



**FINAL PROGRAM**

**Physics and Astronomy World Forum**

**December 02-03, 2021**



**Physics Forum-2021**

## Day 1, December 02, 2021

Virtual Presentations

London Time Zone (GMT)

09:00 - 09:40	P	<p>Title: Advanced Applications of Integrated Kerr Optical Microcombs</p> <hr/> <p>David Moss, Swinburne University of Technology, Australia</p>
09:40 - 10:05	I	<p>Title: Nonlinear Transition-Metal-Dichalcogenide Metasurfaces</p> <hr/> <p>Mudassar Nauman, Australian National University, Australia</p>
10:05 - 10:35	K	<p>Title: Coherent Hybrid Structure of BaTiO<sub>3</sub> Endorsed by Kittel and its Ferroelectricity Yielding at Two-Step Transition from Cubic</p> <hr/> <p>Akira Kojima, Fundamental Research Institute for Ferroelectrics, Japan</p>
10:35 - 11:05	K	<p>Title: Ring-Shaped Optical Fibers For Orbital Angular Momentum Mode Communications</p> <hr/> <p>Yang Yue, Nankai University, China</p>
11:05 - 11:35	K	<p>Title: Core of Quantum-Gated Computers</p> <hr/> <p>Tadao Nakamura, Keio University, Japan</p>
11:35 - 12:00	I	<p>Title: On The Definition Of Energy And A New Conserved Quantity In General Relativity</p> <hr/> <p>Shuichi Yokoyama, Kyoto University, Japan</p>
12:00 - 12:25	I	<p>Title: Quantum Dots</p> <hr/> <p>Kouichi Akahane, National Institute of Information and Communications Technology, Japan</p>
12:25 - 12:50	I	<p>Title: Terahertz Wave Emission Due to Optical Nonlinear Effects Of Excitons Confined in Multiple Quantum Wells</p> <hr/> <p>Osamu Kojima, Kobe University, Japan</p>
12:50 - 13:15	I	<p>Title: Investigation of Local Emission of CaAlSi<sub>3</sub>:Eu<sup>2+</sup> Red Phosphor Via X-Ray Nanoprobe</p> <hr/> <p>Shu-Chi Huang, National Synchrotron Radiation Research Center, Taiwan</p>
13:15 - 13:55	P	<p>Title: The Puzzle of Star Formation</p> <hr/> <p>Andreas Burkert, University of Munich, Germany</p>
13:55 - 14:35	P	<p>Title: Synthesis, Properties and Applications of PtSe<sub>2</sub> Nanosheets</p> <hr/> <p>Werner Blau, University of Dublin, Ireland</p>

14:35 - 15:15	P	<p>Title: Confining and Compressing the Atom</p> <hr/> <p>Jean Patrick Connerade, Imperial College, United Kingdom</p>
15:15 - 15:45	K	<p>Title: The Electromagnetic Quantum Vacuum</p> <hr/> <p>Constantin Meis, National Institute for Nuclear Science and Technology, France</p>
15:45 - 16:15	K	<p>Title: Coherent Collective Quantum Dynamics of Strongly Interacting Superconducting Qubits with Application to Quantum Detectors</p> <hr/> <p>Mikhail Fistul, Ruhr-University Bochum, Germany</p>
16:15 - 17:00	K	<p>Title: 1.On Two Thought Experiments Revealing Two Massive Theoretical Anomalies,Proving both the Contemporary “Ray Of Light” Paradigm to be Flawed and the Impossibility of a Photon to Inherit any Velocity Vector Component from tts Source. 2.On a Straightforward Laser Experiment, Confirming the Previously Published Irrevocable Falsification of the Equivalence Principle Paradigm for Photon Phenomena</p> <hr/> <p>Etienne Brauns, Researcher, Belgium</p>
17:00 - 17:40	p	<p>Title: Black Holes are Finally in Vogue</p> <hr/> <p>Abraham Loeb, Harvard University, USA</p>
17:40 - 18:05	I	<p>Title: Accelerating the Universe by a Charged Dark Matter Particle</p> <hr/> <p>Steen H Hansen, Head of the section,University of Copenhagen, Denmark</p>
18:05 - 18:35	K	<p>Title: Accelerated, Reproducible and Physics-Informed Artificial Intelligence for Multi-Messenger Astrophysics</p> <hr/> <p>Eliu Huerta, University of Chicago, USA</p>

End of the Sessions

## Day 2, December 03, 2021

Virtual Presentations

London Time Zone (GMT)

09:40 - 10:20	P	<p style="color: #8B4513;">Title: Future of Quantum Computing: Closed Unitary vs. Open Dissipative</p> <hr/> <p>Yoshihisa Yamamoto, NTT PHI Laboratories, Japan</p>
10:20 - 11:00	P	<p style="color: #8B4513;">Title: Quantum Devices In 2D Materials</p> <hr/> <p>Klaus Ensslin, ETH Zurich, Switzerland</p>
11:00 - 11:25	I	<p style="color: #8B4513;">"Title: The Secret of Planets' Perihelion between Newton and Einstein between Newton and Einstein"</p> <hr/> <p>Christian Corda, Istituto Livi, Prato, Italy</p>
11:25 - 11:50	I	<p style="color: #8B4513;">Title: Long-Distance Electrodynamical Interactions Among Biomolecules</p> <hr/> <p>Marco Pettini, Aix-Marseille University, France</p>
11:50 - 12:15	I	<p style="color: #8B4513;">Title: Towards an Electrically Pumped Ge/SiGe QW THz Emitter</p> <hr/> <p>Luca Persichetti, Roma Tre University, Italy</p>
12:15 - 12:40	I	<p style="color: #8B4513;">Title: A Bipartite Variant of the Sachdev-Ye-Kitaev Model from a Strained Kitaev Honeycomb Model</p> <hr/> <p>Mikael Fremling, Utrecht University, Netherlands</p>
12:40 - 13:05	I	<p style="color: #8B4513;">Title: Measuring Black Hole Spin with Time-Domain VLBI Observations of Infalling Gas Clouds</p> <hr/> <p>Kotaro Moriyama, Goethe University, Germany</p>
13:05 - 13:30	I	<p style="color: #8B4513;">Title: Terahertz Spectral Imaging</p> <hr/> <p>Elodie Claire Strupiechonski, Cinvestav Unidad Queretaro, Mexico</p>
13:30 - 14:10	P	<p style="color: #8B4513;">Title: Environmental Effects of Increasing Light Pollution on UK Rural Skies</p> <hr/> <p>Chris Baddiley, British Astronomical Association, United Kingdom</p>
14:10 - 14:50	P	<p style="color: #8B4513;">Title: Will Update Soon</p> <hr/> <p>Zhong Lin Wang, Georgia Institute of Technology, USA</p>
14:50 - 15:30	P	<p style="color: #8B4513;">Title: The Physics of the Oceans and Global Warming</p> <hr/> <p>Vittorio Canuto, NASA Goddard Institute for Space Studies, USA</p>
15:30 - 16:00	K	<p style="color: #8B4513;">"Title: Negative Mass in Classical Physics: Physics of the Weird"</p> <hr/> <p>Geoffrey A Landis, NASA John Glenn Research Center, USA</p>

16:00 - 16:30	K	<p>Title: A Population of Compact Radio Sources at the Galactic Center</p> <hr/> <p>Jun-Hui Zhao, CfA   Harvard &amp; Smithsonian, USA</p>
16:30 - 17:00	K	<p>Title: Experimental Observation and Mapping of Atomic and Molecular Wavefunctions: Consequences on the Fundamental Understanding of Quantum Mechanics</p> <hr/> <p>C Julian Chen, Columbia University, USA</p>
17:00 - 17:30	K	<p>Title: Physics of Dark Energy</p> <hr/> <p>Charles Sven, Observational &amp; Theoretical Cosmologist, USA</p>
17:30 - 17:55	I	<p>Title: Artificial Intelligence for Gravitational Wave Astrophysics</p> <hr/> <p>Plamen G Krastev, Harvard University, USA</p>
17:55 - 18:20	I	<p>Title: Uncovering the Elusive Nature of the Neutrino with the DUNE Detector</p> <hr/> <p>Nikolina Ilic, University of Toronto, Canada</p>

End of the Sessions