CPS&IoT'2019

Summer School on
Cyber-Physical Systems and Internet-of-Things
in collaboration with Euromicro, IEEE and MANT
collocated with

ECYPS 2019 – 7th EUROMICRO/IEEE Workshop on Embedded and Cyber-Physical Systems
and
MECO 2019 – 8th Mediterranean Conference on Embedded Computing

Budva, Montenegro, June 10-14, 2019

http://embeddedcomputing.me/en/cps-iot

Call for Participation

You are encouraged to participate in this very special event that gives a unique opportunity to interact with outstanding specialists in the area of Cyber-Physical Systems (CPS) and Internet-of-Things (IoT), and to get acquainted with huge opportunities and impact of CPS and IoT, serious issues and challenges of their development, as well as, newest concepts, advanced knowledge and modern design tools created in numerous ongoing and recently finished European R&D projects in CPS and IoT. The Summer School is possible thanks to involvement of many outstanding researchers and developers from several European projects.

Cyber-physical systems (**CPS**) are smart compound systems engineered through seamless integration of embedded information processing sub-systems and physical sub-systems. The modern smart collaborating CPS, that started to form the Cyber-Physical Systems of Systems (CPSoS) and Internet of Things (IoT), have important applications in virtually all economic and social segments, and their huge economic and societal impact rapidly increases. There is however a common opinion that more well-trained researchers and developers are needed in this rapidly developing field, and more collaboration among different European projects.

This Summer School aims at serving the following main purposes:
- dissemination and exchange of advanced knowledge and project results from numerous European R&D projects in CPS and IoT;
- advanced training of industrial and academic researchers, developers, engineers and decision-makers; academic teachers, Ph.D. and M.Sc. students; entrepreneurs, investors, research funding agents, and policy makers; and other participants who want to learn about CPS and IoT engineering;
- promotion and facilitation of international contacts and collaboration among the Summer School participants.

Distinguishing features of this advanced Summer School are that its *lectures, demonstrations, and practical hands-on sessions* will be given by *top European specialists* in particular CPS and IoT fields *form industry and academia*, and will deliver *very fresh advanced knowledge*. They are based on *results from numerous currently running or recently finished European R&D projects in CPS and IoT*, what gives an excellent opportunity to get acquainted with issues and challenges of CPS and IoT development; actual industrial problems, designs and case studies; and new concepts, advanced knowledge and modern design tools created in the European R&D projects.

CPS&IoT'2019 target audience includes industrial and academic researchers, developers, engineers, decision-makers and managers; academic teachers, Ph.D. and M.Sc. students; entrepreneurs, investors, research funding agents, and policy makers. The school is open to everybody, but previous knowledge or equivalent practical experience at least at the Bachelor level in engineering (e.g. system, computer, electronic, electrical, automotive, aviation, mechanical, or industrial engineering), computer science, informatics, applied physics or similar is recommended.

Only a limited number of participants will be admitted.
Do not wait with your registration, but register as soon as possible.

Industry Participation is encouraged.
CPS&IoT'2019 Summer School is not only to follow courses and learn new knowledge on CPS and IoT from top professionals, but to meet people, interact and discuss with outstanding researchers, developers, academic lecturers, advanced students, and other participants, collaborate or start collaborations, and meet many talented people who may become employees of your companies as well.

Location
Budva is a 3500 years old town located at the Adriatic Sea coast of Montenegro. It is a popular touristic destination, with its charming Old Town, beautiful natural environment, 35 clean sandy beaches, and proximity to many famous touristic attractions as Kotor, Boka Kotorska, Sveti Stefan, Dubrovnik, and several national parks. It is an excellent place to have a summer school in a relaxed and friendly atmospheer.

Venue: <u>Hotel Budva</u>*****, Budva, Montenegro

Accommodation and Travel
Hotel Budva***** and Hotel Slovenska Plaza**** are advised for accommodation. The accommodation prices in Slovenska Plaza**** should be not higher than € 45 for a single room per night, including breakfast, lunch and dinner. There are many other accommodation possibilities in Budva.
Budva is very well accessible by plane. Podgorica Airport is about 65 km from Budva and it receives regular flights from Vienna, Paris, Rome, Zürich, Frankfurt, Warsaw, Ljubljana, Belgrade, and Instabul, while Tivat Airport (about 20km from Budva) and Dubrovnik Airport (65km from Budva) are very frequent vacation and charter flight destinations during the summer time. For more information on Accommodation and Travel see:
http://embeddedcomputing.me/en/meco-2019/travel-and-accommodation
The CPS&IoT'2019 Summer School Fee does not cover any accommodation and/or travel expenses.

The CPS&IoT'2019 Summer School Program is composed of four days of lectures, demonstrations, practical hands-on sessions, and discussions, as well as participation in ECYPS 2019 Workshop.
The **topics** of the lectures, demonstrations, and practical hands-on sessions cover major CPS applications (focusing on modern mobile applications that require high-performance or low energy consumption, as well as, high safety, security and reliability), CPS architectures, development problems and solutions, as well as, design methodologies and design tools for all CPS design phases, and include, but are not limited to, the following:
• CPS and IoT Opportunities, Development Trends, Issues and Challenges
• Autonomous and Self-Aware Cyber-Physical Systems
• Quality-Driven Design of Advanced CPS
• Embedded Processors and Reconfigurable Accelerators for Advanced CPS, and Related Tool Chains
• Mega-Modelling of Complex, Distributed, Heterogeneous CPS
• Max-Plus-Linear Models for CPS and ES
• Modular Verification and Validation Framework for CPS
• Virtual Platforms for Low-power Mixed-Criticality Embedded Systems Development and Validation
• Design Space Exploration for Hypervisor-based Mixed-Criticality Systems
• Trade-off Analysis between Quality-of-Control and Degree-of-Approximate-Computing
• Security of Embedded and Cyber-Physical Systems
• Safe Wireless Cooperative CPS
• Privacy and Security Environments in IoT
• Safety and Security Engineering of Automotive CPS
• Practical Embedded Systems Modelling, and Security, Safety and Performance Verification

The precise Program and Schedule of the CPS&IoT'2019 Summer School will be available for the registered Summer School participants.

Collocated Conferences:
CPS&IoT'2019 Summer School is collocated with ECYPS2019 – 7th EUROMICRO/IEEE Workshop on Embedded and Cyber-Physical Systems, and MECO2019 – 8th Mediterranean Conference on Embedded Computing. The Summer School participants are encouraged to submit their papers to ECYPS2019 and MECO2019:
http://embeddedcomputing.me/en.

Registration
To stimulate interaction between lecturers and participants, **only a limited number of participants will be admitted**.
Register to the school as soon as possible at the CPS&IoT'2019 Summer School web-site:
http://embeddedcomputing.me/en/cps-iot through filling in the Registration Form and paying the Summer School Fee.

The CPS&IoT'2019 Summer School Fee covers:
- Participation in the Summer School lectures, demonstrations, and practical hands-on sessions
- Free participation in ECYPS 2019 and MECO 2019 sessions.
- Materials of the Summer School
- Lunches and coffee/tea breaks during the Summer School
- Gala Dinner
The fee does not cover anything that is not listed under "The CPS&IoT'2019 Summer School Fee covers".

Contact
Please do not hesitate to contact us.
In case of questions related to the **Summer School Program** please contact Prof. Lech Jóźwiak, Program Chairman of CPS&IoT'2019: L.Jozwiak@tue.nl
For **all other questions** (on registration, fee payment, organization, etc.) please contact Prof. Radovan Stojanović, Organizing Chairman of CPS&IoT'2019: stox@ac.me

More information: http://embeddedcomputing.me/en; http://embeddedcomputing.me/en/cps-iot