Elke Deuerling elected as Leopoldina member

Konstanz molecular biologist Elke Deuerling has been admitted to the German National Academy of Sciences, the "Leopoldina". By selecting Elke Deuerling as a member, the Academy recognizes her outstanding contributions to the field of life sciences, particularly to proteostasis research.

Which molecular processes ensure the correct recognition, modification and transport of newly synthesized proteins in our cells, thereby maintaining the organism's health and viability? The research of Elke Deuerling, professor of molecular microbiology at the University of Konstanz, primarily centres on this particular issue, in addition to a number of other queries. In recognition of her outstanding contributions to the field of proteostasis research, she was elected a member of the Leopoldina, the German National Academy of Sciences (Class II - Life Sciences) in April 2026.

"Being elected to the Leopoldina is a very special honour and I am looking forward to the joint tasks lying ahead", says Deuerling, expressing her delight at the distinction.

Keeping the protein balance

A functional proteome – that is the entire set of proteins in our cells – is crucial for the viability of any organism, from bacteria to humans. This functionality is ensured by the continuous renewal and precise regulation of cellular protein levels, a process known as proteostasis. With her work in molecular biology, Deuerling is regarded as a pioneer in proteostasis research. In earlier studies on bacterial chaperones – the "folding assistants" of proteins – she uncovered, for example, how the chaperone "trigger factor" protects nascent proteins in bacterial cells from misfolding and unwanted degradation. Her findings significantly contributed to a new understanding of how proteins are protected in their delicate formation phase.

In her current research at the University of Konstanz, Deuerling is investigating the molecular processes of protein synthesis and modification also in higher organisms, where these processes are far more complex and less well understood to date. In a series of high-ranking scientific publications, she described, for example, the various functions of the protein complex NAC (nascent polypeptide-associated complex). She was able to demonstrate that these functions range from the regulation of the synthesis speed of nascent proteins to the temporal-spatial coordination of competing protein modifications and to logistical tasks within the cell. Accordingly, the research of Deuerling's team gradually expanded the concept of the NAC into a multifunctional control centre that plays a central role for the maintenance of our cellular functions.

Deuerling's work consistently yields new insights into the molecular mechanisms underlying proteostasis, which are essential for the viability and health of organisms.

About the Leopoldina and its members

The Leopoldina was founded in 1652 as the Academia Naturae Curiosorum and is the oldest continuously existing academy of natural sciences and medicine in the world. Since 2008, it has been the German National Academy of Sciences, providing science-based advice for policymakers as well as the public, and representing German science on international committees.

The members of the Leopoldina are renowned researchers from a wide range of disciplines, most of whom come from Germany, Austria and Switzerland. Around a third are from other countries around the world. New members are selected according to strict standards of scientific excellence. By accepting membership in the Academy, members commit to actively contributing to the work of the Leopoldina.

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Further information

- University of Konstanz