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v Olomouci

Genius loci...

Tisková zpráva

UP has received an elite project pushing the boundaries of nanotechnology in energy and medicine

Olomouc (7 August 2023) - Palacký University in Olomouc (UP) has succeeded in the Jan Amos Komenský Operational Programme in the Top Research Challenge. The list of projects recommended for funding, published recently, by the Czech Advanced Technologies and Research Institute (CATRIN) of UP.

"*I consider it a great success that we have won the project from this prestigious and demanding call, for which we have been preparing for about a year. I am convinced that we succeeded not only thanks to a very topical and well targeted topic, but also thanks to the experience of our researchers and the interdisciplinary focus of our research, which is one of the key missions of CATRIN. In the project, we will connect with colleagues from five faculties of Palacký University as well as with scientists from Charles University and CEITEC VUT. This will allow us to strengthen our research efforts, achieve even more significant results and make a significant contribution to the development of science and technology in our society. I am very pleased that CATRIN teams have also contributed to the success of two other supported projects and will participate in their solutions*," said CATRIN Director Pavel Banáš.

The Technology Beyond the Nanoworld (TECHSCALE) project finished with the second highest score among the projects recommended for funding. Starting in October, researchers will be developing new nanomaterials and technologies that will contribute to solving two current global challenges: the generation and storage of renewable energy and the development of new materials to improve the quality of life. The project will also include an assessment of the societal impact and public acceptance of new technologies.

"*The main focus of the project is the design, preparation and use of a new class of materials that we will prepare using a breakthrough single-atom engineering method. We expect to make fundamental discoveries that will push the boundaries of current nanotechnology and find applications in, for example, energy storage, chemical catalysis in the chemical and pharmaceutical industries, diagnosis of certain diseases and their treatment. The project will also include, among other things, the development of new materials for antimicrobial therapy and for*

Egon Havrlant I tiskový mluvčí
Univerzita Palackého v Olomouci | oddělení komunikace
E: egon.havrlant@upol.cz | M: 606 607 687
www.upol.cz

combating bacterial resistance to antibiotics," said the project's principal investigator Michal Otyepka from CATRIN, a four-time winner of prestigious European Research Council grants.

The five-year TECHSCALE project will start this October, with a total funding of CZK 481.7 million. A broad interdisciplinary team from Palacký University, as well as from Charles University led by Jiří Čejka and CEITEC VUT led by Martin Pumera will collaborate on the project. For example, colleagues from Charles University will focus on the targeted synthesis of new types of zeolites and other porous materials. "Our task is to develop new highly active and selective catalysts based on precisely defined monatomic active centers on suitable supports for the preparation of specialty chemicals and to use them, for example, in cascade reactions or in the preparation of chiral molecules important for the pharmaceutical industry," explained Jiří Čejka.

"*I believe that by engaging a wide range of scientists from the natural sciences to the social sciences and legal studies, we will succeed in changing the paradigm for the development of new materials and technologies that are designed from the outset to be safe and responsible*," Otyepka added.

The total funding for the call was CZK 8 billion, while CZK 1.1 billion has not yet been spent. Of the 15 successful projects, eight have been awarded to institutes of the Academy of Sciences of the Czech Republic; other supported applicants include, in addition to UP, Brno University of Technology, University of West Bohemia in Pilsen, VSB - Technical University Ostrava, Charles University, Masaryk University and Masaryk Institute of Oncology. Scientific teams from UP will participate in five of these projects.

Contact persons:

Pavel Banáš | ředitel
Český institut výzkumu a pokročilých technologií – CATRIN UP
E: pavel.banas@upol.cz | M: 773 653 503

Michal Otyepka | hlavní řešitel projektu
Český institut výzkumu a pokročilých technologií – CATRIN UP
E: michal.otyepka@upol.cz | M: 733 690 624