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**Open PhD position in cellular neuroscience**

The laboratory of **Prof. Natalia Kononenko** at the **University of Cologne (Medical Faculty & CECAD Excellence Cluster)** is looking for a highly motivated PhD candidate to investigate the role of the **endocytic adaptor AP-2 in Purkinje cells and the impact of its deletion on brain-wide motor circuits** (see Tolve et al., 2024, 10.1101/2024.01.27.577372). This project involves advanced mouse models, rabies tracing, chemogenetics, multi-omics, super-resolution microscopy, miniscope GCaMP6 imaging offering an excellent opportunity to engage in cutting-edge neurobiology research.

### ****Key Responsibilities:****

* Conduct research in mouse models to investigate how deletion of AP-2 in Purkinje cells affects information processing in the thalamo-cortical network.
* Perform experiments in cerebellar organotypic slice cultures using GCaMP-based calcium imaging and chemogenetics.
* Perform stereotactic surgeries and use chemogenetics to manipulate brain motor circuits.
* Conduct biochemical assays, such as pull-down experiments and proteomic analyses.
* Maintain accurate lab records and clearly present findings in meetings.

### ****Requirements:****

* Master’s degree in Neuroscience, Cell Biology, or Biochemistry (with very good to excellent grades).
* Experience with techniques such as rodent models of neurodegeneration, primary cell culture, immunohistochemistry, microscopy, image analysis, and biochemical assays.
* Strong motivation to advance research in neurodegenerative diseases.
* Proficiency in English.
* Excellent organizational skills, a proactive attitude, enthusiasm, and a willingness to learn.

### ****Our Profile:****

Cologne offers a vibrant international academic environment, fostering interdisciplinary interactions with top-tier institutions such as **CECAD**, the **Max Planck Institutes for Aging and Metabolic Research**, and the **University Hospital of Cologne**. As a leading hub for aging research, CECAD provides an outstanding scientific network. The Kononenko lab is part of this network and offers access to state-of-the-art facilities and expertise.

For more information, visit:  
<https://kononenko.cecad-labs.uni-koeln.de/home>.

### ****Start Date and Location:****

**February/March 2025**, in Cologne, Germany.

### ****Application Process:****

Please submit a single PDF containing the following:

1. A motivation letter.
2. A CV with contact details for 2–3 references.
3. A short (300-word) summary of a recent publication from Kononenko’s lab, including a research outlook and a proposal for future research on the topic.

Send your application to **Prof. Dr. Natalia Kononenko** at **n.kononenko@uni-koeln.de** by **31.01.2025**.

For more information, please visit:  
<https://www.cecad.uni-koeln.de/research/principal-investigators/full-members/natalia-kononenko>.