

Autonomous Navigation of Mobile Robots in Unknown and Dynamic Environments

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The talk will give a brief overview of recent research activities and achievements of his research group on autonomous mobile robots navigation. The emphasis will be given on our recently developed algorithms for real-time motion planning and control, active SLAM for complete model building as well as moving objects detection and tracking. Recent developments on autonomous navigation of aerial vehicles will be also briefly presented.

Ivan Petrović is a full professor at the Faculty of Electrical Engineering and Computing, University of Zagreb. He is the head of the Autonomous Mobile Robotics group and also the Head of the Centre of Research Excellence for Advanced Cooperative Systems (<http://across.fer.unizg.hr>). During more than thirty years of research work Prof. Petrovic addressed various aspects of automatic control theory and its application. In the last decade his research interest focus is set to advanced control and estimation techniques with their application in control and navigation of autonomous mobile robots and vehicles. He published more than 40 papers in scientific journals and more than 160 papers in proceedings of international conferences. Results of his research effort have been implemented in several industrial products. He has actively participated as a collaborator or principal investigator in more than thirty research and development projects. He has coordinated a major national robotics research program "Intelligent robotic systems and autonomous vehicles" and FP7 project "Centre of Research Excellence for Advanced Cooperative Systems" - ACROSS. He is an active member of national and international professional societies.