chemistry for Medical Applications. The study in these programmes is focused on general chemical and technical-chemical education, which is expanded in disciplines related to the use of chemistry in various fields of medicine. The graduate chemist is also educated in the fundamentals of pharmacological, biochemical, medical-biological, biotechnological and bioengineering issues. Modern disciplines of nanotechnology or medical nanobiotechnology are also part of his education. Graduates are employable in chemical, but especially in pharmaceutical, biomedical and biotechnological practice.

For students with a deep interest in chemistry and creative activity, the institute offers doctoral studies in the programmes Physical Chemistry and Chemistry, Technology and Properties of Materials. In 2023, the recently accredited PhD programme in Biophysical Chemistry entered its fourth year, which the Institute provides in collaboration with the Institute of Food Chemistry and Biotechnology. The first graduates are thus expected in 2024.

Student excursions to manufacturing companies, which were renewed last year, have continued. As part of the teaching of the subject Chemistry in Practice (3rd year of the Bachelor's degree programme Chemistry and Chemical Technology), excursions to industrial enterprises in various regions of the Czech Republic took place in 2023. These companies have long been cooperating with FCH and its students (offering internships, work experience during studies, employment). The excursions, during which students have the opportunity to see all parts of the production and possible modification of the manufactured products, are popular among students and are very positively evaluated. Companies are also interested in holding them. Hartmann-Rico, a.s. Veverská Bítýška; Kordárna Plus a.s. Velká nad Veličkou; PFNonwovens Czech, s.r.o. Znojmo; Saint-Gobain Adfors, Litomyšl; Mondi Štětí, a.s.).

The Institute offers all forms of cooperation in the field of its expertise to the professional public, both educational and scientific research and development – e.g. specialized training courses, consultations, measurements and determinations on the Institute's instruments, custom or joint research and development, strategic partnerships in research, development and innovation. The Institute's expertise is in applied physical chemistry, including colloid chemistry, photochemistry, electronics, plasma chemistry. It can thus offer expertise in e.g. the development and testing of dispersion systems and gels, controlled release, conventional and material printing, photochemical-functional products, materials for organic and printed bioelectronics and photovoltaics, plasmochemical treatments and processes, etc. The creative activity of the institute is closely linked with the Faculty Centre for Materials Research. Among the achievements of the teaching and creative activities in 2023, let us mention the success of the recent PhD student M. Súkeník in the Brno PhD talent event or the victory of PhD student D. Zhurauliová in the COMSOL application competition, organized by its supplier, Humusoft.

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The Department of Chemistry of Materials provides teaching of the Bachelor's and Master's degree programmes in Chemistry and Technology of Materials. The implementation of the study programmes is sponsored by 6 patrons – cooperating companies. The aim of the bachelor's programme is to provide the student with a good knowledge of the basic principles of inorganic, organic, physical and analytical chemistry and chemical engineering as well as a basic orientation in macromolecular chemistry and in the structure and properties of solids, i.e. inorganic materials, polymers and metals. In the follow-up studies, the theoretical knowledge and practical skills required in engineering practice are deepened, especially in the synthesis and characterisation of polymer, composite, ceramic and building materials, in plastics processing technology and the production of polymer composites, in production technologies of ceramic and building materials and in surface treatments of metals and other materials. The best graduates in the field may go on to doctoral studies in the Chemistry, Technology and Properties of Materials programme.

For business entities, the Institute of Materials Chemistry offers the possibility of consulting on practical production technology problems, chemical, structural and physical-mechanical analysis of both raw materials and final products. We perform routine tests and special measurements of chemical, physical, structural, thermomechanical, corrosion and processing properties of building materials, ceramics, plastics, composites and metals. We also perform custom development of new materials for construction, structural applications, automotive, electronics and electrical engineering, ballistic protection, reconstructive medicine, biodegradable packaging, IT hardware, 3D printing, adhesives and corrosion protection of metals. Our specialties include functional nanomaterials, low-density structural and flame retardant insulation materials, geopolymers and other cement-free mortars, controlled-life materials, refractory materials, ultra-high-value concrete for ballistic protection, hybrid cements, materials with high secondary raw material content, polymeric and inorganic biomaterials, PLA and PHB biopolymer-based materials, and corrosion protection for magnesium alloys. The Institute's academic staff collaborates with more than 50 companies and together they continuously work on around 20 grant projects and contract research contracts, which in recent years have resulted in more than 20 patents and a number of innovations applied in industry. The Institute is a key research partner for companies in the region, particularly in the production of Portland cement and other building materials, as well as in the production of refractory materials, functional electrical ceramics and biodegradable plastics.

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The Institute of Food Chemistry and Biotechnology ensures the implementation of the Bachelor's degree programme Chemistry and Food Technology. Within this programme, it offers specialisations in Biochemical Technology, Chemistry and Analysis of Natural Substances and Food Chemistry and Technology. Students of the above-mentioned bachelor's degree programme have the opportunity to continue in the follow-up master's degree programmes in Chemistry of Natural Substances and Chemistry and Technology of Food. The Institute also provides the doctoral degree programme in Food Chemistry and also carries out habilitation proceedings in the same field. The institute also guarantees and is involved in the implementation of the Bachelor's degree programme Chemistry for Medical Applications and the follow-up Master's degree programme Chemistry for Medical Applications, where it implements teaching and SZZ specialisation Chemistry of Bioactive Substances. ICHPBT is also involved in the provision of the joint-degree doctoral programme Biophysical Chemistry/Biophysical Chemistry. The study is aimed at acquiring active knowledge and skills needed in the control and management of modern food and biotechnological production, fermentation technologies and other food, pharmaceutical, cosmetological and chemical technologies, working in food, biotechnological, genetic, biochemical, microbiological and chemical laboratories. The concept of the field is in line with the current requirements placed on specialized and highly qualified personnel in modern biotechnological and food production, research and development laboratories, control and inspection institutions and commercial companies. **Graduates of the above-mentioned study programmes will find employment in:**

– in the agri-food complex
– in biotechnological processes in the chemical and pharmaceutical industry and cosmetology
– in the new fields of the environmental protection industry
– in state control institutions
– in the development of new technologies and research
– in commercial organisations.

The scientific focus of ICHPBT BUT is based on current trends in the development of modern food sciences. The main directions of research include the analytical-technological area focused on the development and optimization of technological processes, the analysis of the quality and safety of food, its ingredients, food raw materials and final products and the development of modern methods of analysis of content substances. Another part of the research is directed to the field of biotechnology and focuses in particular on the development and optimisation of processes aimed at the processing and valorisation of wastes from food and agricultural production and their use for the production of industrially important metabolites and substances with high added value. Modern molecular biotechnologies and their application to determine the authenticity of food, raw materials and cosmetic products are also part of the scientific focus of the institute. In recent years, nanotechnologies and the possibilities of their use in food and cosmetics have also been actively developed. In all these areas, the ICHPBT is open to cooperation. Currently, the ICHPBT is involved in the research programme of the Materials Research Centre (Biotechnology and Biomaterials Laboratory). In 2023, the ICHPBT staff participated in some international projects (ByProValue, cooperation with Norway; bilateral project of GAČR – cooperation with Switzerland, Interreg – cooperation with Slovakia and Austria), projects of national and international grant agencies (GAČR, TAČR) and a number of collaborations with industry (e.g. Neo Pharma Vision, s. r. o, Mlýny Voženílek, s. r. o., Vinařství Velké Bílovice, s. r. o., Photon System Instruments, s. r. o., Algae Farm, s. r. o.). The Institute has a certified sensory laboratory which provides certified courses and examinations for assessors to the professional public. ICHPBT cooperates with a number of foreign and domestic institutions in solving research tasks in all of the above directions, student theses, specialized analyses and technology transfer (e.g. Research Institute of Brewing and Malting Prague, Research Institute of Veterinary Medicine Brno, CEITEC Brno, Institute of Instrumentation of the CAS Brno, UACH CAS, Czech Globe, etc.). Foreign cooperation is actively developed especially with universities and academic and industrial workplaces in Norway (University Trondheim, NMBU AS, FTIRScreen AS; Norilia AS Oslo; Nortura SA Oslo and others), Sweden (Lund University, Swedish University of Agricultural Sciences, Uppsala), Spain (University Huelva), Switzerland (HES-SO Sion), Austria (TU Graz, BOKU Tulln), Italy (University Sassari, University Perugia) and Slovakia (VÚP Bratislava, Institute of Chemistry SAV, FBPT STU).

ICHPBT staff are representatives of the Czech Republic in international professional organizations (e.g. EBTNA – European Biotechnological Thematic Network Association, ICY – International Commission on Yeasts) and regularly participate in the organization of prestigious international conferences, where they are members of organizing and scientific committees (e.g. 34th ACCY 2023, Smolenice; European Biotechnology Congress 2023, Ljubljana). In 2023, ICHPBT organized the 11th European Symposium on Biopolymers (ESBP).

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INSTITUTE OF CHEMISTRY AND ENVIRONMENTAL TECHNOLOGY

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The Institute of Chemistry and Environmental Technology provides teaching in bachelor, master and doctoral study programmes. The undergraduate programmes include the Applied Analytical, Environmental and Forensic Analysis and Environmental Chemistry, Safety and Management programmes and the previously accredited Chemistry and Environmental Protection Technology programme. Master's follow-on programs include Environmental Chemistry and Technology and an English-taught „double degree" Environmental Sciences and Engineering program. The doctoral programme is entitled Environmental Chemistry and Technology. All academic programmes can be defined as reflecting current societal needs in line with the Green Deal, building on a deep knowledge of analytical and instrumental analytical chemistry, chemical technologies, underpinned by knowledge of other disciplines such as ecotoxicology, applied biology and organic chemistry. Students are educated in the basic chemical disciplines during their undergraduate studies. As part of the specialisation, they are then taught the principles of „Green Chemistry", to analyse and minimise the impact of individual pollutants and to design measures to protect the essential components of the environment, i.e. air, water, soil and biota. Equally important is the issue of the transformation of toxic substances in individual environmental components. The only professional study programme is Environmental Chemistry, Safety and Management. Students in this programme place less emphasis on laboratory skills and on depth of theoretical background. However, knowledge of environmental legislation, law and management is emphasised. In the follow-up Master's programme, students are introduced to decontamination and remediation technologies, air protection technologies and waste treatment. In addition, students are also introduced to risk analysis and assessment, including the prevention and elimination of chemical accidents. They are able to prepare environmental impact studies (EIA) in accordance with the legislation in force and have an overview of quality systems and ISO standards. The study enables students to acquire the necessary knowledge and practical experience that they can subsequently use on the labour market after graduation. Thanks to this, graduates are able to work as managers, engineers and technologists in all areas of the chemical and biotechnology industry, especially water management, wastewater treatment, air and soil protection technology, etc. The scientific and research activities of the Institute are focused on both basic and applied research. The basic research focuses on alternatives to available renewable energy sources, to convert carbon dioxide into energy-harvesting compounds, and to store solar energy in chemical bonds. It also focuses on the development of methods for the analysis of wastewater with special emphasis on the detection of pharmaceutical residues, hormones, fragrances and artificial sweeteners, the development of methods for the analysis of soil organic matter dynamics and quality, soil remediation and soil fertilisation and the analysis of microplastics in soils, the development of preconcentration techniques for the analysis of platinum metals, the development and application of approaches for the analysis of rocks and the synthesis of a wide range of biologically and optically active organic compounds. Applied research focuses mainly on water treatment technologies, soil and air protection, general and special industrial toxicology and ecotoxicology, technological processes for municipal waste disposal, biodegradation of plastics, preparation of environmentally-applicable materials and monitoring and optimization of processes in photovoltaic and thermal systems. The institute also engaged in international events in 2023 and hosted a workshop entitled „1st Autumn workshop on functional organic materials for sustainable future", which hosted a whole portfolio of world-leading experts. The Institute staff participated in the international exchange project CEEPUS and NETCHEM and also worked on a number of projects together with industrial partners and research organisations. Intensive cooperation on projects is taking place with FSI and FAST of the BUT, with the AdMaS research centre (FAST, BUT) and ASIO, s r. o., with whom the TAČR projects have mainly addressed issues related to sewage sludge treatment and wastewater treatment. Foreign cooperation is actively developed in the form of AKTION and WTZ projects especially with universities and academic and industrial workplaces in Austria (TU Wien, Johannes Kepler University, Linz), Italy (Univeristy of Bari, Aldo Moro, University of Palermo), Germany (University of Koblenz-Landau, University of Applied Sciences Dresden, LKS mbH, Lichtenwalde), France (University of Rouen), USA (Ohio State University), Japan (Kyushu University, Fukuoka) and Israel (Volcani Center, Bet Dagan).

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Ing. Matěj Šram
(until 8 February 2023)
Ing. Lucie Šudomová
(until 16 October 2023)
Ing. Július Telek
Ing. Marek Trojan
Ing. Tereza Vajdíková
(until 9 October 2023)
Ing. Jana Valíčková
Ing. Alena Vašinková
(until 4 December 2023)
Ing. Dominik Veselý
Ing. Jan Vespalec
Ing. Simona Wawroszová
Ing. Anna Zoufalá

CENTRE FOR MATERIALS RESEARCH

DIRECTOR
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CENTRE MANAGER
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PROJECT SUPPORT
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CMV SECRETARIAT
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The Centre for Materials Research (CMV) is a specialised research centre with a focus on applied research in inorganic materials, advanced organic materials, biomaterials and materials for smart technologies – with an emphasis on their chemistry, properties and control. In recent years, CMV researchers have focused on sustainable technologies and materials. The ecological aspects of their production and subsequent recycling or other environmentally friendly use of materials of all categories are also studied.

In addition to applied research and collaboration with industry, CMV has a strong in-house base of fundamental research that profiles itself in the areas described above and serves as inspiration and a springboard for potential applications in many sciences and disciplines.

The main objective of the Materials Research Centre at the Faculty of Chemistry is to develop collaboration between research at the University and real industry. The link between CMV scientists and industry is mainly realized in the form of contract research and jointly solved projects with own and grant funding.

The very close cooperation between CMV and industrial partners results in an effective transfer of knowledge from laboratories to real practice. Within the framework of cooperation with the industrial sector, CMV involves students of the Faculty of Chemistry, of which it is a part, in research tasks that are solved in cooperation with industrial partners. More and more students are involved in such projects every year. Students thus gain an overview of the real needs of industry, which contributes in no small measure to the fulfilment of the mission of the technical college. It is not infrequently that they join these companies after graduation.

CMV is divided into 9 research laboratories according to disciplines, within which research and teaching activities are carried out.

CMV HAS THE FOLLOWING LABORATORIES:

Laboratory of Inorganic Materials

Inorganic non-metallic materials are the largest group of man-made materials by volume. These include mainly building materials, i.e. concrete, binders, ceramics, glass, refractories for industrial high-temperature aggregates or functional ceramic materials. The Inorganic Materials Laboratory focuses on research and development of selected types of inorganic materials in cooperation with more than 100 companies in the field.

Laboratory of Metals and Corrosion

The Metal and Corrosion Laboratory offers analysis of various types of materials other than metal, development of protective coatings and determination of the causes and progress of corrosion. With state-of--the-art instrumentation, laboratory equipment and facilities, it successfully assists industrial companies and research institutions with everything related to metals and corrosion.

Biocolloid Laboratory

The Biocolloids Laboratory is dedicated to basic and applied research with an emphasis on colloids, dispersions and hydrogels, both natural and synthetic. It has state-of-the-art equipment for fluorescence spectroscopy, thermal analysis and calorimetry, characterization of liquid and soft-solid colloids, and diffusion studies. Applications include the fields of medicine, pharmacy, cosmetics, household and consumer chemistry, nanotechnology, soil and environmental care or agriculture.

Laboratory of Biotechnology and Biomaterials

The Biotechnology and Biomaterials Laboratory investigates processes and technologies for the microbial production of industrially important substances such as biomaterials, enzymes, vitamins, pigments and other natural molecules. The chemicals and materials produced are being developed for applications primarily in the pharmaceutical, health care, food and cosmetic industries. In parallel, the laboratory is characterising the potential effect of various materials and bioproducts on living cells of all types.

Organic Electronics and Photonics Laboratory

The laboratory is engaged in basic and applied research and development in advanced organic materials in electronics, photonics and printed electronics. It offers expertise in organic synthesis of new functional materials, characterization and study of electronic, optical, electrical and optoelectrical properties, and design, construction and characterization of components and devices for organic and printed electronics, sensors and photonics.

Bioplastics Laboratory

The use of any plastic has an impact on the environment and the misapplication of bioplastics is certainly no exception. Several years of work with these materials and accumulated experience in their processing show the meaningful applications of these materials. With state-of-the-art instrumentation and laboratory equipment, the bioplastics laboratory helps industries develop and test these materials for applications where their deployment will reduce the environmental burden.

Laboratory of Analytical and Environmental Chemistry

The main research topics are mainly focused on environmental protection and technology, but the laboratory also analyses samples from industry and transport. This mainly involves qualitative and quantitative analysis of organic substances, heavy metals, nanoparticles and microplastics in water and soils. The laboratory also deals with soil carbon dynamics, soil organic matter quality and methods for rapid analysis of soil properties. The lab also offers biodegradability analysis of (bio)plastics and much more.

Photochemistry and Plasmochemistry Laboratory

Current topics are the study of photocatalytic properties of thin films of oxide n-type semiconductors (TiO2, WO3) in mineral, hybrid organo-mineral and organic binders, applied as self-cleaning layers for exterior use. Furthermore, studying the photocatalytic and photoelectrochemical properties of thin films of these oxides leading to sensor applications, scaling up thin film preparation processes from laboratory techniques to material printing techniques. Within plasma chemistry, the main research topics focus on the generation and application of discharges in liquids, the interaction of plasmas with surfaces, and the analysis of discharge products in gases and liquids. An important direction is the study of processes with respect to applications in agriculture, both the direct action of plasmas on biological materials and soils and the use of plasma-activated water. This area is also closely related to applications in medicine, especially for direct therapeutic use of plasma.

Advanced Materials Synthesis Laboratory

The laboratory is engaged in a programme of experimental research in organic chemistry and materials science. We are creating a platform for studies in the areas of organic, hybrid and biohybrid materials for optoelectronics, photonics, biomedical and green energy applications. We design, synthesize and optimize organic advanced molecules, oligomers and conjugated polymers using conventional as well as green and sustainable methods. We strive to ensure that the parameters of newly developed systems meet the requirements for further commercialization. We recognize that sophisticated design and well-engineered synthesis of novel functional materials is the basis for advancing the most critical areas of technology from electronics to energy to medicine.

In 2023, the CMV was able to actively develop cooperation with industry in all areas of research in which these disciplines are developed within the CMV research laboratories. As of 31 December 2023, 89 scientists/researchers were employed at CMV in research projects. In 2023, the volume of contract research amounted to almost 8.5 million CZK. This 8.5 million, represents 84 contract research contracts, which corresponds to an average of approximately 100,000 CZK per contract, this figure is very encouraging. In cooperation with the application sphere, 19 grant research projects were implemented in 2023, of which 18 projects were implemented in TAČR calls and 1 in the OP TAK programme with a total financial volume of more than CZK

18 million. The amount of funding provided by the Research and Development Centre for the Czech Republic amounted to CZK 12 million. In 2023, CMV scientists and researchers participated in 7 basic research projects supported by the Grant Agency of the Czech Republic; in this year, the volume of funds reached the value of almost CZK 12 million. The amount of funding provided by the Research and Development Centre for the Czech Republic amounted to CZK 12 million. One OP3V project and 4 projects under NPO were also implemented under CMV. In total, 38 projects with a total financial volume of more than CZK 53 million were dealt with under CMV in 2023, of which CZK 5 million was spent on the project. CZK 5 million of investment funds. As in previous years, scientists, researchers and other CMV employees actively participated in science popularization events such as the Brno Science Festival, which was held for the second time at the Brno Exhibition Centre this year and was attended by more than 10,000 visitors, CMV performers at this event are considered the founders of this traditional Brno popularization activity, CMV was also actively involved in the Night of Scientists, Electron Microscopy Days and other science-popularization events and cooperation with primary and secondary schools.

doc. Ing. Tomáš Opravil, Ph.D.

EMPLOYEES

Bc. Adam Antálek
Bc. Leona Bačovská
Ing. Radim Bartoš
Ing. Jana Blažková
Ing. Luboš Bocian
Mgr. Zuzana Burešová
Klaudia Bystrická
Ing. Vladislav Cába
Bc. Klára Čeparová
Ing. Diana Černayová
Martina Davidová
Ing. Vojtěch Dobiáš
Michaela Dobrovolná
Pavla Dobrovská
Ing. Michaela Fanglová
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Ing. Jakub Fojt, Ph.D.
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Pavlína Guziurová
Ing. Jan Hajzler
Ing. Michaela Hasoňová, Ph.D.
Ing. Martina Havlíková
Mgr. Tomáš Hebký
Ing. Vendula Hrabalová
Mgr. Bc. Lucie Hrbková
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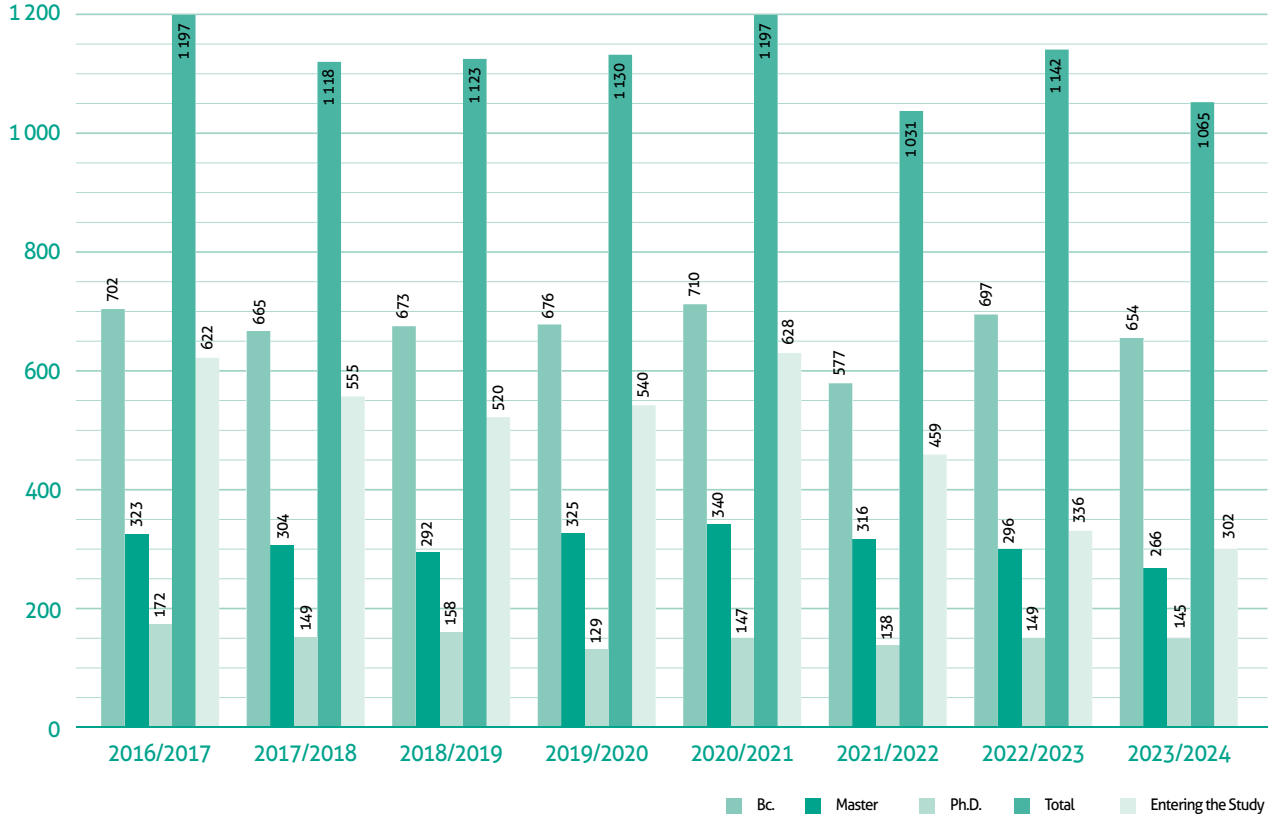
Ing. Alžběta Kecíková
Markéta Khýrová
Bc. Silvia Kollerová
Ing. Bc. Soňa Kontárová, Ph.D.
Ing. Xenie Kouřilová
Ing. Libuše Kratochvilová
Bc. Vladimíra Krempaská
Ing. Štěpán Krobot
Ing. Petra Kryštofová
Ing. Jiří Lindovský
Ing. Romana Malečková
Ing. Michal Marko
Ing. Aneta Marková, Ph.D.
Ing. David Markusík
Mgr. Eva Maršalová
Ing. Kateřina Mayerová
Ing. Veronika Melčová, Ph.D.
Ing. Maksim Menshikh
Ing. TJakub Nábělek
Ing. Ivana Nováčková
Ing. Viktorie-Alexandra Pacasová
Ing. Jakub Palovčík
Ing. Natálie Palucha
Ing. Silvia Patakyová
Ing. Aneta Pospíšilová
Ing. Jiří Přibyl
Andrei Rotaru, Dr. hab.
Blanka Rubanová
Ing. Veronika Řeháková
Ing. Martin Sedlačík
Ing. Pavlína Sikorová
Ing. Zuzana Slavíková
Ing. Rastislav Smolka
Ing. Tomáš Solný, Ph.D.
Ing. Martin Súkeník
prof. Ing. Tomáš Svěrák, CSc
Ing. Halina Szklorzová
Mgr. Zuzana Šedrlová
Jan Šindelář, M.Sc.
Ing. Katarína Šlosárová
Miloslav Šmeral
Ing. Tomáš Špaček, Ph.D.
Lenka Špačková
Ing. Eva Štěpánková, Ph.D.
Ing. Šuleková Nikola
Ing. Monika Trudičová
Christoph Ulbricht, Dr.
Bc. Tereza Vajdíková
Ing. Dagmar Vávrová, MBA
Ing. Dominik Veselý
Ing. Jan Vespalec
Ing. Juraj Vodička
Ing. Jan Zahrádka
Ing. Jan Zahradníček
Ing. Anna Zoufalá


2
BOSCH
Optilinie
Optilinie

EDUCATION AND STUDY

Study Programmes	Type	Lenght	Title
Applied Analytical, Environmental and Forensic Chemistry	B	3	Bc.
Environmental chemistry, safety and management	B	3	Bc.
Chemistry and Chemical Technology	B	3	Bc.
Chemistry and Materials Technology	B	3	Bc.
Environmental Chemistry and Technology	B	3	Bc.
Food Chemistry and Technology	B	3	Bc.
Chemistry for Medical Applications	B	3	Bc.
Environmental Sciences and Engineering	N	2	Ing.
Environmental Chemistry and Technology	N	2	Ing.
Chemistry and Chemical Technology	N	2	Ing.
Chemistry and Materials Technology	N	2	Ing.
Chemistry for Medical Applications	N	2	Ing.
Chemistry of natural substances	N	2	Ing.
Biophysical Chemistry	D	4	Ph.D.
Physical Chemistry	D	4	Ph.D.
Environmental Chemistry and Technology	D	4	Ph.D.
Food Chemistry and Technology	D	4	Ph.D.
Chemistry, technology and properties of materials	D	4	Ph.D.
Macromolecular Chemistry	D	4	Ph.D.
Food Chemistry	D	4	Ph.D.
Biophysical Chemistry	D	4	Ph.D.
Physical Chemistry	D	4	Ph.D.
Macromolecular Chemistry	D	4	Ph.D.
Chemistry and Technology of Foodstuffs	D	4	Ph.D.
Chemistry, Technology and Properties of Materials	D	4	Ph.D.

NUMBER OF STUDENTS



The faculty's goal in the educational area is to offer a diversified approach to quality education with the aim of seeking out and developing student talents, reducing academic failure, and providing access to quality education for disadvantaged groups (e.g., the socially and culturally disadvantaged).

GRADUATES 2022/2023

BACHELOR'S DEGREE PROGRAMMES

Study programme	Graduates, women	Graduates, men	Total
Applied Analytical, Environmental and Forensic Chemistry	12	2	14
Environmental Chemistry, Safety and Management	7	2	9
Chemistry and Chemical Technology	5	6	11
Chem. and Chemical Technol. major in Chem. for Medical Appl.	2	1	3
Chemistry and Materials Technology	2	11	13
Environmental Chemistry and Technology	3	1	4
Chemistry and Food Technology Biochemical Technology	6	2	8
Chem. and food techn. Chem. and analysis of natural substances	7	1	8
Food Chem. and Technology Food Chem. and Technology	14	7	21
Food Chemistry and Technology Biotechnology	1	0	1
Chemistry for medical applications	30	13	43

MASTER'S DEGREE PROGRAMMES

Study programme	Graduates, women	Graduates, men	Total
Environmental Sciences and Engineering	4	0	4
Environmental Chemistry and Technology	9	2	12
Chemistry and Chemical Technology	9	2	11
Chemistry and Materials Technology	7	14	21
Chemistry for Medical Applications	40	9	49
Chemistry of Natural Substances	29	3	32
Food Chemistry and Technology	3	1	4
Chemistry, Technology and Properties of Materials	0	3	3
Applied Chemistry	2	0	2

DOCTORAL STUDY PROGRAMMES

Study programme	Graduates, women	Graduates, men	Total
Physical Chemistry	2	1	3
Environmental Chemistry and Technology	1	1	2
Food Chemistry and Technology	5	0	5
Chemistry, Technology and Properties of Materials	1	3	4

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INTERNATIONALIZATION

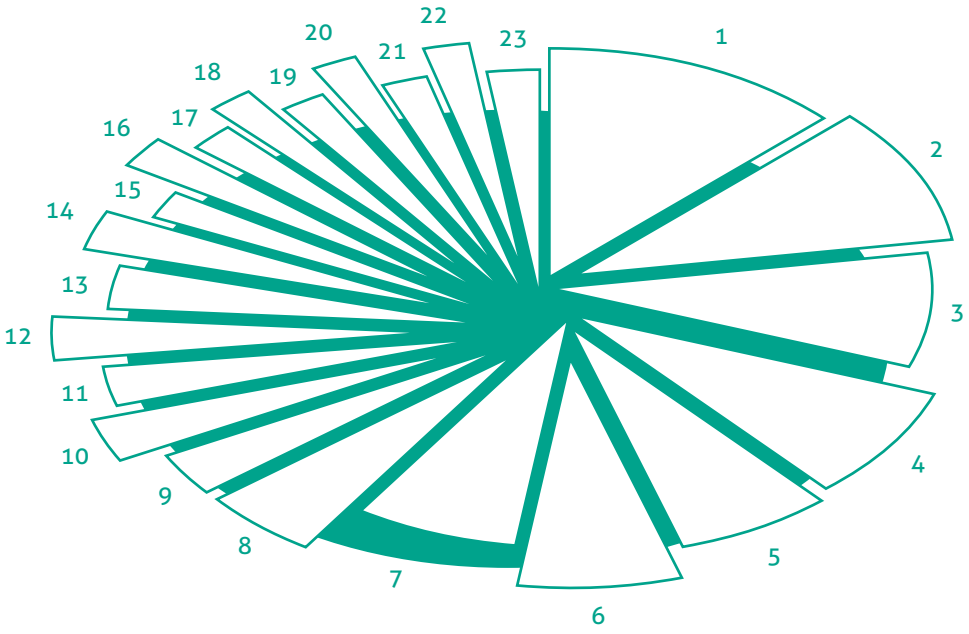
BILATERAL AGREEMENTS

The Faculty of Chemistry makes the best eff ort to increase international cooperation, mutual mobility and joint projects in edu-cational and creative activities. The aim is to create an environment that will have a clear international character, taking into account the world context and international experience in the preparation and implementation of study programs and joint research projects.

Country	Erasmus code	Name of university
Austria	A LINZ01	Johannes Kepler University Linz
Austria	A SALZBUR01	University of Salzburg
Austria	B GENT01	Gent University
Austria	B HASSELT20	UC Leuven-Limburg
Bulgaria	BG SOFIA06	Sofia University St Kliment Ohridski
Bulgaria	BG SOFIA11	Medical University Sofia
Bulgaria	BG SOFIA16	Technical University of Sofia
Bulgaria	BG SOFIA20	University of Chemical Technology and Metallurgy
Bulgaria	BG SOFIA30	Bulgarian Academy of Sciences
Germany	D CLAUSTH01	Clausthal University of Technology
Germany	D DRESDEN01	University of Applied Sciences
Germany	D GOTTING01	Georg-August-Uni Göttingen
Germany	D KAISER01	University of Kaiserslautern-Landau (RPTU)
Denmark	DK ODENSE01	University of Southern Denmark
Spain	E BARCELO03	Barcelona School of Industrial Engineering
Spain	E CIUDA-R01	University of Castilla-La Mancha, Toledo
Spain	E HUELVA01	University of Huelva
Spain	E MALAGA01	University of Malaga
Spain	E VALENCI02	University of Valencia
Estonia	EE TARTU02	University of Tartu
France	F CERGY08	The School of Industrial Biology
France	F LYON01	University of Claude Bernard, Lyon
France	F PARIS006	University of Pierre et Marie Curie
France	F POITIER01	University of Poitiers
Croatia	HR ZAGREB01	University of Zagreb
Croatia	HR ZAGREB08	University of Applied Sciences Velika Gorica
Italy	I BARI02	Università degli studi di Bari Aldo Moro
Italy	I CAGLIARI01	Università degli Studi di Cagliari
Italy	I MODENA01	Universita degli Studi di Modena e Reggio Emilia

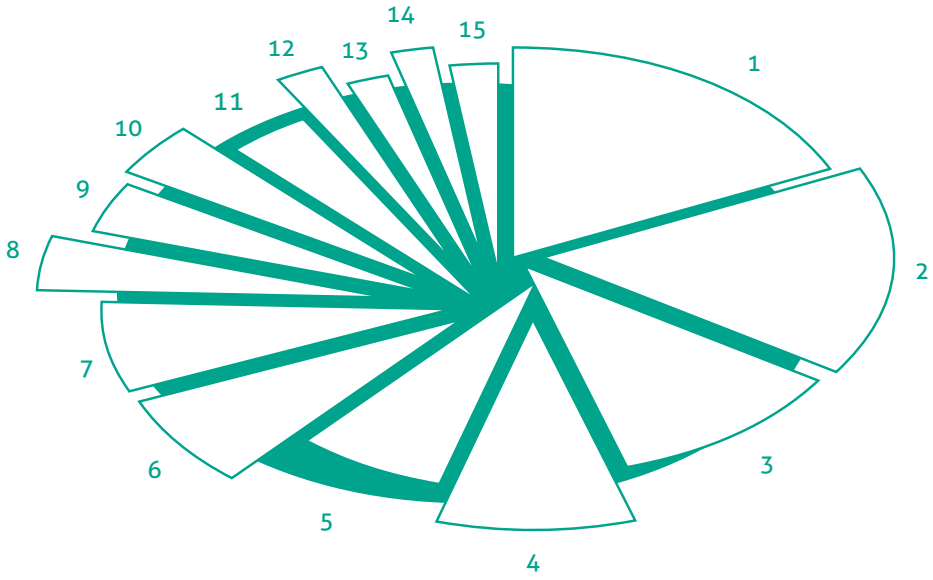
Italy	I NAPOLI01	University of Federico II, Naples
Italy	I PADOVA01	University of Padova
Italy	I PALERMO01	Universita degli Studi di Palermo
Italy	I POTENZA01	Università degli studi di Basilicata
Italy	I TRENTO01	University of Trento
Lithuania	LT KAUNAS01	Vytautas Magnus University
Lithuania	LT KAUNAS02	Kaunas University of Technology
Latvia	LV RIGA02	Riga University of Technology
Norway	N TROMSO01	UIT The Artic University of Norway
Norway	N TRONDHEIM01	Norwegian University of Science and Technology
Netherlands	NL VLISSIN01	HZ University of Applied Sciences
Portugal	P BRAGA01	University of Minho
Portugal	P LISBOA109	Universidade de Lisboa (IST)
Portugal	P PORTO05	ISEP – School of Engineering
Poland	PL LODZ01	University of Łódź
Poland	PL POZNAN04	Poznan University of Life Sciences
Poland	PL SCZECI02	Zachodniopomorski Uniwersytet Technologiczny
Poland	PL TORUN01	Nicolaus Copernicus University
Romania	RO CRAIOVA01	University of Craiova
Romania	RO IASI02	University of Iasi
Sweden	SF TAMPERE06	Tampere University of Applied Sciences
Slovenia	SI LJUBLJA01	University of Ljubjlana
Slovenia	SI MARIBOR01	University of Maribor
Slovakia	SK BRATISL01	STU Bratislava
Slovakia	SK BRATISL02	UK Bratislava
Slovakia	SK NITRA02	Slovenská poľnohospodárska univerzita v Nitre
Slovakia	SK TRNAVA02	UCM Trnava
Turkey	TR ISTANBU07	Yildiz Technical University
Turkey	TR KONYA01	Selcuk University

OUTGOING STUDENTS
2022/2023



	Country	Number	%
1	Germany	8	13
2	Italy	6	10
3	Austria	5	8
4	Slovakia	5	8
5	Taiwan	4	7
6	Norway	4	7
7	Spain	4	7
8	Portugal	3	5
9	Bulgaria	2	3
10	Denmark	2	3
11	Poland	2	3
12	Greece	2	3
13	Great Britain	2	3
14	Slovenia	2	3
15	Australia	1	2
16	Belgium	1	2
17	Finland	1	2
18	France	1	2
19	Latvia	1	2
20	Netherlands	1	2
21	USA	1	2
22	Sweden	1	2
23	Switzerland	1	2
	Total	**60**	**100**

INCOMING STUDENTS 2022/2023



	Country	Number	%
1	Spain	8	18
2	Turkey	7	16
3	Poland	5	11
4	Brazil	4	9
5	Netherlands	3	7
6	Portugal	3	7
7	Slovakia	3	7
8	France	2	4
9	South Korea	2	4
10	Rumania	2	4
11	Norway	2	4
12	Estonia	1	2
13	Italy	1	2
14	Germany	1	2
15	Austria	1	2
	Total	**45**	**100**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CREATIVE ACTIVITIES OF THE FACULTY AND COOPERATION WITH THE APPLICATION SPHERE

PUBLICATION ACTIVITY

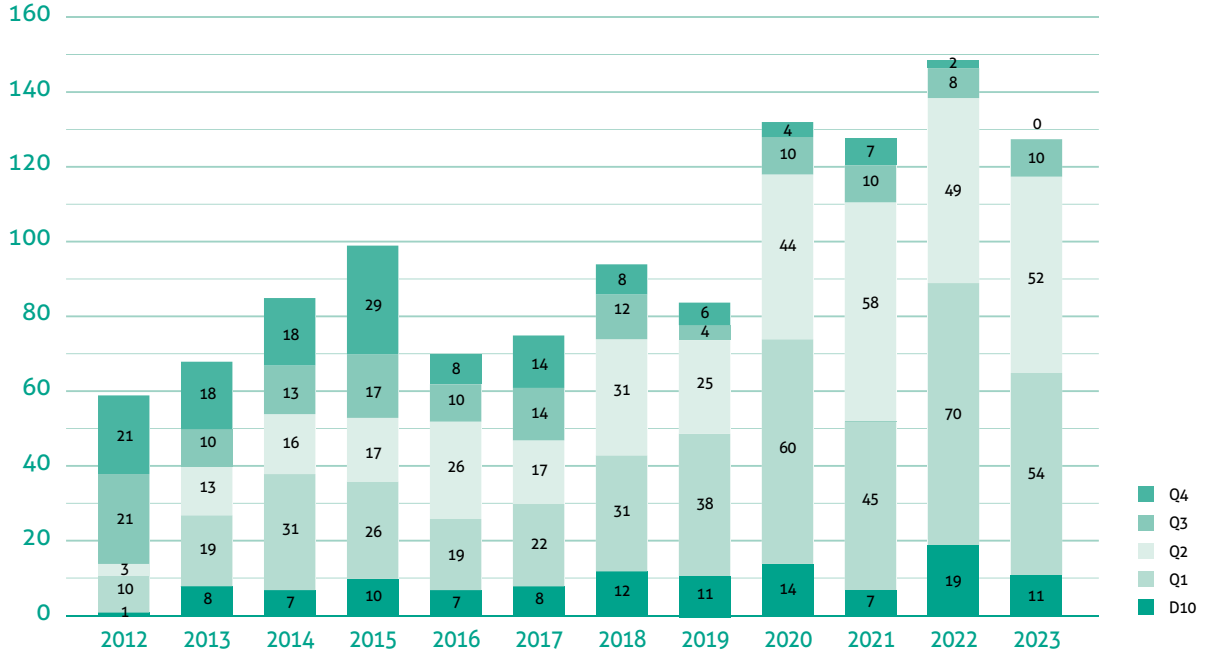
1	journal article	132
2	of which in WoS	116
3	book / chapter in a book	0/1
4	functional sample	1
5	proven technology	5
6	patent	0

The priority goal of the Faculty of Chemistry in this area is to support quality research with high societal benefits so that the results of research and development are internationally relevant and effectively transferred to the application sphere. An essential condition for its achievement is to ensure the sustainability and efficiency of the use of the established research capacities, which largely consist of the Materials Research Centre.

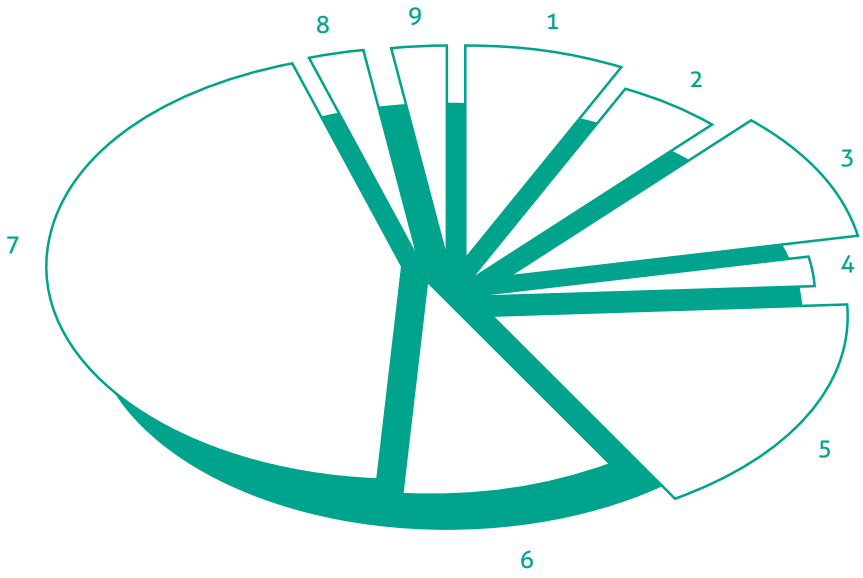
In its activities, the Faculty of Chemistry reflects current social developments, the latest scientific knowledge and the needs of partners. At the same time, it actively communicates and promotes its results and opinions and thus increases its prestige in the public space.

Note: At the time of publication, the IFs of journals for 2023 were not known; the values from 2022 are used.

Overview of the results of the faculty's publication activities



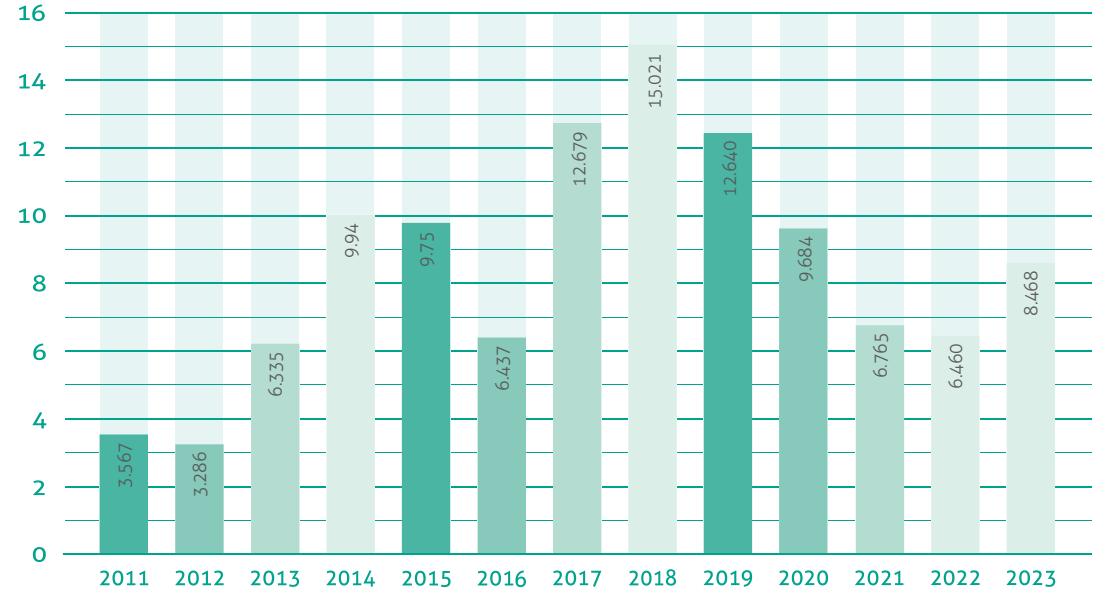
BASIC AND APPLIED RESEARCH PROJECTS



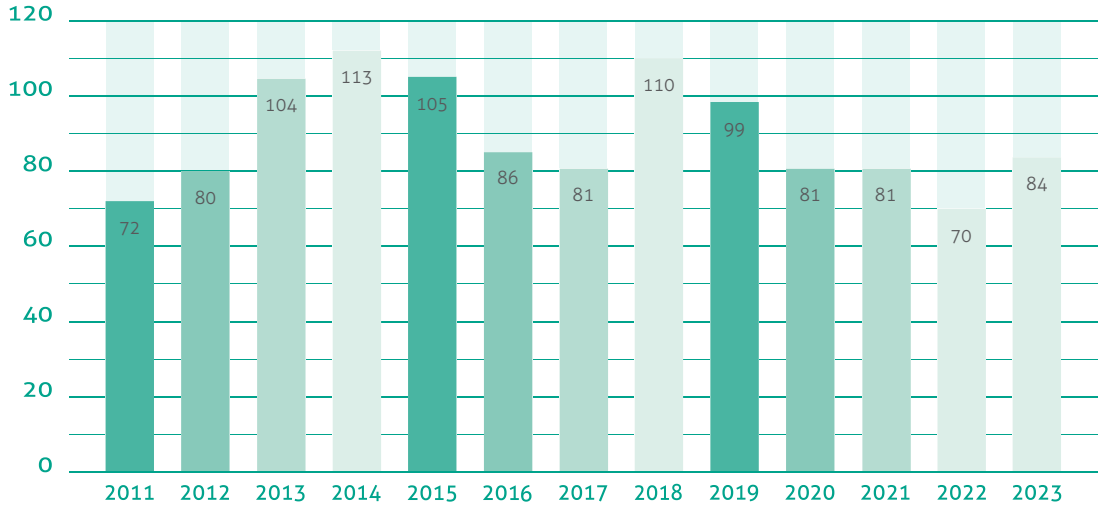
	Programme	Finance (thousands CZK)	Number of projects
1	CEEPUS	81	3
2	AKTION	89	2
3	OPVVV	1 811	4
4	OP MeMov	1 954	1
5	GAČR	11 900	7
6	NPO	13 600	4
7	TAČR	17 985	18
8	OP TAK	314	1
9	H2020	847	1
Total		**48 580**	**41**
	NPO investments	1 675	2
	OP VVV investments	180	1

ECONOMIC CONTRACTS

Volume of additional activities (CZK million)



Number of additional activity orders



PROJECTS TO BE IMPLEMENTED IN 2023

Project number	Full name	Princip. investigator	CZK
95p3 AKTION	(Photo)electrocatalytic processes for sustainable and green applications	prof. Ing. Jozef Krajčovič, Ph.D.	14 344
95p4 AKTION	From bioinformatics analysis of genomes to computational structural biology and applications	prof. Mgr. Václav Brázda, Ph.D.	74 300
GA21-01057S	New organic semiconductors for future bioelectronic devices for regenerative medicine	prof. Ing. Martin Weiter, Ph.D.	1 776 000
GA21-15958L	Biological function and dynamics of the PHA cycle in Rhodospirillum rubrum and its biotechnological implications	prof. Ing. Stanislav Obruča, Ph.D.	2 591 000
GA22-10845S	Studying the role of polyhydroxyalkanoates in Schlegelella thermodepolymerans – a promising bacterial candidate for next-generation biotechnology	prof. Ing. Stanislav Obruča, Ph.D.	1 478 000
GA22-04828S	A new direction towards sustainable building materials through advanced lithium silicate-based surface treatments	doc. Ing. Lukáš Kalina, Ph.D.	1 782 000
GA23-06757S	Encapsulation of plant growth-promoting bacteria through gelation of the polysaccharides they produce as a route to a new generation of bioinoculants	doc. Ing. Petr Sedláček, Ph.D.	2 060 000
GA23-06843S	Advanced thin film photocatalysts based on graphitic carbon nitride	doc. Ing. Petr Dzik, Ph.D.	763 000
GA23-05082S	Investigation of the combined effect of sulphur, copper and lithium oxides on the formation and properties of Portland cement clinker	Ing. Eva Bartoníčková, Ph.D.	1 450 000
101023685	PHA-based rigid packaging solutions by plasma integration in the value chain	prof. Ing. Stanislav Obruča, Ph.D.	846 607
CZ.01.01.01/01/22_002/0000322	Innovative surface treatments showing reduced risks of infection transmission	prof. Ing. Michal Veselý, CSc.	313 809
SS06020247	Pucolans based on waste diatomaceous earth, calcined shale and clay and their applications	Ing. Jiří Švec, Ph.D.	1 129 952
FW03010181	Membrane distillation based on ultra-thin polypropylene capillaries	prof. Ing. Jiří Kučerík, Ph.D.	1 267 656
FW06010715	Elimination of volatiles from wastewater with simultaneous conversion to a recyclable feedstock using microporous hollow fibres	prof. Ing. Jiří Kučerík, Ph.D.	1 117 800
FW3010188	Research and development of process capability for rolling out complex geometric shapes of bearing rings under partial heating	Ing. Pavel Doležal, Ph.D.	187 620
FW01010021	Means to enhance ballistic protection of vehicles and critical infrastructure	doc. Ing. František Šoukal, Ph.D.	1 502 987
FW01010649	Research and development of a new generation of incontinence aids	prof. RNDr. Ivana Márová, CSc.	600 000
FW02020135	Validation of the biorefinery concept for bran processing	doc. Ing. Pavel Diviš, Ph.D.	1 179 042
FW03010117	Development of a sewage sludge recovery dryer	prof. Ing. Tomáš Svěrák, CSc.	1 600 000

FW03010006	Permanent protection of touch screens to prevent the deposition of organic pollutants on their surfaces	prof. Ing. Michal Veselý, CSc.	1 300 000
TN02000051/001N	Polymer labelling system for a digitised waste sorting system	prof. Ing. Michal Veselý, CSc.	946 000
TN02000051/011	Nanofibre and polymer materials with antimicrobial protection	prof. Ing. Michal Veselý, CSc.	713 000
FW06010298	Additive manufacturing technology of capacitive sensor for large touch panels	prof. Mgr. Martin Vala, Ph.D.	1 084 049
TN02000067/001N	New directions in electronics for Industry 4.0 and Medicine 4.0	prof. Mgr. Martin Vala, Ph.D.	600 000
TN02000067/008	NCK FEIM – DP 008 Human Machine Interface	prof. Mgr. Martin Vala, Ph.D.	264 842
TN02000009	National Competence Centre for Aeronautics and Space – Modern Manufacturing Processes	Ing. Pavel Doležal, Ph.D.	717 188
TN020000051/009	Waste sludge processing technology from plastics recycling	Mgr. Radek Přikryl, Ph.D.	1 500 000
TN02000051/012	Biopolymers for agrochemical applications (BioAgro)	Mgr. Radek Přikryl, Ph.D.	1 500 000
TN02000051/016	Recycling of waste polymers from car batteries by mechanical and chemical recycling (REPOBAT)	Mgr. Radek Přikryl, Ph.D.	775 000
CZ.02.2.69/0.0/0.0/18 _053/0016962	International mobility of Brno University of Technology researchers II	doc. Ing. Tomáš Opravil, Ph.D.	1 953 610
CZ.02.2.69/0.0/0.0/16 _018/0002676	Education of excellent chemists for research, development and practice (EXCELCHEM)	doc. Ing. Tomáš Opravil, Ph.D.	838 483
CZ.02.2.69/0.0/0.0/18 _056/0013325	Study of Modern and Emerging Technology at BUT (SMART)	doc. Ing. Tomáš Opravil, Ph.D.	486 404
CZ.02.2.67/0.0/0.0/18 _057/0013326	Study practical with adaptive contemporary equipment (SPACE)	doc. Ing. Tomáš Opravil, Ph.D.	193 439
CZ.02.2.69/0.0/0.0/19 _073/0016948	High-quality internal BUT grants	doc. Ing. Tomáš Opravil, Ph.D.	292 344
NPO_VUT_MSMT-16609/2022	Transformation of the form and content of education at Brno University of Technology	prof. Mgr. Martin Vala, Ph.D.	4 308 996
NPO_VUT_MSMT-16609/2022	Chemical technologies and nanotechnologies	prof. Mgr. Martin Vala, Ph.D.	7 529 317
NPO_VUT_MSMT-16609/2022	New study programme Nuclear Energy at Brno University of Technology	doc. Mgr. Michaela Galiová Vašinová, Ph.D.	1 229 866
NPO_VUT_MSMT-16609/2022	Environmental Engineering	prof. Ing. Jiří Kučerík, Ph.D.	531 919
AT-0063-2223	Applications and diagnostics of electric plasmas	prof. RNDr. František Krčma, Ph.D.	44 000
CIII-SI-0905-09-2223	Training and research in environmental chemistry and toxicology	doc. MVDr. Helena Zlámalová Gargošová, Ph.D.	9 000
CIII-HR-1108-06-2223	Colloids nad nanomaterials in education and research	doc. MVDr. Helena Zlámalová Gargošová, Ph.D.	28 000
CZ.02.2.67/0.0/0.0/18 _057/0013326	Study practical with adaptive contemporary equipment (SPACE)	doc. Ing. Tomáš Opravil, Ph.D.	108 742

CZ.02.2.69/0.0/0.0/19_073/0016948	High-quality internal BUT grants	doc. Ing. Tomáš Opravil, Ph.D.	3 008 741
NPO_VUT_MSMT-16609/2022	Transformation of the form and content of education at Brno University of Technology	prof. Mgr. Martin Vala, Ph.D.	1 340 693
NPO_VUT_MSMT-16609/2022	Chemical technologies and nanotechnologie	prof. Mgr. Martin Vala, Ph.D.	1 961 572
NPO_VUT_MSMT-16609/2022	New study programme Nuclear Energy at Brno University of Technology	doc. Mgr. Michaela Galiová Vašinová, Ph.D.	109 463
NPO_VUT_MSMT-16609/2022	Environmental Engineering	prof. Ing. Jiří Kučerík, Ph.D.	18 095

COMPLETED HABILITATION PROCEEDINGS

doc. Ing. Vojtěch Enev, Ph.D. – field of study: Physical chemistry
doc. Ing. Milan Kráčalík, Ph.D. – field of study: Macromolecular chemistry
doc. Ing. Pavel Krystyník, Ph.D. – field of study: Environmental Chemistry and Technology

COMPLETED APPOINTMENT PROCEDURES

prof. Ing. Jozef Krajčovič, Ph.D. – field of study: Chemistry, technology and properties of materials

5

PROMOTION AND OTHER ACTIVITIES OF THE FACULTY

In its activities, the Faculty of Chemistry actively reflects current social developments and closely follows the latest scientific knowledge as well as the needs of its partners. External communication is therefore a natural part of the Faculty's activities, together with the promotion of the results achieved, thus ensuring its presence in the public sphere, the general awareness of the Faculty and its social prestige. These objectives are achieved through continuously systematically developed cooperation with employers, graduates, the application sphere, regional stakeholders, secondary schools, professional organisations, interest associations and other partners, as well as the public and public institutions.

The beginning of 2023 was marked by an important traditional double event. During the Open Day on 9 February 2023, prospective students had a unique opportunity to learn all about the study opportunities at our faculty. Current students and teachers acted as guides and provided prospective students with a lot of practical information about how things work at our faculty. The concurrent Chemistry Day offered an opportunity for our current students to meet potential future employers and broaden their horizons about job prospects in the chemical disciplines. Its aim was to put students in direct contact with employers and to offer them job opportunities, part-time jobs, internships and work experience, trainee programmes and other cooperation with the application sphere.

On 24 February 2023, the XXIV edition of the Chemists' Ball took place at the First Floor Club. And you can best see that chemists can dance in the video and photo gallery from the event published on the faculty website.

In the spring months, a series of practically oriented laboratory workshops for high school students was also held. Traditionally, we hosted students of Biskupské Gymnázium and Gymnázium Křenová, and for students of the Secondary School of Chemistry a whole series of workshops organized as part of their educational project was prepared. The themes of the prepared workshops follow the focus of the four institutes of the faculty and thus give the candidates the opportunity to „look under the hood" – to see the environment of the institute's laboratories, to get acquainted with the research infrastructure, to talk to the PhD students who run the workshops. Furthermore, we have adapted our workshop offer to younger enthusiasts and on 24 February, a hydrogel workshop for gifted and talented primary school pupils took place at our faculty under the guidance of two PhD students Martin Kadlec and Natalia Zinkovska in cooperation with the South Moravian Centre for International Mobility. In addition to the popular sticky slime, tasty bubble tea and multicoloured burning gel, interested participants could also try out numerous other experiments.

Other guests visited our faculty in May, when the faculty opened its doors to those interested in modern architecture as part of the Open House festival. The building of the faculty acquired its current form during the reconstruction of the former Brno Meopta and this successful conversion was presented to those interested in a guided tour introducing its current form and the personality of its co-author, Brno architect and professor Helena Zemánková. The FCH building was included by the organizing partner of Open House Brno 2023 as part of its curatorial project „Women in Brno Architecture".

The culmination of the spring activities towards the public was then a trip of the FabLab truck in the service of the faculty to North Moravia. With the FabLab University truck, we hit the road at the end of the school year to Ostrava and Opava. This mobile workshop offers primary and secondary school pupils a practical education in digital manufacturing technology. It not only gives them the opportunity to learn up-to-date information about modern manufacturing and prototyping, but also to try out all the machines and make something on them. In Ostrava, we took part with the truck in the Chemistry at the Castle event, which focuses on popularising natural and technical sciences among primary and secondary school pupils, but also among the general public. The aim of this event is to show that natural and technical sciences can be beautiful and fun, and also that they are very necessary fields of human activity. In the city of Opava, the FabLab University truck visited the Mendel High School, where the stu-

dents were also given a simultaneous lecture by Veronika Melčová from the Institute of Chemistry of Materials at the Technical University of Technology on the topic of bioplastics – synthesis, processing, recycling.

The autumn period of 2023 brought the return of traditional events. This year, the Faculty of Chemistry was also present at the largest popular science event in Brno, the Festival of Science and Technology, which took place from Friday 8 September to Sunday 11 September at the Brno Exhibition Centre. The Night of Scientists with the thematic focus „secrets" followed closely behind, which again met with great public interest and was very positively evaluated. In the hectic month of September, the traditional Welcome of Freshmen, directed by the FCH Student Union, was also held.

The Rector of Brno University of Technology awarded the 24. Academic Assembly of the Technical University of Brno awarded personalities of Brno technology. The Faculty of Chemistry was very successful and several academics and students received the award.

The regional round of the Chemical Olympiad was held in December 2023 in the traditional manner to the general satisfaction of the competitors, organizers and hosts. Due to the 60th anniversary year, multiple categories were competed and the organization of the event was a stress test to test our organizational skills for the upcoming national round hosted by the faculty in late January/February 2024.

The year 2023 symbolically closed the same way it started – with an open day. Gaudeamus Brno, the largest and most popular fair of post-secondary education in the Czech Republic, took place from 31 October to 3 November 2023 at the Brno Exhibition Centre in Hall V. During the fair days, we prepared an accompanying programme for those interested in studying directly at our faculty. And on 7 December we welcomed those interested in studying at a small open day in a guided tour format. Small groups of prospective students registered in advance for a specific time, and this format allowed space for a detailed, leisurely introduction to the degree programmes and a tour of the department's teaching and research laboratories.

All available information channels, especially online, which are crucial for the present time, continued to be widely used to promote studies, science and research carried out at the BUT. The faculty website, using a visual concept unified throughout the BUT, continued to be expanded and supplemented with up-to-date content, and the content of its English version was significantly strengthened. The involvement of the newly created team within the Strategic Development and Quality Department was crucial for the creation of up-to-date content in formats corresponding to contemporary trends. In 2023, thanks to systematic cooperation with representatives of research groups, the website presenting the activities of all nine research groups operating at the Faculty was built and filled with quality content.

On 13-15 September, the 11th European Symposium on Biopolymers (ESBP) https://esbp2023.com/ took place, which is one of the most important European events in the field of biopolymers. The conference has been held since 2000 and successfully brings together experts from diverse fields such as molecular biology or biotechnology, but also from material science and materials processing and application specialists in areas such as agriculture, cosmetics or medicine.

The second major conference was the 7th Central and Eastern European Conference on Thermal Analysis and Calorimetry (CEEC-TAC7) http://www.ceec-tac.com/. The conference took place on 28-31 August and for the seventh time provided a platform for prominent scientists from Central and Eastern European countries working in thermal analysis and calorimetry.

EVENTS FOR THE PUBLIC

Scientists' Night

In the best sense of the word, the Night of Scientists in 2023 represented the maintenance of an important tradition. Once again, an engaging programme on the theme of „mystery" was devised and prepared, which was gratefully and appreciatively welcomed by approximately 500 visitors of all ages.

Festival of Science

Even in 2023, the Faculty of Chemistry of the Brno University of Technology was present at the biggest popular science event in Brno, the Festival of Science! More than forty scientific and technical institutions, popular education organizations, academic institutes, universities and private companies prepared interactive demonstrations of what they are doing now or what they have already done for all visitors – small and large, experts and laymen, youngest and oldest. Everyone can experience first-hand that science is not just dry theory, but very often practical, useful and fun.

Open House

On 13 May 2023 from 10:00 to 14:00, guided tours of the faculty building were held as part of the Open House Brno architecture festival.

EVENTS FOR STUDENTS

FabLab trip to North Moravia

In Ostrava, we joined the Chemistry at the Castle event with our truck, which focuses on popularizing natural and technical sciences among primary and secondary school students, but also among the general public. In the city of Opava, the FabLab University truck visited the Mendel Gymnasium, where lectures and workshops on bioplastics, their processing and recycling took place.

Chemistry Olympiad

On 7 December 2023, our laboratories came alive with a flurry of young talent. FCH hosted the regional round of the Chemical Olympiad and was busily preparing for the upcoming national round.

Workshops for secondary and primary schools

In March and April, several groups of students from high schools in Brno visited the Faculty to experience working in our laboratories first-hand. Doctoral students from each of the Faculty's four departments prepared an engaging programme that introduced some of the research topics addressed at the Faculty in a practical and entertaining way to high school students. Newly in 2023, we included a workshop adapted to primary school students.

Chemistry is Life

The traditional student scientific conference „Chemistry is Life" took place on 30 November 2023. The conference is intended for students of chemistry and related disciplines in bachelor, master and doctoral degree programmes and for high school students. During the conference, the results of students' creative activities were presented in the form of oral or poster presentations. The conference also included a competition of student creative activities, with the best student papers in each section receiving valuable prizes. At the end of the conference there was also a social gathering, this year in the form of an informal „chill out" zone in our laboratory wing.

THE ACHIEVEMENTS OF OUR STUDENTS AND ACADEMICS

PhD student Monika Wikarská takes 2nd place in the Entrepreneurship Award of the BUT

The second place in the BUT Entrepreneurship Award competition went to Monika Wikarská, a student of the Faculty of Chemistry, who designs and produces effective cosmetics Wikarska in symbiosis with nature. Her snow deodorant without aluminium, silicones and parabens just works! During the third round, she presented four more products and found that the foundation of success in her business is a functioning team that will shape the next steps in development. The evaluation committee, made up of representatives from the BUT and JIC, particularly appreciated the concept itself and its potential, and evaluated and praised the turnover and real sales data over the past period.

Teva Pharmaceutical Industries Award

The prize was awarded to Ing. Martin Sahul'o for his master thesis in Chemistry and Materials Technology entitled 4D printing of smart hydrogels responsive to environmental stimuli, Ing. Vendula Janoušková for her master thesis in the Chemistry for Medical Applications programme entitled Liposomal forms of drugs for the treatment of lung diseases caused by selected bacterial species, Ing. Lenka Gregarová for her master thesis in Chemistry for Medical Applications entitled Possibilities of using selected fractions of technical hemp in cosmetics and Ing. Simona Kožnarová for her master thesis in Environmental Chemistry and Technology entitled Interaction of platinum derivatives with cancer cells.

The prize was also awarded to Bc. Barbara Dribňáková for her bachelor thesis in Chemistry for Medical Applications entitled Development of Cosmetic Products with Antimicrobial Effect and Bc. Karel Říha for his bachelor thesis in Chemistry for Medical Applications entitled Influence of lyophilization conditions on hydrophobic interactions between native hyaluronan and fluorescent probe.

Petr Horvát from FCH at the European University Championships in orienteering

Our student Petr Horvát achieved an excellent result at the European University Championships in orienteering in St. Gallen, Switzerland. In the mixed relay together with Klara Nechanicka he took 10th place, in the 3.1 km sprint he took 22nd place and the best result was achieved by Petr Horvát on the short (4.8 km) course, when he took a very nice 7th place.

PhD student Darya Zhurauliova won the competition for the best user project at the Technical Computing Camp

Darya Zhurauliova, a 2nd year PhD student in Biophysical Chemistry, won the 1st place with her project on Transport of a model substance across a polymer membrane into a biological environment. The tenth anniversary edition of the Technical Computing Camp was held on 7 and 8 September at the Rakovec Hotel on the Brno Dam. This successful performance opened the way to the Top 10 presenters at the upcoming COMSOL Multiphysics conference, which will be held from 25 to 27 October in Munich. She will participate in the conference with a poster and a paper that will be published in the conference proceedings.

IUPAC Award for Martina Machalova

A PhD student in the Chemistry and Environmental Technology programme received the IUPAC (International Union of Pure and Applied Chemistry) Award for the presentation of her work at the 75th International Union of Pure and Applied Chemistry Conference. 75th Congress of Chemists, which took place on September 4-8, 2023 in the High Tatras. With her paper LA-ICP-MS in medical research she won the award for the best poster presentation by a Ph.D. student.

The Josef Hlávka Prize was awarded to Jan Blahut from ÚFSCH

The celebration of the International Student Day and the commemoration of the Velvet Revolution is preceded each year by the awarding of the Josef, Maria and Zdeňka Hlávka Foundation Prize (abbreviated as the Josef Hlávka Prize) for talented students up to 33 years of age. This year's award ceremony, which took place on 16 November at the Josef Hlávka Chateau in Lužany near Přeštice, also included representatives of the Brno University of Technology. The award, accompanied by a contribution of CZK 25,000, went to six students or graduates of the Technical University of Technology who are engaged in demanding scientific and technical fields in which they achieve exceptional results. One of the awardees is Jan Blahut, a graduate of the Chemistry and Chemical Technology programme at the Faculty of Chemistry and Technology, now continuing his doctoral studies in the Chemistry and Materials Technology programme under the supervision of Prof. Oldřich Zmeškal. His work focuses on the study of optical properties of thin films of perovskites, which are among the materials of the future, for example in the fields of high-speed communication or renewable energy.

Jan Vespalec won the Deputy Governor's Award of the South Moravian Region

After a break caused by covid restrictions, the 21st annual competition of student works announced by the South Moravian Region took place on 30 November 2023. The aim of the competition is not only to award the best theses, but especially to establish cooperation between researchers, universities and other experts in the field of environment. On the occasion of the final conference, which took place at the South Moravian Regional Authority, the best diploma theses focused on the environment, sustainability and nature protection were announced and awarded. The Faculty of Chemistry was successfully represented by the PhD student Jan Vespalec with his thesis on the topic of Classification of concentrate from membrane processes, for which he received the Deputy Governor's Prize of the South Moravian Region.

Students Katarína Šlosárová and Martin Súkeník succeeded in the Brno Ph.D. talent competition

Katarína will work on the use of thermophilic bacteria Aneurinibacillus sp. and Caldimonas thermodepolymerans to improve the production of polyhydroxyalkanoates – bioplastics that could be introduced into the industrial sphere and compete with petrochemical plastics. Martin will work on the encapsulation of plant growth promoting rhizobacteria (PGPR) in a hydrogel matrix consisting of alginate, a natural polysaccharide with a well-known ability to form a gel. The breakthrough part of this project is to eliminate the need to externally add the gel-forming additive (alginate), which is produced directly in the PGPR culture during its growth.

Personalities from the Faculty of Chemistry awarded by the Rector of the BUT at the 24th academic session:

- Silver medal: prof. Ing. Oldřich Zmeškal, CSc. – For outstanding achievements in teaching, scientific research and organization and long-standing professional activity at Brno University of Technology.
- Rector's Award for outstanding results in sports representation: Bc. Nikoleta Hricová
- Rector's Award for active work for the development of civil society: Ing. Natalia Zinkovska
- Rector's Award for a publication with an outstanding impact on the scientific community: prof. Ing. Stanislav Obruča, Ph.D., doc. Ing. Petr Sedláček, Ph.D., Ing. Iva Pernicová, Ph.D.
- The best teacher according to the students' evaluation for the bachelor's study: RNDr. Ivana Pilátová, CSc.
- The best teacher according to the students' evaluation for the Master's study: prof. Ing. Stanislav Obruča, Ph.D.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COOPERATION

COOPERATION WITH SECONDARY SCHOOLS

In its activities, the Faculty of Chemistry is constantly actively developing activities aimed at secondary and primary schools. In 2023, we continued to expand these activities both qualitatively and quantitatively:

- The traditional student scientific conference Chemistry is Life was held in the traditional format live and with a closing social programme. The high school student section was staffed to a similar extent as in the pre-Covidian years.
- The range of popularization workshops and lectures for high school students was updated and expanded, providing a wider range of choices on the faculty website. The positive trend of some teachers incorporating our workshops into their teaching as a standard and returning regularly with subsequent classes of their students is confirmed. A new workshop for primary schools has also been added to the offer.
- FCH's collaboration with secondary schools on Secondary Vocational Activities continued successfully in 2023. Approximately 20 new topics were announced and 11 students from various Brno secondary schools started their projects under the guidance of FCH academics.
- A special hands-on workshop in a FabLab truck accompanied by a popularization lecture on bioplastics and their potential in 3D printing was presented during a two-day trip to North Moravia.

COOPERATION WITH ACADEMIC INSTITUTIONS

Arctic University of Norway, Faculty Engineering Science and Technology, Tromso, Norway
Biofyzikální ústav AV ČR, Brno, v. v. i.
BOKU University, Tulln, Rakousko
Botanický ústav AV ČR, v. v. i., brněnské pracoviště
Centrum dopravního výzkumu, Brno
České vysoké učení technické v Praze, Fakulta stavební
Department of Chemistry, University degli Studi di Bari Aldo Moro, Bari, Itálie
ETH Zürich, Švýcarsko
Fakulta elektrotechniky a komunikačních technologií, VUT v Brně
Fyzikální ústav AV ČR, Praha
Hannam University, Daejeon, Korejská republika
HES-SO, Sion, Švýcarsko
Chemický ústav SAV, Bratislava, Slovensko
Jagellonian University, Krakov, Polsko
Johannes Kepler University Linz, Institute of Polymer Science, Rakousko
Johannes Kepler University Linz, Linz Institute for Organic Solar Cells (LIOS), Rakousko
Kjushu University Fukuoka, Japonsko
Kompetenzzentrum Holz GmbH, Linz, Rakousko
Masarykova univerzit v Brně a, Fakulta lékařská
Masarykova univerzita v Brně, Fakulta přírodovědecká
Mendelova univerzita v Brně, Agronomická fakulta
Mendelova univerzita v Brně, Fakulta zahradnická

Mendelova univerzita v Brně, Ústav chemie a biochemie
Michigan State University, Lansing, USA
Mikrobiologický ústav AV ČR, Centrum Algatech, Třeboň
Mikrobiologický ústav AV ČR, v. v. i., Praha
Norwegian University of Technology, Norsko
RECAMO, Masarykův onkologický ústav
Sapienza University of Rome, Itálie
Slovenská poľnohospodárska univerzita v Nitre, Slovensko
Spanish National Research Council, Madrid, Španělsko
STU Bratislava, Fakulta chemickej a potravinárskej technológie, Slovensko
Poznań University of Life Sciences, Polsko
Technical Univesity of Clausthal, Německo
TU Wien, Faculty of Technical Chemistry
University Ghent, Belgie
University Koblenz-Landau, Německo
University of Basilicata, SAFE, Potenza, Italy
University of Chemical Technology and Metallurgy, Sofia, Bulharsko
University of Ljubljana, Slovinsko
University of Lodž, Polsko
University of Napoli Federico II, Neapol, Italy
University of Palermo, Itálie
University of Split, Chorvatsko
Univerzita Karlova, 1. lékařská faulta, Praha
Univerzita Komenského Bratislava, Slovensko
Univerzita Pardubice, Fakulta chemicko-technologická
Univerzita sv. Cyrila a Metoda v Trnave, Slovensko
Univerzita Tomáše Bati ve Zlíně, Centrum polymerních systémů
Univerzita Tomáše Bati ve Zlíně, Fakulta logistiky a krizového řízení
Univerzita Tomáše Bati ve Zlíně, Fakulta technologická
Ústav analytické chemie AV ČR, v. v. i., Brno
Ústav experimentální medicíny AV ČR, v. v. i., Praha
Ústav fyziky materiálů AV ČR, v. v. i.
Ústav makromolekulární chemie AV ČR, v. v. i.
Ústav přístrojové techniky AV ČR, v. v. i., Brno
Ústav soudního inženýrství VUT v Brně
Ústav stavebníctva a architektúry SAV, Bratislava, Slovensko
Ústav teoretické a aplikované mechaniky AV ČR, v. v. i.
Veterinární univerzita, Brno
Vrije Universiteit Brussel, Belgie
VŠCHT Praha, Fakulta potravinářské biotechnologie
Vysoká škola báňská – Technická univerzita Ostrava, Fakulta materiálově-technologická
Výzkumné centrum ŽU v Žilině
Výzkumný ústav pivovarský a sladařský, a. s., Brno

COOPERATION WITH THE APPLICATION SPHERE

ABB, s. r. o.
ABNER, a. s.
ADM, a. s., Brno
AGRA GROUP, a. s., Střelské Hoštice
Agrofrukt – družstvo Hustopeče, Hustopeče
AIMPLAS Instituto Tecnológico del Plástico, Španělsko
Algae Farm, s. r. o.
Amagro, s. r. o., Praha
Aromatica, v. o. s., Šlapanice
ASIO, s. r. o., Brno
AVK VOD-KA, a. s.
Bentglass, a. s.
BIOSTER, a. s.
BioVendor, CTPark Modřice, Brno--Modřice
Bogges, s. r. o., Brno
BRAMKO CZ, Semice
CAB minerals, s. r. o., Brno
CARMEUSE CZECH REPUBLIC, s. r. o., Mokrá u Brna
Cement Hranice, a. s.
CEMEX Czech Republic, s. r. o., Prachovice
CEMMAC, s. r. o., Horné Srnie, SK
Centrum organické chemie, s. r. o., Pardubice
Coffee!Up, s. r. o.
COREZINC
Czech Globe, a. s.
Českomoravský cement, a. s., Mokrá u Brna
Český svářečský ústav, s. r. o.
ČEZ Energetické produkty, s. r. o., Hostivice
DAIDO METAL CZECH, s. r. o., Brno
DAKO-CZ, a. s.
Demonta Trade SE
DUFONEV RC, a. s.
Erba Lachema, s. r. o.
Euro-floor brtnice, s. r. o.
EXCALIBUR ARMY, s. r. o., Kopřivnice
Favea, s. r. o., Kopřivnice
FF Servis, s. r. o.
Fillamentum Manufacturing Czech, s. r. o.
Flexcraft, s. r. o.
FORTES interactive, s. r. o.
Fosfa, a. s., Břeclav
GDP Koral Tišnov, s. r. o.
Generi Biotech, s. r. o. Hradec Králové
GMP Europe, s. r. o.
Hartmann-Rico, a. s.
HELUZ cihlářský průmysl, v. o. s., Dolní Bukovsko
Helvetia Pharma, a. s., Praha
Hotbrain, s. r. o.
Chemservis
IFE-CR, a. s., Brno-Modřice
ISOline EU, s. r. o.
ITW PRONOVIA, s. r. o., Velká Bíteš
Kalcit, s. r. o.
KÄSTLE CZ, a. s.
Kores Europe, s. r. o.
LARS Chemie, s. r. o.
MAG45, s. r. o.
Medi pharma Vision, s. r. o.
Milcom, a. s., Praha
Mlýny J. Voženílek, spol. s r. o.
Myco
NAFIGATE Corporation, a. s., Praha
Nobilis Tilia, s. r. o
Olma, a. s., Olomouc
ON Semiconductor Czech Republic, s. r. o.
PANARA, s. r. o.
P-D Refractories CZ, a. s., Velké Opatovice
Paques Biomaterials, Nizozemí
Pharmaceutical Biotechnology, s. r. o.
Photon System Instruments, s. r. o.

Pivovar Litovel, a. s., Litovel
PLASMAMETAL, s. r. o., Brno
Plastia, s. r. o.
Polymer Institute Brno, s. r. o., Brno
PREFA KOMPOZITY, a. s.
Precheza, a. s., Přerov
Progres Ekotech, s. r. o.
PROTOTYPA, a. s., Brno
Provyko, s. r. o.
Průša Research, a. s.
Remarkplast, s. r. o.
Resideo Residential Combustion
rPET InWaste, s. r. o.
Saint Gobain Adfors
SAKO Brno, a. s.
SEDLECKÝ KAOLIN, a. s., Božičany
SCHOTT CR, a. s., Valašské Meziříčí; Lanškroun
SKANSKA, a. s.
Státní zdravotní ústav, Praha
Státní zemědělská a potravinářská inspekce, Brno
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