



## Conference Program

### Wednesday, April 26

08:00-09:00 Registration

#### 09:00-10:30 Opening Session

- **Welcome & Introduction**  
Richard Balogh, Wilfried Lopuschitz, David Obdržálek, George Sharkov – RiE 2017 Co-Chairpersons; SAP
- **Keynote: Teaching Computer Science and Software Engineering for Embedded & Robotics Engineers**  
Anthony J. Lattanze, Carnegie Mellon University, USA

10:30-10:45 Coffee break

#### 10:45-12:00 Technical Session 1: Artificial Intelligence, Virtual Environments and Cloud Tools

- **eduMorse: an open-source framework for mobile robotics education (#8)**  
Daniele De Martini, Andrea Bonandin and Tullio Facchinetti
- **Teaching robotics with cloud tools (#17)**  
Igor Zubrycki and Grzegorz Granosik
- **An open robotics environment motivates students to learn the key concepts of artificial neural networks and reinforcement learning (#4)**  
Tapani Toivonen, Ilkka Jormanainen and Markku Tukiainen

12:00-13:10 Lunch break

#### 13:10-14:00 Technical Session 6: Robots as Teachers

- **An Elementary Science Class with a Robot Teacher (#18)**  
Alex Polishuk and Igor Verner
- **Design of robot teaching assistants through multi-modal human-robot interactions (#10)**  
Paola Ferrarelli, María T. Lázaro and Luca Iocchi

#### 14:00-15:40 Technical Session 2: Project-based Learning Approaches

- **MuseumsBot - An Interdisciplinary Scenario in Robotics Education (#5)**  
Tanja Heuer, Ina Schiering and Reinhard Gerndt
- **Marine Robotics an Effective Interdisciplinary Approach to Promote STEM Education (#14)**  
Saeedeh Ziaeeafard and Nina Mahmoudian

- **Designing Robotics Student Projects from Concept Inventories (#13)**  
Reinhard Gerndt and Jens Lüssem
- **Teaching Research Methodologies with a Robot in a CS Lab Course (#35)**  
Mathias Landhäußer, Sebastian Weigelt and Martin Blersch

15:40-16:00 Coffee break

### **16:00-18:00 Technical Session 3: Workshops, Curricula and Related Aspects #1**

- **Teaching Robotics Concepts to Elementary School Children (#21)**  
Mor Friebronn Yesharim and Mordechai Ben-Ari
- **LEGO WeDo Curriculum for Lower Secondary School (#34)**  
Michaela Veselovská and Karolína Mayerová
- **The Effect of the Programming Interfaces of Robots in Teaching Computer Languages (#23)**  
B.Baransel Bagci, Mustafa Kamasak and Gokhan Ince
- **Creativity and contextualization activities in educational robotics to improve engineering and computational thinking (#43)**  
Albert Valls Pou, Jordi Albo-Canals and Xavi Canaleta

From 19:00 Conference Dinner at Restaurant: "Pri Orlite" ([www.priorlite.com](http://www.priorlite.com))

Address: 11 "Dyakon Ignatii" Str., 1000 Sofia (Near the National Theatre)

Bus pick-up: 18:30, in front of the main entrance of the incubator

## **Thursday, April 27**

### **09:00-10:10 Invited Talks**

- **Keynote: Action Research in Robotics Education**  
Igor Verner, Technion – Israel Institute of Technology, Israel
- **Robotics for Bulgaria**  
Marin Shalamanov and Peter Petrov, SAP Bulgaria

10:10-10:30 Coffee break

### **10:30-12:10 Technical Session 4: Comprehensive Educational Robotics Activities**

- **TechColleges – Learn to Teach Using Robots (#7)**  
Thomas N. Jambor
- **Robotics peer-to-peer teaching summer school project involving university students, summer interns and middle school students (#9)**  
Sabrina Rubenzer, Georg Richter and Alexander Hofmann
- **Methods for Managing Student-Driven Robotics Research (#11)**  
Cem Avsar, Lennart Kryza and Klaus Brieß
- **Robotics Education in Saint Petersburg Secondary School (#22)**  
Sergey Filippov, Natalia Ten, Alexander Fradkov and Ilya Shirokolobov

12:10-13:00 Lunch break

**13:00-14:00 ECER Session:** 4 talks by high school students

### **14:00-14:50 Technical Session 5: Workshops, Curricula and Related Aspects #2**

- **Educational Robotics for Creativity, Communication, Collaboration and Digital Fluency (#46)**  
Ivaylo Gueorguiev, Christina Todorova, Pavel Varbanov, George Sharkov, Petar Sharkov, Carina Girvan, Nikoleta Yiannoutsou and Marianthi Grizioti

- **Pythagorean Approximations for LEGO: Merging Educational Robot Construction with Programming and Data Analysis (#3)**  
Ronald I. Greenberg

#### 14:50-15:30 Poster Session

- **Needs, opportunities and constraints on the way to the wide introduction of robotics to teaching at secondary vocational schools (#24)**  
Mikuláš Hajduk, Zbigniew Pilat, Adrian D. Olaru and Marek Vagaš
- **Open-source robotic manipulator and sensory platform (#39)**  
Luka Čehovin Zajc, Anže Rezelj and Danijel Skocaj
- **OTO - A DIY Platform for Mobile Social Robots in Education (#49)**  
Natan Doms, Thomas Vervish, Sander Descamps, Cesar Vandeveldel, Francis Wyffels, Steven Verstockt and Jelle Saldien
- **Teaching Robotics for Computer Science Students (#37)**  
Vesna Kirandziska and Nevena Ackovska
- **Using Robotics to Foster Creativity in Early Gifted Education (#32)**  
Tomislav Jagust, Jasna Lay, Ana Sovic Krzic and Damir Sersic
- **The Evaluation of Robotics Activities for Facilitating STEM Learning (#20)**  
Ronit Ben-Bassat Levy and Mordechai Ben-Ari

15:30-16:00 Poster coffee break

#### 16:00-18:00 Technical Session 7: Technologies for Educational Robotics

- **TUC-Bot: A Microcontroller based Robot for Education (#26)**  
Sven Lange, Peter Weissig, Andreas Uhlig and Peter Protzel
- **Open Source Robotics Course at Engineering: Infrastructure and Methodology (#31)**  
Francisco Martín Rico
- **The Robobo Project: Bringing Educational Robotics Closer to Real-World Applications (#40)**  
Francisco Bellas, Martin Naya, Gervasio Varela, Luis Llamas, Abraham Prieto, J.C. Becerra, Moises Bautista, Richard Duro and Andres Fain
- **Architectural Overview and Hedgehog in Use (#44)**  
Clemens Koza, Martin Wolff, Daniel Frank, Wilfried Lepuschitz and Gottfried Koppensteiner
- **Experiment on Assembling and Exploring Educational Mobile Robot using PVM Framework with Augmented Reality (#25)**  
Malek Alrashidi

#### 18:00-18:10 Closing Session

- **Résumé / Outlook on RiE 2018**  
Richard Balogh, Wilfried Lepuschitz, David Obdržálek, George Sharkov – RiE 2017 Co-Chairpersons

### Friday, April 28

08:00-11:00 ECER Finals

11:30-13:00 Award ceremony

**Regular paper presentations:** 15-20 minutes plus 5 minutes Q&A

**Short paper presentations:** 7 minutes, to be complemented by discussions with authors next to posters during poster coffee break