Abstract:
Non-genetic cell-to-cell heterogeneity is ubiquitous and plays a critical role in human diseases. Time-lapse microscopy coupled with fluorescent live-cell reporters enables direct monitoring of pathway activities in single cells over time. It thus serves as an ideal tool to dissect the molecular origins of cell-to-cell heterogeneity and their implications for long-term cell fates, especially in the disease settings. I have worked in this area during the past decade, making contributions in both the experimental and the computational aspects. In my inaugural lecture, I will discuss two of my published studies on mammalian immune signaling and melanoma skin cancer. I will also briefly describe my future research directions during my Junior Professorship.

CV:
since 2023  Junior-Professor, Institute for Cell Biology and Immunology, University Stuttgart, Germany
2022 – 2023  Project Scientist, CeMM Research Center for Molecular Medicine of the Austrian Academy of Science
2017 – 2022  Postdoc, University of Colorado Boulder, USA
2014 – 2017  Ph.D. Biophysics, University of Copenhagen, Denmark
2011 – 2013  M.Sc. Computational Biology and Bioinformatics, ETH Zurich and University of Zurich, Switzerland