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# Research

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## Science and research activities at Charles University

Charles University is an internationally acknowledged research university. Research projects and activities represent one third of the yields; the academic and research workers account for more than half of the Charles University staff. Together with the Academy of Sciences of the Czech Republic, Charles University is the most efficient scientific institute in the Czech Republic according to an official assessment of the scientific outcomes (evaluation by the Board for Research, Development, and Innovation). Every year, Charles University spends about CZK 3.2 billion to finance its research programmes. The academic community actively and successfully participates in grant programmes within the Grant Agency of the Czech Republic and the Technology Agency of the Czech Republic.

## Scientific achievements and discoveries

The [greatest recent scientific achievements](#) of Charles University and [Major Research Areas](#)

Scientists and students are often nominated for prestigious [domestic and international awards](#) for their discoveries and merits.

## Support of science at Charles University

Charles University provides a comprehensive system of support for science and research, which has no parallel in the Czech university setting. It combines elements gradually built since the early 1990's with new programmes for support of excellent science so that it incorporates all the stages of scientific work – from student projects up to large projects by notable scientific teams.

The system consists of several mutually complementary university programmes:



See closely in the section [Research Funding](#)

Another important aspect of scientific work is the **qualification growth of academic staff**. The Department of Science and Research is also responsible for the agenda of [Academic-Pedagogical Degrees](#), be it habilitation and professors, visiting professors or honorary doctorates. The titles of associate professors and professors from the CU have traditionally enjoyed great respect.

**Transfer of Knowledge and Technology** - The [Centre for Knowledge and Technology Transfer \(CPPT\)](#) is an independent part of Charles University providing information and support services for knowledge and technology transfer (KTT).

## International cooperation in science and research

The extension of international cooperation in science and development corresponds with the growing international prestige of Charles University. Charles University applies many tools that help to develop this area:

### The International Advisory Board

[The International Advisory Board](#) acts as an advisory body of the Charles University Rector especially in determination of the main directions of scientific and educational work of the university, its research centres, and the system of internal funding. The individuals appointed to the board are important scientific and pedagogical personalities active in the prime foreign institutions

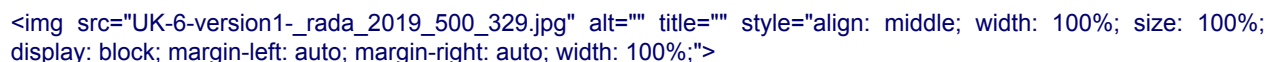


Photo: IAB meeting, Karolinum, 2019.

### **European Centre**

The Charles University [European Centre](#) was established in spring 2014. The centre aims to strengthen the role of Charles University in international scientific areas as the “research university” and to involve Charles University research workers in international scientific networks, thus allowing especially young and inexperienced research workers to gain experience on the international level and obtain more financial means for science and research

Together with other partners, Charles University has signed **CELSA** (Central Europe Leuven Strategic Alliance) cooperation agreement; the cooperation is to facilitate the exchange of good practice in science and research

The “**Post-doc**” fund was established in 2010. It seeks to support young foreign researchers (fresh graduates of the doctoral study). The researchers work in teams at the faculties and other organisational units of Charles University and participate in work on scientific and research projects for the period of two years

### **Large research infrastructures**

Scientific teams of Charles University actively and successfully enter [international research structures](#) through programmes of the Ministry of Education, Youth, and Sports of the Czech Republic, the Horizon 2020 programme, ESFRI, and other EU programmes, which are directly built on the basis of cooperation.

### **Research centres of Charles University**

**BIOCEV** (Vestec u Prahy) BIOCEV is a joint project of Charles University and the Academy of Sciences CR, a main partner in the area of science and research. The research of the centre focuses on identification of specific genes responsible for heart and liver diseases, deafness, viral infections or development of new biomaterials for replacement of blood vessels, cardiac valves, development of new therapeutic and diagnostic procedures in medicine, etc.

**MEPHARED** (Hradec Králové) The Teaching and Research Centre of Charles University gave rise to a joint campus of two faculties – the Faculty of Medicine and the Faculty of Pharmacy in Hradec Králové. The university sought to improve the quality of study and research, and ensure maximum interconnection of their activities’ results with companies in the application sphere.

**UNIMEC and BIOMEDIC** (Plzeň) The campus of the Faculty of Medicine in Plzeň is located in the immediate vicinity of the teaching hospital and incorporates the building of theoretical institutes, which is intended mainly for education, and the Biomedicine Centre – an institute for research and development in the area of substitution and regeneration of organs. Five of the twenty theoretical institutes of the Faculty of Medicine in Plzeň have moved to new and modern facilities for research and development.

**Centre for Mediaeval Studies** A joint enterprise of the Institute of Philosophy of the Academy of Sciences, v.v.i. and Charles University in Prague. (The Institute of Philosophy of the Academy of Sciences, v.v.i. a of Charles University in Prague). It organises and provides specialised doctoral training courses, lectures, and seminars. It also holds interdisciplinary medieval discussions, international colloquia, and conferences.

**European Research Council (ERC) grants** at Charles University - see [list of current projects](#) .

### **International projects and centres of excellence at Charles University**

The scientists and research workers are currently involved in 48 projects within the 8th framework programme Horizon 2020.

The scientists from Charles University participate in a number of international projects, for example, a programme of the European Organisation for Nuclear Research (CERN) and also the MŠMT programmes for support of international research and development cooperation INTER-EXCELLENCE, KONTAKT, COST, INGO, MOBILITY, “Public Health” and “Lifelong Learning: Erasmus, Jean Monnet”, ELI-CZ and others In 2017, 4 new centres of excellence were established at Charles University (the Faculty of Science, the Faculty of Mathematics and Physics, and the Faculty of Pharmacy in Hradec Králové):

- The Centre of Advanced Materials: Design, Synthesis, and Applications (CUCAM) was established at Charles University, Faculty of Science. The centre managed by Prof. Russel E. Morris from the University of St. Andrews in Scotland will be concerned with a preparation of new materials with suitable application properties by means of non-traditional methods of synthesis
- Two centres – MATFUN and NanoCent were established at the Charles University Faculty of Mathematics and Physics. The MATFUN centre will examine basic physical principles of materials with magnetic shape memory. The scientific team will work under the leadership of the outstanding scientist Ing. Ladislav Straka, DSc. Researchers examining nano-materials usable for advanced applications will work in the newly established NanoCent centre. The research will focus on the development and study of materials applicable in chemistry of surface, power applications, microelectronics, or biomedical applications. The research centre will be managed by RNDr. Milan Dopita, Ph.D.

- A new centre of excellence for the area of advanced research in Separation Science STARSS has started activity at the Charles University Faculty of Pharmacy in Hradec Králové. The scientific team works under the leadership of Professor Petr Solich; Professor František Švec, a renowned analytic chemist with long experience in the most prestigious scientific institutes in the USA will become a member of the team. The project incorporates three strategic foreign partners – the University of Melbourne in Australia, the Requimte Research Institute of the University of Porto in Portugal, and the University of Balearic Islands in Spain.
- In 2018, the KREAS project (Creativity and Adaptability as Conditions for the Success of Europe in an Interrelated World) is being started at Charles University, Faculty of Arts. It is the only social-scientific project, which has gained financial support for excellent research from EU sources. The project involves humanities-scientific research into adaptability of the European society in relation to the new social challenges (e.g. globalisation, migration, or new technologies). The project and its team will be managed by its head applicant and researcher, doc. Mirjam Friedová, Ph.D.

**For staff mobilities, post docs etc. please visit section [International](#)**

**Are you interested in science at CU? Do you have any question? Do you need help with anything?**

**Please do not hesitate to [contact us](#) !**