



ANSO Symposium on Basic Science for Sustainable Development

Sharing Light: Tradition and Innovation

1. Background

Optics is all about light. As a representative of the basic science, optics plays an extremely crucial role in the activities of the entire human history, which helps us understand the world.

Optical applications can be found in every aspect of our lives, from contact lenses to fiber-optics communication; from diagnostic devices to solar panels. Optics and its related technologies have been widely used in exploring the origin of life, diagnosing medical diseases, creating clean energy, and transmitting image information. As the application of optical-based technology has pervaded all aspects of human activities, light has become one of the most important elements in scientific research, production and human lives. The use of optical technology to improve the quality of life in developing countries is the key to the achievement of sustainable development goals, and the importance of optical research and technology for global development has been fully recognized worldwide.

This meeting shall bring together all optical researchers and professionals, and provide a platform to share new ideas and advancing technologies in optics, especially those closely connected with sustainable and development of human beings.

2. Date and Location

- 21-23 September 2022

- Hybrid meeting

Online:

ZOOM Meeting ID: 665 021 6227

Password: 389239

<https://us02web.zoom.us/j/6650216227?pwd=oSRy30UrovE00pP2hHbcDMZnB4Ew0n.1>

On-site: Xi'an, Shaanxi province, China

- Live streaming: Bilibili & YouTube



3. Key Issues and Main Topics of the Meeting

- (1) Basic research on optics
 - Optical propagation and diffraction
 - Quantum optics
 - Nonlinear optics
 - Micro nano photonics
 - Optical information processing
- (2) Optical science device and its application
 - Synchrotron radiation source
 - Free electron laser
 - Ultrashort pulse laser
 - Laser fusion device
 - Interaction between light and matter
- (3) Optics and the future
 - Optical materials and devices
 - Optical instrument
 - Light and advanced manufacturing
 - Light and energy
 - Optical computing
 - Photon quantum technology
 - Intelligent perception

4. Agenda

Day 1		
Beijing time (GMT+8)	Activity	Host
14:00-17:00	ANSO Youth International Optical Talent Training	TBC



Day 2		
9:00-11:00	ANSO Youth International Optical Talent Training	TBC
11:00-14:00	Lunch Break	
Moderator: XIE Xiaoping , Deputy Director of XIOPM, CAS		
14:00-14:30	Opening Ceremony Remarks by the Representatives from the Hosts (around 5 mins each)	<ol style="list-style-type: none"> 1. Hudecz Ferenc (TBD) Vice-president of Hungarian Academy of Sciences (MTA), Representative from ANSO 2. Hasan Mandal President of TUBITAK (Video or Online) 3. Tasawar Hayat Secretary-General of the Pakistan Academy of Sciences (Video or Online) 4. MA Caiwen Director of XIOPM, CAS
14:30-14:50	Semiconductor Nanocrystal Optoelectronics for Lighting and Displays: Pushing the Limits, Breaking Records	Hilmi Volkan Demir Bilkent University UNAM – National Nanotechnology Research Center of Turkey
14:50-15:10	Three-dimensional Optical Microscopy Based on Spatial Modulation of Optical Fields	YAO Baoli Xi'an Institute of Optics and Precision Mechanics, Chinese Academy of Sciences
15:10-15:30	Laser Light Controlling Transient Currents in Dielectrics	Péter Dombi Wigner Research Centre for Physics and ELI-ALPS, Hungary
15:30-15:50	Tea Break	
Moderator: K. Melike ERGÜN , International Cooperation Department, Bilateral and Multilateral Cooperation Division, TUBITAK		
15:50-16:10	Efficient Generation and Measurement of Spatial Structured Light Fields	ZHAO Jianlin School of Physical Science and Technology, Northwestern Polytechnical University, China



16:10-16:30	Attosecond Control of Simple Molecules and Atoms Using XUV High-harmonic Pulse Pairs	Yasuo Nabekawa Attosecond Science Research Team, RIKEN Center for Advanced Photonics, Japan
16:30-16:50	Spin-selective Ionization and High Harmonic Generation of Li in Strong Laser Fields	HE Feng School of Physics and Astronomy, Shanghai Jiao Tong University, China
9:00-11:00	ANSO Youth International Optical Talent Training	TBC
11:00-14:00	Lunch Break	
Moderator: CAO Jinghua , Executive Director, ANSO Secretariat		
14:00-14:20	Linear and Nonlinear XUV Optics with IR-dressed Atom	Mikhail V. Frolov Leading Researcher at N.I. Lobachevsky State University of Nizhny Novgorod, Russia; Chair of Theoretical Physics Division at Physics Department of Voronezh State University
14:20-14:40	Contact and Non-contact Measuring Devices with Applications in Surface Metrology	Dahi Ghareab Abdelsalam Ibrahim National Institute of Standards (NIS), Egypt
14:40-15:00	The Latest Advances in Computational Imaging	SHAO Xiaopeng Dean, School of Optoelectronic Engineering, Xidian University, China
15:00-15:20	Laser Produced Plasma – A Tool for Optical Emission Spectroscopy	M. Aslam Baig Distinguished National Professor, Pakistan Academy of Sciences and National Center for Physics, Quaid-i-Azam University Campus, Islamabad
15:20-15:40	Tea Break	
Moderator: M. Qasim Jan , National Centre of Excellence in Geology, University of Peshawar / Former President, Pakistan Academy of Sciences / Former Vice President of ANSO		
15:40-16:00	Organic Light Emitting Devices	Emine Tekin Photonic Technologies Team, Marmara Research Center, The



		Scientific and Technological Research Council of Turkey (TUBITAK)
16:00-16:20	Laser Precision Machining Technology and Equipment for difficult-to-machine materials	WANG Wenjun Xi'an Jiaotong University, China
16:20-16:40	Photonics IC Technology; Prospects and Challenges	Isa Kiyat Chief Researcher, TUBITAK BİLGEM Informatics and Information Security Research Center
16:40-17:00	Metafabric for Passive Thermal Management	TAO Guangming Wuhan National Laboratory for Optoelectronics, Huazhong University of Science and Technology, China
17:00-17:30	Wrap-up & Closing Ceremony	M. Qasim Jan and CAO Jinghua

5. Hosts

The Alliance of International Science Organizations (ANSO)

Xi'an Institute of Optics and Precision Mechanics (XIOPM), Chinese Academy of Sciences

Pakistan Academy of Sciences (PAS)

The Scientific and Technological Research Council of Turkey (TUBITAK)

Department of Science and Technology of Shaanxi Province

6. Organizers

Xi'an Institute of Optics and Precision Mechanics (XIOPM), Chinese Academy of Sciences

Xi'an Science and Technology Bureau

Chinese Society for Optical Engineering (CSOE)

7. Co-organizer

XIOPM Industrial Development Co., Ltd.



8. Introduction of the Hosts

The Alliance of International Science Organizations (ANSO)

The Alliance of International Science Organizations (ANSO) is a non-profit and non-governmental international scientific organization founded in 2018 by 37 international science and education institutions from around the world, and it now has 67 member organizations from 48 countries and regions.

ANSO catalyzes and implements a series of projects and activities in Science, Technology, Innovation and Capacity Building (STIC), such as collaborative research projects, training projects, and visiting fellowship on mega-science facilities, to tackle with major global environmental challenges and to help advance the UN SDGs under the principles of extensive consultation, joint contribution and shared benefits.

Xi'an Institute of Optics and Precision Mechanics, Chinese Academy of Sciences

Founded in 1962, the Xi'an Institute of Optics and Precision Mechanics (XIOPM), Chinese Academy of Sciences (CAS), is one of the largest CAS institutes in Northwest China. XIOPM conducts basic research and technology innovation on transient optics and photonics, high-resolution, high-speed information acquisition by optical technology, etc. After more than 60 years of development, it has become a comprehensive research base on applied basic research and high-tech innovation.

The institute now has 32 research units, including one national key laboratory, three CAS key laboratories, two Shaanxi Engineering and Technology Centers, one Shaanxi Provincial Key Laboratory and Xi'an Key Laboratory. There are 914 staff in XIOPM including 364 senior researchers. In 2016, XIOPM/CAS was awarded “National Demonstration Base for Training of Innovative Talents” by the Ministry of Science and Technology in China.

Pakistan Academy of Sciences

Pakistan Academy of Sciences (PAS) was established in 1953 to promote science and technology, disseminate scientific knowledge and honour eminent scientists primarily through their election as fellows. In addition to having exchange programmes with scientific societies, academies and learned bodies in several countries, the Academy also publishes a scientific journal and monographs on topics of national interest. It also arranges seminars, symposia, conferences and workshops at national and international levels.

The Academy is a non-governmental and non-political supreme scientific body of



distinguished scientists in the country. The Government of Pakistan has given the consultative and advisory status to the Academy “on all problems relating to the development of scientific efforts in the country”, and “generally on such matters of national and international importance in the field of science as may be referred to the Academy”. The affairs of the Academy are regulated by its Charter and Bye-Laws approved by the Fellows.

The Scientific and Technological Research Council of Turkey (TÜBİTAK)

The Scientific and Technological Research Council of Turkey (TÜBİTAK) is the leading agency for management, funding and conduct of research in Turkey. It was established in 1963 with a mission to advance science and technology, conduct research and support Turkish researchers. The Council is an autonomous institution and is governed by a Scientific Board whose members are selected from prominent scholars from universities, industry and research institutions.

TÜBİTAK is responsible for promoting, developing, organizing, conducting and coordinating research and development in line with national targets and priorities. It also acts as an advisory agency to the Turkish Government on science and research issues, and is the secretariat of the Supreme Council for Science and Technology (SCST), the highest S&T policy making body in Turkey.

9. Contacts

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