

Seminar „Vision for Autonomous Vehicles and Probes“
 (Organizers: Andrés Bruhn, Atsushi Imiya, Aleš Leonardis, Tomas Pajdla)
 9-13 November 2015

Version 9. November 2015

Monday

Opening		
09:00-09:05	Organizers (Atsushi Imiya)	Opening
Session 1: Scene Understanding 1		Chair: Michael Felsberg
09:05-09:35	Hayko Riemenschneider	Efficient Multi-view Semantic Segmentation
09:35-09:55	Heiko Hirschmueller	Visual-Inertial Navigation for Mobile Robots
09:55-10:15	Sven Behnke	Semantic RGB-D Perception for Cognitive Robots
10:15-10:30	COFFEE BREAK	
Session 2: Self Introduction		Chair: Andrés Bruhn
10:30-12:00	2min Self Introduction	
12:00-13:30	LUNCH	
Session 3: Tracking and Understanding		Chair: Andreas Geiger
13:30-14:00	Thomas Pock	Efficient block optimization methods for computer vision
14:00-14:30	Cédric Demonceaux	Pose estimation and 3D segmentation using 3D knowledge in dynamic environments
Working Group		
14:30-14:50	Organizers (Aleš Leonardis)	Definition of Working Group
14:50-15:00	COFFEE BREAK	
15:00-16:20	Discussion	
Session 4: Driving and Understanding 1		Chair: Yasutaka Furukawa
16:20-17:00	Michal Havlena	Hyperpoints and Fine Vocabularies for Large-Scale Location Recognition
17:00-17:20	Michael Felsberg	Learning to drive
17:20-17:40	Bernt Schiele	Towards 3D Scene Understanding
17:40-18:00	Darius Burschka	Robust Coupling of Perception to Actuation in Dynamic Environments
18:00-20:00	DINNER	

Tuesday

	Session 5: Aerial Vision	Chair: Sven Behnke
09:00-09:30	Juergen Strum	Tracking and Mapping in Project Tango
09:30-10:00	Friedrich Fraundorfer	drone Vision -Computer vision algorithms for drones
10:00-10:30	Davide Scaramuzza	From Frames to Events: Vision for High-speed Robotics
10:30-11:00	COFFEE BREAK	
	Session 6: Exploration Vision	Chair: Darius Burschka
11:00-11:30	Takashi Kubota	Image based Navigation for Exploration Probe
11:30-11:00	Lazaros Nalpantidis	Stereo Vision for Future Autonomous Space Exploration Robots
12:00-13:30	LUNCH	
	Session 7: Exploration Vision and Map Buiding	Chair: Akihiko Torii
13:30-14:00	Ben Huber	Planetary Robotic Vision Processing for NASA and ESA Rover Missions
14:00-14:30	Rafael Garcia	Underwater Vision: Robots that "see" beneath the surface
14:30-15:00	Antonios Gasteratos	Semantic maps for high level robot navigation
15:00-15:20	COFFEE BREAK	
	Session 8:Map Building	Chair: Lazaros Nalpantidis
15:20-15:50	Daniel Cremers	Dense and Direct Methods for 3D Reconstruction and Visual SLAM
15:50-16:20	Vladyslav Usenko	Direct SLAM Techniques for Vehicle Localization and Autonomous Navigation
16:20-16:30	BREAK	
	Session 8:Map Building	Chair: José Álvaerz
16:30-17:00	Akihiko Torii	Large-scale visual place recognition and online 3D reconstruction
17:00-17:30	Yasutaka Fukawa	Structured Indoor Modeling and/or Uncanny Valley for 3D Reconstruction
17:30-18:00	Torsten Sattler	The Limits of Pose Estimation in Very Large Maps
18:00-20:00	DINNER	

Wednesday

Session 9: Joint Session with Seminar 15462 Chair: Uwe Franke		
09:00-12:15	Christoph Stiller Raul Rojas Markus Maurer Andres Wendel	
12:15-14:00	LUNCH	
14:00-18:00	TRIP TO TRIER	Social Activity
18:00-20:00	DINNER	

Thursday

Session 10: Driving and Reconstruction 1 Chair: Bavid Vázquez Bermudez		
09:00-09:40	Niko Suedenhaut	Deep Learning for Visual Place Recognition and Beyond – Lessons Learned
09:40-10:10	Juan Andrade-Cetto	Perception for mobile robotics
10:10-10:30	COFFEE BREAK	
Session 11: Driving and SLAM Chair: Sebastian Ramos		
10:30-11:00	Reihard Koch	Model-based Object and Deformation Tracking with Robust Global Optimization
11:00-11:30	Steven Beauchemin	Vehicular Instrumentation for the Study of Driver Intent and Related Applications
11:30-12:00	Bavid Vázquez Bermudez	
12:00-13:30	LUNCH	
Session 12: SLAM and Understanding 3 Chair: Cédric Démonceaux		
13:30-14:00	José Álvaerz	
14:00-14:30	Danil Prokhorov	
14:30-15:00	Ales Leonardis	
15:00-15:30	COFFEE BREAK	
Working Group		
15:30-16:30		Working Group Meeting
Session 13: Driving and Understanding 2 Chair: Juan Andrade-Cetto		
16:30-17:00	Raquel Urtasun	3D Scene Understanding for Autonomous Driving
17:00-17:30	Andreas Geiger	High-level knowledge in Low-level Vision
17:30-18:00	Florian Becker	Recursive Joint Estimation of Dense Scene Structure and Camera Motion in an Automotive Scenario
18:00-20:00	DINNER	

Friday

Session 14: Reconstruction and Motion Analysis Chair: Niko Suedenhaus		
09:00-09:40	Johannes Berger	Second-Order Recursive Filtering on the Rigid-Motion Group SE(3) Based on Nonlinear Observations from Monocular Videos
09:40-10:10	Sebastian Ramos	
10:10-10:30	COFFEE BREAK	
	<i>Working Group</i>	
10:30-11:30		Working Group Meeting
	<i>Closing</i>	
11:30-12:00	Organizers (Atsushi Imiya)	Working Group Get Together and Summary of each Group
12:00-14:00	LUNCH	