

News & Events

ERC Grants for Christa Schleper and Agnes Dellinger

05.09.2023

Biologist Agnes Dellinger receives an ERC Starting Grant valued at around 1.5 million euros. Microbiologist Christa Schleper also receives an ERC Proof of Concept Grant for her continuing research on an existing ERC project on archaea. A total of 123 ERC grants have already been awarded to the University of Vienna.



Biologist Agnes Dellinger receives an ERC Starting Grant valued at around 1.5 million euros. Microbiologist Christa Schleper also receives an ERC Proof of Concept Grant for her continuing research on an existing ERC project on archaea. A total of 123 ERC grants have already been awarded to the University of Vienna. The programme of the European Research Council (ERC) is intended to enable and advance basic research-oriented pioneering research with high innovation potential.

ERC Starting Grand - A new perspective on the evolution of floral diversity

Flowers continuously adapt to the different groups of pollinators that disperse their pollen. This process is considered a key mechanism of plant diversification and is embedded in complex abiotic contexts, such as climatic environmental factors, and biotic contexts, such as interactions with other animal and plant species in the ecosystem. So far, these factors have not been studied in their interaction. Biologist Agnes Dellinger's ERC-funded research project MountBuzz aims to fill this knowledge gap - an important step in the face of the man-made global loss of biodiversity. Dellinger will develop a new ecological perspective on how abiotic and biotic contexts influence the evolution and function of floral diversity.

Dellinger and her team are studying the large, pantropical plant family Melastomataceae, which includes about 6,000 species, at different altitudes in tropical areas spread across the globe in Borneo, Brazil, Costa Rica and Madagascar. At the different altitudes, the biotic and abiotic contexts also change, as temperature naturally decreases with increasing altitude, which also brings changes in the composition of the different pollinator groups. In addition to intensive field work, the team will use machine learning methods to investigate the extent to which patterns in the evolution of flower shapes are predictable and whether they are consistently associated with specific abiotic or biotic contexts. The aim of the research is to understand the extent to which certain flower shapes and pollinator interactions have repeatedly evolved and succeeded independently of each other in certain ecosystems.

About Agnes Dellinger

Agnes Dellinger is Assistant Professor at the Department of Botany and Biodiversity at the University of Vienna. She became interested in animal-plant interactions and the tropical plant family Melastomataceae during a tropical biology course at the University of Vienna in Costa Rica in 2010. Since then, she has worked on the pollination biology and evolution of Melastomataceae for her master's and PhD thesis and has undertaken several expeditions to the cloud forests of Ecuador, Colombia, Peru and Costa Rica with South American colleagues. During her postdoctoral period, Dellinger spent two years in Stacey Smith's group at the University of Boulder, Colorado, USA, studying the influence of pollinators and abiotic environmental conditions on plant diversification.

ERC Proof of Concept - Archaea research revolutionises current treatment standards

Microbiologist Christa Schleper from the University of Vienna has been awarded an ERC Proof of Concept. The aim of the ArcHealth research project "Archaea for Human Health" funded with this grant is to develop a fundamentally new product derived from archaea that has the potential to revolutionise current standards of human health care. Archaea are tiny single-celled organisms that, along with bacteria, form the group of prokaryotes, which, together with eukaryotes, make up one of the three "domains of life". They are among the first, most abundant and widespread living organisms on Earth and are also a central component of the human microbiome. A major advantage of relying on archaea - rather than bacteria - for therapeutics is their high resilience, as they can withstand all environmental conditions and their fluctuations. At the same time, they have low nutrient requirements and not a single pathogenic member is currently known. The researchers believe that the metabolism of these archaea will have a positive impact on human health and well-being, enabling sustainable, safe and tolerable treatment in a variety of applications.

The idea for this ERC PoC grant emerged from research carried out within the framework of the ERC Advanced Grant TACKLE. Among other things, this grant focused on the development of new methods that allow the isolation of archaea which are particularly difficult to grow in the laboratory. These include the archaeon of the human microbiome, which has been newly brought into laboratory culture and is now being studied for its ability to improve human health as a 'probiotic'.

About Christa Schleper

The microbiologist Christa Schleper has been Professor at the Faculty of Life Sciences at the University of Vienna since October 2007. After studying biology in Aachen and Konstanz, she obtained her PhD at the Max Planck Institute for Biochemistry and continued her research in Germany, the USA and Norway. Her focus is on the study of archaea, an area in which she has done groundbreaking work and which can also be a valuable key component in the future for sustainable agriculture and healthy living. The 2022 Wittgenstein Prize winner was awarded an ERC Advanced Grant in 2016. She is the Austrian scientific representative on the EMBL/EMBC Council (European Molecular Biology Laboratory/European Molecular Biology Council), a full member of the Austrian Academy of Sciences (ÖAW) and an elected member of the American Academy of Microbiology (ASM).
