Robust Perception for Long-Term Autonomy

Robust perception systems are a key component for long-term deployment of autonomous robotic platforms in unstructured real-world environments. In particular, principled consideration of appearance changes and environment dynamics poses new scientific challenges for the entire perception stack. This talk addresses these challenges in the context of the visual navigation task. It focuses on map creation, maintenance, and place recognition using visual-maps. Moreover, we discuss how robustness can be achieved by a sound geometric consideration of underlying state spaces and incorporation of semantic information.

Gastgeber: Prof. Dr. Rolf Backofen, Prodekan