

Press release

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CEPLAS Cluster of Excellence on Plant Sciences enters third funding round

Great Joy in Düsseldorf, Gatersleben, Jülich and Cologne today: the DFG and the German Science and Humanities Council announced that the joint CEPLAS Cluster of Excellence (“SMART Plants in Dynamic Environments”) has also been successful in the current funding round of the Excellence Strategy. In addition to HHU, which is the lead university, and the University of Cologne, which is the co-lead, the Forschungszentrum Jülich, the Leibniz Institute of Plant Genetics and Crop Plant Research (IPK) Gatersleben and the MPI for Plant Breeding Research Cologne (MIPZ) will also be involved in the project. Around 56 million euros in funding was requested for a seven-year period beginning in 2026.

Climate change and limited natural resources are threatening global food supplies and our natural ecosystems. CEPLAS is addressing these challenges through innovative fundamental research. How can plants and their associated microorganisms – known as microbiota – be adapted to environmental changes, such as a lack of water and nutrients. Microorganisms are of vital importance to plants, helping them to absorb nutrients and protecting them from pathogens.

Funding has now been secured for the third phase of the Cluster of Excellence. In the first two phases (2012–2018 and 2019–2025), CEPLAS researchers discovered molecular mechanisms that influence complex traits such as plant growth, metabolism and interactions between plants and microorganisms.

In the third, seven-year funding period, the CEPLAS scientists want to decipher how these plant traits are influenced by environmental factors. The Leibniz Institute of Plant Genetics and Crop Plant Research (IPK) in Gatersleben will be involved in the consortium for the first time. It will contribute to the cutting-edge research within CEPLAS with one of the largest gene banks, state-of-the-art phenotyping platforms that allow plant traits to be analysed automatically in large quantities under various conditions, and expertise in crop genetics and genomics.

Prof. Dr. Maria von Korff Schmising from the Institute of Plant Genetics at Heinrich Heine University Düsseldorf (HHU) and spokesperson for CEPLAS: “The Cluster of Excellence CEPLAS aims to understand the genetic and molecular basis of plant traits so comprehensively that growth and yield can be predicted precisely in different environments.”

Co-spokesperson Prof. Dr. Bart Thomma from the University of Cologne adds: “We will use these predictions to develop new approaches for the targeted design of plants with new traits, including enhanced cooperation with the microbiome, and improved adaptation to environmental variation and resource scarcity.”

About the CEPLAS research programme

The CEPLAS researchers want to analyse the interactions between complex plant traits that influence the yield and adaptation of plants to limited resources and changing environmental conditions. They are investigating the genetic basis of plant traits and how the environment influences these to this end. The researchers want to predict which

genetic traits of a plant and its associated microbes enable optimal growth under defined environmental conditions.

They are for example exploring how plants release certain substances such as sugar via their roots in order to attract helpful microorganisms. A whole armada of such helpers enables the plants to protect themselves against diseases and to grow better and achieve higher yields even when nutrients are scarce.

In addition to research, CEPLAS runs a comprehensive programme to support early career scientists from as early as the bachelor's degree level. Doctoral researchers receive intensive supervision in a graduate school and the Cluster of Excellence also offers programmes for postdoctoral researchers and junior research group leaders. These support early career scientists in the next steps in their career as independent researchers or prepare them for a career outside academic research.

Excellence competition of the federal and state governments

From 2026, a total of 539 million euros will be made available every year to fund the Clusters of Excellence as part of the Excellence Strategy. Calls for proposals for the funding lines are published regularly.

A total of 98 full applications were submitted for Clusters of Excellence. A panel of experts mainly comprising scientists working abroad reviewed these on behalf of the German Research Foundation and the German Science and Humanities Council. On 22 May 2025, it was announced that funding would be provided for 70 of these projects. The clusters approved in the new funding period can begin their work from 1 January 2026.

In addition to this funding, the Ministry of Culture and Science of North Rhine-Westphalia will additionally support each Cluster of Excellence with an additional 900,000 euros every year. In the case of joint clusters like CEPLAS, each participating university in North Rhine-Westphalia will receive 450,000 euros.

Detailed caption and copyright notice for picture 1:

Representatives from the five institutions involved in the CEPLAS Cluster of Excellence (from top left): CEPLAS spokesperson Prof. Dr. Maria von Korff Schmising, HHU; CEPLAS co-spokesperson Prof. Dr. Bart Thomma, University of Cologne; Prof. Dr. Nicolaus von Wirén, IPK Gatersleben; Prof. Dr. Milos Tsiantis, MPIPZ; Prof. Dr. Björn Usadel und Dr. Shizue Matsubara, Forschungszentrum Jülich. (Photos (from left): HHU / Steffen Köhler, University of Cologne / Guy Ackermanns; IPK / Lynne Tiller; MPIPZ / Frank Vinken; FZJ / Raimund Knauf und Regine Panknin)

URL for press release: <https://www.ceplas.eu/en/home>



Representatives from the five institutions involved in the CEPLAS Cluster of Excellence. Detailed caption and copyright notice see message text.
CEPLAS



The CEPLAS Cluster of Excellence is also successful in this round of the Excellence Strategy.
HHU / Steffen Köhler