



# Research Training Group 1962

*Dynamic Interactions at Biological Membranes from Single Molecules to Tissue*  
Speaker: Prof. Dr. Rainer Böckmann, Computational Biology

Invitation to RTG 1962 – Guest Talk

Wednesday, 22nd January 2020 at 17.00 (s.t.)

**Prof. Dr. Christian Eggeling**

*(University of Jena / University of Oxford)*

## **“Challenges and potentials of super-resolution microscopy in biomedical research”**

*Understanding the complex interactions of molecular processes underlying the efficient functioning of the human body is one of the main objectives of biomedical research. Scientifically, it is important that the applied observation methods do not influence the biological system during observation. A suitable tool that can cover all of this is optical far-field fluorescence microscopy. Yet, biomedical applications often demand coverage of a large range of spatial and temporal scales, and/or long acquisition times, which can so far not all be covered by a single microscope and puts some challenges on microscope infrastructure. Taking immune cell responses and plasma membrane organization as examples, we outline these challenges but also give new insights into possible solutions and the potentials of these advanced microscopy techniques, e.g. for solving long-standing questions such as of lipid membrane rafts..*

*Key words: Super-resolution microscopy, STED microscopy, STED-FCS, T-cell activation, plasma membrane organization, lipid rafts*

**Guests are welcome!**

*gez. Prof. Dr. R. Böckmann*

→ Venue: Department Biology, Seminar Room Cell Biology (00.581),  
Building B1, Floor 00, Staudtstraße 5, 91058 Erlangen