Education Workshop
Tuesday 14:00-16:00 Session

14:00-15:00: High school and teachers

Quantum Rules! A high school visitors lab
Buisman Henk, Van Der Hoorn Bert, Versluys Ingrid
Leiden University (Netherlands)
Keywords: Labs, sustainability, medical and communications technology, high school

A combination of the two-states and matter-wave approaches to teaching concepts of quantum mechanics
Faletic Sergej (1), Kranjc Tomaz (2)
1 - University of Ljubljana, Faculty of Mathematics and Physics (Slovenia),
2 - University of Ljubljana, Faculty of Education (Slovenia)
Keywords: design-based research, high school

Educational path proposals on modern physics and in particular quantum mechanics by means of a two-states system
Michelini Marisa (1), Stefanel Alberto (1), Santi Lorenzo (1), Faletic Sergej (2)
1- Physics Education Research Unit, DMIF, University of Udine (Italy),
2 - University of Ljubljana, Faculty of Mathematics and Physics (Slovenia)
Keywords: hands-on online measurement, high school, non-physics students

Teaching Quantum Physics - Some experiences at University of Bologna
Ercolessi Elisa, Levrini Olivia, Giovanni Ravaioli
Dept. Physics and Astronomy - University of Bologna (Italy)
Keywords: multidisciplinarity, History+didactic, high school, teachers

ISEE ERASMUS+ project and Quantum Computing: a STEM approach to engage with the logic and the social impact of Quantum Physics
Ravaioli Giovanni (1), Ercolessi Elisa (1), Fantini Paola (2), Laherto Antti (3), Plamgren Elina (3), Satanassi Sara (1), Levrini Olivia (1)
Introductory quantum physics through Feynman’s sum over paths approach [online presentation]

Malgieri Massimiliano (1), Onorato Pasquale (2), De Ambrosis Anna (1)
1 - University of Pavia (Italy), 2 - University of Trento (Italy)
Keywords: high school

Quantum education – the milq approach

Mueller Rainer (1), Mishina Oxana (1,2)
1 - TU Braunschweig (Germany), 2- Trieste University (Italy)
Keywords: high school, teacher-students, teachers

QuVis- interactive simulations for the learning and teaching of quantum mechanics [to be confirmed]

Antje Kohnle [presented by Rainer Müller]
University of St Andrews, (Scotland)
Keywords: simulations, high school, physics students, non-physics students

ReleQuant: a research-based learning resource in modern physics for upper secondary school [online presentation]

Henriksen Ellen Karoline, Viefers Susanne, Bøe Maria Vetleseter
University of Oslo, Department of Physics (Norway)
Keywords: research-based learning, high school

Quantum SpinOff - The physics of the very small with great applications

Frans Renaat
UC Leuven-Limburg (Belgium)
Keywords: hands-on, high school, teachers
15:00-15:30: University students

ESONN, European School On Nanoscience and Nanotechnology

Courtois Hervé (1), Chshiev Mairbek (2), Prejbeanu Liliana (3)
1 - Université Grenoble Alpes (France), 2 - Université Grenoble Alpes (France), 3 - Institut polytechnique de Grenoble - Grenoble Institute of Technology (France)
Keywords: nano lab, fundamentals and quantum technology, students, PhD, postdocs

Multidiciplinary learning platforms on quantum engineering (platforms for quantum computing)

Ferrand David
Université Grenoble-Alpes (France)
Keywords: IBM-Q online computing, communication labs, students

Quantum technologies meet Condensed Matter @ Sorbonne University

Chamarro Maria, Cabaret Delphine, Marangolo Max, Decremps Frédéric
Sorbonne Universite (France)
Keywords: confidence mater+technology, students

Smart tools for hands-on quantum physics education

Max Deisböck, Henning Weier
qutools GmbH (Germany)
Keywords: Education experiments, high school, teachers, non-physics and physics
students

Quantum mechanics for teacher-students and teachers: visual, interactive, engaging [to be confirmed]

Oxana Misina (1,2), Maria Peressi (2), Giorgio Pastore (2), Oliver Bodensiek (1)
1- TU Braunschweig (Germany), 2- Trieste University (Italy)
Keywords: teachers, teacher-students, non-physicists
15:30 - 16:00: All level education & outreach

Molecular matter-wave interference - a hands-on approach for teaching quantum mechanics

Brand Christian, Losert-Valiente Kroon Christiane-Maria, Arndt Markus
University of Vienna, Faculty of Physics (Austria)
Keywords: Hands-on experiments for education + apps, all levels

European Patent Office European Patent Office

Clarke Nigel, Oliete Ballester Maria, Moreira Dias Julia Diana
European Patent Office (Germany)
Keywords: landscape study in QT, training to researchers and entrepreneurs on IP

GIREP vzw, the International Research Group on Physics Education

Peeters Wim
GIREP (59 countries)
Keywords: Network input

Visualizations and Augmented Reality for Physics Education of Quantum Technology Topics

Tommaso Rosi, Pasquale Onorato, Stefano Oss
University of Trento (Italy)
Keywords: hands-on online, all levels

Quantum made simple

Julien Bobroff [presented by Oxana Mishian]
Paris Sud University (France)
Keywords: training, videos, outreach, all levels

Quantum games and simulations for research, education, and outreach

Sherson Jacob, Ahmed Shaeema Zaman
ScienceAtHome, Center for Hybrid Intelligence, Department of Physics and Astronomy, Aarhus University (Denmark)
Keywords: simulations, games. Citizen science; all levels