



Papers Invited from the 12th International Conference on ITS Telecommunications, Taipei, Taiwan, November 5–8, 2012

On behalf of the organizing committee and on my own behalf as the General Chair of the 12th International Conference on ITS Telecommunications at Taipei, Taiwan on November 5–8, 2012 (ITST 2012), I would like to introduce ITST-2012 for you.

It is an exciting time for ITS technology as we continue to grow and adapt, motivated and responsively open to new ideas. ITST is an annual international conference. In the 12-year history of ITST events, this is the first time for the conference to be hosted in Taiwan. We take this opportunity to join our local and international volunteers working diligently making this conference a great success.

Taipei, the capital city of Taiwan, is home to a vast ICT industry and advanced transportation infrastructure. It is in this environment that ITST-2012 brings together researchers, developers, practitioners, and business executives from all over the world. This conference covered diverse topics in aspects of ITS Telecommunications, including Smart Vehicles, Intelligent Transportation, Telecommunications, Positioning and Green Technologies. We have 5

keynote speakers: William C.Y. Lee, Adam Drobot, Hanna Bogucka, Alberto Broggi and Michele Fiorini followed by our reception banquet at Taipei Spot on November 5, 2012. In the next 3 days, we have several panel discussions (e.g., International ITS Cooperation), special sessions (e.g., Maritime Navigation, High-Speed Rail Sessions), workshops (e.g., GNSS Workshop) and technical sessions conveying more than 170 technical paper presentations. It is wonderful for academics, business and government agencies to get involved and engaged with one another, so that we can share one another's various experiences. All of us provided our voice to be heard and simultaneously learn from one another.

From the 350 submissions to ITST-2012, 170 papers have been accepted and presented at ITST-2012. 5 papers out of the presented papers have been selected by the Technical Program Committee (TPC) and approved by the TPC Chair: Professor Hsiao-Chun Wu, working with Louisiana State University. These papers are now invited to extend and submit for review and for possibly being included in this magazine.

To fulfill my role as the general chair of ITST-2012, I would

now like to briefly introduce the 5 papers. The first paper is entitled "Channel Estimation Schemes for IEEE 802.11p Standard," which was authored by Z. Zhao, X. Cheng, M. Wen, C.-X. Wang and B. Jiao. The second paper is entitled "Dealing with Packet Delay Variation in IEEE 1588 Synchronization Using a Sample-Mode Filter," and it was authored by M. Anyaegbu, C.-X. Wang and W. Berrie. The third paper is entitled "Distributed Congestion Control Approaches for the IEEE 802.11p Vehicular Network," which was authored by X. Shen, X. Cheng, R. Zhang, Y. Yang and B. Jiao. The fourth paper is entitled "Vehicular Delay-Tolerant Networks—A Novel Solution for Vehicular Communications," and it was authored by J. Isento, J. Rodrigues, J. Dias, M. Paula, A. Vinel. The fifth paper is entitled "Multi-Layer Approach to Future Green Mobile Communications," which was authored by H. Bogucka and O. Holland.

In conclusion, ITST-2012 recommends the above 5 papers that cover a wide range of topics in the broad area of ITS Telecommunications. We hope that these papers stimulate new research directions and solutions that can lead to both theoretical insight and practical applications.

We thank all contributors who submitted manuscripts to ITST-2012, as well as all the reviewers for their thoughtful and timely reviews. We also thank the IET ITS for giving us the opportunity to invite these papers for possible inclusion in this prestigious journal.

Jia-Chin Lin
Ph.D., SMIEEE, FIET
Distinguished Professor
and Chairman
Department of Communication
Engineering,
National Central University,
Taiwan.

E-mail: jiachin@ieee.org
URL: <http://www.ce.ncu.edu.tw/~jiachin>
TEL: 886-3-422-7151
x 35501, 35514
FAX: 886-3-422-9187



Yinhai Wang, Javier Sanchez-Medina, and Guohui Zhang

15th IEEE Intelligent Transportation Systems Conference (ITSC 2012) Papers

This special issue of the *IEEE Intelligent Transportation Systems Magazine* contains the full versions of five carefully selected papers from those 438 papers presented at the 15th IEEE International Conference on Intelligent Transportation Systems (ITSC 2012), held in Anchorage, Alaska, September 16–19, 2012. The idea of this special issue was conceived at the planning stage of ITSC 2012. During the conference, the arrangement for this special issue was finalized and the Guest Editors appointed. ITSC 2012 attracted 438 submissions from 44 countries or regions. After a rigorous review process, a total of 318 papers were included in the final technical program for presentations and publications in the conference proceedings. Right after the conference, 12 papers were selected for expansion and possible inclusion in this special issue based on conference review ratings as well as the authors' presentation performances. Professors Yin Hai Wang, Javier Sanchez-Medina,

and Guohui Zhang then invited the authors of these papers to submit full versions of manuscripts for review and possible publication in the *IEEE Intelligent Transportation Systems Magazine*. Ten journal manuscripts were received on time. The manuscripts were divided among the three Guest Editors who in turn appointed referees and handled the review and re-review processes independently. The paper review criteria strictly followed the procedures and standards set forth by IEEE and the Editor-in-Chief of this journal. At the end, the Guest Editors discussed and unanimously decided to include five manuscripts in this special issue. The rest were either rejected, recommended for further revisions, or awaiting review outcome for possible inclusion in future issues of the *IEEE Intelligent Transportation Systems Magazine*.

The five papers included in this special issue deal with various ITS technology development and application issues. The first paper, "A Novel Evaluation Methodology for Combined Performance of Warning and Braking in Crash Immi-

nent Braking Systems" by Chien, Li, and Chen, presents a systematic methodology for evaluation of Crash Imminent Braking (CIB) systems. CIB systems have been equipped in high-end passenger vehicles by many auto manufactures but the features and performance of these CIB systems differ significantly. In this study, a comprehensive method is developed to comprehensively evaluate and compare the performance differences in these CIB systems. The second paper, "Safety Verification of Automated Driving Systems" by Kianfar, Falcone, and Fredriksson, demonstrates an innovative approach for safety verification and performance analysis of an automated system. In this study, reachability analysis technique is used to investigate the minimum required safe inter-vehicle distance for two adaptive cruise controllers. The results indicate that a shorter inter-vehicle distance can be achieved when a feedforward term is used in the controller. The third paper, "Stationary Detection of the Pedestrian's Intention at Intersections" by Koehler, Goldhammer, Bauer, Zeche, Doll, Brunsmann, and Dietmayer, focuses on stationary