

"Embedded and Networked Systems for Intelligent Vehicles and Robots"

The Theme: Embedded and networked systems for intelligent e-vehicles and robots are emerging, with a high economic, societal and industrial impact. They will improve safety (reducing accidents caused by human errors), sustainability (increasing transport system efficiency), comfort/inclusivity (ensuring user's freedom for other activities and mobility for all), logistic & factory automation (with a key role in industry 4.0, allowing industrial robots moving and operating autonomously and cooperating). There are many key enabling technologies for the revolution, such as networked sensors, actuators and embedded computing/control platforms distributed on-board the vehicle/robot...etc. Moreover, Artificial Intelligence (AI) and deep learning computing platform are emerging to achieve full intelligent autonomous mobility of vehicles and robots.

Solving these issues for intelligent e-vehicles and robots will have benefit for other applications such as unmanned vehicles and Industry 4.0 scenarios. Last but not least, worldwide standardization and homogenization efforts are needed to ensure interoperability of the solutions.

We solicit papers covering the following topics of interest, but not limited to:

- Embedded systems, embedded software, hardware/software partition & real-time systems in vehicles
- Real-time communications in vehicles, e.g., AVB, TSN, CAN, Flexray
- Scheduling and schedulability analysis techniques
- Models, languages and techniques to deal with the complexity of vehicle software
- Advanced powerful execution platforms, e.g., multi-core Electronic Control Units
- Functional safety and certification (e.g., according to ISO 26262) aspects in vehicles.
- Authentication, privacy and security issues in automated and connected vehicles/robots
- Networking for E-transportation and smart grid
- Peer-to-peer and cooperating vehicles and robots
- Over-the-air diagnostic and firmware/software update
- AI and deep learning computing for self-driving vehicles/robots
- V2X/M2X wireless transceivers, data-link, MAC and networking layers
- Synergies among vehicular, robotics and Industry4.0 technologies, tools and industrial case studies
- Homogenization and standardization to ensure interoperability, security and functional safety

Manuscript Preparation and Submission

Follow the guidelines in "Information for Authors" in the IEEE Transaction on Industrial Informatics <http://www.ieee-ies.org/pubs/transactions-on-industrial-informatics> Please submit your manuscript in electronic form through Manuscript Central website:

<https://mc.manuscriptcentral.com/tii> . On the submitting page #1 in popup menu of manuscript type, select: SS on **Embedded and Networked Systems for Intelligent Vehicles and Robots**

Submissions to this Special Section must represent original material that has been neither submitted to, nor published in, any other journal. Regular manuscript length is 8 pages, additional 4 pages may be allowed for a fee.

Note: The recommended papers for the section are subject to final approval by the Editor-in-Chief. Some papers may be published outside the special section, at the EIC discretion.

Timetable: **Deadline for manuscript submissions** **September 30, 2017 (Extended to Jan. 31, 2018)**
 Expected publication date (tentative) **April 2018**

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