

Workshop Schedule

(Date, Time and Category) Ex: Tuesday May 12 2009, 9:00-18:00, Full-day Workshop	
Title	ICRA09 Workshop on Safe navigation in open and dynamic environments:
	Application to autonomous vehicles
Room	406
Session	TW-F11
Organizers	P. Martinet, C. Laugier, Urbano Nunes
Abstract	The purpose of this workshop is to discuss topics related to the challenging problems of autonomous navigation in open and dynamic environments. Technologies related to application fields such as unmanned outdoor vehicles or intelligent road vehicles will be considered from both the theoretical and technological point of views. Several research questions located on the cutting edge of the state of the art will be addressed. Among the many application areas that robotics is addressing, transportation of people and goods seem to be a domain that will dramatically benefit from intelligent automation. Such new technologies can also be efficiently applied to other application field such as unmanned vehicles, intelligent wheelchair, service robots, or more generally to human assistance. Technical contributions related to this area, such as autonomous outdoor vehicles, achievements, challenges and open questions will be presented and discussed. Four technical areas, with a focus to their instantiation to dynamic environments, will particularly be addressed: Motion planning, Multi-sensor perception - navigation, Vision based perception - Visual SLAM, SLAM - Localization - Reconstruction.
Time	Speakers and title of talk
9:00-10:30	Session I: Motion planning
9:00-9:30	Mihail Pivtoraiko and Alonzo Kelly (invited talk) Fast and Feasible Deliberative Motion Planner for Dynamic Environments
9:30-9:50	Luis Martinez-Gomez and Thierry Fraichard, Benchmarking Collision Avoidance Schemes for Dynamic Environments
9:50-10:10	Oren Gal and Zvi Shiller, Mapping Obstacles to Collision States for On-line Motion Planning in Dynamic Environments
10:10-10:30	Chiara Fulgenzi, Anne Spalanzani and Christian Laugier Probabilistic Rapidly-exploring Random Trees for autonomous navigation among moving pedestrians
10:30-10:50	Coffee break *1
10:50-12:50	Session II: Multi-sensor perception & navigation
10:50-11:20	Martin Rufli Luciano Spinello Roland Siegwart (invited talk) Multi-Sensor Perception and Dynamic Path Planning in City Environments
11:20-11:40	Hao LI, Ming YANG, Huijia QIAN Camera and Laser Radar Co-detection of Pedestrians
11:40-12:10	Anna Petrovskaya and Sebastian Thrun (invited talk) Model Based Vehicle Tracking in Urban Environments
12:10-12:30	Thomas Veit Connexity based fronto-parallel plane detection for stereovision obstacle segmentation
12:30-12:50	Ashley Tews

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	Safe and Dependable Operation of a Large Industrial Autonomous Forklift
12:50-14:00	Lunch Time *2
14:00-15:30	Session III: Vision based perception & Visual SLAM
14:00-14:30	Andrea Cherubini, Manuel Colafrancesco, Giuseppe Oriolo, Luigi Freda and François Chaumette (invited talk) Comparing appearance-based controllers for nonholonomic navigation from a visual memory
14:30-14:50	Jonathan Courbon, Youcef Mezouar, Laurent Eck and Philippe Martinet A generic framework for topological navigation of urban vehicle
14:50-15:10	Davide Migliore, Roberto Rigamonti, Daniele Marzorati, Matteo Matteucci, Domenico G. Sorrenti Use a Single Camera for Simultaneous Localization And Mapping with Mobile Object Tracking in dynamic environments
15:10-15:30	P.F. Alcantarilla, I. Parra, L.M. Bergasa Optimal Metric SLAM for Autonomous Navigation Assistance
15:30-15:50	Coffee break *1
15:50-17:50	Session IV: SLAM, Localization, Reconstruction
15:50-16:20	John Mullane, Martin Adams, Wijerupage Sardha Wijesoma (invited talk) Detection Likelihoods for Safer Occupancy Mapping
16:20-16:40	Alexandre N. Ndjeng, Dominique Gruyer, Alain Lambert, Sébastien Glaser, Benjamin Mourllion Experimental Comparison of Bayesian Outdoor Vehicle Localization Filters
16:40-17:00	Chenhao Wang, Zhencheng Hu, Tomoki Maeda, Naoko Hamada, and Keiichi Uchimura Predictive Lane Detection for Simultaneous Road Geometry Estimation and Vehicle Localization
17:00-17:30	Sukhan Lee, Hyunjun Kim, Zhaojin Lu, and Harry Hung (invited talk) Cognitive Localization of 3D Objects Symbolically Given Navigational Cues
17:30-17:50	Olivier Garcia-Favrot, Michel Parent Laser scanner based SLAM in real road and traffic environment

*1 Coffee break time can be assigned freely by each organizer, while it is available 10:00-11:0 and 15:00-16:00

*2 Lunch time can be assigned freely by each organizer