

POSTDOC POSITION AVAILABLE (TV-L E13, m/f/d)
Hoppe Laboratory - Protein Homeostasis in Aging and Disease
CECAD-Cluster of Excellence in Aging Research, University of Cologne

Institution information: CECAD Research Center, University of Cologne, Joseph-Stelzmann-Str. 26, D-50931 Cologne, Germany

Location: Cologne is a vibrant city with a highly international academic research environment. CECAD forms a focal point of ageing research in Europe bringing together researchers and clinicians at the University of Cologne with researchers at the new Max Planck Institute for Biology of Aging in a unique research venture.

Background: In the framework of the Collaborative Research Centre (CRC)/ Sonderforschungsbereich (SFB) 1218 on “mitochondrial regulation of cellular function” (www.sfb1218.uni-koeln.de), scientists from different research institutions in Cologne have teamed up to study how mitochondria influence activity, differentiation, and survival of the cell. The CRC1218 has been funded by the German Research Foundation (DFG) since July 2016. In the framework of the CRC1218, the Hoppe lab searches for a postdoctoral candidate. The Hoppe lab (<http://www.hoppelab.uni-koeln.de>) is part of the Institute for Genetics and CECAD-Cluster of Excellence in Aging Research. Our research focuses on protein homeostasis (proteostasis) mechanisms which support correct protein folding and activity. The proteostasis network has a limited capacity and its impairment triggers aggregation of damaged proteins, which is linked to neurodegeneration in the human brain. By manipulating the proteostasis machinery, our team was able to delay the aging process and extend lifespan in the nematode model *C. elegans*. The long-term objective of this project is to define proteostasis networks essential for stress resistance and tissue functionality. A combination of state-of-the-art techniques including (opto)-genetics, biochemical, and *in vivo* imaging allows us to examine stress-induced changes of protein folding and degradation pathways. The conserved regulation of proteostasis networks will be studied in *C. elegans*, mammalian cell culture, and samples of disease-patients. The proposed project will have broad implications for the understanding of tissue regeneration mechanisms and age-associated neurodegeneration. Mechanistic insights into the crosstalk between metabolic changes, stress signals, and ubiquitin-dependent regulation will help to develop new therapeutic strategies for metabolic and neurodegenerative diseases.

Qualifications: Successful applicants should have a solid background in molecular biology and experience in cell biology, genetics, or biochemistry. Candidates should have demonstrated outstanding performance through their graduate studies and by first author publications. Besides creativity, a strong ability for problem solving through analytical thinking combined with an enthusiasm for scientific research is highly desirable. Additionally, we expect good communication skills, fluent English and the ability for teamwork. The successful applicant will join an enthusiastic and collaborative group.

How to Apply: Please send your CV, letter of intent, names and addresses of three references to thorsten.hoppe@uni-koeln.de

Selected Publications:

Ravanelli, S., den Brave, F., and Hoppe T. (2020). Mitochondrial quality control governed by ubiquitin. *Front Cell Dev Biol.* 8: 270.

Finger F., Ottens F., Springhorn A., Drexel T., Proksch L., Metz S., Cochella L., Hoppe T. (2019). Olfaction regulates organismal proteostasis and longevity via microRNA-dependent signaling. *Nature Metabolism* 1, 350–59.

Tawo R., Pokrzywa W., Kevei E., Akyuz M.E., Balaji V., Arian S., Höhfeld J., Hoppe T (2017). The Ubiquitin Ligase CHIP Integrates Proteostasis and Aging by Regulation of Insulin Receptor Turnover. *Cell* 169, 470-82.