Image Analysis Technologies for Robotics and Automation

Workshop topic

Automation solutions and intelligent robots benefit equally from novel photonics technologies. Automated machine vision can improve efficiency and quality in production, facilitate production processes and optimize working conditions for humans and machines. Thanks to vision systems, autonomous robots can independently solve tasks in dangerous environments, can map unknown environments, and are even able to rescue people. The aim of the workshop is to provide an overview of the use, current challenges, and perspectives of image analysis technology in these areas. The conference also offers an excellent opportunity to network important players from industry and research and to make new contacts.

Date / Location

Date: 12. Sept 2023
Duration: 10.15 a.m. – 6 p.m.
Location: Fachhochschule Graubünden, Pulvermühlestrasse 57, 7000 Chur

Target audience

This workshop will be a forum for participants from industry and academia to share their experiences and discuss challenges and perspectives of current and future applications.

Cost

This workshop is free of charge

Registration compulsory

Link

Language

English preferred

Organized by the University of Applied Sciences Graubünden, Swissphotonics and the Innovation Booster Photonics

Time	Presentation & Topic
10:15 h	**Registration, Welcome Coffee**
10:45 h	**Welcome to the University of Applied Sciences of the Grisons** Prof. Jürg Kessler, FH Graubünden
11:00 h	**Introduction to the Workshop** Dr. Christoph S. Harder, Swissphotonics and Dr. Selina Casutt, Innovation Booster Photonics
11:10 h	**Image Analysis Technologies for Robotics and Automation, Organizational remarks, Lab tour** Prof. Dr. habil. Udo Birk, FH Graubünden
11:30 h	**Lab Tour FHGR**
12:30 h	**Lunch, 1 h**
13:30 h	**Machines that see: How computer vision and AI shape the future of mobile robots** Dr. Gregory Hitz / Renaud Dubé, Sevensense Robotics AG
13:45 h	**Robotic Assisted Surgery (RAS) and Vision** Dr. Stephan Beer, Intuitive
14:00 h	**Enhancing safety with quality 2D/3D Vision** Lucio Carrara, Fastree3D
14:15 h	**Application Markets for 3D Cameras** Beat de Coi, Espros Photonics AG
14:30 h	**Panel Discussion / Q&A Session 1** with Gregory Hitz, Stephan Beer, Lucio Carrara and Beat de Coi
14:50 h	**Coffee Break, 30 min**
15:20 h	**Autonomous Robots for Radiation and Chemical Hazard Analysis** Prof. Dr. Christian Bermes, FH Graubünden
15:35 h	**LiDAR and RGB-D Sensors in Mobile Robotics** Dr. Lionel Ott, ETH Zürich
15:50 h	**AI-based classification of gemstone's authenticity and origine** Dr. Francesco Crivelli, CSEM
16:05 h	**Smart sensing - the key to successful use of robotics in agriculture** Prof. Dr. Dejan Šeatović, FH OST
16:20 h	**Panel Discussion / Q&A Session 2** with Christian Bermes, Lionel Ott, Francesco Grivelli and Dejan Šeatović
16:40 h	**Opportunities for innovative forces: Engineers and Professors** Dr. Christoph S. Harder, Swissphotonics
16:50 h	**Call for radical innovations** Dr. Selina Casutt, Innovation Booster Photonics
17:00 h	**Networking Apéro**