

Why pain persists long after injuries have healed

Chronic pain is among the most common and burdensome health conditions worldwide. But which processes in the nervous system cause pain to be “learned” and thus persist long term? And how can insights into the mechanisms underlying chronic pain be translated into new therapeutic approaches? These questions have been at the core of Rohini Kuner’s research for many years. She is Professor of Pharmacology and Toxicology, and Executive Director of the Institute of Pharmacology at the Heidelberg Faculty of Medicine of Heidelberg University. In recognition of her work, the Heidelberg-based pain researcher has now been awarded the Jung Prize for Medicine, endowed with 300,000 Euros.

“Professor Kuner’s work exemplifies excellent research at our faculty with strong international visibility. We are excited about this well-deserved recognition of a scientist who has had a strong influence on her field of research over many years,” says Professor Michael Boutros, Dean of the Faculty of Medicine Heidelberg at Heidelberg University.

Professor Kuner is delighted to receive the award, which she regards as a team achievement and the result of scientific collaboration. “Improving our understanding of chronic pain and ultimately finding ways to eliminate it remains one of the major challenges of modern medicine.”

Professor Kuner’s research focuses on how the nervous system changes in response to persistent stimuli, leading to the development of chronic pain. Central to this is the „neuronal plasticity”—the ability of nerve cells to adapt structurally and functionally. Her work demonstrates how pain is stored in and amplified by the body. These insights open up new avenues for therapies that are more targeted and effective over the long term. With the Jung Prize for Medicine, the Jung Foundation recognizes her pioneering discoveries on neuronal plasticity and their significance for understanding pain perception.

Rohini Kuner studied pharmaceutical biotechnology in India and completed her doctorate in 1994 at the University of Iowa in the United States. She subsequently continued her scientific career in Germany. From 1995 to 1998, she worked as a postdoctoral researcher at the Center for Molecular Biology of Heidelberg University and at the Max Planck Institute for Medical Research in Heidelberg. After two years in a life sciences company, she joined the Institute of Pharmacology at Heidelberg University in 2000. In early 2002, she established an Emmy Noether Research Group funded by the German Research Foundation (DFG) and completed her habilitation at the Faculty of Medicine Heidelberg in 2005. She was appointed Professor of Pharmacology and Toxicology in 2006 and has served as Director of the Institute of Pharmacology since 2009. Since its establishment in 2015, she has been spokesperson of the Collaborative Research Center (CRC) 1158, “From Nociception to Chronic Pain: Structure–Function Properties of Neural Pathways and Their Reorganization.” For her work, Professor Kuner has received numerous prestigious research awards, including the Gottfried Wilhelm Leibniz Prize awarded by the German Research Foundation in 2024—the most important research funding prize in Germany—as well as European Research Council (ERC) Advanced Grants in 2011 and 2025.

The Jung Foundation for Science and Research, based in Hamburg, is an independent foundation that honors projects in basic and translational research of particular clinical relevance through three prizes awarded annually. The Jung Prize for Medicine was first awarded in 1976, exactly 50 years ago.

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Further information

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