

**10th International Conference on Robotics in Education  
Vienna, April 10-12, 2019**



## Conference Program

Registration for RiE 2019: <http://rie2019.info/registration-information/>

### **Wednesday, April 10**

08:00-09:00 Registration

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

- **Welcome & Introduction**  
Richard Balogh, Wilfried Lepuschitz, David Obdržálek – RiE 2019 Co-Chairs
- **Keynote: Educational Robotics in the Era of Industry 4.0s**  
Igor Verner, Israel Institute of Technology, Israel

10:00-10:20 Coffee break

#### **10:20-12:00 Technical Session 1: Technologies for Educational Robotics**

*Session Chair: Richard Balogh*

- **Turtlebot 3 as a Robotics Education Platform (#26)**  
Robin Amsters and Peter Slaets
- **SLIM - A Scalable and Lightweight Indoor-navigation MAV as research- and education platform (#33)**  
Werner Alexander Isop and Friedrich Fraundorfer
- **An Open Solution for a Low-Cost Educational Toy (#51)**  
Pavel Petrovič and Jozef Vaško
- **Environment Virtualization for Visual Localization and Mapping (#27)**  
David Valiente, Yeraí Berenguer, Luis Payá, Nuno M. Fonseca Ferreira and Oscar Reinoso

12:00-13:00 Lunch break

**13:00-14:10 ECER Session:** talks by high school students (2<sup>nd</sup> floor)

#### **14:10-15:00 Poster Session 1: Various Topics**

*Session Chair: Munir Merdan*

- **Integrating Mathematics and Educational Robotics: Simple Motion Planning (#49)**  
Ronald I. Greenberg, George Thiruvathukal and Sara T. Greenberg

- **Using robots as an educational tool in native language lesson (#29)**  
Ariana Milašinčić, Bruna Anđelić, Liljana Pushkar and Ana Sovic Krzic
- **Cross-Age Mentoring to Educate High-School Students in Digital Design and Production (#15)**  
Yuval Walter and Igor Verner
- **User-driven design of robot costume for child-robot interactions among children with cognitive impairment (#20)**  
Luthffi Ismail, Fazah Hanapiah and Francis Wyffels
- **Evolution of Educational Robotics in Supplementary Education of Children (#38)**  
Anton Yudin and Andrey Vlasov

15:00-15:30 Poster coffee break

### 15:30-17:10 Technical Session 2: Workshops, Curricula and Related Aspects #1

*Session Chair: Igor Verner*

- **Design and analysis of a robotics day event to encourage the uptake of a career in STEM fields to pre-GCSE students (#56)**  
Shane Trimble, Daniel Brice, Ché Cameron and Micheal Cregan
- **Robotic Theater: An architecture for Competency Based Learning (#46)**  
Enrique González, John Jairo Páez Rodríguez, Diego Molano and Carlos Parra
- **STEAM Approach to Autonomous Robotics Curriculum for High School using the Robobo Robot (#55)**  
Francisco Bellas, Alma Mallo, Martin Naya, Daniel Souto, Alvaro Deibe, Abraham Prieto and Richard Duro
- **Project-based learning focused on cross-generational challenges (#57)**  
Georg Jäggle, Munir Merdan, Gottfried Koppensteiner, Christoph Brein, Bernhard Wallisch, Peter Marakovits, Markus Brunn, Wilfried Lepuschitz and Markus Vincze

From 19:00 **Conference Dinner at Augustinerkeller Bitzinger**  
Augustinerstraße 1, 1010 Vienna

## Thursday, April 11

### 09:30-10:20 Technical Session 3: Programming Environments

*Session Chair: David Obdržálek*

- **A generalized Matlab/ROS/Robotic Platform framework for teaching Robotics (#30)**  
Nuria Rosillo, Nicolás Montés, João Pedro Alves and Nuno Miguel Fonseca-Ferreira
- **Programming a Humanoid Robot with the Scratch Language (#34)**  
Sílvia Moros, Luke Wood, Ben Robbins, Kerstin Dautenhahn and Álvaro Castro

10:20-10:50 Coffee break

### 10:50-12:30 Technical Session 4: Integrating Robotics with School Subjects

*Session Chair: Michael Cregan*

- **Bringing an educational robot into a basic education math lesson (#1)**  
Janika Leoste and Mati Heidmets
- **Inviting teachers to use educational robotics to foster mathematical problem-solving (#16)**  
Vladimir Estivill-Castro

- **Learning Symmetry with Tangible Robots (#37)**  
Wafa Johal, Sonia Andersen, Morgane Chevalier, Ayberk Özgür, Francesco Mondada and Pierre Dillenbourg
- **Lessons from delivering a STEM workshop using educational robots given language limitations (#10)**  
Daniel Carrillo-Zapata, Chanelle Lee, Krishna Manaswi Digumarti, Sabine Hauert and Corra Boushel

12:30-13:30 Lunch break

### 13:30-14:50 Technical Session 5: Robotics Competitions

*Session Chair: Wilfried Lepuschitz*

- **Participants' perceptions about their learning with FIRST LEGO® League Competition – a gender study (#13)**  
Despoina Schina, Mireia Usart and Vanessa Esteve-Gonzalez
- **Young Roboticians' Challenge - Future with Social Robots, World Robot Summit's Approach: Preliminary Investigation (#47)**  
Amy Eguchi
- **Robotics League -- an unique online robotics competition (#50)**  
Pavel Petrovic and Richard Balogh

### 14:50-15:30 Invited Talk

- **Keynote: I will survive!**  
Gerald Steinbauer, Graz University of Technology, Austria

15:30-16:00 Coffee break

### 16:00-17:40 Technical Session 6: Workshops, Curricula and Related Aspects #2

*Session Chair: Vladimir Estivill-Castro*

- **On the use of robotics for the development of computational thinking in kindergarten: educational intervention and evaluation (#18)**  
Evgenia Roussou and Maria Rangoussi
- **STEAM robotic puzzles to teach in primary school. A Sustainable City project case (#31)**  
Francisco Ruiz, Alberto Zapatera and Nicolás Montés
- **Technological Literacy through Outreach with Educational Robotics (#32)**  
Georg Jäggle, Lara Lammer, Hannah Hieber and Markus Vincze
- **Robotics Education To and Through College (#48)**  
Brian Page, Saeedeh Ziaeeefard, Lauren Knop, Mo Rastgaar and Nina Mahmoudian

## Friday, April 12

### 09:00-09:50 Poster Session 2: Various Topics

*Session Chair: Munir Merdan*

- **Educational Robotics in Kindergarten, a case study (#35)**  
Garyfalia Mantzanidou
- **Comparison of LEGO WeDo 2.0 robotic models in two different grades of elementary school (#28)**  
Michaela Veselovská, Zuzana Kubincová and Karolina Mayerova

- **CREA: An inquiry-based methodology to teach robotics to children (#54)**  
Maria Blancas, Cristina Valero, Anna Mura, Vasiliki Vouloutsi and Paul F.M.J. Verschure
- **First Steps in Teaching Robotics with Drones (#41)**  
Benedikt Breuch and Martin Fislake
- **Educational robotics competitions and involved methodological aspects (#11)**  
Eftychios Christoforou, Panicos Masouras, Pericles Cheng, Sotiris Avgousti, Nikolaos Tsekos, Andreas Panayides and George Georgiou
- **Autonomous Driving Car Competition (#3)**  
João Pedro Alves, Nuno Ferreira, António Valente, Salviano Soares and Vítor Filipe
- **The uncanny valley of the virtual animals (#23)**  
Alexandra Sierra Rativa, Marie Postma and Menno Van Zaanen

09:50-10:20 Poster coffee break

### 10:20-12:00 Technical Session 7: Cross Topics

*Session Chair: Richard Balogh*

- **Robots Tutors: Welcome or Ethically Questionable? (#40)**  
Matthijs Smakman and Elly Konijn
- **Teaching Robotics with a Simulator Environment developed for the Autonomous Driving Competition (#36)**  
David Fernandes, Francisco Pinheiro, André Dias, Alfredo Martins, Jose Almeida and Eduardo Silva
- **Setup of a Temporary Makerspace for Children at University: MAKER DAYS for kids 2018 (#21)**  
Maria Grandl, Martin Ebner and Andreas Strasser
- **Cyber-physical system security: Position spoofing in a class project on autonomous vehicles (#45)**  
Gregory Lewin

12:00-13:00 Lunch break

### 13:00-13:50 Technical Session 8: Comprehensive View on Educational Robotics

*Session Chair: Wilfried Lopuschitz*

- **On Measuring Engagement Level During Child-Robot Interaction in Education (#17)**  
Chris Lytridis, Christos Bazinas, George Papakostas and Vassilis Kaburlasos
- **The effect of commercially available educational robotics: A systematic review (#24)**  
Bjarke Pedersen, Jørgen Larsen and Jacob Nielsen

### 13:50-14:00 Closing Session

- **Résumé / Outlook on RiE 2020**  
Richard Balogh, Wilfried Lopuschitz, David Obdržálek – RiE 2019 Co-Chairs

### **Information about presentations:**

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

**Short paper presentations:** 6 minutes, to be complemented by discussions with authors next to posters during poster coffee break