

Curious Today - Partner Tomorrow

April 21st, 2021: Simulation



Let's collaborate!

The robotics laboratories at SDU are a place of world-class research. Twice a year we host an event called Curious Today - Partner Tomorrow, each time with a new topic. Here we invite the robot industry, and others who are interested in our work, to participate. There will be presentations, tours of our robot labs and at companies, networking, and an opportunity to discuss ideas for collaboration. This is a great way for you to meet students, companies, and academic experts. We look forward to welcoming you. Participation is free, but seats are limited. Read more and sign up at: www.sdu.dk/curious

Program: Curious Today – Partner Tomorrow, April 21st

Topic: Simulation | Online: www.sdu.dk/curious | Physically: Join us at SDU, or at one of the local satellite events.

15:30 - Tune in, coffee and greetings

Grab a cup of coffee. Find a chair and tune in to the ZOOM meeting. Greetings will be immediately prior to four o'clock.

15:50 - Odense Robotics

– a national cluster for robots and drones

16:00 - Researchers corner

● Stud. PhD Jesper Puggard de Oliveira Hansen:

“Mechatronic machine development and tests through Simulation and Virtual Commissioning.”

Developing new accurate mechatronic based machines is a challenging and costly process that typically requires many tests and iterations before ending up with the final machine, and even once the machine is built, changes and corrections is made. Being able to develop, build and test everything beforehand or simultaneously in a realistic virtual environment can therefore be a gamechanger.

● Stud. PhD Daniel Anthony Howard:

“Unlocking energy flexibility potentials in industrial facilities through production flow simulation”

Flexible energy production enables the reduction of electricity costs and CO2 emissions through active involvement in the energy system. Using a digital twin-based methodology as a framework for simulating products' flow in industrial facilities allows discovering new and innovative approaches for testing and incorporating new energy-aware production strategies with minimal risk to product quality and deadlines.

● Asst. Prof Joe Alexandersen:

“Multiphysics Simulation and Optimization”

Optimal design has the strength to reduce our negative impact on the world and push the limits of what was previously possible. Simulation-based optimisation is a computation-driven approach, requiring efficient simulation methods and high-performance computing to make it feasible to treat industrial problems. Our work focuses on interactions between mechanics, heat transfer and fluid dynamics. Efficient computational tools are formulated and applied to simulation-based design of electronics cooling, high heat flux cooling, microfluidic devices, and manufacturing processes.

● Prof. Sanja Lazarova-Molnar and Stud. PhD Jonas Friederich:

“Data-driven Assessment of Reliability for Cyber-Physical Production Systems”

Development of tools and methodology that learn reliability models from data that is generated in CPPS. Our work incorporates development Fault Detection and Diagnosis capabilities, along with methodology for learning causal fault models. Simulation methods is developed and utilized to analyse reliability and availability of CPPS. Developed models and simulations is utilized as decision support for preventive maintenance scheduling and optimization of CPPS configuration.

● Prof. Christian Schlette:

“Model- and simulation-based development of complex robotic systems and services”

Model- and simulation-based engineering puts digital models and computer simulations at the core of our engineering methodology for robotic technologies at SDU Robotics. The core approach of our engineering methodology is to implement comprehensive, simulatable virtual replicas of robotic systems and services for the incremental development and optimization of system hardware, control algorithms and lifecycle services (i.e. to support deployment, operation and maintenance).

17:25 - How to reach out?

TEK Innovation is your “one-stop” entry point to SDU researchers and students for future partnerships.

17:30 - Partners corner

● Mads Troelsgaard CEO and Partner at Unity Studios.

“How to create a digital twin within an hour using SynergyXR”

The digital twin represents the backbone of future innovations. In this session we will showcase how to use SynergyXR to create digital representations of real world products at a rapid speed. Actually, we will explore how to create a digital twin within an hour and how companies near and far embrace XR and prepare for the future of work.

18:00 - Networking

Beers and popcorn for the PHYSICAL participants

Break-out sessions for the CYBER participants

Program is subject to change without notice. Physical attendance is subject to restrictions from the authorities, and may be converted to online participation.

Organizer



Local event partner

