POSTDOC and PhD STUDENT POSITION AVAILABLE
Hoppe Laboratory
Protein Homeostasis in Ageing and Disease
CECAD-Cluster of Excellence in Ageing Research, University of Cologne

Institution information: CECAD Cologne Cluster of Excellence: Cellular Stress Responses in Ageing-Associated Diseases, 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 Ageing in a unique research venture.

Website: **http://www.hoppelab.uni-koeln.de**

Summary: Organismal development or environmental stimuli challenge the homeostatic protein balance of individual cells or the entire organism. Protein homeostasis is typically maintained by a concerted interplay between protein translation, protein folding or turnover of unfolded or damaged proteins. The ubiquitin proteasome system (UPS) regulates selective degradation of cellular proteins supporting cellular protein homeostasis and thereby maintains the proteome during stress and ageing. Degradation of damaged proteins is mediated by the 26S proteasome upon attachment of ubiquitin. An age-related impairment of the UPS causes enhanced protein aggregation and affects lifespan. The ultimate goal of the proposed research is to answer the fascinating question as to how inter-cellular communication regulates the UPS during multicellular development, stress and ageing.

Job description: We are seeking highly motivated Postdoc and PhD candidates to join our team investigating the fundamental role of protein homeostasis mediated by the ubiquitin system. We are using both genetic and biochemical approaches primarily in the *C. elegans* but also in mammalian systems to investigate proteolytic networks in ageing and disease.

Qualification: 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 undergraduate studies and Postdoc candidates also by high impact 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 and the ability for teamwork. The successful applicant will join an enthusiastic and collaborative group where a multidisciplinary approach is pursued.

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

Selected Publications:

Pathogenesis of Human Mitochondrial Diseases Is Modulated by Reduced Activity of the Ubiquitin/Proteasome-System. Segref A, Kevei E, Pokrzywa W, Schmeisser K, Mansfeld J, Livnat-Levanon N, Ensenauer R, Glickman MH, Ristow M, **Hoppe T*** (2014). ***Cell Metab.***, 19, 642-52.

DNA damage in germ cells induces an innate immune response that triggers systemic stress resistance. Ermolaeva M, Segref A, Dakhovnik A, Ou H-L, Schneider J, Utermöhlen O, **Hoppe T**, Schumacher B. (2013). ***Nature*****,** 501, 416-20.

The myosin chaperone UNC-45 is organized in tandem modules to support myofilament formation in *C. elegans*. Gazda L, Pokrzywa W, Hellerschmied D, Löwe T, Forné I, Mueller-Planitz F, **Hoppe T***, and Clausen, T (2013). ***Cell***, 152, 183-95.

The Machado-Joseph disease deubiquitylase ATX-3 couples longevity and proteostasis. Kuhlbrodt K, Janiesch PC, Kevei E, Segref A, Barikbin R, and **Hoppe T*** (2011). ***Nat. Cell Biol.*** 13, 273-81.

CDC-48/p97 coordinates CDT-1 degradation with GINS chromatin dissociation to ensure faithful DNA replication. Franz A, Orth M, Pirson PA, Sonneville R, Blow JJ, Gartner A, Stemmann O, **Hoppe T*** (2011). ***Mol Cell.*** 44, 85-96.

The ubiquitin-selective chaperone CDC-48/p97 links myosin assembly to human myopathy. Janiesch PC, Kim J, Mouysset J, Barikbin R, Lochmüller H, Cassata G, Krause S, and **Hoppe T*** (2007). ***Nat Cell Biol.*** 4, 379-90.

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