

**Technical Committee on:**

***“Artificial Transportation Systems and Simulation”***

<https://web.fe.up.pt/~atss-tc/site/> (not updated)

**TC Report**

**2017**



Chair (corresponding chair):

Rosaldo Rossetti ([rossetti@fe.up.pt](mailto:rossetti@fe.up.pt))



Co-Chairs:

Shuming Tang ([shuming.tang@ia.ac.cn](mailto:shuming.tang@ia.ac.cn))



Fenghua Zhu ([fenghua.zhu@ia.ac.cn](mailto:fenghua.zhu@ia.ac.cn))

## **Organized Events and Activities**

### **1. Conferences**

<b>Year</b>	<b>Conference name</b>	<b>Organizers &amp; functions</b>
2016	IEEE ITSC 2016	R. Rossetti (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>
2008	Workshop on ATSS	IEEE ITSC 2008	R. Rossetti; R. Liu	15+
2010	Workshop on ATSS	IEEE ITSC 2010	R. Rossetti; R. Liu	20+
2012	Workshop on Human Factors in IV	IEEE IV 2012	C. Olaverri; R. Rossetti	30+
2013	Workshop on Human Factors in IV	IEEE IV 2013	C. Olaverri; R. Rossetti	25+
2014	Workshop on ATSS	IEEE ITSC 2014	R. Rossetti; F. Zhu	15+
2014	Workshop on Human Factors in IV	IEEE IV 2014	C. Olaverri; R. Rossetti	30+
2015	Workshop on Human Factors in IV	IEEE IV 2015	C. Olaverri; R. Rossetti	30+
2016	Workshop on ATSS	IEEE ITSC 2016	A. Fernandez; F. Zhu	15+
2016	Workshop on Human Factors in IV	IEEE IV 2016	C. Olaverri; R. Rossetti	30+
2017	Workshop on ATSS	IEEE ITSC 2017	F. Zhu; R. Rossetti	-

### **3. Organized Sessions**

<b>Year</b>	<b>Invited/special technical session title</b>	<b>Conference Host</b>	<b>Organizers/ Moderator</b>
2007	Special Session on ATSS	IEEE ITSC 2007	R. Rossetti
2009	Special Session on ATSS	IEEE ITSC 2009	R. Rossetti
2011	Special Session on ATSS	IEEE ITSC 2011	R. Rossetti
2013	Special Session on ATSS	IEEE ITSC 2013	R. Rossetti
2015	Special Session on ATSS	IEEE ITSC 2015	R. Rossetti

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

<b>Year</b>	<b>Title</b>	<b>Journal</b>	<b>Editor</b>
2011	Artificial Transportation Systems and Simulation	IEEE T-ITS	R. Rossetti; R. Liu; S. Tang
2014	Human Factors on Intelligent Vehicles	IEEE T-ITS	C. Olaverri; R. Rossetti

## 5. Book and Book chapters

Year	Title	Journal/ Publisher	Editors or Guest- Editors
2014	Advances in Artificial Transportation Systems and Simulation	Elsevier Academic Press	Rosaldo Rossetti and Ronghui Liu (Editors)

## 6. Competitions

Year	Title	Object	Organizer

## 7. Other Activities

In 2017, the ATSS TC participated in the organisation of the **First IEEE International Summer School on Smart Cities (IEEE S3C)**, held in Natal-RN, Brazil, from 6-11 August, 2017. The ATSS-TC Chair, Rosaldo Rossetti, participated in the following roles:

- Program Chair of IEEE S3C 2017
- Lecturer, with the tutorial “Smart Mobility: issues and opportunities,” in which the concept and importance of Artificial Transportation Systems and Simulation tools were presented, emphasised, and illustrated with practical examples, with applications to the emerging area of smart mobility.

Rosaldo Rossetti also served as **member of the Steering Committee of the IEEE Smart Cities Initiative, during the term 2013-2017**. Among his editorial duties, he promoted the application of Artificial Transportation Systems and Simulation tools to smart mobility and other areas of smart cities, as simulation and artificial systems are cross-disciplinary fields.

In 2016, Rosaldo Rossetti participated in the **Smart Mobility Summer School 2016, held in Gran Canaria, Canary Islands, Spain, 14-15 July, delivering the lecture “Smart Cities: issues and opportunities for citizen engagement in mobility,”** also emphasising the role and importance of artificial systems and simulation tools to devise, design, test and continuously assess social-technical systems, such as intelligent transportation systems, smart mobility, and smart cities in general.

Very importantly, the Artificial Transportation Systems and Simulation technical activities sub-committee has been very active since 2007, organising regularly biennial workshops and special sessions, in alternate years, ever since. On the one hand, workshops are devoted to promote open discussions on trends, work-in-progress projects, ideas, and new paradigms. On the other hand, special sessions at ITSCs are meant to consolidate the ideas and trends discussed in the previous year, as solid conference papers and final results are presented during the special sessions of ITSC. This format has proven to be very successful, with one special issue published in the IEEE Transactions on ITS and a

book edited later on, on Advances in ATSS.

We are also very proud that our activities in a rather cross-disciplinary perspective resulted in creation of a new Technical Activity sub-committee, in 2013, namely the TC on Human Factors in ITS, led by Dr. Cristina Olaverri. The ATSS TC supported the organisation of the first workshop on Human Factors in Intelligent Vehicles, at IEEE IV 2012, and has co-organised this event until 2016, with the HFITS TC as the leading technical committee.

As a result of this long-term commitment of the ATSS TC within the technical activities of the IEEE ITS Society, Rosaldo Rossetti served as a member of the ITSS Board of Governors during term 2011-2013, and was the responsible to bring the flagship conference of the Society to the south hemisphere for the first time, acting as the General Chair of the prominent IEEE ITS Conference, held in Rio de Janeiro, in 2016.

We look forward to continuing our involvement within IEEE ITS Society's technical activities and promote other new and innovative activities in our ATSS Technical Committee, continuing our history of active dedication and help the incubation and maturation of other activities and perhaps other new technical committees. We also plan to foster and improve our collaboration with other TCs, as we strongly believe the cross-disciplinary nature of ATS and Simulation tools may underlie the creative innovation of other ideas and developments in other TCs within the IEEE ITS Society.

October 5th, 2017



*Rosaldo Rossetti*

*On behalf of the co-chairs of the ATSS TC*

## **CALL FOR VOLUNTEERS:**

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

The ATSS TC calls upon volunteers to organise the following activities:

- Workshops on ATSS at IEEE ITSCs
- Special Sessions on ATSS at IEEE ITSCs
- On-line tutorials on traffic/transportation simulation tools (both commercial and open source)
- On-line tutorials on technics for calibration and validation models of transportation networks
- Curate a database of multi-model network models to serve as benchmark of new simulation paradigms in ITS and Smart Mobility
- Organise simulation championships on behavioural modelling, discrete-choice models, generation of artificial transportation societies, and other potential applications of simulation tools
- Organise activities to foster the use of virtual reality, simulation games, and other interaction techniques/technologies within artificial transportation systems and simulation tools

Interested people, please contact Rosaldo Rossetti ([rossetti@fe.up.pt](mailto:rossetti@fe.up.pt))

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