

**Joint Event:**

**International Conference on**

# **OPTICS, LASERS AND PHOTONICS & PHYSICS AND QUANTUM PHYSICS**

**27-28 Mar 2023 | London, UK**



Hosted By:

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08:30-09:00

Registrations

09:00-09:15

Opening Ceremony

## Keynote Forum



### Zhendong Dai

Nanjing University of Aeronautics and Astronautics, China

**Title: Bioinspired Adhesive Materials and Micro-structures for Extremely Harsh Environments**

**Biography:** Dr Zhendong Dai, professor, director and founder of the Institute of Bio-inspired Structure and Surface Engineering (IBSS) at Nanjing University of Aeronautics and Astronautics (NUAA), Fellow of International Society of Bionic Engineering.

09:15-09:45



### Shiro Ryu

Meiji University, Japan

**Title: Optical Time Domain Reflectometry for Continuous Time-Domain Measurement of Rayleigh Backscattered Light**

**Biography:** Shiro Ryu received a Ph.D. in electronic engineering from the University of Tokyo in 1993. After that, he researched coherent optical fiber submarine cable systems in KDD R&D Laboratories (1985-1995). After that, Dr. Ryumanageda research group in Japan Telecom and Soft Bank Telecom R&D Laboratories regarding next-generation photonic networks (2000-2009).

09:45-10:15



### Eli Kapon

Federal Institute of Technology in Lausanne, Switzerland

**Title: Integrated Quantum Photonics Using Site-Controlled Quantum Dots**

**Biography:** Eli Kapon received his PhD in physics from Tel Aviv University, Israel, in 1982. After a Postdoc at Caltech, where he investigated semiconductor lasers and laser arrays, he joined Bell core in 1984, where he worked on integrated photonics and quantum nanostructures, Demonstrating the first quantum wire lasers in 1988.

10:15-10:45



### Farida Selim

Bowling Green State University, United States

**Title: Advanced thermoluminescence spectroscopy as a research tool for semiconductor and photonic materials**

**Biography:** Farida Selim is a professor of Physics at the department of Physics and the Center for Photochemical Sciences at BGSU. She has a broad research program in the field of semiconductors and electronic and photonic materials; and has been active in constructing beam lines and developing new instrumentation for advanced material research.

10:45-11:15

Group Photo

Networking and Refreshments Break @ 11:15-11:35

11:35-12:05



**Pallab Banerji**

Indian Institute of Technology Kharagpur, India

**Title: Gallium nano droplet catalyzed growth of ternary nanowires**

**Biography:** Dr. P. Banerji is a Professor in Materials Science in Indian Institute of Technology Kharagpur, India. His area of specialization is semiconductor materials and low dimensional systems for various applications in the field of thermoelectrics and optoelectronics. Prof. Banerji supervised twenty-five doctoral students and several Masters thesis. He has published around 150 research papers in peer reviewed journals.

**Speaker Sessions:**

**Session Chair: Zhendong Dai, Nanjing University of Aeronautics and Astronautics, China**

12:05-12:25



**Jan Atienza-Garriga**

University of Barcelona, Spain

**Title: Analysis of the Protection of Protein- only Nanoparticles containing Antimicrobial peptides with Liposomes and Micelles**

**Biography:** Jan Atienza-Garriga graduated in biotechnology and obtained his Master's in Food Biotechnology at the University of Girona (Spain).

12:25-12:45



**Florian Pape**

Leibniz University Hannover, Germany

**Title: Investigation on Graphene Platelet based Dry Lubricating Film Formation in Tribological Contacts**

**Biography:** Dr Florian Pape works at the Institute of Machine Design and Tribology, Leibniz University, Hannover, as a Post-Doc. His research is in Materials Engineering, Manufacturing Engineering, and Tribology.

12:45-13:05



**Joseph Boon Han**

University Sains Malaysia, Penang, Malaysia

**Title: Numerical Assessment of Horizontal Scanning LIDAR Performance via Comparative Study Method**

**Biography:** Joseph Boon Han Ooi received his B.Sc. (Hons.) degree in Natural Sciences (Physical) from the University of Cambridge, United Kingdom in 2021, specializing in Physics. He is currently pursuing the Ph.D. in Physics degree at University Science Malaysia, Penang, Malaysia on a fast-track programmer.

**Lunch Break: 13:05-13:45**

13:45-14:05



**Oluwatoyin Joseph Gbadeyan**

Durban University of Technology, South Africa

**Title: Thermomechanical characterization of Bioplastic films produced using a combination of Polylactic acid and Bionano calcium carbonate**

**Biography:** Oluwatoyin Joseph Gbadeyan Ph.D. is a Postdoctoral researcher his research interest lie in mechanical engineering, material development (composite, biocomposite, nanocomposite), Nanotechnology, bioeconomics, additive manufacturing, and tribology.

14:05-14:25



**Dana Alsulaiman**

King Abdullah University of Science and Technology, KSA

**Title: Rational Design of PNA-functionalized 2D and 3D Nanomaterials for Ultrasensitive Electrochemical Detection of microRNA Biomarkers**

**Biography:** Dana Alsulaiman is an Assistant Professor of Material Science and Bioengineering at KAUST. Her group focuses on developing advanced biomaterials and next-generation technologies for minimally-invasive disease diagnosis and personalized therapy.

14:25-14:45



**Siriwan Chokkha**

Suranaree University of Technology, Thailand

**Title: Conductive Material from Automotive Industrial Waste**

**Biography:** Siriwan Chokkha was born in Nakhon Ratchasima, Thailand, in 1987. She received the B.Eng, M.Eng and Ph.D. degrees in ceramic Engineering from Suranaree University of Technology, Thailand, in 2008, 2011 and 2015 respectively.

14:45-15:05



**Rebeca Natale**

University of Erlangen-Nuremberg, Germany

**Title: Improving the optical properties of achromatic lenses due to the process conditions**

**Biography:** Rebeca Natale is scientific assistance at the Institute of Polymer Technology, Friedrich-Alexander-Universität Erlangen-Nürnberg. Her current focus is a DFG (German Research Foundation) project on the production of achromatic lenses using composite injection molding of transparent polymers.

15:05-15:25



**Swetha Madamala**

MVJ College of Engineering, India

**Title: In-vitro Cytotoxicity of Ursolic Acid, 6 Methyl Chromone Hydrate and Gymnemic Acid on MCF7 and A549 Cell Lines**

**Biography:** Dr Swetha Madamala recently did her Doctoral studies at JNTUA. She did her doctoral studies on "Phytochemical Investigation, Method Development and Validation of Anti-Cancer Herbal Plants *GymnemaSlyvestrae*, *MorindaCitrifolia* and *Aegle Marmeleous* Using RP HPLC Techniques.

15:25-15:45



**S Jhaumeer Laulloo**

Univeristy of Mauritius, Mauritius

**Title: Structure, Biological and Catalytic acitivities of Diphenylsulfide derivatives**

**Biography:** S Jhaumeer Laulloo has a Personal Chair in Organic Chemistry at University of Mauritius. She is recognized nationally and internationally for her research contributions and achievements in Organic and Surfactant Chemistry and also Organometallic compounds. She is also interested in Forensic Science. She has published over 80 papers in peer reviewed journals.

15:45-16:05



**Hadas Shtrikman**

Weizmann Institute of Science, Israel

**Title: Novel (EuIn)As/InAsSb Nanowires Grown by MBE**

**Biography:** Hadas Shtrikman is an academic researcher. She has contributed to research in topic(s): Nanowire & Electron and has an index of 55, co-authored 237 publication(s) receiving 14890 citation(s). Presently she is at Weizmann Institute of Science, Israel.

**Networking and Refreshments Break @ 16:05-16:25**

16:25-16:45



**Vidushi Adlakha**

University of Illinois Urbana-Champaign, United States

**Title: Decomposition of Anomalous Diffusion in Generalized Levy Walks into its Constitutive Effects**

**Biography:** Vidushi Adlakha is a Postdoctoral Research Associate in the Department of Physics at the University of Illinois Urbana-Champaign, USA.

16:45-17:05



**Khalil El Bourakadi**

Casablanca Hassan II University, Morocco

**Title: Primordial black holes and gravitational waves from the early Universe**

**Biography:** Dr. Khalil El Bourakadi is a researcher in the field of Cosmology Astrophysics. He earned his PhD from the University of Hassan II Casablanca Morocco.

17:05-17:25



**Mohamed Yasir**

California Institute of Behavioral Neurosciences and Psychology LLC, CA

**Title: Application of Nanotechnology for Diagnosis and Drug Delivery in Atherosclerosis: A New Horizon of Treatment**

**Biography:** Mohamed Yasir is a physician and researcher at VJ hospital, Tirunelveli, India. He received his medical degree from Kursk State Medical University, Russian Federation and is pursuing his Internal Medicine residency in the US. Currently, a remote researcher at California Institute of Behavioural Neurosciences and Psychology, US.

17:25-17:45



**Ahmad Tariq Jameel**

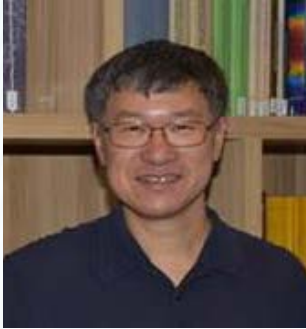
Aligarh Muslim University, India

**Title: Enzyme-Inhibition Based Electrochemical Bio-sensing of Organophosphorus Pesticides – Theory and Mechanism**

**Biography:** Dr. Ahmad Tariq Jameel is currently Professor at the Department of Chemical Engineering, Aligarh Muslim University (AMU), India. Dr. Jameel obtained his Ph.D. in Chemical Engineering from the Indian Institute of Technology Kanpur. He has served in the past as full time faculty at several universities in India, Malaysia, Oman and Saudi Arabia.

09:00-09:15 Opening Ceremony

## Keynote Forum



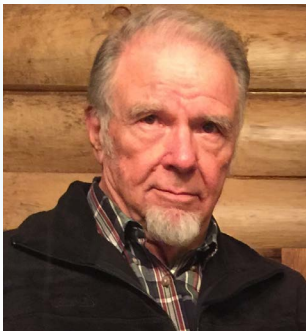
### Ang-yang Yue

Xi'an Jiaotong University, China

**Title: Highly dispersive vortex modes in optical fibers**

**Biography:** Yang Yue received the B.S. and M.S. degrees in electrical engineering and optics from Nankai University, China, in 2004 and 2007, respectively. He received the Ph.D. degree in electrical engineering from the University of Southern California, USA, in 2012.

09:30-09:55



### Clifford Arnell

Colorado State University, USA

**Title: The photon as a 'Vertical Axis Pendulum'**

**Biography:** After four years of college, Clifford G. Arnell received his degree in Electronics Technology in 1964 and employed until 1968 in the Silicon Research and Development Laboratory at Texas Instruments, where the first MOSFET integrated circuits were designed. Mr. Arnell developed Fortran programs for on-chip circuit performance analysis.

09:55-10:20



### Vladimir Rumyantsev

A.A. Galkin Donetsk Institute for Physics and Engineering, Ukraine

**Title: Quantized light-matter coupling in a nonideal polaritonic structure as a system of microcavities containing quantum dots**

**Biography:** Vladimir V. Rumyantsev is Chair of the Department of Theory of Complex Systems Dynamic Properties at A.A. Galkin Donetsk Institute for Physics and Engineering.

10:20-10:45



### Michael I Tribelsky

Lomonosov Moscow State University, Russia

**Title: Singularities in the Poynting vector field at resonant light scattering by meso- and nanoscale particles**

**Biography:** Prof. Dr. Tribelsky received his MS from Lomonosov Moscow State University in 1973, his Ph.D. from Moscow Institute of Physics and Technology in 1976, and Dr. of Sci. (habilitation) from Landau Institute in 1985.

10:45-11:10



### Anas Othman

Taibah University, KSA

**Title: Liquid crystal photoaligning and photopatterning by azodye nano layers: Physics and applications in photonics**

**Biography:** Anas Othman is an associate professor at the physics department of Taibah University in Saudi Arabia. I received the MS degree from the University of Alberta (Canada) in physics major in 2014.

11:10-11:35

11:35-12:00



**Vladimir Chigrinov**

Hong Kong University of Science and Technology, Hong Kong

**Title: Liquid crystal photoaligning and photopatterning by azodye nano layers: Physics and applications in photonics**

**Biography:** Vladimir G. Chigrinov is Professor of Hong Kong University of Science and Technology since 1999. He is an Expert in Flat Panel Technology in Russia, recognised by the World Technology Evaluation Centre, 1994, and SID Fellow since 2008.

**Refreshments Break @ 12:00-12:10**

**Speaker Sessions:**

**Session Chair: Shiro Ryu, Meiji University, Japan**

12:10-12:30



**Yury Stepanyants**

University of Southern Queensland, Australia

**Title: Scalar description of three-dimensional flows of incompressible fluid**

**Biography:** Yury Stepanyants graduated in 1973 from the Gorky State University (Russia) and started to work with the Research Radiophysical Institute in Gorky.

12:30-12:50



**Monika Sinha**

IIT Jodhpur, India

**Title: Strange stars: Better model of compact stars with recent astrophysical observations**

**Biography:** Monika Sinha is an Assistant Professor at IIT Jodhpur. She completed her PhD. at Jadavpur University in 2006. Dr. Monika Sinha is an Asst. Professor, Department of physics in Indian Institute of Technology Jodhpur, India.

12:50-13:10



**Manpeng Wu**

Tianjin University, China

**Title: Study on weld formation and defects of horizontal oscillating laser-TIG hybrid welding**

**Biography:** Manpeng Wu received his BS degree in metal materials engineering (2006) from Jiangsu University of Science and Technology, his MS degree (2017) in materials engineering processing from Jiangsu University of Science and Technology.

13:10-13:30



**Cigdem Gokcek Sarac**

Akdeniz University, Antalya, Turkey

**Title: Possible Effects of Cell Phone Radiation on Brain: From Behavior to Molecules**

**Biography:** Cigdem Gokcek Sarac received her Ph.D. degree from MiddleEast Technical University (METU), Ankara, Turkey. She is an Assistant Professor at Department of Bio-medical Engineering, Akdeniz University, Antalya, Turkey.

13:30-13:50



**Maria Meirelles**

University of the Azores, Portugal

**Title: What the Atmospheric Models Can Tell Us About Climate Change - Decisions About the Path of Energy Consumption**

**Biography:** Maria Gabriela Meirelles has a Diploma in Physics from the State University of Rio de Janeiro, Brasil in 1992, a Geophysics Master in the field of Meteorology from University of Lisbon (Faculty of Sciences), Portugal in 1997 and got her PhD in Physics from the Azores University (UAC), Portugal in 2009.

13:50-14:10



**O.V. Kasyan**

Kyiv, Ukraine

**Title: Michelson-Morley experiment**

**Biography:** O.V. Kasyan is from Kyiv, Ukraine. He completed Degree in Chemistry from National Technical University of Ukraine (NTUU "KPI"), Kyiv, Ukraine and Ph.D. from Institute of Organic Chemistry, NASU, Kyiv, Ukraine. He started his career as Researcher, Johannes Gutenberg University of Mainz, Germany. Since 2017 he is a Chief of Laboratory, Quality Control Laboratory.

**Refreshments Break @ 14:10-14:20**

14:20-14:40



**Mazhar Hussain**

Karnataka University Dharwad, India

**Title: Photoelectric effect**

**Biography:** My name is Mazhar Hussain. I am from India Karnataka state district Dharwad .I did my schooling from my home town from Hazrat Nizammudinn school Dharwad and Anjuman-Higher primary school Dharwad.

14:40-15:00



**Ryspek Usubamatov**

Kyrgyz State Technical University after I.Razsakov, Kyrgyzstan

**Title: Theory of gyroscopic effects for rotating objects**

**Biography:** R. Usubamatov graduated Ph.D., from the Bauman Moscow State Technical University, and Dr.Tech. Sc., at the Kyrgyzstan Academy of Sciences. He was a plant engineer, as staff at theKyrgyz Technical University, and at universities in Malaysia.

15:00-15:20



**Swagata Samanta**

SRM University-AP, India

**Title: SU-8 Polymer Waveguides for Photonic Integrated Circuit Applications**

**Biography:** Dr. Swagata Samanta received her Ph.D degree from Indian Institute of Technology Kharagpur (IIT Kgp). She continued her research as a postdoctoral research fellow at the Centre for Nano Science and Engineering, CeNSE), Indian Institute of Science (IISc Bangalore) and then at James Watt School of Engineering (JWNC), University of Glasgow, UK. Presently.





**Mahya Mohammadi**  
Shiraz Universit, Iran

15:20-15:40

**Title: Gauss-Bonnet holographic superconductors in lower-dimensions**

**Biography:** Mahya Mohammadi obtained her PhD in Astrophysics and cosmology from Shiraz University in 2021. Her dissertation investigates the properties of holographic superconductors based on AdS/CFT correspondence.



**Nouhaila INNAN**  
Hassan II University of Casablanca, Morocco

15:40-16:00

**Title: Advances in Quantum Feature Mapping for Efficient Quantum Machine Learning**

**Biography:** Nouhaila Innan is PhD Student at Hassan II University of Casablanca, Morocco. Her research is focused on the interplays between Quantum Physics and Computer Science, and at the moment she is researching Quantum Machine Learning and Quantum Artificial Intelligence. She also completed her graduation from Université Hassan II Mohammedia, Morocco.



**Tahany Abdelhameid**  
Helwan University, Egypt

16:00-16:20

**Title:Simulation of the Pressure Effect on the Gas Transport Parameters of the CMS Resistive Plate Chamber (RPC)**

**Biography:** Tahany Abdelhameid is a Teaching assistant at physics department, faculty of Science, Helwan University, Cairo, Egypt. My master thesis is based on study the performance of the CMS resistive plate chamber (RPC) under different conditions.



**Mohammad Tanvir Ahmed**  
Jashore University of Science and Technology, Bangladesh

16:20-16:40

**Title: Incorporation of Boron and Nitrogen on Mobius Graphene Nanoribbon: A DFT Study**

**Biography:** Mohammad Tanvir Ahmed was born in Dhaka district of Bangladesh. He completed his SSC and HSC from Savar Cantonment Public School & College, Savar, Dhaka. He went to Jahangirnagar University earning his Bachelor's and Master's degrees in Physics.



**Ashutosh Kumar**  
Birla Institute of Technology, India

16:40-17:00

**Title: Non-equilibrium heat engines with one and two qubits that operate between Squeezed Thermal Baths**

**Biography:** I pursued my undergraduate (2011-2014) and master's degree (2014-2016) in Physics. During my studies, I developed a keen interest in Statistical and Quantum physics and its application in classical and quantum engines. This interest led me to pursue a Ph.D. in Quantum thermal machine from a prestigious university in India.



**Nikhil S. Malvankar**  
Yale University, USA

17:00-17:20

**Title: How do bacteria use quantum effects to respire without oxygen? Protein nanowires as spin polarizers with ultrafast electron transport**

**Biography:** Nikhil's lab studies structures, functions and mechanisms of nanowires bacteria uses to transport electrons derived from metabolism to produce electricity and clean up waste.



**Radhika Mishra**  
Institute of Plasma Physics and Laser Microfusion, Poland

17:20-17:40

**Title: Plasma and Nuclear Fusion: The boon about to fuel our lives**

**Biography:** Radhika Mishra, currently doing her internship from Institute of Plasma Physics and Laser Micro fusion, since 1st March, 2023. I have completed my B.Tech from Mody University of Science and Technology, India, in Nuclear Science and Technology, in May, 2022.



**Ghizela Ana Maria Salagean**  
TopMed Medical Centre, Romania

17:40-18:00

**Title: Comparison of Treatment Planning Techniques for a Synchronous Bilateral Breast Cancer Patient in the Setting of a Hypofractionated Approach**

**Biography:** My name is Ghizela Ana Maria Salagean, I am a medical physicist in my 4th year of activity, currently enrolled in my second year of PhD studies at University of Babes Bolyai Cluj-Napoca.

## Poster Session

**Soraya BELHADJ**  
Ammar TELIDJI University of Laghouat, Algeria

18:00-18:10

**Title: PP-PW theoretical investigation of structural, and nonlinear optical properties of monoclinic magnesium iodate  $Mg(IO_3)_2$**

**Biography:** As a university teacher, with over than 17 years of experience, I am process chemical engineering professor and I teach several courses such as crystallography, distillation, corrosion, pharmaceutical processes, cryogenic processes, etc.



**Gloria Carrascal**  
Universidad del Atlántico, Colombia

18:10-18:20

**Title: Estimation of Solar Radiation in Colombia Using the Artificial Neural Network Algorithm**

**Biography:** Gloria is a senior in Physics at Universidad del Atlántico, working in her research project in the field of applied physics, she is an Engineer intern in a startup, and student at MIT IDSS Data Science and Machine Learning: Making Data-Driven Decisions Program.



**Khalid Alhamad**  
University of Hafr AlBatin, KSA

18:20-18:30

**Monte Carlo Simulation of a New Configuration of Gamma Camera**

**Biography:** Khalid Alhamad is Medical Physics MSc graduate with a background in Radiological sciences BSc. He has worked as a medical physicist with several different modalities like Linear accelerators (Varian, Elekta), Brachytherapy, Cyberknife, and Intraoperative linear accelerator (IORT).





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