

informatik-Kolloquium

Der Fachbereich Informatik der Johannes Kepler Universität Linz¹ lädt in Zusammenarbeit mit der Österreichischen Gesellschaft für Informatik (ÖGI) zu folgendem Vortrag ein:

Topic: **Mobile Microfluidics**

Presenter: **Ass.-Prof. Dr. Mirela Alistar**
ATLAS Institute, Computer Science, University of Colorado Boulder, USA

Datum: **Thursday, May 16th 2019, 11:00**

Location: **JKU, Science Park 2, room S2 046**

Abstract:

In this talk, I argue that achieving true mobility in microfluidics would revolutionize the domain, by making laboratory services accessible during traveling or even in daily situations, such as sport and outdoor activities. I present the existing efforts to achieve mobility in microfluidics, and I discuss the conditions mobile biochips need to satisfy. In particular, I show how I adapted an existing biochip for mobile use, and I present the results when using it during a train ride. Based on that, and our systematic discussion, I identify the challenges that need to be overcome at technical, usability and society levels. In analogy to the history of computing, I make some predictions on the future evolution of mobile biochips. In my vision, mobile biochips will disrupt how people interact with a wide range of healthcare processes, including medical testing and synthesis of on-demand medicine.

Short Bio:

Mirela (assistant professor, ATLAS Institute, Computer Science) investigates the extent to which we can change healthcare to make it a personal process. Her research focuses around microfluidic biochips, devices that enable direct interaction of humans with their microbiome for diagnosis purposes. So far Mirela has built systems based on biochips to serve as personal laboratories: small portable devices that people can own and use to develop customized bio-protocols ("bio-apps"). Mirela is an active contributor to the DIYBio movement, having led and co-founded community wetlabs. In this context, she organizes interactive performances, art installations and open workshops, in order to engage the public in direct interaction with living materials (e.g., bacteria, viruses, fungi). Mirela received her PhD from the Technical University of Denmark in 2014, and until 2018, she was a postdoc in Patrick Baudish's lab at Hasso Plattner Institute in Germany. Mirela's work is published in top-tier journals and conferences (IEEE TCAD) and has been demonstrated at venues such as IEEE ESWeek and Molecular Communications. Mirela has served as a guest editor for Current Biotechnology journal (CBNT) and as a reviewer for venues such as Applied Materials and Interfaces, DATE, TCAD, ToDAES, NanoCom and UIST.

*Einladender: Univ.-Prof. Dr. Robert Wille
Institut für Integrierte Schaltungen
Abteilung Integrierter Schaltungs- und Systementwurf*

¹ Der Fachbereich (<http://informatik.jku.at>) besteht aus folgenden Instituten: Application Oriented Knowledge Processing (FAW), Bioinformatics, Computational Perception, Computer Architecture, Applied Systems Research and Statistics, Computer Graphics, Formal Models and Verification, Networks and Security, Integrated Circuits, Pervasive Computing, Software Systems Engineering, System Software, Telecooperation, Signal Processing