12th International Conference on Robotics in Education

Virtual Event – 28.04.-30.04.2021

(time specifications in Central European Summer Time UTC +2)

Wednesday, April 28

11:00-11:20 Opening Session

- **Welcome & Introduction**
  Richard Balogh, Wilfried Lepuschitz, David Obdržálek – RiE 2021 Co-Chairs

11:20-12:30 Technical Session 1: Workshops, Curricula and Related Aspects for Primary Schools and Kindergartens

- **Gradation of Cognitive operations of Blue-Bot control in the primary education** (#31)
  Karolina Miková, Andrea Hrušecká, Lucia Budinská and Daniela Bezáková
- **Bee-Bot educational robot as a means of developing social skills among children with autism-spectrum disorders** (#2)
  Janika Leoste, Tiiu Tammemäe, Getter Eskla, Jose San Martin Lopez, Luis Pastor and Elena Peribáñez Blasco
- **Development of educational scenarios for child-robot interaction: The case of learning disabilities** (#6)*
  Elpida Karageorgiou, Efrosyni Kourampa, Athanasia-Tania Papanikolaou, Petros Kechayas, Eleftheria Avramidou, Rafailia-Androniki Sabri, Chris Lytridis, George Papakostas and Vassilis Kaburlasos
- **Educational Robotics in Online Distance Learning: An Experience from Primary School** (#21)*
  Christian Giang and Lucio Negrini

12:30-13:30 Break

13:30-14:30 Technical Session 2: Evaluating Educational Robotics

- **Girls and Technology – Insights from a girls-only team at a reengineered Robot Summer Camp** (#27)
  Bjarke Kristian Maigaard Kjær Pedersen, Jørgen Christian Larsen and Jacob Nielsen
- **Improved Students' Performance in an Online Robotics Class during COVID-19: Do Only Strong Students Profit?** (#29)
  Andreas Birk and Evelina Dineva
- **Pupils' perspectives regarding robot design and language learning scenario** (#13)*
  Petra Karabin, Ivana Storjak, Kristina Cergol and Ana Sovic Krzic

14:30-15:30 Break

15:30-16:40 Technical Session 3: Teachers in Focus

- **Enhancing Teacher-Students´ Digital Competence with Educational Robots** (#3)
  Elyna Heinmäe, Janika Leoste, Külli Kori and Kadri Mettis
- **Disciplinary knowledge of mathematics and science teachers on the designing and understanding of robot programming algorithms.** (#4)
  Jaime Andrés Carmona-Mesa, Daniel Andrés Quiroz-Vallejo and Jhony Alexander Villa-Ochoa
- **Teachers' perspective on fostering computational thinking through educational robotics** (#38)*
  Morgane Chevalier, Laila El-Hamamsy, Christian Giang, Barbara Bruno and Francesco Mondada

Thursday, April 29

11:00-12:15 Technical Session 4: Workshops, Curricula and Related Aspects for Universities

- **Robotics and Intelligent Systems: a new curriculum development and adaptations needed in coronavirus times** (#32)
  Francesco Maurelli, Evelina Dineva, Andreas Nabor and Andreas Birk
- **An Educational Framework for Complex Robotics Projects** (#24)
  Simon Untergasser, Manfred Hild and Benjamin Panreck
- **Education Tool for Kinematic Analysis: A Case Study** (#22)
  Maria Valigi, Silvia Logozzo and Monica Malvezzi

12:15-13:15 Break

13:15-14:40 Technical Session 5: Programming Environments

- **CORP - A Collaborative Online RoboticsPlatform** (#34)
  Olga Sans-Cope, Ethan Danahay, Daniel Hannon, Chris Rogers, Jordi Albo-Canals and Cecilio Angulo
- **A ROS-based open web platform for Intelligent Robotics education** (#8)
  David Roldán-Álvarez, Jose M. Cañas and Sakshay Mahna
- **HoRoSim, an holistic robot simulator: Arduino code, electronic circuits and physics** (#15)
  Andres Faiña
- **Exploring a Handwriting Programming Language for Educational Robots** (#10)*
  Laila El-Hamamsy, Vaios Papaspyros, Taavet Kangur, Laura Mathex, Christian Giang, Melissa Skweres, Barbara Bruno and Francesco Mondada

14:40-15:30 Break

15:30-16:40 Technical Session 6: Artificial Intelligence

- **AI-powered Educational Robotics as a Learning Tool to Promote Artificial Intelligence and Computer Science Education** (#37)
  Amy Eguchi
- **An Interactive Robot Platform for Introducing Reinforcement Learning to K-12 Students** (#23)
  Ziyi Zhang, Sara Willner-Giwerc, Jivko Sinapov, Jennifer Cross and Chris Rogers
- **The BRAIINS AI for Kids Platform** (#39)*
  Gottfried Koppensteiner, Monika Reichart and Annamaria Lisotti
- **The BRAIINS Humanoid Robotics Lab** (#40)*
  Annamaria Lisotti and Gottfried Koppensteiner

Friday, April 30

13:00-14:10 Technical Session 7: Workshops, Curricula and Related Aspects for Secondary Schools

- **Robotics Laboratory within the Italian School-Work Transition Program in High Schools: A Case Study** (#12)
  Gemma Carolina Bettelani, Chiara Gabellieri, Riccardo Mengacci, Federico Massa, Anna Mannucci and Lucia Pallottino
- **How to promote learning and creativity through visual cards and robotics at summer academic project Ítaca** (#20)
  Eloi Puertas, Martha Ivón Cárdenas and Jordi Campos
- **An Arduino-based robot with a sensor as an educational project** (#5)*
  Jiri Pech, Milan Novak and Jana Kalová
- **A Social Robot Activity for Novice Programmers** (#30)*
  Zimcke Van de Staey, Natacha Gesquière and Francis Wyffels

14:10-15:00 Break

15:00-16:25 Technical Session 8: Technologies for Educational Robotics

- **Mirobot: A Low-cost 6-DOF Educational Desktop Robot** (#7)
  Dongxu Zhou, Ruiqing Jia and Mingzuo Xie
- **Developing an Introduction to ROS and Gazebo through the LEGO SPIKE Prime** (#14)
  Owen Gervais and Therese Patrosio
- **Constructing Robots for Undergraduate Projects Using Commodity Aluminum Build Systems** (#16)
  John Seng
- **Hands-on Exploration of Sensorimotor Loops** (#25)*
  Simon Untergasser, Manfred Hild and Benjamin Panreck

16:25-16:40 Closing Session

- **Résumé / Outlook on RiE 2022**
  Richard Balogh, Wilfried Lepuschitz, David Obdržálek – RiE 2021 Co-Chairs

Information about presentations:

Time specifications of sessions are given in Central European Summer Time UTC +2

Regular paper presentations: *15-20 minutes plus 5 minutes Q&A*
Short paper presentations (marked above with a *): *7 minutes plus 3 minutes Q&A*