The Center for Molecular Medicine Cologne (CMMC) is a multidisciplinary center at the University of Cologne providing a forum that brings together physician scientists with basic researchers from the Faculty of Medicine and the Faculty of Mathematics and Natural Sciences to perform competitive basic, disease-oriented research. The mission of the CMMC is to advance the understanding of the underlying molecular and cellular mechanisms as a prelude to improving prevention, diagnosis and treatment of many common health problems.

The **Junior Research Group (JRG X) "(Epi)Genome structure and stability" of Dr. Robert Hänsel-Hertsch** invites applications from enthusiastic, motivated individuals for:

One PhD Student (65% TVL-E13)

Research overview:
Epigenome alterations and genomic instability are hallmarks of aging and cancer. However, it is not clear if and how age-related epigenetic alterations are linked with genome instability. Our laboratory explores how mammalian epigenomes, in particular structure and stability, evolve during aging and how alterations are linked with genome instability. For this project, the PhD student will employ our established genomic methods to characterise age-related genome structural and stability alterations, and how these factors impact (non)coding RNA synthesis. The PhD student will develop single-cell genomics technologies to characterise tissue aging in normal and accelerated aging models (*Rodentia*). Please visit https://www.haensel-hertsch-lab.cmmc-uni-koeln.de to learn more about the group's interests and ongoing research.

Your responsibilities will include:
- Cloning, recombinant expression, purification of molecular probes, such as antibodies and enzymes.
- Development of single-cell genomics technologies
- Preparation and analytics of genomic DNA/RNA/chromatin/nuclei from rodent tissues. Bulk and single-cell genomics sample prep. and bioinformatics analysis
- Conduct collaborative efforts across disciplines (e.g. epigenomics, aging, cancer)

Required skills and qualifications:
- M.Sc. or equivalent degree in bioinformatics, biochemistry, biomedicine and genetics, completed with above-average grades
- Experience in bioinformatics, biochemistry, biomedicine and genetics
- Conceptual understanding of Genomics and related technologies
- Enthusiasm for aging-related research, epigenetics and genome instability
- High level of motivation, commitment, endurance and positivity
- Ability and willingness to work in a collaborative team
- Excellent communication in English (written and speech)

Desired qualifications:
- Hands-on experience and publication record in genome biology, (epi)genome-editing, genomics, aging, epigenetics and genomic instability.
- Experience in computational (R, Unix shell scripting) and molecular biology is highly desired.

Research Environment:
The CMMC offers one of the best aging-related and cancer research environments in Europe, with partner institutes in direct reach, such as such as the Cologne Cluster of Excellence in Cellular Stress Responses in Aging-associated Diseases, Cologne Center for Genomics and Max-Planck Institute for Biology of Aging research. Hence, the Hänsel-Hertsch lab "(Epi)Genome structure and stability" at the CMMC is perfectly placed at an environment where the basic research meets its cutting edge of translational science. The CMMC environment further offers access to core-facility support for Imaging (Light and Electron Microscopy), Histopathology, Proteomics, Genomics, Cell-sorting, Animal facility, Bioinformatics. We have direct access to (single-cell) sequencing equipment.

Your salary will be based on TV-L / TV-Ä.

Please send enquiries to ***robert.haensel-hertsch@uni-koeln.de***