

# ASHBi

## DISTINGUISHED SEMINAR

# Developmental reprogramming of retinal stem cells

Lecturer: **Jochen Wittbrodt PhD**

Full Professor, COS Heidelberg, Heidelberg University



Date: **Thursday, 11 April 2024**

Time: **16:00 - 17:00**

Venue: **Conference Room**  
B1F, Faculty of Medicine Bldg. B

Eligibility: **Academic Researchers and Students**

Register here



Most vertebrate species (except birds and mammals) show life-long growth facilitated by distinct and dedicated stem cell systems. This is particularly apparent in teleosts. We focus on retinal stem cells and on understanding the transition from retinal progenitor cells to mature RSCs within the ciliary marginal zone (CMZ). Using single-cell RNA sequencing and genetic manipulation techniques in medaka (*Oryzias latipes*), we challenge previous assumptions of a predefined RSC population, arguing that all retinal progenitors retain the potential to acquire stem cell identity. We map the time point of stem cell emergence by examining the proliferative behavior of RSC marker-expressing cells. Eventually we ablate all stem cells in the established niche (CMZ) and study its complete recovery. Overall, our work sheds light on the dynamic processes underlying the establishment and maintenance of adult retinal stem cells.

Hosted by Institute for the Advanced Study of Human Biology (WPI-ASHBi)

Contact: Prof. Cantas Alev

[E-mail] [alev.cantas.8m@kyoto-u.ac.jp](mailto:alev.cantas.8m@kyoto-u.ac.jp)

