

## 9th International Conference on Robotics in Education Malta, April 18-20, 2018



### Conference Program

Registration for RiE 2018: <http://register.rie2018.info/>

#### Wednesday, April 18

08:00-09:00 Registration

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

- **Welcome & Introduction**  
Richard Balogh, Angele Giuliano, Wilfried Lepuschitz, David Obdržálek – RiE 2018 Co-Chairpersons
- **Keynote: An Incomplete History of Robotics Education and KISS Institute for Practical Robotics**  
David Miller, US National Science Foundation (NSF)/University of Oklahoma, USA

10:00-10:20 Coffee break

#### **10:20-12:00 Technical Session 1: Comprehensive View on Educational Robotics #1**

- **Beyond Educational Robotics (#26)**  
Marjo Virnes
- **Robots for Learning and Learning for Robots: An Examination of the Education-Robotics Symbiosis (#45)**  
Habib Ahmed, Syed Irtiza Ali Shah and Yasar Ayaz
- **Roboterfabrik: A Pilot to Link and Unify German Robotics Education to Match Industrial and Societal Demands (#43)**  
Sami Haddadin, Lars Johannsmeier, Johannes Schmid, Tobias Ende, Sven Parusel, Simon Haddadin, Moritz Schappler, Torsten Lilge and Marvin Becker
- **EduRobot Taxonomy: A Provisional Schema for Classifying Educational Robots (#1)**  
Dave Catlin, Martin Kandlhofer and Stephanie Holmquist

12:00-13:00 Lunch break

**13:00-14:15 ECER Session:** 4 talks by high school students

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

- **Case study on physical computing with NodeMCU on summer school (#28)**  
Eva Klimeková, Marek Mansell, Karolína Mayerová and Michaela Veselovská
- **MOOC on The Art of Grasping and Manipulation in Robotics: Design Choices and Lessons Learned (#27)**  
Maria Pozzi, Monica Malvezzi and Domenico Prattichizzo

- **Prototyping and Programming a Multipurpose Educational Mobile Robot - NaSSIE (#3)**  
Vítor Pinto, João Monteiro, José Gonçalves and Paulo Costa
- **IDEE: A Visual Programming Environment to teach Physics through Robotics in Secondary Schools (#16)**  
Samantha Orlando, Elena Gaudioso and Félix de La Paz
- **Using Finite State Automata in Robotics (#38)**  
Richard Balogh and David Obdržálek

15:00-15:30 Poster coffee break

### 15:30-17:30 Technical Session 2: Workshops, Curricula and Evaluation #1

- **RobotCraft: The first international collective internship for advanced robotics training (#8)**  
Micael Couceiro, André Araújo, Karen Tatarian and Nuno Ferreira
- **Multigenerational Collaboration to Create a Community of Practice through Robot Application Development (#23)**  
Nahoko Kusaka, Nobuyuki Ueda and Koichi Kondo
- **Two-stage Approach for Long-term Motivation of Children to Study Robotics (#30)**  
Kateřina Břejchová, Jitka Hodná, Lucie Halodová, Anna Minaeva, Martin Hlinovský and Tomáš Krajník
- **University students were creating activities for leisure time robotic lessons with constructionist approach (#41)**  
Michaela Veselovská, Karolína Mayerová and Iveta Csicsolová
- **Bringing Educational Robotics into the Classroom: Implications of a Robotics Promotion Program (#15)**  
Benedikt Breuch and Martin Fislake

From 19:00 Conference Dinner

## Thursday, April 19

### 09:00-09:40 Invited Talk

- **Keynote: Understanding Robotics in Education**  
Carina Girvan, School of Social Sciences at Cardiff University, UK

### 09:40-10:20 Technical Session 3: Robotics Technologies

- **AMiRo: A Mini Robot as Versatile Teaching Platform (#35)**  
Thomas Schöpping, Timo Korthals, Marc Hesse and Ulrich Rueckert
- **Teaching with open-source robotic manipulator (#39)**  
Luka Čehovin, Anže Rezelj and Danijel Skocaj

10:20-10:40 Coffee break

### 10:40-12:00 Technical Session 4: Workshops, Curricula and Evaluation #2

- **Short Course at Brazilian Robotics Olympiad: Forming Competitors (#14)**  
Erika Yanaguibashi, Sarah Sá and Luiz Goncalves
- **Improving students' concepts about Newtonian mechanics using mobile robots (#19)**  
Paola Ferrarelli, Wilson Villa, Margherita Attolini, Donatella Cesareni, Federica Micale, Nadia Sansone and Luca Iocchi

- **How we can teach Educational Robotics to foster 21st learning skills through PBL, Arduino and S4A? (#44)**  
Alexandra Sierra

12:00-13:00 Lunch break

### 13:00-14:15 Technical Session 5: Cross Topics in Educational Robotics

- **iBridge - Participative cross-generational approach with Educational Robotics (#31)**  
Georg Jäggle, Markus Vincze, Astrid Weiss, Gottfried Koppensteiner, Wilfried Lepuschitz and Munir Merdan
- **Modelling the Driver Assistance Systems using an Arduino Compatible Robot (#36)**  
Richard Balogh and Peter Ľapák
- **Robotic Trains as an Educational and Therapeutic Tool for Autism Spectrum Disorder Intervention (#21)**  
Ahmad Yaser Alhaddad, Hifza Javed, Olcay Connor, Bilikis Banire, Dena Al Thani and John-John Cabibihan

### 14:15-15:00 Poster Session 2: Various Topics

- **Teacher Training in Educational Robotics. An Experience in Southern Switzerland: The PReSO Project (#7)**  
Lucio Negrini
- **Challenging Intensive Project-Based Education: Short-Term Class on Mobile Robotics with Mechatronic Elements (#17)**  
Anton Yudin, Maria Salmina and Vladimir Sukhotskiy
- **Educational Robotics to Support Social Relations at School (#18)**  
Federica Truglio, Davide Marocco, Orazio Miglino, Michela Ponticorvo and Franco Rubinacci
- **How does participation in FIRST LEGO League Robotics Competition impact children's problem-solving process? (#33)**  
Xiyan Chen
- **Education with robots inspired in biological systems (#5)**  
Nuno Ferreira, Fernando Moita, Victor Santos, João Ferreira, João Cândido, Frederico Santos and Marco Silva

15:00-15:30 Poster coffee break

### 15:30-16:45 Technical Session 6: Programming Environments

- **Tailoring a ROS Educational Programming Language Architecture (#6)**  
Karen Tatarian, Samuel Pereira, Micael Couceiro and David Portugal
- **Visual Language to Control EV3 with ROS (#42)**  
Yessica Rosas Cuevas and Jose Herrera Quispe
- **Real-time Matlab-Simulink-Lego EV3 framework for teaching Robotics subjects (#24)**  
Nicolás Montés, Nuria Rosillo, Marta Covadonga Mora and Lucia Hilario

### 16:45-17:10 Technical Session 7: Comprehensive View on Educational Robotics #2

- **The Robotics Concept Inventory (#40)**  
Reinhard Gerndt and Jens Lüssem

## **17:10-17:30 Closing Session**

- **Résumé / Outlook on RiE 2019**  
Richard Balogh, Angele Giuliano, Wilfried Lepuschitz, David Obdržálek – RiE 2018  
Co-Chairpersons

## **Friday, April 20**

**08:30-13:00 ECER Finals and Award Ceremony**

**From 13:00 Cultural Tour - Valletta 2018 Special** (optional)

<http://register.rie2018.info/product/extras/cultural-tour-valletta-2018-special-20th-april/>

### **Information about presentations:**

**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