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The IEEE ITS Society Newsletter is published quarterly the first Wednesday of January, April, July, and October, reaching more than 17000 subscribers. You can download any issue for free, here: http://its.ieee.org

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You can also UNSUBSCRIBE here:
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**SEND YOUR CONTRIBUTIONS**

**Information for Contributors**

Announcements, feature articles, book and meetings reviews, opinions, letters to the editor, professional activities, Abstracts of reports, and other material of interest to the ITS community are solicited. Please submit electronic material for consideration in any of the following formats: Microsoft Word, OpenOffice, plain ASCII, rich text format (rtf), or portable document format (pdf) to the Editor-in-Chief at kamijo@iis.u-tokyo.ac.jp. You can also use this Google form: http://goo.gl/forms/xpgl8WLt9F

**SOCIETY NEWS**

**From the Editor**
Shunsuke Kamijo

Dear readers, Happy new year. we have the first issue of 2019 fully loaded with interesting information.

President of our society gives us the message “Increasing Impact of the ITSS” in this issue. We have an introduction for ITS Society Educational Activities. In addition, we include the society news and conference reports of IV2018 and ITSC2018 in this issue.

We have a number of CFPs for IV, ITSC, and other ITS related conferences coming in 2019. This issue also publishes the list of the forthcoming papers in Transaction on IV and ITS Magazine.
Increasing Impact of the ITSS

Dear colleagues,

Let me offer once more my warmest welcome to all our readers and followers. On this occasion, I write my message just after the IEEE Intelligent Transportation Systems Conference (ITSC) 2018, the annual flagship conference of the IEEE ITS society, held in beautiful Maui. On behalf of our society, I would like to sincerely congratulate the ITSC 2018 organizing team for their great endeavors in putting together such a magnificent conference, including a sound and exciting technical and social program. Big thanks to organizers, sponsors, authors, reviewers, attendees, and volunteers for making ITSC 2018 a successful reality. A special recognition goes to Prof. Wei-Bin Zhang, General Chair of ITSC2018.

As many of you probably know, in 2018 we have celebrated the 25th Anniversary of the ITS Society, originally initiated as an IEEE Committee in 1993, led by Chip White, its first Chair. The Committee on Intelligent Transportation Systems became a Council in 2000, being Umit Ozguner the key player of the transition as the last Chair of the Committee and the first President of the Council. We had to wait then until 2005 to see the Council become an IEEE Society, the IEEE Intelligent Transportation Systems Society, in a transition that was commanded by Charles Herget. Along this journey, many dedicated individuals of the early IEEE ITS committee made substantial contributions to set up the foundations for our ITS Society. Lyle Saxton (2014 IEEE ITSS Lifetime achievement awardee) played a leadership role within USDOT in fostering the national programs of intelligent Transportation Systems and participated in the early IEEE ITS initiatives. Rye Case started the ball rolling to set the stage for the ITS council. Charles Herget was the major force in initiating our efforts to publish a Transactions. Emily Sopensky, Bob French, Dan Dailey, Richard Klafter, Toshi Fukuda, Chip White, Ichiro Masaki have all contributed one way or the other to the founding of the ITS Society. Since the very beginning, the ITS Society started a series of periodicals and conferences, such as ITSC, that today are world-class references in the field of Intelligent Transportation. In this regard, we have organized some special celebrations and events in the framework of ITSC 2018, where we had the pleasure of welcoming most of the past Chairs and Presidents of the ITS Committee, Council and Society to discuss about the past, present and future of ITS and the IEEE ITS society. Needless to say that our discussions make me believe that the ITSS is in really good shape and our global impact does not cease to grow.
On a different topic, the ITSS is making important moves regarding their role and involvement in ITS-related standards. As a matter of fact, in the past meeting of the ITSS Board of Governors, a new Vice-President position for Standardization and Connection with Industry has been created, being Dr. Nobuyuki Ozaki, from Toshiba, the recently elected VP that will take care of this position in the next two years. We welcome Nobuyuki and wish him the best in his future endeavors in a field that has become a high priority for the ITS society. In the same meeting, Prof. Wei-Bin Zhang, from UC Berkeley, was elected President-Elect of the ITSS, for the period 2020-2021. My sincere congratulations to Prof. Zhang as well as my best wishes for his coming term as President of our society.

As usual, I want to thank all of you for your support and contributions to the ITSS. A society becomes big only if their members are big. You are the cornerstones of our society, by means of your continuous research, publications and activities. Let’s continue to work together.

Sincerely,

Miguel Ángel Sotelo
President. IEEE Intelligent Transportation Systems Society
Educational Activities ITSS
https://edu-ieee-itss.org

Enroll now!

ITSS Courses
- Introduction to Intelligent Transportation Systems
- Introduction to Vehicular Robotic Modeling with V-REP
- Short Course in Predictive Analytics in ITS
- Autonomous Vehicles, Platooning and Traffic Flow Control for Connected Vehicles
- A primer on security and privacy in vehicular ad-hoc networks

ITSS Summer Schools
- IEEE ITSS Summer School on Cooperative Interactive Vehicles (Sep 2018)
- IEEE ITSS Summer School on Cooperative Interacting Automobiles (Sep 2017)
- IEEE ITSS Summer School - Qingdao, China (Jul 2016)

ITSS Keynotes
- IEEE ICVES 2018
- IEEE ICVES 2017

NEW Job Offers section!
ITS Society News

Our little community continues to grow! We again set a new membership record this year with over 1850 members. Both IV2018 in Changshu, China and ITSC2018 in Maui, Hawaii had record numbers of submissions and attendance. We expect that trend to continue as we travel to Paris, France for IV2019 from June 9-12 and then to Auckland New Zealand for ITSC2019 from October 27-30. Please consider hosting a conference to help expand the reach of the ITS Society. Don’t worry if you aren’t ready to host a flagship yet, there are plenty of smaller, more focused ITSS sponsored meetings where you can be involved. Reach out to somebody from the ITS Society or send an email to brendan.morris@unlv.edu for more information.

If you have not done so already, do not forget to renew your ITS Society membership. We need you to continue growing and innovating.

http://www.ieee.org/go/renew

Board of Governors Elections

Let your voice be heard and help influence the direction of the society by being sure to vote for the 2019 Board of Governors (BoG) class. BoG members are elected by you the ITSS members to serve for a three-year term and consist of many well-known researchers from academia and industry.

You have until 17 January 2019 to vote. You should have received an email from ieee-itssvote@ieee.org with instructions or you can login directly at:

https://eballot4.votenet.com/IEEE

Awards and Recognition

Our Annual ITS Society Awards were presented at ITSC2018 in Hawaii. Along with our traditional awards, we presented the inaugural Young Researcher award to recognize early career contributions in ITS.

IEEE ITS Outstanding Application Award
TRAMAN21 (TU Crete)

IEEE ITS Young Researcher Award
David Fernández Llorca (Univ. of Alcalá)

IEEE ITSS Lifetime Achievement Award
Pravin Varaiya (Univ. of Ca., Berkeley)

IEEE ITSS Best Ph.D. Dissertation Award – 1st
Anahita Jamshidnejad (TU Delft)

IEEE ITSS Best Ph.D. Dissertation Award – 2nd
Maria Kontorinaki (TU Crete)

IEEE ITSS Best Ph.D. Dissertation Award – 3rd
Nikola Bešinović (TU Delft)
2019 will bring some significant changes to the Society. Wei-Bin Zhang (UC Berkeley) will become the President-Elect. His election resulted in Prof. Petros Ioannou (USC) as the Interim VP for Publications of the ITSS and Prof. Azim Eskandarian (Virginia Tech) taking over responsibilities as Editor-in-Chief for the Transactions on ITS.

Stay Involved
As we start a new year, I want to encourage our readers to stay involved with the Society. This community is for all of us, run by volunteers, and we need your help to continue growing and improving. Take part in local Chapter activities or help start a new Chapter in your area. Get involved in Technical Activities Sub-Committees to ensure high quality content in our publications. The Technical Committees help directly influence the content in our meetings and are critical for keeping the community current and relevant in our quickly moving area. To have more direct impact on the Society activities, consider running for the BoG next November or volunteer to serve on a committee. There is always more work that can be done so we need your help.

http://www.ieee.org/go/renew
The 2018 IEEE Intelligent Vehicles Symposium (IV 2018) was held from June 26-30 at Changshu, Jiangsu, China. The conference venue was Changshu International Hotel. It was a high quality conference and brought together researchers and practitioners worldwide to share and discuss the latest advances related to intelligent vehicles.

IV 2018 has attracted a record number of 603 submissions. Following a rigorous peer review process, a total of 346 papers were accepted, among which there are 276 contributed papers, 20 special session papers, and 50 workshop papers. In particular, 33 papers (~5%) with outstanding reviews were invited as oral presentations, while others were scheduled as poster presentations. The submitted papers, based on the author-provided keywords, covered a wide range of research areas including: Automated Vehicles (96), Vision Sensing and Perception (54), Autonomous/Intelligent Robotic Vehicles (43), Self-Driving Vehicles (38), Mapping and Localization (36), Advanced Driver Assistance System (34), among others.

IV 2018 was truly an international event, with submissions coming from 34 countries. China led with the largest number of submissions (259), followed by Germany (84), the United States (64), Japan (33), France (25), among others.
IV 2018 featured a five-day technical program. It kept the traditional single track format of IV series and the sessions were organized by research topics in 69 sessions. 19 workshops and 1 tutorial session were organized on the first day, followed by a 3-day main conference including 9 special sessions, and the on-road autonomous driving demonstration was performed at the Chinese flagship Intelligent Vehicle Proving Center (iVPC) on June 30, 2018.
The technical program featured six keynote speakers. The distinguished keynote speakers included:

Prof. Xin Xu from National University of Defense Technology, China, introduced “Autonomous Learning for Decision-making and Control of Intelligent Vehicles”;

Dr. Long Chen, Co-Founder and CEO of Vehicle Intelligence Pioneers Incorporation, China, talked about “Parallel Driving: Framework, Theoretical Development, and Applications”;

Mr. Jack Weast from Intel Corporation, USA, presented “An Open, Transparent, Industry-driving Approach to AV Safety”;

Dr. Gill Pratt from Toyota Research Institute, USA, talked about “The Multiple Motivations, Approaches, and Benefits of Automated Driving Technology for China and the World”;

Mr. Xiaodong Zhang from Geely Research Institute, China, presented “Research and Technology Innovation of Intelligent Electrified Passenger Vehicles: Geely’s Strategy and Vision;”

Prof. Ljubo Vlacic from Griffith University’s Institute for Integrated and Intelligent Systems, Australia, talked about “Are You Ready to Take Over?” and shared his views on contemporary solution developments for some controversies related to intelligent vehicles.
The International Parallel Driving Alliance (iPDA) was established on July 27th, 2018, which aims at devoting synergized efforts to address the challenges in the research and development of Cyber-Physical-Social Systems-based parallel driving. iPDA currently has 24 members from 18 universities/companies, which will timely communicate the latest research outcomes related to parallel driving, share non-confidential testing data for research purposes, and jointly develop a common research platform of parallel driving.

On the last day of the conference, IEEE IV 2018 on road demonstration: “From Parallel Driving to Smart Mobility” was held at the Intelligent Vehicle Proving Center (iVPC), Changshu, Jiangsu, China. The demo has attracted 200+ attendees from 16 countries. Demonstrations were given for four scenarios: 1) Service-oriented handover in general traffic scenarios; 2) Responsibility-sensitive takeover in emergent traffic scenarios; 3) Active obstacle recognition and collision avoidance; and 4) Real-time monitoring of on-duty driver’s states. The parallel driving framework is embodied by the Parallel Driving 3.1 System. The parallel driving control platform can manage multiple unmanned vehicles to make sure they can drive safely and smoothly on road.
At last, we would like to thank the sponsors and exhibitors for this conference: IEEE ITS Society, Chinese Association of Automation, Changshu Metropolitan government, and our industrial sponsors, which altogether make IV 2018 a very successful event. We would also like to thank our authors, reviewers, associated editors, international program committee members, and all who have contributed to IV 2018.

**General Chair**
Fei-Yue Wang
Institute of Automation,
Chinese Academy of Sciences

**General Co-Chair**
Petros A. Ioannou
University of Southern California, USA

**General Co-Chair**
Miguel Ángel Sotelo
University of Alcalá, Spain
Highlights from the 2018 IEEE Intelligent Transportation Systems Conference (ITSC-2018)

The IEEE Intelligent Transportation Systems Conference (ITSC-2018) was held from November 4 – 7, 2018 in Maui, one of Hawaii’s most beautiful islands. In this striking setting, ITSC-2018 consisted of a comprehensive program, including three insightful keynote addresses, 17 workshops and tutorials on hot-topics of ITS, 18 sessions on specialized ITS topics, and 38 technical sessions across all areas of intelligent transportation systems. We also had our second ITS Data Mining Hackathon, a friendly competition among our students that is growing every year. This conference provided a broad insight on not only the state-of-the-art on ITS research, but also on the future where ITS is going.

PROGRAM:

The program for the main conference consisted of a dozen parallel sessions over three days, covering a wide range of ITS areas. For the first time, we held an “ITS History” session where we took a look back to how ITS and our society evolved, also touching on what lies ahead. Also for the first time, the IEEE ITS society set up a jointly organized symposium with the Institute of Transportation Engineers (ITE), discussing the opportunities and challenges in deploying advanced ITS technologies.
Over 1,100 papers were received by the conference organization committee. Through a thorough evaluation by 245 members of the technical program committee, 608 papers were selected. Each paper had approximately 3.5 reviews on average, made possible by well over 1,000 reviewers. The contributed papers covered all aspects of intelligent transportation systems, including vehicle environment perception, advanced traffic management systems, sensing signal and image processing, vehicle data and information fusion, active and passive safety systems, V2X communications, ITS energy impacts, shared mobility systems, advanced vehicle control, driver assistance systems, and automated vehicles.

ITSC-2018 conference participants came from around the world, representing 38 countries. Our authors came from the USA (150), Germany (132), China (87), Japan (41), France (27), United Kingdom (18), Sweden (17), Italy (16), Singapore (15), Canada (14), Spain (14), plus many other countries. This was truly an international event!

**KEYNOTES, WORKSHOPS, AND BANQUET:**

Our technical program was highlighted with three distinguished keynote speakers. Dr. Jeff Schneider joined us from Uber’s Advanced Technologies Group, discussing how self-driving cars will transform our cities and lives. Mr. David Anderson from the U.S. Department of Energy’s Vehicle Technologies Office, gave us an update on the Energy Efficient Mobility Systems research within the US DoE. Finally, Professor Arnaud de La Fortelle from MINES ParisTech discussed the globalization and localization challenges of Cooperative-ITS.

*ITSC-2018 Keynotes: (Jeff Schneider, David Anderson, Arnaud de La Fortelle)*

In addition to the keynotes, ITSC-2018 also had 11 workshops and 6 tutorials, which were organized during the day before the conference regular program. The workshop topics covered a wide range of issues associated with intelligent transportation systems. Detailed information is available at [www.ieee-itsc2018.org](http://www.ieee-itsc2018.org).

*Finally, the ITSC-2018 Banquet was quite spectacular: everybody enjoyed a full-blown luau featuring a variety of native Hawaiian dishes, and the entertainment was spectacular, consisting of hula dancing, music, and more.*
**ITSC-2018 AWARDS:**

During the opening plenary session, several ITSC-2018 and IEEE ITS Society awards were presented. For ITSC-2018, we had:

**Best Overall Paper Awards:**

*First Place:* Holger Banzhaf, Maxim Dolgov, Jan Erik Stellet, J. Marius Zöllner, from Robert Bosch GmbH/Karlsruhe Institute of Technology: “From Footprints to Beliefprints: Motion Planning under Uncertainty for Maneuvering Automated Vehicles in Dense Scenarios”.

*Second Place:* Dennis Ludl, Thomas Gulde, Salma Maath Ahmad Thalji, Cristobal Curio from Reutlingen University: “Using Simulation to Improve Human Pose Estimation for Corner Cases”.

**Best Student Paper Awards:**

*First Place:* Mauro Salazar, Federico Rossi, Maximilian Schiffer, Christopher Harald Onder, Marco Pavone, from ETH Zürich, Stanford University, and RWTH Aachen University: “On the Interaction between Autonomous Mobility-On-Demand and Public Transportation Systems”.

*Second Place:* Zhuo Xu, Chen Tang, Masayoshi Tomizuka, from the University of California Berkeley: “Zero-Shot Deep Reinforcement Learning Driving Policy Transfer for Autonomous Vehicles Based on Robust Control”.

**Graduate Student Fellowship and Essay Competition:**

A new initiative for 2018 was to support graduate students travel coming to ITSC-2018, through an essay contest that addressed “Your Dreams and Futuristic Vision of Transportation Systems”. The winners are:

*First Prize Winner:* Bing Xu, from Xi'an Jiaotong University - Liverpool University, P.R. China: “Modular Integrated Transport Network”

*Co-Second-Prize Winner:* Milos Balac, from ETH Zürich, Switzerland: “Shaping the Future through Connectivity”.

*Co-Second-Prize Winner:* Ahmed Hussein, from Universidad Carlos III de Madrid, Spain: “Driving Licenses for Automated Vehicles”.


ITSC-2018 Graduate Student Fellowship Winners: (Xu, Balac, Hussein)

Second Intelligent Transportation Systems Data Mining Hackathon:

First Place: Hien Dang, Technical University Darmstadt.

Second Place: Chao Wang, University of California-Riverside.

IEEE ITS SOCIETY AWARDS:

Every year, the IEEE Society gives out a variety of annual awards. For 2018, we had:
Best Intelligent Transportation Systems Society Technical Committee:

Technical Committee on Human Factors on ITS, chaired by Cristina Olaverri-Monreal

IEEE ITSS Best Dissertation Awards:

First Prize: Anahita Jamshidnejad, from Delft University of Technology: “Efficient Predictive Model-based And Fuzzy Control for Green Urban Mobility”.

Second Prize: Maria Kontorinaki, from the Technical University of Crete: “Advanced Nonlinear Control Concepts for Freeway Traffic Networks”.

Third Prize: Nikola Bešinović, from Delft University of Technology: “Integrated Capacity Assessment and Timetabling Models for Dense Railway Networks”.

IEEE ITSS Outstanding Application Award:

TRAMAN21: Contributions to Traffic Management in the Era of Connected Automated Vehicles (CAVs), from Markos Papageorgiou and Team at the Technical University of Crete

IEEE ITSS Young Researcher Award:

David Fernández Llorca from University of Alcalá, for his Contributions and Leadership in Research and Application in ITS.

IEEE ITSS Lifetime Achievement Award:

Pravin Varaiya, from the University of California-Berkeley, for his Pioneering Work in Sensing and Controls in Intelligent Transportation Systems.

IEEE ITSS Lifetime Achievement Award: (Pravin Varaiya, left)
ACKNOWLEDGMENTS:

We gratefully acknowledge the multitude of colleagues who served as associate editors and reviewers for their review and evaluation of the contributed papers. We would like to thank the conference program committee who put in significant hours in setting up ITSC-2018. We would also like to thank the authors who contributed quality papers to the conference, along with the workshop and tutorial organizers and speakers. Our deep appreciation also goes to the volunteers helping during the conference and resolved issues to ensure the smoothness of the conference. Last but not least, we would like to thank our sponsors for the event, including Mercedes-Benz Research and Development North America, Inc., the Institute of Transportation Studies at UC Berkeley, the Institute of Transportation Engineers, Intel, the IEEE Future Networks Committee, and Sidra Solutions.

With everyone involved, ITSC-2018 was a very high quality and most interactive conference, providing the participants with an opportunity to extend their knowledge, their networking and their ideas with many fruitful discussions.

Co-Conference Chair  
Wei-Bin Zhang  
University of California-Berkeley

Co-Conference Chair  
Alexandre Bayen  
University of California-Berkeley

Co-Program Chair  
Javier Sanchez-Medina  
La Universidad de Las Palmas de Gran Canaria

Co-Program Chair  
Matthew Barth  
University of California-Riverside
ITS Podcast New Episodes and Information

Please, circulate this!

**ITS Podcast Episode 50:** Looking back at 2018, Electric vehicles

Happy holidays dear listeners, I hope you had a great year behind you and are fully ready to start 2019.

We have our news mini-section as a routine. Prof. Haluk Eren has reviewed a book about Electric Vehicles Business model and in addition he has chosen an outstanding PhD thesis to review, it’s about Development of a Methodology for the Evaluation of Active Safety using the Example of Preventive Pedestrian Protection.

*Dear Listeners, either you are a researcher in Intelligent transportation field or are just interested, don’t hesitate to contact us, we are recruiting volunteers and your help will be highly appreciated. Contact us on our email at: itsspodcast@gmail.com Or just simply message us on any of our social media.*

This podcast is sponsored by IEEE intelligent transportation system society.
Call for papers

Scope
The 2019 IEEE Intelligent Vehicles Symposium (IV'19) is a premier annual technical forum sponsored by the IEEE Intelligent Transportation Systems Society (ITSS). It brings together researchers and practitioners from universities, industry, and government agencies worldwide to share and discuss the latest advances in theory and technology related to intelligent vehicles. Papers concerning all aspects of intelligent vehicles as well as proposals for workshops and special sessions are invited for IV'19. Additionally, related technical Demonstrations and Exhibitions are welcome.

Committees
General Chair
Prof. Arnaud de La Fortelle,
MINES ParisTech, France

Program Chair
Prof. Brendan Morris,
University of Nevada, Las Vegas, USA

Program Co-Chair
Prof. Cristina Olaverri-Monreal,
Johannes Kepler Universität, Linz Austria
Prof. Fernando Garcia,
Universidad Carlos III de Madrid, Spain

Workshops Chairs
Prof. Jonas Sjöberg,
Chalmers University, Sweden
Prof. Jack Hadad,
Technion, Israel

Topics
Authors are invited to submit papers that fall into the area of intelligent vehicles. The topics of interest include but are not limited to the following.

- Advanced driver assistance systems
- Advanced sensing and recognition
- Artificial intelligence
- Automated vehicles
- Connected vehicles
- Cognition and Control
- Driver monitoring
- Human factors
- Intelligent electrified vehicles
- Navigation and localization systems
- Policies and regulations for intelligent vehicles
- Vehicle dynamics and control
- Vehicle hardware/software systems
- Vehicle on-board diagnostics
- Vehicular signal processing

Paper submission
Prospective authors are required to submit their manuscripts electrically through the conference website: http://iv2019.org/. All presented papers will be published by the IEEE and the conference proceedings will be submitted to the IEEE Xplore® digital library.

High quality papers will be recommended for consideration for special issues in the IEEE Intelligent Transportation Systems Magazine and/or IEEE Transactions on Intelligent Vehicles. Authors will be asked to revise their papers according to the journal standards, which are subject to the journal review process.

Important Dates
Submission Deadline
January 31, 2019
Full-paper submission
No extension will be granted

Notification Deadline
April 5, 2019

Camera-ready Deadline
April 26, 2019

More information:
http://iv2019.org/call-for-paper

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Website
http://iv2019.org/
Email
contact@iv2019.org

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Intelligent Vehicles Symposium 2019 – Paris

Call for workshop papers

The call for workshops proposals is now completed!

The day before IEEE IV symposium takes off, there will be workshops and tutorials given on Sunday the 9th of June.

All workshops invites contributions. Please, see call for papers at each individual workshop. The workshop papers are reviewed under the same procedure as the symposium papers and they will also be published in the proceeding together with the conference papers.

Each workshop is like a small individual conference, they have individual organizers and the set up will be different for each one. They target sub-topics of the symposium topics, however, how narrow and deep they are varies between them, please, see their individual web pages for more information, and to decide to which workshop your submission fits best.

Check the list of accepted workshops over here:

http://iv2019.org/workshops-call-for-papers

Important Dates

Feb 7, 2019
Full-paper submission

April 5, 2019
Notification of acceptance
The 2019 annual flagship conference of the IEEE Intelligent Transportation Systems Society will be held in Auckland, New Zealand. This conference welcomes papers and presentations in the field of Intelligent Transportation Systems, dealing with new developments in theory, analysis, simulation and modelling, experimentation, demonstration, case studies, field operational tests and deployments. ITSC 2019 particularly invites and encourages prospective authors to share their work, findings, perspectives and developments as related to implementation and deployment of advanced ITS applications.

Original contributions and workshop proposals are solicited in all areas pertinent to Intelligent Transportation Systems. All presented papers will be published by the IEEE and included in IEEE Xplore.

**Important Dates**

- Special Session Proposals: 31 Jan 2019
- Special Session Papers: 31 March 2019
- Regular Papers: 31 March 2019
- Workshop & Tutorial Proposals: 31 March 2019
- Panel Session Proposals: 30 April 2019
- Acceptance Notification (all types): 30 June 2019
- Early Bird Registration: 10 July 2019
- Final Paper Submission (all types): 15 July 2019
- Workshops & Tutorials: 27 October 2019
- Conference: 28 – 30 October 2019

**Journal and magazine publication of selected papers**

Selected papers of exceptional quality will be invited for submission to special issues of the IEEE Transactions on ITS, or the IEEE Transactions on Intelligent Vehicles or the IEEE ITS Magazine. Authors will be asked to revise their papers in line with the IEEE Publication Policy.
Topics - The technical areas include but are not limited to:

- Air, Road, Rail and Waterways Transportation Network and Systems
- Big Data and Naturalistic Datasets
- Co-operative Intelligent Transportation Systems (C-ITS)
- Deep Learning
- Emergency Management
- Field Trials, Tests and Deployment
- Fleet Management
- Human Factors and Travel Behaviour
- Intelligent Vehicles
- Interconnected Vehicles and Transportation Systems
- Interoperable Multi-modal Transportation Networks and Systems
- Logistics
- Modelling, Control and Simulation Algorithms and Techniques
- Management of Exceptional Events: Incidents and Evacuation
- Multimodal Transportation Networks and Systems
- Products & Services
- Security, Privacy and Safety Systems
- Sensors, Detectors and Actuators
- Smart Mobility
- Traffic Control and Management

**LEADERSHIP TEAM**

**Advisors to general chair**
- Christoph Stiller, Germany
- Matthew Barth, USA
- Miguel Angel Sotelo, Spain
- Petros Ioannou, USA
- Wei-Bin Zhang, USA

**General chair**
- Ljubo Vlacic, Australia

**Program Co-chairs**
- David Fernández Llorca, Spain
- Seung-Hyun Kong, South Korea
- Jorge Villagrá, Spain

**Treasurer**
- Petros Ioannou, USA

**Special Sessions Chair**
- Cristina Olaverri Monreal, Austria

**Publication Co-Chairs**
- Qiaobo Qu, Sweden
- Wei Liu, Australia

**Local Chair**
- Prakash Ranjitkar, New Zealand

**Workshops & Tutorials Co-Chairs**
- Eduardo Nebot, Australia
- Joshué Perez, Spain

**Registration Co-Chairs**
- Fernando Garcia Fernandez, Spain
- Ahmed Hussein, Spain
Call for Participants: 
IEEE ITSS Young Professionals 
Travelling Fellowship Program 2019

Young Professionals Travelling Fellowship Program 2019

Institute of Electrical and Electronics Engineers (IEEE) Intelligent Transportation Systems Society (ITSS) will organise a Travelling Fellowship Program in 2019 for Young Professionals (under 35 years old). Candidates can send applications (maximum two A4) by May 30, 2019, by proposing potential ITS products and/or mobility services based on novel algorithms or new solutions. Selected Young Professionals, who should be IEEE ITSS member before June 2019, will be invited to attend the IEEE Intelligent Transportation Systems Conference (ITSC) on 27-30 October 2019 in Auckland, New Zealand, including a special networking event with industry partners. Travel costs and conference registration fee will be reimbursed by IEEE ITSS. We look forward to meet you at IEEE ITSC 2019 in New Zealand.

Join IEEE ITSS before June 2019!
http://its.ieee.org/membership

Become a IEEE ITSS Young Professionals Travelling Fellow 2019!

Win a Travelling Fellowship prize and attend IEEE / ITSC 2019 on 27-30 October 2019 in Auckland, New Zealand!

Join IEEE ITSS before June 2019!

Important dates
- May 30, 2019 proposal submission deadline
- June 20, 2019 announcement of 2019 Travelling Fellows
- Attendance of IEEE ITSC 2019 Auckland, New Zealand

Organiser contact and submission details:
Dr. Meng Lu
VP Conference Activities, IEEE Intelligent Transportation Systems Society
Email <wklm@xs4all.nl>
M. +31 6 4505 4735

Submit a proposal by May 30, 2019 to compete for participation in the 2019 Young Professionals Travelling Fellowship Program of IEEE / ITSS
Call for Papers
The 5th International Conference on Transportation Information and Safety (ICTIS 2019)

14 - 17 July 2019 | Liverpool Marriott Hotel City Centre

Conference Spotlight Theme: Sustainable, Smart and Safe Transport

Sponsored by:
China Communications and Transportation Association
American Society of Civil Engineers
Canadian Society for Civil Engineering
IEEE Intelligent Transportation Systems Society

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National Engineering Research Center for Water Transport Safety, MOST (China)
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ABOUT ICTIS

International Conference on Transportation Information and Safety (ICTIS) was initiated and sponsored by China Communications and Transportation Association (CCTA), American Society of Civil Engineers (ASCE) and Canadian Society for Civil Engineering (CSCE) in 2011 and aims at improving the efficiency, safety, reliability and environment friendly of transport systems. ICTIS is held every two years by Wuhan University of Technology (WUT) and has been successfully held in 2011, 2013, 2015 in Wuhan, China and in 2017 in Banff, Canada, respectively. More information about the history of ICTIS can be found at http://ictis.whut.edu.cn/. Over the last four conferences, their proceedings have accepted 1054 papers, and all of the accepted papers have been published and indexed by EI. Excellent papers have been published or recommended for publication in International Journals: Journal of Civil Engineering, Journal of Transportation Engineering, etc. The ICTIS conferences have inspired many interesting research exchanges and discussions and more and more universities and organizations working in the fields of road, waterway, railway and air transportation and related disciplines are joining the conferences of ICTIS.

The forthcoming 5th ICTIS will be held during July 14-17, 2019, Liverpool, UK. For more details about ICTIS 2019 conference, please visit the ICTIS 2019 website at http://ictis.whut.edu.cn/. Please contact ICTIS 2019 secretary by Email: ictis@whut.edu.cn if you have any suggestions or questions.

PAPER SUBMISSION AND REVIEW

The working language of the conference is English. Authors are invited to submit abstracts and full papers in English (https://cmt3.research.microsoft.com/ICTIS2019). Submitted abstracts should not exceed 300 words. The length of paper is 6-8 pages, and must be written strictly in accordance with the format of IEEE (The template can be downloaded from https://www.ieee.org/content/dam/ieee-org/ieee/web/org/conferences/Conference-template-A4.doc). The authors must ensure the submitted abstracts and papers are original and unpublished. Plagiarisms and intellectual property disputes will not be tolerated in ICTIS 2019. Submitted abstracts and full papers will be reviewed by experts in the relevant fields.

PAPER PUBLICATION

The accepted papers will be published by the Institute of Electrical and Electronics Engineers (IEEE) and will be indexed by Engineering Index (EI). Furthermore, selected papers from this conference will be recommended for publishing in SCI or SSCI Journals such as Canadian Journal of Civil Engineering, Journal of Transportation Engineering.

IMPORTANT DATES

Deadline for Submission of Abstracts (Extended) November 1, 2018
Notification of Accepted Abstracts November 30, 2018
Deadline for Submission of Full Papers January 15, 2019
Notification of Accepted Full Papers March 15, 2019
Deadline for Submission of the Revised Version April 30, 2019
Conference July 14-17, 2019
CONFERENCES SESSIONS
ICTIS 2019 will facilitate in-depth discussions about infrastructure, data collection, processing and applications of technologies and at the same time, promote exchanges related to the theory, analyzing methods and risk preventive measures for Sustainable, Smart and Safe Transport.

- **Intelligent Transportation Systems (ITS)**
  Session Chair: **Dr. YUAN, Quan**, Associate Professor, Tsinghua University, China.

- **Autonomous and Connected Vehicles**
  Session Chair: **Dr. TIAN, Daxin**, Professor, Beihang University, China.

- **Autonomous Surface Ships**
  Session Chair: **Dr. LIU, Jialun**, Associate Professor, Intelligent Transportation Systems Research Center, Wuhan University of Technology, China.

- **Land Use and Transportation Planning**
  Session Chairs: **Dr. HUNT, John**, Professor, University of Calgary, Canada. **Dr. ZHONG, Ming**, Professor, Intelligent Transportation Systems Research Center, Wuhan University of Technology, China.

- **Traffic Control Theories and Methods**
  Session Chair: **Dr. HAN, Ke**, Associate Professor, Center for Transport Studies, Imperial College London, UK. **Dr. MA, Wanjing**, Professor, College of Transportation Engineering, Tongji University, China.

- **Traffic Safety and Driving Behavior**
  Session Chairs: **Dr. XIE, Kun**, Associate Professor, University of Canterbury, New Zealand. **Dr. CHEN, Feng**, Associate Professor, Tongji University, China.

- **Reliability and Green Technology for Ships**
  Session Chairs: **Dr. BUCKNALL, Richard**, Professor, University College London, UK. **Dr. YUAN, Chengqing**, Professor, School of Energy and Power Engineering, Wuhan University of Technology, China.

- **Traffic Flow and Pedestrian Flow Dynamics**
  Session Chairs: **Dr. WONG, S.C**, Professor, Department of Civil Engineering, University of Hong Kong, China. **Dr. MA, Jian**, Professor, School of Transportation and Logistics, Southwest Jiaotong University, China.

- **Artificial Intelligence in Transportation**
  Session Chairs: **Dr. OU, Xiaobo**, Professor, Chair of Urban Mobility Systems, Department of Architecture and Civil Engineering, Chalmers University of Technology, Gothenburg, Sweden. **Dr. HU, Zhaoheng**, Professor, Intelligent Transportation Systems Research Center, Wuhan University of Technology, China.

- **Transport and Environments**
  Session Chair: **Dr. GE, Yingen**, Professor, Shanghai Maritime University, China.

- **Water Transport Safety: Theory and Technology**
  Session Chair: **Dr. WANG, Yuhong**, Professor, Ningbo University, China.

- **Salvage and Underwater Technology**
  Session Chair: **Dr. SUN, Changle**, Professor, Dalian Maritime University, China.

- **Railway Safety: Theory and Technology**
  Session Chair: **Dr. WANG, Yanhui**, Professor, School of Traffic and Transportation, Beijing Jiaotong University, China.

- **Aviation Safety: Theory and Technology**
  Session Chairs: **Dr. LI, Wen-Chin**, Senior Lecture, Cranfield University, UK. **Dr. SUN, Ruishan**, Professor, Research Institute of Civil Aviation Safety, Civil Aviation University of China, China.

- **Accident Prevention and Emergency Response**
  Session Chair: **Dr. ZHANG, Di**, Professor, Intelligent Transportation Systems Research Center, Wuhan University of Technology, China.
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First Call for Papers
http://icmim-ieee.org

2019 International Conference on Microwaves for Intelligent Mobility, ICMIM2019
15-16 April 2019, Detroit, MI, USA

About the conference
The 5th annual IEEE International Conference on Microwaves for Intelligent Mobility will be held in Detroit, MI, USA. The conference covers all key enabling technologies for intelligent mobility, including components, circuits, and systems. Potential applications address automated land, sea, and airborne vehicles, automotive radar and other sensing techniques, navigation and localization, mobile communications, driver assistance, and over-the-air testing.

ICMIM 2019 invites submission of original papers on all topics related to the scope of the conference, including but not limited to:

- Microwave components, MMIC, and packaging
- Frontends and frontend modules
- Design and testing of antennas, arrays, and MIMO systems
- Automotive radar systems, modulation and waveforms
- Wave propagation, channel measurements, channel modeling
- Analogue RF and digital signal processing, sensor data fusion
- Interference and coexistence issues

in these and related fields of applications:

- RF for intelligent transport systems and other industrial applications
- Unmanned vehicles (land, sea, airborne)
- Automotive radar
- Mobile communications (e.g., ITS-G5/DSRC, C-V2X, LTE, 5G)
- Sensing and imaging techniques and systems (passive, active)
- Wireless localization and navigation
- Environmental detection
- System measurements, performance evaluation, test and validation

Conference Organization
The conference contributions will be arranged as regular oral or interactive poster presentations in up to two parallel tracks. Internationally renowned keynote and invited speakers from industry and academia will highlight the state-of-art in key areas of ICMIM. The conference also plans to include an industrial exhibition and best paper awards.

Paper Submission
Paper submission instructions will be provided on the website (http://icmim-ieee.org). Submissions undergo thorough review and will be evaluated in terms of novelty, practical relevance, originality, interest to the community, and clarity.

All accepted papers will be published in IEEE Xplore. Selected contributions may be eligible for publication in special issues of the IEEE Transactions on Microwave Theory and Techniques (T-MTT) or the IEEE Transactions on Intelligent Vehicles (T-IV).
Connected and Automated Vehicles (CAVs) are seen as game changers and key enabling technologies that considerably will shape our society and will influence future transportation modes and quality of life, altering the face of mobility as we experience it by today. By connecting and automating vehicles we are able to make our mobility safer, faster, cheaper, cleaner, and more enjoyable.

The 2019 IEEE ICCVE – International Conference on Connected Vehicles and Expo – held in Graz, Austria is the brand-new application-driven flagship conference of the IEEE Instrumentation and Measurement Society and is the world’s premier conference in that field to bridge the automated vehicle gap: Science and Technology, Consumer Trust, Homologation and Liability. Experts, researchers, practitioners, and policymakers from all around the world will present the latest innovations and advances on CAVs, share the experience and insights, forecast the trends and opportunities, and discuss the policy, economics and social implications.

IEEE ICCVE is proposed as a catalyst to promote interactions between industry and academia – a wide spectrum of academic research results will be presented, with potential practical applications in current industrial technology, as well as industry-driven developments.

The conference focuses on all aspects related to research, development, and applications of vehicle connectivity and autonomy. Topics of interest include, but are not limited to:

- Advances in Sensors, Signal Processing, Data Fusion, and Instrumentation of CAVs
- Sensor Simulation and Stimulation (Radar, Lidar, Camera, Ultrasonic, Infrared…)
- Active Perception Architectures and Implementations
- Vehicle Navigation and Situational Awareness
- Vehicle Control (adaptive, fuzzy, cooperative, neuro, emergent paradigms)
- Multi-vehicle Cooperation, Connected Vehicles, Platooning
- Fault-tolerant Algorithms and Fail-operational Architectures
- Real-time Computational Paradigms and Architectures
- Computational and Artificial Intelligence (AI)
- Dependable High Performance Computing (in-vehicle, cloud, fog)
- Cooperative Intelligent Transport Systems (C-ITS)
- Wireless Communications and Vehicular Networking
- Hybrid Simulation and Empirical Testing Paradigms (X-in-the-loop)
- Scenario-based Risk Assessment
- Active Safety and Vulnerable Road Users Protection
- Radical new CAV Concepts
- Virtual Homologation, Validation, and Test of AI-powered CAVs
- Safety Assurance, Cybersecurity, Reliability, Certification
- Applications from different Domains (Automotive, Offroad, Maritime, Avionics…)
- Shared Mobility: from Technology to Business
- Practices, Recommendations, and Standards in CAVs
- Policy, Economics, and Social Implications of CAVs

Many other new initiatives and opportunities to encourage your active participation in the conference are planned, and will make 2019 IEEE ICCVE a vibrant event to meet with people working in the field of connected and automated vehicles.

Visit the conference website as well as Facebook and LinkedIn pages for each specific call and additional news.
CALL FOR PAPERS
www.itsworldcongress2019.com
Smart Mobility, Empowering Cities
It is with great pleasure that I invite you to Singapore to be a part of the 26th Intelligent Transport Systems (ITS) World Congress 2019, from 21-25 October 2019, hosted by the Land Transport Authority (LTA) of Singapore and the Intelligent Transportation Society Singapore (ITS Singapore).

This is the first time that the ITS World Congress will be held in Southeast Asia. LTA is delighted to be co-hosting this notable international event with ITS Singapore, to bring the event to the shores of Singapore.

The theme for this congress, “Smart Mobility, Empowering Cities”, focuses on harnessing cutting-edge technologies and digital innovations that will empower cities to overcome transportation challenges and shape new mobility landscape so as to enhance the quality of lives of the people and create a more vibrant economy.

ITS has played an important role in complementing physical transport infrastructure and policies to manage the transportation of people and goods efficiently and optimally. Its role and importance will only continue to grow, not only on land transport but also for air and sea transport, as cities expand and face the challenges of rapid population growth, urbanisation, increases in travel demand and high resident expectations. Cities are exploring and embarking on innovative initiatives to improve mobility through smarter use of technology and digitalisation to overcome these challenges.

Singapore, being a small island city-state, faces similar pressing mobility needs and challenges as many other urban communities and cities. We need to look beyond today’s technology, businesses and skillsets to transform Singapore into a Smart Nation, powered by intelligent technologies and digital innovation as well as building long term capabilities for a more liveable community.

LTA and ITS Singapore, in collaboration with ITS Asia-Pacific, ITS America and ERTICO, are working to prepare an exciting and memorable Congress programme. There are several interesting topics lined up, such as automated vehicles, multimodal transport of people and goods, big data analytics, innovative pricing and travel demand management, cybersecurity and data privacy, to name a few. The Congress provides an ideal opportunity for policy makers, practitioners, researchers, and ITS providers to share expertise, knowledge about the latest technologies and policy developments, as well as forge new partnerships and explore opportunities to meet the evolving demands of mobility. We welcome you to participate in our Call for Papers to contribute interesting technical and scientific papers to share the stimulating works that you have done or are enthusiastically working on.

To further pique your interest, there are also technology demonstrations to showcase the latest developments in Autonomous Vehicles (AV) and the use of state-of-the-art Global Navigation Satellite System (GNSS) technology, wireless communication such as Long-Term Evolution (LTE) and Dedicated Short-Range Communications (DSRC) for traffic congestion charging and management.

Besides attending the Congress, I encourage you to find time to try out our public transport system to discover Singapore and enjoy the vibrant garden city that is rich in cultures and filled with gastronomic delights. We also hope that you will extend your stay to enjoy the rich cultural experience of our neighbouring Southeast Asian countries.

We look forward to warmly welcoming you to Singapore in 2019!

Mr Ngien Hoon Ping
ITS World Congress Singapore 2019
Steering Committee
Chief Executive, Land Transport Authority
On behalf of ITS Asia-Pacific, I would like to invite you to the 26th ITS World Congress in Singapore.

Rapid penetration of innovative technologies in transportation, such as electrification of power trains, big data collection and analyses, and automated driving, are accelerating drastic changes in industries, regulatory frameworks and behaviours of people. In other words, we can no longer develop and deploy new technologies without thorough investigation of societal implications.

Expectations and concerns are mixed as ‘singularity’ seems to be quickly approaching. Innovative mobility services are emerging brought by a new breed of ambitious people. On the contrary, established industries are searching for empirical evidences showing the direction for them to invest their resources to survive.

There are a lot of opportunities for cross-cutting research. Based on the achievements and experiences in ITS, we have to quantitatively evaluate both potential benefits and risks of the innovative technologies and social innovations.

Under the theme of ‘Smart Mobility, Empowering Cities’, ever expanding diversity of research papers are anticipated to be shared across the academic disciplines, across the industrial sectors and across jurisdictions. Recognised papers will be invited to renowned academic journals.

I’m looking forward to your paper submission and seeing you in Singapore.

Hajime Amano
Secretary General
ITS Asia-Pacific
On behalf of ERTICO – ITS Europe and its Partners, it is my pleasure to welcome you to the 26th ITS World Congress in Singapore.

ERTICO – ITS Europe is proud to co-organise this event with ITS Asia-Pacific and ITS America, and to see the strong involvement of the hosts ITS Singapore and the Land Transport Authority of Singapore to promote smart mobility solutions and services.

I am particularly glad that the Congress is hosted in Singapore, which is a global finance and transport hub, widely recognised as one of the world’s smartest cities and most technology advanced as well as the Asian city with the highest quality of living. This reflects the Congress theme “Smart Mobility, Empowering Cities” which puts cities and urban agglomerates at the centre of the discussion and looks at more sustainable and smartest mobility services for all.

The ITS World Congress is the event of the year where all the sectors of the transport industry, public and private, come together to present and find out more about the latest topics. The 2019 Congress will look in particular at connected and automated mobility; multimodal transport for people and goods; policies, standards and harmonisation; and cybersecurity and data privacy. These are some of the areas of interest covered by ERTICO within our activities and projects, which makes us an enthusiastic partner of this event.

I look forward to meet many of you and have the chance to share ideas at this fantastic event for the whole transport community.

Jacob Bangsgaard
Chief Executive Officer
ERTICO – ITS Europe
On behalf of ITS America, welcome to the 29th ITS World Congress in Singapore.

As you know, the theme is “Smart Mobility, Empowering Cities” – which completely aligns with Singapore’s reputation as one of the world’s smartest cities. It promises to be an exciting conference, and one in which participants will have an opportunity to delve into the technical programme’s eight themes: crowdsourcing and big data analytics; cybersecurity and data privacy; innovative pricing and travel demand management; intelligent, connected and automated vehicles; multimodal transport of people and goods; policies, standards and harmonization; safety for drivers and vulnerable users; and sustainable smart cities.

Presenting at any World Congress is a great opportunity to interact with colleagues from around the globe. Given the themes in Singapore, it is sure to be a great learning experience as well, so I hope you will consider submitting a paper.

At ITS America, we advance the research and deployment of intelligent transportation technologies to save lives, improve mobility, promote sustainability, and increase efficiency and productivity. Our vision is a better future transformed by intelligent mobility – one that is safer, greener and smarter. Our members, along with other industry stakeholders, are eager to engage with others around the world who share these same goals. I hope you will join us in Singapore as we continue to advance our critical, life-saving work.

Shailen Bhatt
President and Chief Executive Officer
The Intelligent Transportation Society of America
The Congress
The 2019 Congress theme “Smart Mobility, Empowering Cities” supports Singapore’s commitment to create the most liveable smart city in support of a higher quality of life and an ever-connected community.

With a comprehensive format of plenary and interactive sessions, as well as a dynamic exhibition with technical demonstrations and tours, the 26th ITS World Congress will be an opportunity for our sponsors and partners to network, discuss and share ground-breaking transport technology, and forge mutually beneficial partnerships to further unleash the power of ITS.

With Singapore’s strategic location between the East and West, we hope to attract strong interests and active participation from the region, and open doors to fast-growing markets such as China, India and Southeast Asia.

Congress and Exhibition Venue
Suntec Singapore Convention & Exhibition Centre is the world’s leading meetings and conference centre, located at the heart of Asia’s most integrated meetings, conventions and exhibitions hub.

With great versatility featuring 42,000m² of flexible customisable space, free WiFi, digital signage, an excellent range of culinary choices and a dedicated team of service experts, this award-winning facility can cater to events from 10 to 10,000 persons.

Only 20 minutes from Changi International Airport, Suntec Singapore is conveniently located in the Central Business District and just minutes from the city’s entertainment and cultural attractions. Suntec Singapore offers direct access to 5,200 hotel rooms, 1,000 retail outlets, 300 restaurants, 6 museums and Esplanade – Theatres on the Bay.

Suntec Singapore Convention and Exhibition Centre
1 Raffles Boulevard, Suntec City
Singapore 039593
www.suntecsingapore.com

Plenary Sessions
All attendees are welcome to join the Opening and Closing Ceremonies and Plenary Sessions dedicated to key ITS issues addressed by major personalities.

Executive Sessions
In these sessions, high level industry executives, public officials and academics from around the world will draw from their experiences to share their views on ITS achievements, issues and challenges.

Special Interest Sessions
Organised at the request of groups of experts developing and deploying ITS, these interactive, tailor-made sessions provide the opportunity to focus on specific topics of interest.

Technical/Scientific Sessions
These sessions are composed of presentations by international experts on a variety of topics encompassing practical, economic, technological, organisational and societal aspects of ITS. They aim to encourage the exchange of information on deployment ranging from improving the operational use of systems and services to research & development in support of new applications. Scientific papers submitted for publication in the Journal IET Intelligent Transport Systems will be expected to show scholarship, innovation and analysis of new types of problem or/and solution rather than different approaches to areas that have already been researched.

Interactive Sessions
These sessions provide a space for an interactive discussion via two-stage presentations including a short oral presentation followed by a poster presentation. This climate of free, face-to-face dialogue leads to further innovations in the field.

Commercial Paper Sessions
Commercial Papers describe an activity aimed at generating or improving a specific product, device or idea for the market. Papers will be presented in groups with a moderator.
The International Programme Committee is pleased to present the eight topics running through the three Congress pillars – Programme, Exhibition and Demonstrations:

**ITS World Congress 2019 Topics**

### 1. Intelligent, Connected & Automated Vehicles

Let us imagine and engineer our future. What is the most ideal transportation system in 2025, 2030 and beyond? It is clear that a self-driving vehicle with artificial intelligence (AI) is a crucial component in the perfect transportation system. Do you agree?

- How do we get there?
- What are the standards to follow for developers of self-driving vehicles?
- How do we certify self-driving vehicles?
- What is the ideal role of government (in regulation)?
- What are the spin-off opportunities?
- What infrastructure is needed?
- Are there ethical issues? Are these issues, if any, really new?

**Sub-topics**

1.1 Next Generation Human Machine Interface & Human Factors
1.2 Rich Contextual Maps & Positioning Technology
1.3 Advanced (including Cooperative) Collision Avoidance Systems
1.4 Sensors & Perception Methods for Automated Vehicles
1.5 V2X Communication Technologies & Cooperative Systems
1.6 Satellite Communications & 5G for Connected Automated Vehicles
1.7 AI, including Deep Learning Driven Vehicles
1.8 ITS Infrastructure for Automated Vehicles
1.9 Connected ITS for Safety, Traffic and Energy Efficiency
1.10 Connected Automated Vehicle Deployment & Field Operations Tests
1.11 Modelling & Simulation Using Automated and Non-automated Vehicles
1.12 Standards for Automated & Connected Vehicles
1.13 Moral & Ethical Dilemmas
1.14 New Business Opportunities

### 2. Crowdsourcing & Big Data Analytics

Recent traffic measurement technologies include point-to-point data, such as Bluetooth and electronic tool tag readers etc. and trajectory data like taxi data, crowd-sourced GPS/smartphone data, etc. Crowd sourcing smart phone apps provide real-time information about a wide variety of features including road conditions, navigations, road closures, etc. What has changed over the years is the cost-effective ways of producing streaming data, such as the passive data produced by personal GPS, the availability of high-resolution data, and the accessibility of new sources such as social networking platforms. However, there are challenges concerning the use of big data. Cost is an important factor for any big data technology.

- What kind of investment can you afford given the estimated returns from big data analytics?
- Privacy is another important issue. What kind of privacy issues do various technologies pose and what processes are required to manage privacy risks?
- Also, how can we maintain the quality of the traffic data obtained by crowd sourcing?

**Sub-topics**

2.1 Data Sharing & Crowd Sourcing
2.2 Data Gathering & Fusion Technologies
2.3 Business Intelligence & Data Analytics
2.4 Availability, Quality & Visualisation of Data
2.5 Probe Data Collection Technology
2.6 Innovative Use of Smart Phone for ITS Services
2.7 Leveraging Social Media for ITS Services
2.8 Innovative Data Use in ITS Applications
2.9 Data Analytics for Traffic Monitoring & Management
2.10 Transport Modelling
2.11 Challenges in Big Data Management
2.12 Regulatory Aspects of Data Sharing, Usage & Ownership
2.13 Business Cases for Open & Big Data
3. Sustainable Smart Cities

As cities start to transform themselves into Smart Cities, how do they ensure they are not just smart but also sustainable? It is estimated that by 2050, more than 70% of the world’s population will live in cities. Catering to the travel demand to ensure sustainability in all aspects is not an easy feat. The Internet of Things and technology are playing an increasing role in how cities are being planned, built and connected.

• How can cities address the challenges to incorporate Smart initiatives into the planning and development processes?
• How can ITS help to create Sustainable Smart Cities?
• How can we enhance Traffic Management to the next level?
• How should cities embrace and promote new modes of transport and strategise mode shifts?

Sub-topics
3.1 Sustainable Traffic Management Tools
3.2 Traffic Control & Operations
3.3 Vehicle Priority Systems
3.4 Routing Techniques for Smart Cities
3.5 Digital Infrastructure & Integrated Transport Systems
3.6 New Services from Multi-constellation Receivers
3.7 Future Transport Systems
3.8 ITS for Sea & Air Transport
3.9 Sustainability in Transportation
3.10 Energy, Noise & Environmental Impacts
3.11 Electromobility & EV Charging Infrastructure
3.12 Mode Shift Strategies for Transit
3.13 Balancing Freight, Public & Private Vehicles
3.14 Mobility for Ageing Population
3.15 Shared Mobility & Shared Automated Vehicles
3.16 Public Transport Network Planning & Scheduling

4. Multimodal Transport of People & Goods

Multimodal transport can reduce travel time and the cost of transport of people and goods. Such multimodal transport chains will only be used and accepted if the different transport modes are seamlessly connected, the information on how to transfer to the next trip segment is available and people know what to do in case the connection did not work.

• How to create seamless multimodal service management of connecting the different transport modes?
• What are new and novel methods of collecting real time traffic information and processing the data?
• What are innovative approaches and ways to provide that information to the transport user?
• What are new methods of modelling multimodal transport chains, future trends and strategies?
• How can the quality of multimodal transport chains be evaluated?

Sub-topics
4.1 Multimodal Signal Priority Management
4.2 Multimodal Travel Information & Planning Services
4.3 Multimodal Journey Planner
4.4 Seamless Connections for Land, Sea & Air Travel
4.5 Car Sharing, Bicycle Sharing & Ride Sharing
4.6 Mobility as a Service (MaaS)/ Mobility on Demand (MOD)
4.7 Cooperative ITS Supporting Multimodality
4.8 Innovations in Bus Vehicle Systems
4.9 ITS for Rural Transport
4.10 ITS for Rail Systems
4.11 ICT for Logistics
4.12 Tracking & Tracing of Goods
4.13 Logistics, Freight & Fleet Management
4.14 Connected ITS for Freight, Fleet Management & Logistics Optimisation
4.15 Encouraging Active Transport & Mode Shift
4.16 Reframing Behaviour to Enhance Travelling Experience
4.17 Incorporating Mobility Trends into Transportation Models
4.18 Intermodal Transportation Modelling
5. Safety for Drivers & Vulnerable Users

More than 1.25 million people die each year [WHO, 2018] as a result of road traffic crashes, of which 50% are vulnerable road users. These statistics warrant serious considerations and actions from the ITS community to address road safety for all drivers and vulnerable road users and to create an overall sustainable transport eco-system.

• How can we introduce new or improved ITS infrastructure to intensify safety for road users?
• Are there systematic ways of studying complex driver behaviours and improving human machine interfaces to enhance responsiveness of drivers?
• How can we push the boundaries of innovations to develop commercially viable vehicular sensors that effectively aid driver perception?
• Will the overall road safety parameters change for better or worse with the introduction of AVs?

6. Policies, Standards & Harmonisation

As transportation goes digital and mobility services are increasingly offered rapidly by multinational companies with a global footprint, the roles of policies and standards have come under question. Conversely, the rollout of connected, cooperative and automated vehicles needs more standards and harmonisation than before. Governments also need to plan ITS proliferation beyond urban centres and prepare the next generation of professionals.

• How should governments design transport policies to support and manage new forms of mobility?
• How can traditional mobility options be integrated with disruptive offerings?
• How much regulation is needed?

6.1 Transport Policy & Strategy
6.2 Regulation & Enforcement
6.3 Policy Changes to Connected & Autonomous Vehicles
6.4 Standardisation & Architecture
6.5 Cooperative ITS & Automated Vehicle Standards
6.6 Funding Strategies & Business Models
6.7 Education & Training in ITS
6.8 Regional & State-wide Integrated ITS Deployments
6.9 ITS for Developing Cities & Rural Communities
6.10 International & Regional Cooperation in ITS
6.11 National Efforts to Plan & Deploy ITS Systems

6.12 Are standards still relevant?
6.13 What funding, training and educational initiatives will enable the sustainable deployment of ITS at a national scale as we head towards 2030?

7. Innovative Pricing & Travel Demand Management

In land scarce cities, smart ways to reduce or redistribute travel demand in space and time and steer away from congested conditions are needed. Travel demand management involves providing information on alternative travel options, incentives for off-peak travel, or disincentives for traveling, especially driving private vehicles during peak hours. An emerging form of smart travel demand management, satellite-based Electronic Road Pricing (ERP), would enable flexible charging on motorists according to the distance travelled on congested roads, or actual road conditions.

• How can technologies facilitate initiatives that promote overall system efficiency, through real-time system performance monitoring, travel advisory, differentiated pricing, and other means?

7.1 Technologies for Travel Demand Management
7.2 Managing Demand on Public Transport
7.3 Smart Parking Management
7.4 Road Pricing
7.5 Road Pricing for Freight
7.6 Effectiveness of Distance Based Charging
7.7 Technologies for Urban Road Pricing
7.8 Reliability of GNSS for Positioning & Charging
7.9 Innovative Use of Road Pricing Infrastructure for Other Applications
7.10 Integrated Transit Ticketing & Payment
7.11 Pricing Mobility-as-a-Service

• How can innovations, like Electronic Road Pricing, facilitate more dynamic and demand-responsive congestion pricing, be they for road pricing, parking pricing, or public transit fares?
8. Cybersecurity & Data Privacy

Seemingly within just a few years, connected vehicles and autonomous driving have gone from science fiction to becoming a reality. While this would revolutionise personal mobility, it opens up a Pandora’s box. Such complex systems are made up of many independent interacting devices that are susceptible and vulnerable to external attacks. ITS cybersecurity and data privacy has now taken centre stage and considered as a fundamental pillar in these ITS architectures and frameworks.

• How to protect ITS infrastructure against cyberattacks?
• How to secure the ITS ecosystem?

Sub-topics
8.1 Jamming & Spoofing
8.2 Defending Against Cyber Attacks
8.3 Evaluation of Intrusion Detection
8.4 Critical Cyber Security Threats & Beyond
8.5 Cyber Security Business Models
8.6 Cyber Security – Whose Responsibility?
8.7 Cyber Security in Embedded Systems
8.8 Blockchain in Transportation
8.9 Data Privacy
8.10 Data Security & Privacy Protection Standards

KEY DATES

1. Launch of paper submission 1 October 2018
2. Abstract paper submission deadline 9 January 2019
3. Status notification to paper authors and SIS organisers 15 April 2019
4. Re-submission deadline for conditionally accepted abstract papers 29 April 2019
5. Speaker registration deadline 10 July 2019
6. Final paper submission deadline 1 August 2019
The International Programme Committee invites ITS experts to submit their contributions to be considered for presentation and publication at the ITS World Congress in Singapore in 2019.

**Technical Papers** may address the institutional, business, societal and economic aspects of ITS and include technical subjects.

**Scientific Papers** submitted for publication in the Journal IET Intelligent Transport Systems must demonstrate scholarship, innovation and analysis of new types of problem or/and solution rather than different approaches to areas that have already been researched.

**Commercial Papers** should describe near-market work rather than pre-market work. Authors working for or in close collaboration with commercial companies are welcome to submit papers.

**General Guidelines**

Authors will be required to include enough content for the reviewers to judge your paper appropriately. For Technical or Commercial Papers we require a minimum of 5 pages and a maximum of 10 pages (for the final paper). Scientific Papers should be submitted as a final version, not normally exceeding 14 pages, and formatted according to the Submission Template for IET Research Journal Papers. The template is available at: http://digital-library.theiet.org/journals/author-guide#presentation

Papers which are submitted as Scientific, but which are not judged to be of this top rating standard or relevance, may still be accepted as Technical Papers.

Technical and Commercial papers will be submitted for a technical review and authors will be notified if they are accepted, conditionally accepted or rejected.

If a draft paper has been accepted, the author will be asked to submit a final version. A confirmation of the draft paper is acceptable, but this is also an opportunity for the author to update the draft, add diagrams, tables, results etc.

**IET**

To enhance the scientific quality of this event, the Congress Organising Committee has entered into an agreement with the IET Intelligent Transport System (IET ITS), a SCI-E (ISI) and EL indexed peer-reviewed journal that has published papers from previous ITS World Congresses.

Publication in the Journal is conditional on attending the Congress to present a paper.

Authors should be willing to be IET paper reviewers if asked. Papers will go through the journal’s standard peer-review process and, if accepted for publication, will be indexed in the citations databases.

See: http://www.ietdl.org/IP-ITS

If a draft paper has been conditionally accepted, the author must revise it and address the reservations of the reviewers when submitting its final version.

Proposals must be original and report on recent significant and substantive achievements. Topics may address any mode of transport.

The official language of the Congress is English. Papers not submitted in English will be rejected by default.

Authors can submit a maximum of 2 papers and will not be allocated more than 2 speaking opportunities for presenting their papers.
A limited number of Special Interest Sessions (SIS) will be included in the programme, in addition to conventional presentations, discussion sessions, executive and plenary sessions.

To ensure as wide a range of sessions as possible, and to give an equal opportunity to all potential session bidders due to the increase in competition for slots, the International Programme Committee will apply the following criteria:

- Bids will not be considered unless the complete contact details of the moderator and at least 3 confirmed speakers are listed
- If a majority of speakers named in the preliminary Programme are not registered by the speaker registration deadline, the session will be removed and the slot given to a candidate from the reserve list
- SIS proposals that address a single project will be given low priority compared to those that tackle a broad area
- All session proposals must be submitted online. E-mail contributions will not be accepted

Additional information on the session format and scope will be requested.

Contributions must be submitted through the online submission system by 9 January 2019. Upon completion of your contribution, the system will automatically generate an acknowledgement e-mail with details of your submission. This is a confirmation of receipt and not a proof of acceptance. Detailed guidelines are available on the submission system.
<table>
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LOCAL PROGRAMME

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Call for Papers

IEEE Transactions on Intelligent Vehicles

The IEEE Transactions on Intelligent Vehicles (T-IV) publishes peer-reviewed articles that provide innovative research concepts and application results, report significant theoretical findings and application case studies, and raises awareness of pressing research and application challenges in the areas of intelligent vehicles, and in particular in automated vehicles.

The IEEE Transactions on Intelligent Vehicles will commence publication in 2017, with 4 issues annually.

Prospective authors are invited to submit original contributions or survey papers for review for publication in T-IV. Topics of interest include (but are not limited to):

- Advanced Driver Assistance Systems
- Automated Vehicles
- Active and Passive Vehicle Safety
- Vehicle Environment Perception
- Driver State and Intent Recognition
- Eco-driving and Energy-efficient Vehicles
- Cooperative Vehicle Systems
- Collision Avoidance
- Pedestrian Protection
- Proximity Detection Technology
- Assistive Mobility Systems
- Proximity Awareness Technology
- Autonomous / Intelligent Robotic Vehicles
- IV related Image, Radar, Lidar Signal Processing
- Information Fusion
- Vehicle Control
- Human Factors and Human Machine Interaction
- IV technologies in Electric and Hybrid Vehicles
- Novel Interfaces and Displays
- Intelligent Vehicle Software Security

All manuscripts must be submitted through Manuscript Central at http://mc.manuscriptcentral.com/t-iv

Refer to http://its.ieee.org/2014/10/06/submitting-a-paper/ for general information about electronic submission through Manuscript Central.

Editor-in-Chief: Prof. Ümit Özgüner, The Ohio State University, Department of ECE and Center for Automotive Research (CAR), Columbus, Ohio USA. (ozguner.1@osu.edu)
Conference Calendar

IEEE Intelligent Transportation Systems Society’s Sponsored Conferences

- **2019 IEEE Intelligent Vehicles Symposium (IV’19)**
  
  *June 9-12, 2019*
  
  *Paris, France*
  
  
  *Submission due by: January 31, 2019*

- **IEEE/ASME International Conference on Mechatronic and Embedded Systems and Applications (MESA)**
  
  
  *Submission due for the next event: To be determined*

  
  *June 9-12, 2019*
  
  *Anaheim, CA, USA*
  
  [https://event.asme.org/IDETC-CIE](https://event.asme.org/IDETC-CIE)
  
  *Submission due by: February 25, 2019*

- **IEEE 22nd IEEE International Conference on Intelligent Transportation Systems (ITSC 2019)**
  
  *October 27-30, 2019*
  
  *Auckland, New Zealand*
  
  
  *Submission due by: March 31, 2019*

- **IEEE International Conference on Vehicular Electronics and Safety (ICVES)**
  
  
  *Submission due for the next event: To be determined*

- **IEEE International Conference on Service Operations and Logistics, and Informatics (SOLI)**
  
  
  *Submission due for the next event: To be determined*
- **IEEE Forum on Integrated and Sustainable Transportation Systems**
  
  *June 29-July 3, 2020*
  
  *Delft, Netherlands*
  
  
  *Submission due: To be determined*

- **The 4th International Conference on Universal Village (UV2018)**
  
  
  *Submission due for the next event: To be determined*

- **7th IEEE International Conference on Advanced Logistics and Transport (ICALT)**
  
  *June 14-16, 2019*
  
  *Marrakech, Morocco*
  

- **IEEE International Conference on Intelligent Rail Transportation (IEEE ICIRT)**
  
  
  *Submission due for the next event: To be determined*

- **IEEE Intelligent Conference on Intelligence and Security Informatics (ISI)**
  
  
  *Submission due for the next event: To be determined*

- **IEEE Vehicular Networking Conference (VNC)**
  
  
  *Submission due for the next event: To be determined*

### Other Conferences

- **SAE CyberAuto Challenge**
  
  *July 21-26, 2019*
  
  *Warren, MI, USA*
  
  [http://www.sae.org/events/cyberauto/](http://www.sae.org/events/cyberauto/)

- **The 23rd International Symposium on Transportation and Traffic Theory (ISTTT23)**
  
  *July 24-26, 2019*
  
  *Lausanne, Switzerland*
  
  [https://isttt23.sciencesconf.org/](https://isttt23.sciencesconf.org/)
- **NRITS National Rural ITS Conference**
  
  *July 21-24, 2019*
  
  *Austin, TX, USA*
  

- **IEEE 89th Vehicular Technology Conference: VTC2019-Spring**
  
  *July 28-May 1, 2019*
  
  *Kuala Lumpur, Malaysia*
  

- **IEEE Multi-Conference on Systems and Control**
  
  [http://www.ieeecss.org/conferences](http://www.ieeecss.org/conferences)
  
  Submission due for the next event: To be determined

  
  *November 3-8, 2019*
  
  *Venetian Macao, Macau, China*
  
  
  Submission due by: March 31, 2019

- **ITS World Congress 2019**
  
  *October 21-25, 2019*
  
  *Singapore*
  

- **Seminars and Dagstuhl Perspectives Workshops 2019**
  
  [https://www.dagstuhl.de/en/program/calendar/](https://www.dagstuhl.de/en/program/calendar/)

  
  *February 25-27, 2019*
  
  *Prague, Czech Republic*
  
  [http://www.visigrapp.org](http://www.visigrapp.org)

- **The 8th International Conference on Connected Vehicles & Expo (ICCVE)**
  
  *November 4-8, 2019*
  
  
  *Graz, Austria*
  
  Submission due by: May 5, 2019

- **Intertraffic Amsterdam 2020**
  
  *April 21-24, 2020*
  
  *Amsterdam, Netherlands*
  
- **SAE World Congress Experience**
  April 9-11, 2019
  Detroit, Michigan, USA
  [https://www.sae.org/attend/wcx/](https://www.sae.org/attend/wcx/)

- **5th International Conference on Vehicle Technology and Intelligent Transport Systems (VEHITS 2019)**
  May 3-5, 2019
  Crete, Greece

- **IEEE International Conference on Robotics and Automation (ICRA 2019)**
  May 20-24, 2019
  Montreal, Canada

- **20th International Conference on Image Analysis and Processing**
  September 9-13, 2019
  Trento, Italy
  [https://event.unitn.it/iciap2019/](https://event.unitn.it/iciap2019/)
  Submission due by: April 1, 2019
Minimizing traffic congestion through continuous-time route reservations with travel time predictions  
Charalambos Menelaou, Stelios Timotheou, Panayiotis Kolios, Christos G. Panayiotou, Marios Polycarpou

Cooperative Adaptive Cruise Control of Vehicles Using a Resource-efficient Communication Mechanism  
Shixi Wen, Ge Guo, Bo Chen, Xiue Gao

Platooning Maneuvers in Vehicular Networks: a Distributed and Consensus-Based Approach  
Stefania Santini, Alessandro Salvi, Antonio Saverio Valente, Antonio Perscape, Michele Segata, Renatio Lo Cigno

Cooperative Estimation of Road Condition Based on Dynamic Consensus and Vehicular Communication  
Mehdi Jalalmaab, Mohammad Pirani, Baris Fidan, Soo Jeon

Relationship between Gaze Behavior and Steering Performance for Driver-Automation Shared Control: A Driving Simulator Study  
Zheng Wang, Rencheng Zheng, Tsutomu Kaizuka, Kimihiko Nakano

Assistance Method for Merging by Increasing Clarity of Decision Making  
Yuki Suehiro, Takahiro Wada, Kohei Sonoda

Collision Avoidance: a Literature Review on Threat-Assessment Techniques  
John Dahl, Gabriel Rodrigues de Campos, Claes Olsson, Jonas Fredriksson

An illumination-invariant nonparametric model for urban road detection  
Yingna Su, Yicheng Gao, Yigong Zhang, Jose Alvarez, Jian Yang, Hui Kong

Lane-Level Localization and Mapping in GNSS-Challenged Environments by Fusing Lidar Data and Cellular Pseudoranges  
Mahdi Maaref, Joe Khalife, Zak M. Kassas

A Hybrid Approach to Side-Slip Angle Estimation with Recurrent Neural Networks and Kinematic Vehicle Models  
Torben Graber, Stefan Lupberger, Michael Unterreiner, Dieter Schramm

Odometry 2.0: A Slip-Adaptive EIF-Based Four-Wheel-Odometry Model for Parking  
Brunker Alexander, Thomas Wohlgemuth, Michael Frey, Frank Gauterin
Forthcoming papers on IEEE Transactions on IV

T-IV Issue 1 papers 2019

Model Predictive Trajectory Planning for Automated Driving
Boliang Yi, Christoph Stiller

Test Your Self-Driving Algorithm: An Overview of Publicly Available Driving Datasets and Virtual Testing Environments
Yue Kang, Hang Yin, Christian Berger

Comprehensibility and Perceptibility of Vehicle Pitch Motions as Feedback for the Driver During Partially Automated Driving
Stephanie Cramer, Ina Kaup, Karl-Heinz Siedersberger
Forthcoming papers on IEEE ITS Magazine

1/2019 Edition

FEATURES

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From Software-Defined Vehicles to Self-Driving Vehicles: A Report on CPSS-based Parallel Driving
Wang, Fei-Yue; Han, Shuangshuang; Cao, Dongpu; Li, Li; Li, Lingxi; Li, Shengbo Eben; Zheng, Nanning

ITSM-17-09-0095.R1
Establishing Heterogeneous Parking Prices for Uniform Parking Availability for Autonomous and Human-Driven Vehicles
Benenson, Itzhak; Fulman, Nir

ITSM-18-02-0029.R2
Recognizing the critical stations in urban rail networks: An analysis method based on the smart-card data
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Hu, Xueimin; Chen, Long; Tang, Bo; Cao, Dongpu

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