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How mitochondria influence mental health Hans Kupczyk visiting professorship for Professor Martin Picard

He researches stress and ageing at the interface of psychology and biology and is a guest at Ulm University in November: Professor Martin Picard from Columbia University (USA) has been awarded the Hans Kupczyk Visiting Professorship 2025, which is based in the Department of Clinical and Biological Psychology this year. On the occasion of the awarding of the visiting professorship, Picard spoke about energy as the foundation of human health of body and mind.

Under a lot of stress, people can develop grey hair - this has long been scientifically proven. Professor Martin Picard from Columbia University Irving Medical Center, New York, talked about a more recent finding on Tuesday, 18 November, in the packed Senate Hall at Ulm University: "The greying of human hair is reversible." At least when, as in Picard's case study, it is a young, healthy student who suddenly turned grey. Once her stress had been overcome, her hair grew back to its original colour. Picard's hypothesis: pigmentation costs the body energy that it needs elsewhere under stress. The Canadian-born Professor of Behavioural Medicine holds the 35th Hans Kupczyk visiting professorship at Ulm University, on the occasion of which he gave the lecture "A First-Principles Approach to Investigating Human Health: Focus on Energy".

Picard studied neuroimmunology in Montreal, where he completed his PhD on the mitochondrial Biology of ageing. With his research group, he is conducting research in the still new field of mitochondrial psychobiology, investigating the links between stress, energy expenditure and the rate of ageing at the cellular level. "The difference between a living, breathing being and a cadaver is the flow of energy," Martin Picard explained to the audience: "The ageing process costs energy." Energy that is converted from chemical to electrical energy within the mitochondria, the power stations of the cells: "It's like charging a battery." The available energy has a major influence on our health: if a cell is exposed to stress, it needs more energy - which the body saves elsewhere in order to survive. Hair pigmentation is then no longer the top priority. Depression could also be a consequence of such an energy-saving strategy. "If we understand why hair turns grey with age, we could stop the ageing process," Professor Picard is convinced.

Professor Michael Weber, President of Ulm University, awarded Martin Picard the Hans Kupczyk visiting professorship, which goes back to an honorary senator of the University. Professor Iris-Tatjana Kolassa, Head of the Department of Clinical and Biological Psychology at the Institute of Psychology and Education, gave the laudatory speech. She introduced Picard as a pioneer who has shown how mitochondria favour stress-related diseases and are linked to the biological ageing process. He is also one of the leading experts in the field of the connection between cell metabolism and the human psyche. "Martin is always approachable, enthusiastic and committed to the further development of the research field," Kolassa praised Picard. "His commitment to the further development of mitochondrial psychobiology is inspiring."

About the Hans Kupczyk visiting professorship

The Hans Kupczyk Foundation at Ulm University promotes scientific research, education and training. The foundation was established in 1985 by the honorary senator of the university, Hans Kupczyk. Its funds are used to finance visiting professorships, which are awarded annually and enable international researchers to spend several weeks at Ulm University. The aim is to give students, doctoral candidates and all scientific staff the opportunity to familiarise themselves with the expertise of the guest and to use it for their own scientific development.

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Further information

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