ERC funded Ph.D. positions to study mRNA translation control mechanisms in human cardiac development and disease

Two PhD positions- Fully funded for 4.5 years: Master's degree with excellent grades in biological sciences with experience in developmental biology and/ or computational biology. Basic skills in molecular biology and biochemistry. Experience in working in stem cell-based differentiation models or studying mRNA translation is advantageous. Opportunity to work with patient-derived hiPSC-based cardiac disease models and to develop next-generation RNA therapeutics in close collaboration with the industry.
The project aims to address either:
(**position #A**) the fundamental principles and mechanisms by which mRNA translation is selectively regulated to program cell fate identity during embryogenesis using human pluripotent stem cell-based differentiation and organoid models.
(**position #B**) Investigate the role of selective mRNA translation in hypertrophic cardiomyopathy (HCM) and develop RNA therapeutics for HCM using a newly patented RNA engineering method in collaboration with our industry partner.

What we offer: Opportunity and support to develop own independent academic career. Stable long-term funding and state-of-the-art resources to conduct cutting-edge research in RNA biology using human pluripotent stem cell-based models. Competitive salary, benefits, and family-friendly work culture. Possibility to work closely with startups. Possibility for spin-offs in collaboration with our industry partners.

Our Research Focus: We study the RNA regulatory principles that govern cell fate and identity during human cardiac development, homeostasis, and pathomechanisms of cardiac diseases. We employ pluripotent stem cells and cell fate engineering (2D differentiation and organoid models) in combination with systems biology and genome editing approaches to reconstruct and investigate human cardiac development and disease. Our long-term mission is to gain a systems-level understanding of the RNA regulatory principles that shape the self-organization and homeostasis of tissue and organs in humans in order to develop therapeutic solutions for tissue/ organ regeneration.
www.kurianlab.com

1. https://www.biorxiv.org/content/10.1101/2021.04.12.439420v3
2. Frank S, ….Kurian L, Cell Stem Cell. 2019 Feb 7;24(2):318-327.e8.
3. Kurian et al Nature, 2011

How to apply: Please submit your application as a single PDF file that includes:

(i) 1-2 page research proposal demonstrating your interest in RNA regulatory mechanisms controlling cell identity
CV (including a list of publications, extra-curricular activities, and the contact details (e-mail address and phone number) of 2-3 academic referees.
Submit the application to leo(dot)kurian (at)uni-koeln.de
Women and persons from underrepresented groups will be given priority when equally qualified.