

**Speaker:** Dr. Oliver Hayden (Technical University of Munich)

**Title:** Solving clinical unmet needs with in vitro and in vivo diagnostics.

**Abstract:** To solve clinical unmet needs we need not only to understand technologies but readiness-level of biomarkers, clinical workflows, and clinical partners. Bioengineering in a clinical environment requires transdisciplinary understanding and co-creational work. For translational research which should lead to a high likelihood of technology transfer, we also need to understand the opportunities for an IP portfolio and freedom-to-operate. All these ingredients are key for the diagnostic projects at the Heinz-Nixdorf-Chair of Biomedical Electronics. In my talk, I will discuss our vision at the newly founded central institute TranslaTUM and I highlight in vitro and in vivo moonshots for cell function testing crossing the barriers between the disciplines.

**Bio:** Professor Hayden conducts research aimed at the development of innovative ways of using in-vitro techniques for diagnostic and biomedical purposes. His interdisciplinary research activities are orientated towards current scientific challenges and draw on the fields of electronics, optics, microfluidics and materials sciences. He is currently investigating magnetic and optical techniques for the functional diagnostics of blood cells. Professor Hayden studied biochemistry at the University of Vienna and completed his doctorate there in 1999. After holding a postdoctoral position at Harvard University and completing his postdoctoral teaching qualification in Analytical Chemistry at the University of Vienna, he joined the IBM Research Laboratory in Zürich in 2005. Since 2007, Professor Hayden has been researching organic electronic techniques for the medical imaging and in-vitro diagnosis of blood cells at Siemens Corporate Technology and Siemens Healthcare. In 2017, he was appointed to the Heinz-Nixdorf-Chair for Biomedical Electronics at TUM. Currently, he serves as Director of TranslaTUM, the Central Institute for Translational Cancer Research, at the campus of Klinikum rechts der Isar.