

PROGRAM

Days: [Tuesday, September 5th](#) [Wednesday, September 6th](#) [Thursday, September 7th](#)

Tuesday, September 5th

View this program: [with abstracts](#) [session overview](#) [talk overview](#)

- 09:00-09:20 Session 1: Welcome and Opening Session
- 09:20-10:40 Session 2: Oral Session I
- 09:20 [Alessandro Navone](#), [Mauro Martini](#), [Andrea Ostuni](#), [Simone Angarano](#) and [Marcello Chiaberge](#)
Autonomous Navigation in Rows of Trees and High Crops with Deep Semantic Segmentation ([abstract](#))
- 09:40 [Riccardo Bertoglio](#), [Veronica Carini](#), [Stefano Arrigoni](#) and [Matteo Matteucci](#)
A Map-Free LIDAR-Based System for Autonomous Navigation in Vineyards ([abstract](#))
- 10:00 [Agnese Chiatti](#), [Riccardo Bertoglio](#), [Nico Catalano](#), [Matteo Gatti](#) and [Matteo Matteucci](#)
Surgical fine-tuning for Grape Bunch Segmentation under Visual Domain Shifts ([abstract](#))
- 10:20 [Antoine Villamazet](#), [Adrien Durand-Petiteville](#) and [Viviane Cadenat](#)
Multi-camera GPS-free Nonlinear Model Predictive Control strategy to traverse orchards ([abstract](#))
- 10:40-11:00 Coffee Break
- 11:00-12:40 Session 3: Oral Session II
- 11:00 [Ibrahim Hroob](#), [Sergi Molina](#), [Riccardo Polvara](#), [Grzegorz Cielniak](#) and [Marc Hanheide](#)
Learned Long-Term Stability Scan Filtering for Robust Robot Localisation in Continuously Changing Environments ([abstract](#))
- 11:20 [Ludwig Mohr](#), [Ismail Geles](#) and [Friedrich Fraundorfer](#)
GAFAr: Graph-Attention Feature-Augmentation for Registration - A Fast and Light-weight Point Set Registration Algorithm ([abstract](#))
- 11:40 [Himanshu Gupta](#), [Henrik Andreasson](#), [Martin Magnusson](#), [Simon Julier](#) and [Achim Lilienthal](#)
Revisiting Distribution-Based Registration Methods ([abstract](#))
- 12:00 [Michele Antonazzi](#), [Matteo Luperto](#), [Nicola Basilico](#) and [N. Alberto Borghese](#)
Enhancing Door-Status Detection for Autonomous Mobile Robots during Environment-Specific Operational Use ([abstract](#))
- 12:20 [Xinyu Liu](#), [Zdeněk Rozsypálek](#) and [Tomáš Krajník](#)
Self-supervised Learning for Fusion of IR and RGB Images in Visual Teach and Repeat Navigation ([abstract](#))
- 12:40-14:00 Lunch Break
- 14:00-15:00 Session 4: Keynote: Autonomous Flight of Tiny Drones, Guido de Croon
- 15:00-16:30 Session 5: Poster Spotlight Session I
- 15:00 [Inaki Rano](#) and [Anders Christensen](#)
White-box and Black-box Adversarial Attacks to Obstacle Avoidance in Mobile Robots ([abstract](#))
- 15:05 [Alicia Mora](#), [Alberto Mendez](#) and [Ramon Barber](#)
Evaluating Techniques for Accurate 3D Object Model Extraction through Image-based Deep Learning Object Detection and Point Cloud Segmentation ([abstract](#))
- 15:10 [Adrian Prados](#), [Blanca Lopez](#), [Luis Moreno](#) and [Ramon Barber](#)
TAICHI algorithm: Human-Like Arm Data Generation applied on Non-Anthropomorphic Robotic Manipulators for Demonstration ([abstract](#))
- 15:15 [Dimitrios Arapis](#), [Andrea Vallone](#), [Milad Jami](#) and [Lazaros Nalpanitidis](#)
Multi-Task Learning for Industrial Mobile Robot Perception Using a Simulated Warehouse Dataset ([abstract](#))
- 15:20 [Federico Rollo](#), [Gennaro Raiola](#), [Andrea Zunino](#), [Nikolaos Tsagarakis](#) and [Arash Ajoudani](#)
Artifacts Mapping: Multi-Modal Semantic Mapping Extension of Geometric Maps ([abstract](#))
- 15:25 [Alberto Gottardi](#), [Matteo Terreran](#), [Christoph Frommel](#), [Manfred Schoenheits](#), [Nicola Castaman](#), [Stefano Ghidoni](#) and [Emanuele Menegatti](#)
Dynamic Human-Aware Task Planner for Human-Robot Collaboration in Industrial Scenario ([abstract](#))
- 15:30 [João Neto de Carvalho de Andrade Tavares](#), [Alberto Vale](#) and [Rodrigo Ventura](#)
Decentralized Market-Based Task Allocation Algorithm for a Fleet of Industrial Mobile Robots ([abstract](#))
- 15:35 [Haili Utiku Unlu](#), [Anthony Tzes](#), [Prashanth Krishnamurthy](#) and [Farshad Khorrami](#)
Distributed 3D-Map Matching and Merging on Resource-Limited Platforms using Tomographic Features ([abstract](#))
- 15:40 [Florian Steidle](#), [Simon Boche](#), [Wolfgang Stürzl](#) and [Rudolph Triebel](#)
A Temporal Perspective n-Point Problem with Model Uncertainties for Cooperative Pose Estimation in a Heterogeneous Robot Team ([abstract](#))
- 15:45 [Iaroslav Okunevich](#), [Vincent Hilaire](#), [Stephane Galland](#), [Olivier Lamotte](#), [Ljubov Shilova](#), [Yassine Ruichek](#) and [Zhi Yan](#)
Human-centered Benchmarking for Socially-compliant Robot Navigation ([abstract](#))
- 15:50 [Alessandro Bonetti](#), [Simone Guidetti](#) and [Lorenzo Sabatini](#)
Improved path planning algorithms for non-holonomic autonomous vehicles in industrial environments with narrow corridors: Roadmap Hybrid A* and Waypoints Hybrid A* ([abstract](#))
- 15:55 [André Kirsch](#), [Malte Riechmann](#) and [Matthias Koenig](#)
Assisted Localization of MAVs for Navigation in Indoor Environments Using Fiducial Markers ([abstract](#))
- 16:00 [Benjamin Kiefer](#), [Timon Höfer](#) and [Andreas Zell](#)
Stable Yaw Estimation of Boats from the Viewpoint of UAVs and USVs ([abstract](#))
- 16:05 [Peter Aerts](#), [Peter Slaets](#) and [Eric Demeester](#)
Graph-based Simultaneous Localization and Mapping with incorporated dynamic object motion ([abstract](#))
- 16:10 [Hanyu Cai](#), [Ni Ou](#) and [Junzheng Wang](#)
Visual-LiDAR Odometry and Mapping with Monocular Scale Correction and Motion Compensation ([abstract](#))
- 16:30-16:50 Coffee Break
- 16:50-18:00 Session 6: Poster Session I
- 18:30-20:00 Social Event: Welcome Reception (Botanical Garden)

Wednesday, September 6th

View this program: [with abstracts](#) [session overview](#) [talk overview](#)

- 09:00-10:40 Session 7: Oral Session III
- 09:00 [Michał Staniaszek](#), [Lara Brudermüller](#), [Raunak Bhattacharyya](#), [Bruno Lacerda](#) and [Nick Hawes](#)
Difficulty-Aware Time-Bounded Planning under Uncertainty for Large-Scale Robot Missions ([abstract](#))
- 09:20 [Giacomo Lodigiani](#), [Nicola Basilico](#) and [Francesco Amigoni](#)
Robust Multi-Agent Pickup and Delivery with Delays ([abstract](#))
- 09:40 [Jindřiška Deckerová](#), [Kristýna Kučerová](#) and [Jan Faigl](#)
On Improvement Heuristic to Solutions of the Close Enough Traveling Salesman Problem in Environments with Obstacles ([abstract](#))
- 10:00 [Suresh Guttikonda](#), [Jan Achterhold](#), [Haolong Li](#), [Joschka Boedecker](#) and [Joerg Stuecker](#)
Context-Conditional Navigation with a Learning-Based Terrain- and Robot-Aware Dynamics Model ([abstract](#))
- 10:20 [Timur Akhtyamov](#), [Aleksandr Kashirin](#), [Aleksey Postnikov](#) and [Gonzalo Ferrer](#)
Social Robot Navigation through Constrained Optimization: a Comparative Study of Uncertainty-based Objectives and Constraints ([abstract](#))
- 10:40-11:00 Coffee Break

- 11:00-12:40 Session 8: Oral Session IV
- 11:00 [Fabian Arzberger](#), [Fabian Wiecha](#), [Jasper Zevering](#), [Julian Rothe](#), [Dorit Borrmann](#), [Sergio Montenegro](#) and [Andreas Nüchter](#)
Delta filter – robust visual-inertial pose estimation in real-time: A multi-trajectory filter on a spherical mobile mapping system (abstract)
- 11:20 [Yoshinobu Uzawa](#), [Shigemichi Matsuzaki](#), [Hiroaki Masuzawa](#) and [Jun Miura](#)
Dataset Generation for Deep Visual Navigation in Unstructured Environments (abstract)
- 11:40 [Karlo Koledić](#), [Ivan Marković](#) and [Ivan Petrović](#)
Towards camera parameters invariant monocular depth estimation in autonomous driving (abstract)
- 12:00 [Elia Bonetto](#) and [Aamir Ahmad](#)
Synthetic Data-based Detection of Zebras in Drone Imagery (abstract)
- 12:20 [Fetullah Atas](#), [Grzegorz Cielniak](#) and [Lars Grimstad](#)
Navigating in 3D Uneven Environments through Supervoxels and Nonlinear MPC (abstract)
- 12:40-14:00 Lunch Break
- 14:00-15:00 Session 9: Keynote: A Robot Web for Many-Device Localisation and Planning, Andrew Davison
- 15:00-16:30 Session 10: Poster Spotlight Session II
- 15:00 [Agha Ali Haider Qizilbash](#), [Anoj Kumar Yadav](#), [Kevin Bregler](#) and [Werner Kraus](#)
Ant Colony Optimization for Retail based Capacitated Vehicle Routing Problem with Pickup and Delivery for Mobile Robots (abstract)
- 15:05 [Mikolaj Zieliński](#) and [Dominik Belter](#)
Direct Object Reconstruction on RGB-D Images in Cluttered Environment (abstract)
- 15:10 [Steffen Müller](#), [Benedict Stephan](#), [Trsitán Müller](#) and [Horst-Michael Gross](#)
Robust Perception Steps for Autonomous Elevator Operation by Mobile Robots (abstract)
- 15:15 [Naeem Iqbal](#), [Mark Niemeyer](#), [Christoph Krause](#) and [Joachim Hertzberg](#)
Scalable Evaluation Pipeline of CNN-based perception for Robotic Sensor Data under different Environment Conditions (abstract)
- 15:20 [Sebastián Bedín](#), [Javier Civera](#) and [Matias Alejandro Nitsche](#)
Teach and Repeat and Wheel Calibration for LiDAR-equipped Omnidirectional Drive Robots (abstract)
- 15:25 [Ekansh Sharma](#), [Christoph Henke](#), [Alex Mitrevski](#) and [Paul G. Plöger](#)
Adaptive Compliant Robot Control with Failure Recovery for Object Press-Fitting (abstract)
- 15:30 [Ysevolod Hulchuk](#), [Jan Bayer](#) and [Jan Faigl](#)
Graph-based LiDAR-Inertial SLAM Enhanced by Loosely-Coupled Visual Odometry (abstract)
- 15:35 [Simone Mentasti](#), [Claudia Speranza](#) and [Matteo Matteucci](#)
Symmetric Object Pose Estimation via Flexible Modular CNN (abstract)
- 15:40 [Junyi Shi](#) and [Tomasz Piotr Kucner](#)
Learning State-Space Models for Mapping Spatial Motion Patterns (abstract)
- 15:45 [Sedat Dogru](#), [Carlos A. Silva](#) and [Lino Marques](#)
Monocular Person Localization and Lidar Fusion for Social Navigation (abstract)
- 15:50 [Belkacem Khaldi](#), [Erhan Ege Keyvan](#), [Mehmet Şahin](#), [Ali Emre Turgut](#) and [Erol Sahin](#)
Towards Data-Driven Discovery of Governing Swarm Robots Flocking Rules (abstract)
- 15:55 [Miroslav Kulich](#), [David Woller](#), [Sarah Carmesin](#) and [Masoumeh Mansouri](#)
Where to Place a Pile? (abstract)
- 16:00 [Andrea Arlotto](#), [Martina Lippi](#) and [Andrea Gasparri](#)
An EKF-based Multi-Object Tracking Framework for a Mobile Robot in a Precision Agriculture Scenario (abstract)
- 16:05 [Antea Hadviger](#), [Vlaho-Josip Stironja](#), [Igor Cvijic](#), [Sacha Vrazic](#), [Ivan Markovic](#) and [Ivan Petrovic](#)
Stereo Visual Localization Dataset Featuring Event Cameras (abstract)
- 16:10 [Aleksa Marusic](#), [Louis Annabi](#), [Sao Mai Nguyen](#) and [Adriana Tapus](#)
Analyzing Data Efficiency and Performance of Machine Learning Algorithms for Assessing Low Back Pain Physical Rehabilitation Exercises (abstract)
- 16:30-16:50 Coffee Break
- 16:50-18:00 Session 11: Poster Session II
- 18:00-19:30 Social Event: Visit to the Old University
- 19:30-22:00 Social Event: Gala Dinner

Thursday, September 7th

View this program: [with abstracts](#) [session overview](#) [talk overview](#)

- 09:30-10:30 Session 12: Keynote: Inductive Biases for Robot Reinforcement Learning, Jan Peters
- 10:30-10:50 Coffee Break
- 10:50-12:30 Session 13: Oral Session V
- 10:50 [Weijian Zhang](#), [Charlie Street](#) and [Masoumeh Mansouri](#)
Multi-Formation Planning and Coordination for Object Transportation (abstract)
- 11:10 [Hugo Bildstein](#), [Adrien Durand-Petiteville](#) and [Viviane Cadenat](#)
Enhanced Visual Predictive Control Scheme for Mobile Manipulator (abstract)
- 11:30 [David Valouch](#) and [Jan Faigl](#)
Motion Planning for Multi-legged Robots using Levenberg-Marquardt Optimization with Bézier Parametrization (abstract)
- 11:50 [S. Batuhan Vatan](#) and [H. Isil Bozma](#)
Social APF-RL: Safe Mapless Navigation in Unknown & Human-Populated Environments (abstract)
- 12:10 [Ornella Tortorici](#), [Cedric Anthierens](#) and [Vincent Hugel](#)
A new flex-sensor-based umbilical-length management system for underwater robots (abstract)
- 12:30-14:00 Lunch Break
- 14:00-15:40 Session 14: Oral Session VI + Best WS papers
- 14:00 [Rui Baptista](#), [Hugo Magalhães](#) and [Lino Marques](#)
Impact of UAV Propellers on gas plume tracking (abstract)
- 14:20 [Pallav Anand](#), [Pranav Niturkar](#), [A. Pedro Aguiar](#), [Rajat Agarwal](#), [Manav Mishra](#) and [P. B. Sujit](#)
Finite-Time Standoff Target Tracking in The Presence of Wind (abstract)
- 15:40-16:00 Session 15: Farewell Session