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**Technical Committee on:**

***Human Factors in Intelligent  
Vehicles (HFIV)***

<http://hfiv.net>

**TC Report**

**2017**



Chair (corresponding chair):

Cristina Olaverri-Monreal

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Co-Chairs: Renran Tian

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## **Organized Events and Activities**

### **1. Conferences**

<b>Year</b>	<b>Conference name</b>	<b>Organizers &amp; functions</b>
2017	IEEE ICVES International Conference on Vehicular Electronics and Safety	Dr. Cristina Olaverri Monreal, General Chair

### **2. Workshops and Tutorials**

<b>Year</b>	<b>Workshop/tutorial title</b>	<b>At Conference</b>	<b>Organizers (TC members)</b>	<b>Participants (estimated #)</b>
2017	Workshop on Human Factors in Intelligent Transportation Systems	IEEE ITSC2017	Cristina Olaverri Monreal Fernando Garcia	40

### **3. Organized Sessions**

<b>Year</b>	<b>Invited/special technical session title</b>	<b>Conference Host</b>	<b>Organizers/Moderator</b>
2017	Session of Advanced Applications of Intelligent Systems	International Conference on Human-Computer Interaction	Renran Tian

### **4. Special Issues in Journals or Editor of Other Publications**

<b>Year</b>	<b>Title</b>	<b>Journal</b>	<b>(Guest) Editor</b>
2017	Special Issue on Future Active Safety Technology towards Zero-Traffic Accidents (FAST-zero)	IEEE Intelligent Transportation Systems	Cristina Olaverri Monreal, Pongsathorn Raksincharoensak
2017	Human Factors in the Design of Human-Machine Interaction: An Overview Emphasizing V2X Communication. Special Section on Human Factors in IV.	IEEE Transactions on Intelligent Vehicles	Ümit Özgüner
2017	Naturalistic Driving Data Analytics	IEEE Transactions on Intelligent Vehicles	Ümit Özgüner Pujitha Gunaratne Renran Tian

## 5. Book and Book chapters

Year	Title	Journal/ Publisher	Editors or Guest- Editors
2017	Biurrun-Quel C., Serrano-Arriezu L., Olaverri-Monreal C. (2017) <b>Microscopic Driver-Centric Simulator: Linking Unity3D and SUMO</b> . In: Rocha Á., Correia A., Adeli H., Reis L., Costanzo S. (eds) Recent Advances in Information Systems and Technologies. WorldCIST 2017. Advances in Intelligent Systems and Computing, vol 569. Springer, Cham	In: Rocha Á., Correia A., Adeli H., Reis L., Costanzo S. (eds) Recent Advances in Information Systems and Technologies. WorldCIST 2017. Advances in Intelligent Systems and Computing, vol 569. Springer, Cham	Rocha Á., Correia A., Adeli H., Reis L., Costanzo S

## 6. Organized Competitions

Year	Title	Object	Organizer
2017	ITSS PhD Awards		ITS Society
2017	Initiative to promote women on ITS		ITSC 2017 organization committee

## 7. Other Activities (Publications)

- Validi, A., Ludwig, T., Olaverri-Monreal, C. (2017) "Analyzing the Effects of V2X and ADAS-ACC Penetration Rates on the Level of Road Safety in Intersections; Evaluating Simulation Platforms SUMO and Scene Suite", IEEE 2017 International Conference on Vehicular Electronics and Safety (ICVES 2017), Vienna, Austria.
- Çapalar, J., Olaverri-Monreal, C. (2017) "Hypovigilance in Limited Self-Driving Automation: Peripheral Visual Stimulus for a Balanced Level of Automation and Cognitive Workload", Proceedings IEEE, 20th Intelligent Transportation Systems Conference, Yokohama, Japan, October 2017.
- Olaverri-Monreal, C., Gvozdic, M., Muthurajan, B. (2017) "Effect on Driving Performance of Two Visualization Paradigms for Rear-End Collision Avoidance", Proceedings IEEE, 20th Intelligent Transportation Systems Conference, Yokohama, Japan, October 2017.
- Ahmadi-Pour, M., Ludwig, T., Olaverri-Monreal, C. (2017) "Statistical Modelling of Multi-Sensor Data Fusion", IEEE 2017 International Conference on Vehicular Electronics and Safety (ICVES 2017), Vienna, Austria.
- Raksincharoensak, P., Olaverri-Monreal, C. (2017) "Special Issue on Future Active Safety Technology towards Zero-Traffic Accidents (FAST-zero)", IEEE Intelligent Transportation Systems Magazine. Volume: 9, Issue: 1, Spring 2017, pp. 4-6.

- Michaeler, F. and Olaverri-Monreal, C. (2017) "3D Driving Simulator with VANET Capabilities to Assess Cooperative Systems: 3DSimVanet", Proceedings IEEE Intelligent Vehicles Symposium, Los Angeles, USA, June 2017.
- Allamehzadeh, A., Urdiales de la Parra, J., Garcia, F., Hussein, A. and Olaverri-Monreal, C. (2017) "Cost-Efficient Driver State and Road Conditions Monitoring System for Conditional Automation", Proceedings IEEE Intelligent Vehicles Symposium, Los Angeles, USA, June 2017.
- Winzer, O. M., Conti, A. S., Olaverri-Monreal, C., Bengler, K. (2017) "Modifications of driver attention post-distraction: a detection response task study ", 19th International Conference on Human-Computer Interaction (HCI International, Vancouver, Canada
- Mostaed, M., Aldabas, K., Olaverri-Monreal, C. (2017) "Approaching Emergency Vehicle Warning (AEVW) ", Sixteenth International Conference on Computer Aided Systems Theory (Eurocast 2017), Museo Elder de la Ciencia y la Tecnología, Las Palmas de Gran Canaria. Canary Islands, Spain
- Allamehzadeh, A., Aminian, M. S., Mostaed, M., Olaverri-Monreal, C. (2017) "Online Traffic Management System (OTMS): Vehicle Counting via Computer Vision ", Sixteenth International Conference on Computer Aided Systems Theory (Eurocast 2017), Museo Elder de la Ciencia y la Tecnología, Las Palmas de Gran Canaria. Canary Islands, Spain
- Çapalar, J., Nemeč, A., Zahradnik, C., Olaverri-Monreal, C. (2017) "Telematics Solution for Optimal Passenger Distribution at Metro Stations ", Sixteenth International Conference on Computer Aided Systems Theory (Eurocast 2017), Museo Elder de la Ciencia y la Tecnología, Las Palmas de Gran Canaria. Canary Islands, Spain
- Aminian, M. S., Allamehzadeh, A., Mostaed, M., Olaverri-Monreal, C. (2017) "Smartphone-Based Traffic Sign Detection Using OpenCV ", Sixteenth International Conference on Computer Aided Systems Theory (Eurocast 2017), Museo Elder de la Ciencia y la Tecnología, Las Palmas de Gran Canaria. Canary Islands, Spain
- Yi, Q., Tian, R., and Chen, K., "A Universal 3D Gait Planning based on Comprehensive Motion Constraints", In Proceedings of HCI International, Vancouver, Canada, July, 2017
- Tian, R., and Chen, Y., "Understanding the Performance and Limitations of Advanced Driver State Monitoring System through Naturalistic Driving Experiments", in the 4th Workshop on Naturalistic Driving Data Analytics, IEEE International Conference on Intelligent Vehicles Symposium, Redondo Beach, California, USA, June, 2017
- Fu, L., Tian, R., Li, L., Chen, Y., and Sherony, R., "Bicycle Speed Analysis for Assessment of Bicyclist Pre-Collision System", in 25<sup>th</sup> Enhanced Safety Vehicles (ESV) Conference, Detroit, Michigan, June, 2017

## **8. Other Activities (Keynotes)**

Olaverri-Monreal, C. (October 2017): "Human perception of driving environment and the role of intelligent traffic solutions ", VOLVO Group Trucks Technology, GÖTEBORG, Sweden

Olaverri-Monreal, C. (April 2017): "Human Factors and Intelligent Vehicle Technologies", 3rd International Conference on Vehicle Technology and Intelligent Transport Systems (VEHITS), Porto, Portugal, Plenary session. <http://www.vehits.org/PreviousInvitedSpeakers.aspx>

Olaverri-Monreal, C. (April 2017): "Future Challenges and Opportunities: Urbanization, Mobility and Sustainability", Plenary Panel Session of VEHITS 2017 and SMARTGREENS 2017, Porto, Portugal.

Olaverri-Monreal, C. (March 2017): V2H International Conference "Road Safety & Human Factor - Autonomous Vehicles in mixed traffic", Vienna, Austria. <https://automated-driving.at/#talk20>

## **9. Other Activities (Guest lectures and summer schools)**

Summer School on Human Factors Aspects of Cooperative Systems Design, EURECOM, Sophia-Antipolis, France <http://afa-hufaco.eurecom.fr/node/2>

Guest lecture “The role of Human factors in Intelligent Vehicles” Universidad Carlos III, Madrid, PhD. Program.

## 10. **Other Activities (Awards)**

Awardee Cristina Olaverri-Monreal with the 2017 IEEE Educational Activities Board Meritorious Achievement Award in Continuing Education with the following citation:

“for designing and implementing innovative courses and programs in the field of intelligent transportation systems”

### **CALL FOR VOLUNTEERS:**

*Please, make a list of available positions for volunteers for the organization of the technical activities of this TC*

Member of the technical activities committee