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2012 IEEE Intelligent Vehicles Symposium 3–7 June, Alcalá de Henares, Spain

The 2012 IEEE Intelligent Vehicles Symposium (IV'12), sponsored by the IEEE ITS Society, was held in Alcalá de Henares, Spain. The scope and application of intelligent vehicles technologies have dramatically evolved since the first IV conference celebrated in Tokyo, in 1990. Along the 22 years of history of IV conferences, the automobile has suffered an extraordinary metamorphosis from being the key element in road safety and autonomous driving to becoming the cornerstone in transport sustainability and energy efficient policies worldwide. Accordingly, Intelligent Vehicles have adapted their technological features in order to achieve full connectivity (vehicle-to-vehicle, vehicle-to-infrastructure, vehicle-to-road user), to become eco-friendly and, in a few words, to get socially and economically valuable and acceptable. In this rapidly changing and global scenario, the Intelligent Vehicles scientific and industrial community has demonstrated to be part of the solution. It is a privilege for

us to host the Intelligent Vehicles Symposium in Spain for the first time in the history of IV conferences, particularly now that Spanish industry is being revitalized by new developments in the automotive sector.



Miguel

The IV12 call for papers led to 300 submissions and 1 special session proposal. 194 submissions of these were selected for publication in a rigorous review process conducted by the Program Chair,

Meng Lu, and two Program Co-Chairs Matthew Barth and Ljubo Vlacic, supported by 44 members in the International Program Committee. On Sunday preceding the main symposium, six work-

shops were offered in a Workshops day organized by Rafael Toledo: 1) The First International Workshop on IPv6-based Vehicular Networks (Vehi6), organized by José Santa and Jong-Hyouk



IV'12 participants gathering for reception at the historical Paraninfo room.

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Electronic displays for presentations during poster sessions (left); keynote presentation (right).

Lee, 2) Workshop on Human Factors in Intelligent Vehicles, organized by Cristina Olaverri and Rosaldo Rossetti, 3) Workshop on Navigation, Perception, Accurate Positioning and Mapping for Intelligent Vehicles, organized by David Bétaille, Vicente Milanés, Jorge Vilagrà, Rafael Toledo-Moreo, Juan Nieto, Martin Adams and Eduardo Nebot, 4) Advances in Heavy Vehicle Safety, Energy Efficiency, and Controls, organized by Hocine Imine and Dongpu Cao, 5) Perception in Robotics, organized by Luis Miguel Bergasa, Rafael Barea and Manuel Ocaña, and 6) Ambient Intelligence for Tomorrow's Intelligent Transportation Systems, organized by Matthew Fullerton and Cristina Beltrán.

The main symposium is characterized by a single session format so that all attendees remain in a single room for multilateral communications in an informal atmosphere. The presentations included a Panel Discussion about "Autonomous Driving: current trends and future perspectives",

participated by Juhani Jääskeläinen, Chris Urmson, Ralf Herrtwich, Christoph Stiller and Alberto Broggi, and moderated by Miguel Ángel Sotelo. Keynote talks have been given on 'Realizing Self-driving Vehicles' by Chris Urmson; on 'Smart Cars for Safe Pedestrians' by Dariu Gavrila; and on 'Toward Environmental Sustainability in a Connected World' by Robert Bertini.

The social program led the participants through some historical sites of Alcalá de Henares. The reception was held in the Paraninfo room and Patio de Filósofos (Philosophers Patio). The banquet took place at Hotel El Parador, a reconstructed magnificent seventeenth-century building, the former Santo Tomás Dominican Convent and School. The symposium has been accompanied by an exhibition that displayed the latest devices, tools and technologies in intelligent vehicles. On-the-road demonstrations of latest vehicles from research and industry were a remarkable component of the symposium. The Demonstration Chair, Eugenio Naranjo, has

organized this event nearby Alcalá de Henares in INTA proving ground. Participants were able to experience perception, V2I communication, cooperative assistance functions, and autonomous driving in 8 vehicles. Sebastián Sánchez Prieto, María Teresa de Pedro, Luis Miguel Bergasa, Jonas Sjöber, Ming Yang, David Fernández Llorca, Miguel Ángel García Garrido and José María Armingol complete the IV'12 Organizing Committee. Without their generous contribution, the organization of this symposium would have been simply impossible.

339 participants from 31 countries led by Germany, Japan, France, USA, Spain, and China attended the main symposium. 143 attendees were present at the workshops, and 128 participants experienced the rides in demonstration vehicles. A Selection Committee composed of 5 international experts from academia and industry has presented best paper awards for the best oral contributions to Martin Liebner (First Prize) and Maximilian Muffert (Second Prize), the best PhD paper awards to Stephanie Lefevre (First Prize) and Michael Aeberhard (Second Prize), as well as the best poster contributions to Quan Tran (First Prize) and Feihu Zhang (Second Prize).

We hope IV12 provides the participants pleasant memories of the time spent in the historical city of Alcalá de Henares, cradle of Miguel de Cervantes, the greatest Spanish writer in history. More pictures from IV12 are available at the symposium website: <http://www.robosafe.es/iv2012>.

—Miguel Ángel Sotelo
General Chair
—Meng Lu
Program Chair
—Rafael Toledo
Workshop Chair
—Eugenio Naranjo
Demonstration Chair



Gathering of vehicles on the proving ground on the demonstration day.