

# 11<sup>th</sup> International Conference on Robotics in Education

Virtual Event – 30.09.-02.10.2020

## Wednesday, September 30

### 09:00-09:20 Opening Session

- **Welcome & Introduction**  
Richard Balogh, Wilfried Lepuschitz, David Obdržálek – RiE 2020 Co-Chairs

### 09:20-10:45 Technical Session 1: Workshops, Curricula and Related Aspects #1

- **Robotikum – Promoting STEM Education in Schools Using an Adaptive Learning Scenario (#7)**  
Sabrina Zeaiter and Patrick Heinsch
- **ROSSINI: RobOt kidS deSign thiNking (#35)**  
Simon Haller-Seeber, Philipp Zech, Erwan Renaudo, Florian Westreicher, Stefan Strappler, Markus Walzthöni, Cornelia Vidovic and Justus Piater
- **Using Robots for Digital Storytelling. Teaching Human Rights for Primary School Students (#8)**  
Janika Leoste, Luis Pastor, José San Martín López, Carlos Garre, Paul Seitlinger, Pilar Martino and Elena Peribáñez
- **Geriatrics - a student workshop on senior citizens, robotics and ethical issues (#23)**  
Sabina Muminovic, Lisa Burr and Lorenz Kampschulte

10:45-11:15 Break

### 11:15-12:15 Technical Session 2: Programming Environments

- **Physical Bits: A live programming environment for educational robotics (#20)**  
Ricardo Moran, Matías Teragni and Gonzalo Zabala
- **A Block-based IDE Extension for the ESP32 (#33)**  
Patrick Lamprecht, Simon Haller-Seeber and Justus Piater
- **Automatic assessment of programming solutions for educational robots Lego Mindstorms EV3 (#25)**  
Liljana Pushkar and Ana Sovic Krzic
- **The concept of using AR and VR technologies in the vocational training system in robotics and automation (#41)**  
Piotr Falkowski, Zbigniew Pilat, Polyxeni Arapi, Mart Tamre, Peter Dulencin, Jozef Homza and Mikulas Hajduk

12:15-13:30 Lunch Break

### 13:30-15:00 Technical Session 3: Robotics Competitions

- **Learning 21st century skills through educational robotics competitions - Selected results of an evaluation study of the World Robot Olympiad in Germany in 2019 (#6)**  
Nicolai Pöhner, Martin Hennecke and Markus Fleige
- **The European Robotics Hackathon (EnRicH) - Fostering Robotic Solutions for the Radiological and Nuclear Application Domain (#15)**  
Frank E. Schneider and Dennis Wildermuth
- **Educational Contribution from Summer Robotic League (#34)**  
Karolina Mayerova and Jakub Krcho
- **Robotics competitions as an integral part of STEM education (#13)**  
Eftychios Christoforou, Sotiris Avgousti, Panicos Masouras, Pericles Cheng and Andreas Panayides

## **Thursday, October 01**

### **09:00-10:30 Technical Session 4: Workshops, Curricula and Related Aspects #2**

- **“Parents and children together with robots”: The influence of parents-children co-education on technology on parents’ technological competence (#40)**  
Nikolaos Fachantidis and Christina Lousta
- **Keeping Students Engaged in Robotics Creations while Learning from the Experience (#47)**  
Amy Eguchi
- **Teaching daily life skills in Autism Spectrum Disorder (ASD) interventions using the social robot Pepper (#16)**  
Rafaela Efstratiou, Charalambos Karatsioras, Maria Papadopoulou, Cristina Papadopoulou, Chris Lytridis, Christos Bazinas, George Papakostas and Vassilis Kaburlasos
- **Synergy of Intelligent Algorithms for Efficient Child-Robot Interaction in Special Education: A Feasibility Study (#17)**  
George Sidiropoulos, Christos Bazinas, Chris Lytridis, George Papakostas, Vassilis Kaburlasos, Petros Kechayas, Efi Kourampa, Sotirianna-Rafaela Katsi and Charalambos Karatsioras

10:30-11:00 Break

### **11:00-12:10 Technical Session 5: Technologies for Educational Robotics**

- **Maera: A Hybrid Wheeled-Legged Robot designed for Research and Education (#29)**  
Ilias Zournatzis, Kostantinos Koutsoukis, Kostantinos Machairas, Andrés Kecskeméthy and Evangelos G. Papadopoulos
- **Andruino-R2: Android and Arduino based Low-cost ROS-integrated Educational Robot from Scratch (#36)**  
Francisco M. López-Rodríguez and Federico Cuesta
- **An exploratory study about the NAVS robot emotional effect in educational contexts (#3)**  
Edwin Alexander Valderrama Higuera and John Jairo Páez Rodríguez
- **Easy Controlling a Robot Using Voice for Hobbyists (#42)**  
Andrej Lucny

12:10-13:30 Lunch Break

### **13:30-15:00 Technical Session 6: Integrating Robotics with School Subjects**

- **Teachers’ perceptions of Bee-Bot robotic toy and their ability to integrate it in their teaching (#28)**  
Despoina Schina, Vanessa Esteve-Gonzalez and Mireia Usart
- **Spike up Prime Interest in Physics (#51)**  
Pavel Petrovič
- **Mathematics through Educational Robotics in a first primary class: a comprehensive study (#50)**  
Loredana Cacco, Michele Moro and Ambra Smerghetto

## **Friday, October 02**

### **09:00-10:30 Technical Session 7: Workshops, Curricula and Related Aspects #3**

- **Compiling ROS Schooling Curricula via Contentual Taxonomies (#39)**  
Alexander Ferrein, Marcus Meeßen, Nicolas Limpert and Stefan Schiffer
- **Robot Security Education: Hands-on Lab Activities based Teaching Approach (#26)**  
Zouheir Trabelsi and Fady Alnajjar
- **Robotics and Vision Station for Education (#45)**  
Felipe Hernandez-Rodriguez
- **DOPPLER project: inspiring a new generation in STEM (#27)**  
Antonio Batel Anjo, Soraia Amaro, Rui Bispo, Valério Ribeiro, Domingos Barbosa and Miguel Bergano

10:30-11:00 Break

### **11:00-12:15 Technical Session 8: Evaluating Educational Robotics**

- **Perspectives of Educational Robotics in the Ongoing Technological Transformations (#38)**  
Anton Yudin and Andrey Vlasov
- **Towards a conceptual and methodological framework for the evaluation of educational robotics activities (#48)**  
Georg Jäggle, Wilfried Lepuschitz, Tanja Tomitsch, Peter Wachter and Markus Vincze
- **Placemat Instructions for Open-Ended Robotics Challenges (#14)**  
Sara Willner-Giwerc, Ethan Danahy and Chris Rogers

12:15-13:30 Lunch Break

### **13:30-14:45 Technical Session 9: Cross Topics**

- **The effectiveness of a robot animal as a virtual instructor (#12)**  
Alexandra Sierra Rativa, Cindy Carolina Vasquez, Fernando Martinez, Wily Orejuela Ramirez, Marie Postma and Menno van Zaanen
- **From diagram to breadboard: Limiting the gap and strengthening the understanding (#44)**  
Bjarke Kristian Maigaard Kjær Pedersen, Jørgen Christian Larsen and Jacob Nielsen
- **A robotic teacher community to foster the integration of educational robotics in school (#18)**  
Lucio Negrini, Sophia Reyes Mury and Dio Moonnee
- **MAKER DAYS for kids: Learnings from a Pop-up Makerspace (#37)**  
Maria Grandl, Martin Ebner, Sandra Schön and Benedikt Brünner

### **14:45-15:00 Closing Session**

- **Résumé / Outlook on RiE 2021**  
Richard Balogh, Wilfried Lepuschitz, David Obdržálek – RiE 2020 Co-Chairs

### **Information about presentations:**

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

**Short paper presentations:** 7 minutes plus 3 minutes Q&A