

## Part 1: 1:00 PM

### ***Role Model Spotlight***

Are you pondering what to do after completing your PhD? Debating whether to stay in academia while considering starting a family? The challenge intensifies if your partner is also a scientist, potentially in the same field. Balancing dual careers, raising children, and possibly relocating away from family and friends can be tough.

Join us for an engaging "Role Model Spotlight" session, featuring Dr. Ching-Ju Tsai, as she shares her personal experiences and insights on navigating these challenges.

We welcome the audience to actively participate by asking questions when we delve into questions like:

- Strategies and support systems for effectively managing dual career paths in academia.
- Navigating the unique challenges and opportunities of pursuing a scientific career while raising children.
- Critical transitions from earning a PhD to securing a permanent academic position.
- Understanding the planable vs. unpredictable aspects of academic careers.

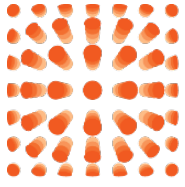
Come join us for this insightful discussion, complemented by coffee, tea, and some sweets. We look forward to your participation.



### **Dr. Ching-Ju Tsai**

Lab. for Biomolecular Research,  
PSI Center for Life Sciences,  
Switzerland

Host: Christine Ziegler



**Friday, November 8, RUN auditorium**

**Part 2: 2:00 PM – Special lecture**

***Investigating ultrafast nanoscale dynamics with electrons and X-rays***

As an introduction to the lecture by Jörg Standfuss, I will give an overview on current methodologies in ultrafast electron and X-ray imaging with a focus on:  
(1) the key properties of available pulsed sources,  
(2) a comparison between imaging, diffraction and holography approaches and  
(3) important limitations by beam-induced sample damage.



**Prof. Dr. Sascha Schäfer**  
Universität Regensburg

***Coffee break***

## Part 3: 3:00 PM - Colloquium

### ***Photopharmacology Across Time and Space: Molecular Insights via X-ray Free Electron Lasers***

Structural biology has been critical for our understanding of how proteins work on the molecular level. However, resolving the temporal evolution of biological macromolecules in response to activating stimuli—such as the binding of small molecular ligands or drug molecules—remains a challenge. In recent years, our research group has leveraged X-ray Free Electron Laser facilities to experimentally investigate how retinal-binding rhodopsins, acting as pumps, channels, or light sensors, are activated at the atomic level across a wide range of time scales.

In our latest experiments at the Swiss X-ray Free Electron Laser, we explored how photoactive azobenzene compounds, mimicking retinal, can be used to trigger protein dynamics for structural studies. My presentation will focus on the dissociation dynamics of the photopharmacological drug candidate azo-combretastatin A4 from tubulin, capturing events from the initial photochemical reaction in the femtosecond range, through the disruption of high-affinity protein-ligand interactions in nanoseconds, adaptation of the binding pocket in microseconds, and the eventual release of the compound in milliseconds. I will discuss the relevance of these findings for our understanding of how anti-cancer drugs destabilize the microtubule network. Furthermore, I will propose the use of azobenzene-based photoswitches to trigger G protein-coupled receptors and other pharmacologically relevant targets in time-resolved structural biology experiments.



#### **Dr. Jörg Standfuss**

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