BiomechBW, Tübingen

A symposium on cell motility and biomechanics 19.07.2022

LOCATION: Central Auditorium of Institute for Medical Microbiology, Elfriede-Aulhorn-Straße 6, 72076 Tübingen

REGISTRATION: If you would like to attend or give a Flash Talk, please register via the following online form by 15.07.2022: https://forms.gle/Qi69oSxwg1VJf1qM7

For more information, please contact Effie Bastounis: **effie.bastounis@uni-tuebingen.de**

PROGRAM

9:00 – 10:00 Keynote Presentation: Andrew Clark, University of Stuttgart,
"***Collective Migration in Physiology and Disease***"
10:00 – 10:15 Coffee Break
10:15 – 12:15 Flash 5 min talks
12:15 – 13:00 Lunch Break
13:00 – 13:30 Closing Presentation: Michael Heymann, University of Stuttgart
13:30 – 14:00 Concluding Remarks and Discussion

Keynote Speaker Biosketch: Andrew received his BS in Molecular Biology from the University of Wisconsin-Madison and studied epithelial wound repair in the lab of Bill Bement. He then moved to the Max Planck Institute for Molecular Cell Biology and Genetics in Dresden, where he did his PhD studying the organization and mechanics of the cellular actin cortex in the lab of Ewa Paluch. Following a short follow-up postdoc at University College London, he moved to Paris to do a postdoc at the Institut Curie in the lab of Danijela Vignjevic. During his postdoc, Andrew studied collective cell migration in a number of contexts, including using microfluidic devices to study collective chemotaxis, mechanical interactions between cells and ECM networks during migration and collective migration in the intestinal epithelium. Andrew started his own group in May 2021 as a joint position between the University of Stuttgart Institute for Cell Biology and Immunology and the University of Tübingen Center for Personalized Medicine, where his lab studies intestinal epithelial dynamics in physiology and disease.

Keynote Talk Summary: Collective cell migration is an essential process during development and tissue homeostasis and has also been proposed to play a role in early stages of cancer metastasis. Growing evidence suggests that the physical properties of the cellular microenvironment influence cell migration. Combining experiments and theoretical modeling, we have demonstrated that active physical remodeling of the microenvironment during cancer cell migration leads to transient gradients that promote spontaneous persistent migration. In addition to mechanical interactions between cells and their environment, our group is also focused on cell dynamics in the intestinal epithelium. We are currently working on understanding how collective cell migration and tissue patterning are involved in maintaining intestinal barrier function and promoting regeneration during homeostasis in the healthy gut. In addition, we study how inflammation and early events in intestinal tumorigenesis affect cell dynamics and regeneration and how dysregulation of these processes can further promote disease progression.