



GLOBAL
MICROBIOME
CONSERVANCY



The Groussin lab at the Institute of Clinical Molecular Biology (IKMB) at Kiel University (CAU) is offering a PhD candidate position in **human microbiome and microbiology research**

(TV-L E13 - 75%)

We aim to discover novel microbial modulators of host-microbiome functions and interactions. In this context, we are looking for a PhD candidate to lead innovative experimental and multi-omics investigations of the gut microbiome and of the diversity of extracellular vesicles that gut bacteria produce. The project that the recruited PhD candidate will be leading is part of a recently funded ERC Consolidator grant 'VESICULOME', which aims at understanding the origin, evolution and function of bacterial extracellular vesicles in the human host-gut microbiome system.

Bacterial extracellular vesicles (BEVs) are nanosized membrane-enclosed particles released by bacterial cells. They carry a range of cargo molecules with potent functions, including surface proteins, enzymes, virulence factors, or metabolites. BEVs shape bacteria-bacteria interactions, but are also impacting host phenotypes, e.g. through interactions with epithelial cells or transmigration into the bloodstream.

The project will involve the study of the role of BEVs in driving aspects of microbial community ecology, including nutrient sharing, community assembly and horizontal gene transfer. As part of the project, the PhD candidate will generate and analyze multi-omics data. They will also use various experimental techniques to culture anaerobic bacteria and investigate BEVs. The project will leverage unique biobanks of human microbiome samples and isolated strains collected among worldwide and clinical cohorts that are hosted in the Groussin lab. One of these biobanks is the Global Microbiome Conservancy resource (GMbC, <http://microbiomeconservancy.org/>), which aims at understanding the diversity of human gut microbes among various human populations worldwide, from non-industrialized & rural communities to industrialized & urban groups. As part of this project, we built and characterized a large collection of worldwide human gut microbiomes, bacterial strains and genomes, and investigated the impact of shifts in lifestyle on bacterial genomes (Nature Medicine 2019, Cell 2021). The other resources are biobanks of Inflammatory Bowel Diseases patients that are part of the EU-funded miGut-Health consortium, in which the lab co-leads a Work Package.

Our lab is part of the Institute of Clinical Molecular Biology (IKMB), within the medical faculty of Kiel University, and part of the University Medical Center Schleswig-Holstein (UKSH/CAU). With more than 70 clinics and institutes, UKSH/CAU is one of the largest university hospitals in Europe. It offers outstanding medical treatment and excellence in research and education with nearly 10,000 employees. We provide top research conditions at the interface of medicine, science and technology and maintain research co-operations with universities all over the world. Our lab is also part of several local consortia, including the CRC 1182 'Origin and Function of Metaorganisms', EU-funded 'miGut-Health' and the Excellence Cluster 'Precision Medicine in Chronic Inflammation'.

Your role:

We expect you to lead the following activities:

- Work collaboratively with your mentor to build an ambitious scientific agenda
- Engage in experimental and/or computational trainings on state-of-the-art techniques needed for the project
- Conduct computational and/or wet lab experiments
- Generate data
- Analyze data and interpret results
- Disseminate results through academic publications and conferences
- Engage in close interdisciplinary interaction with clinicians, bioinformaticians, immunologists and metabolomics specialists on campus

Requirements:

We are interested in recruiting self-motivated individuals with a high desire to succeed and a strong dedication to excellence and high-quality research.

Mandatory requirements:

- Outstanding Master degree/university degree equivalent to a EU master's degree in any fields of biology, chemistry, physics or computing sciences.
- Knowledge and training on basic computational and/or experimental techniques used in the fields of life sciences, chemistry or physics
- Excellent skills in English are expected

Desired skills:

- Candidates with expertise in cutting-edge technology of life sciences, chemistry or physics will be strongly considered.

We offer:

The contract is initially limited to **three** years, with a possibility of extension. The salary will be based on the German **E13** TV-L scale (75%) if terms and conditions under collective bargaining law are fulfilled.

We offer an excellent and exciting multidisciplinary team-oriented research environment and opportunities to being part of the national and international scientific community. Our scientists are encouraged to attend international conferences and visit cooperation partners. We offer flexible working hours and various opportunities to reconcile work and family life.

The UKSH/CAU has been certified as a family-friendly institution and is committed to further improve the compatibility of work and family life. The University supports the employment of disabled persons. Persons with disabilities will, with appropriate qualifications and aptitudes, be employed preferentially. The UKSH/CAU has set the goal to reach professional equality between men and women. The University aims to increase the number of women among the faculty staff and therefore explicitly encourages the application of female scientists.

Timeline:

The preferred starting date is as soon as possible.

The search will stop **8 weeks** after the date of online publication. We encourage candidates to apply as early as possible, as we will continuously run pre-interviews until the right candidate is found.

How To apply:

Please send a CV and a cover letter by email to Mathieu Groussin, m.groussin@ikmb.uni-kiel.de

When applying, please mention the reference 'PhD – VESICULOME' in the subject of your application email.

Contact for Information:

Prof. Dr. Mathieu Groussin, Institute of Clinical Molecular Biology at the University Hospital Schleswig-Holstein, Campus Kiel, Phone: +49-431-500-15198, m.groussin@ikmb.uni-kiel.de

Learn more about the IKMB here: <https://www.ikmb.uni-kiel.de/>

Learn more about our lab here: <https://mmmicrobiomelab.org/>