

VISIT TO UNIVERSITY OF AGDER

During Nov 11-12, 2024, Prof. [Renaldas Urniezius](#) from the Artificial Intelligence Centre and Dept of Automation, Electrical and Electronics engineering Faculty; Kaunas University of Technology, Lithuania, to lead an insightful guest seminar (as an invitation by University of Agder Professor **Filippo Sanfilippo**) that bridged foundational concepts with advanced applications in robotics.

The topics he covered brought a fresh perspective on several essential areas, including:

- **First Order Systems:** He highlighted fascinating associations between circuit theory and robotics, unpacking the real-world benefits of these connections.
- **Modelling with Differential Equations:** Prof. Urniezius underscored the significance of canonical representations, offering a new lens through which to approach modelling challenges in robotics.
- **Electronics Schematics:** From DC motor designs to the pathways leading to BLDC and PMSM systems, the session provided valuable insights for those working on actuator technologies.
- **Machine Learning for Parameter Identification:** An engaging hands-on session on using the method of least squares opened doors for participants to leverage machine learning in parameter identification.
- **Inertial Navigation:** With practical experience shared on sensor fusion using gyroscopes and accelerometers, the discussion tackled real challenges in robotics navigation.
- **Future of Robotics Actuators:** Finally, we explored the shift from traditional gearboxes to hybrid drives and the development of next-generation actuators.

These topics were highly relevant to both researchers in Kaunas University of Technology and researchers and all level students and researchers at [Artificial Intelligence, Biomechatronics, and Collaborative Robotics UiA - Mechatronics / Mekatronikk](#)
[UiA - Faculty of Engineering and Science](#)
[University of Agder \(UiA\)](#)
[euRobotics aisbl](#) in Norway.