



**2nd International Conference
Advances in 3OM:
Opto-Mechanics, Opto-Mechanics and Optical Metrology
11-14 December 2023
Timisoara, Romania**

[Advances in 3OM – Opto-Mechanics | Opto-Mechanics | Optical Metrology](#)

Abstract submission: <https://spie.org/submissions/submit/overview.aspx?EventId=3000158>

The 3OM concept unites three complementary domains:

- (1) *Opto-Mechanics* is a blend of Optics & Photonics, Precision Mechanics, Electronics, Control & Automation.
- (2) *Opto-Mechanics* usually fills the gap between the high requirements of Optical Design and the capabilities of Mechanical technologies, addressing tolerances, errors, positioning issues, and methods to tackle them. Kinematic and dynamic aspects of optical systems with moving parts are also approached, and this leads back to Control & Automation, but also to material issues, involving Finite Element Analysis.

- (3) *Optical Metrology* is a large umbrella of applications that benefits from both these domains and includes fields as diverse as industrial measurements (such as Non-Destructive Testing (NDT)), biomedical imaging (with a range of techniques, for example Optical Coherence Tomography (OCT) or Photoacoustics), Remote Sensing, as well as Security & Defense.

Other fields that apply 3OM are also within the topics of the Conference, including but not limited to Laser Manufacturing and Robotics, as well as Lasers in Medicine.

The Conference is held in the beautiful city of [Timisoara – 2023 European Capital of Culture](#), in the Western part of Romania, honoring 2023 Int'l Day of Light (IDL) and celebrating 100 years of the Polytechnic University of Timisoara.

We extend a warm invitation to all interested scientists to attend this forum!

General Chairs



Virgil-Florin Duma
Aurel Vlaicu University of Arad
Polytechnic University of Timisoara
(Romania)



Jannick P. Rolland
University of Rochester
(USA)



Adrian Gh. Podoleanu
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(UK)

Program Chairs



Cosmin Sinescu
Victor Babes University of Medicine
and Pharmacy of Timisoara
(Romania)



Mircea Guina
University of Tampere
(Finland)

Publication: Accepted and presented contributions can be submitted for publication in [Proceedings of SPIE](#) (indexed in ISI Web of Science). A *Book of all accepted Abstracts* is made available for participants during the Conference. Please see the 'Abstract submission' section for template, deadlines, and further details.

Papers recommended by the Scientific Committee can be submitted for publication in (and will undergo the regular peer-review process of) Special Issues of several high-impact journals, including [Sensors SI](#), [Applied Sciences SI 1](#), [Applied Sciences SI 2](#), [Medicina SI](#), and [Materials SI](#). Other Special Issues are planned to be open until the Conference.

Organizing Societies



[3OM Optomechatronics Group](#)



[Politehnica University Timisoara](#)

Co-organizing Societies



[The International Society for Optics and Photonics](#)



[West Regional Development Agency](#)

The Conference benefits from 8 Plenary, 10 Keynote, and 16 Invited Speakers:

Plenary Speakers: **Iulian Vasile Antoniac** (Polytechnic University of Bucharest, Romania); **Mircea Guina** (Tampere University, Finland); **Kirill V. Larin** (University of Houston, USA); **Irina V. Larina** (Baylor College of Medicine, Houston, USA); **Adrian Podoleanu** (University of Kent, UK); **Jannick P. Rolland** (University of Rochester, NY, USA); **Marija Strojnik (Scholl)** (Optics Research Center in Leon, Mexico); **Calin Alexandru Ur** (ELI-NP, Bucharest, Romania)

Keynote Speakers: **Ioan Dancus** (ELI-NP/Horia Hulubei National Institute for Physics and Nuclear Engineering, Bucharest, Romania); **George Dobre** (University of Kent, UK); **Alessandra Giuliani** (Polytechnic University of Marche, Italy); **Roger M. Groves** (Delft University of Technology, The Netherlands); **Teemu Hakkarainen** (Tampere University, Finland); **Tapio Niemi** (Tampere University, Finland); **Nicolae Pavel** (National Institute for Laser, Plasma and Radiation Physics, Romania); **Cosmin Sinescu** (Victor Babes University of Medicine and Pharmacy of Timisoara, Romania); **Yuzuru Takashima** (Wyant College of Optical Sciences, Tucson, USA); **Carmen Darinca Todea** (Victor Babes University of Medicine and Pharmacy of Timisoara, Romania)

Invited Speakers: **Oleg V. Angelsky** (Chernivtsi National University, Ukraine); **Charles Bibas** (CEO & Founder of Tecnica, Inc., USA); **Radu Ciprian Bilcu** (Huawei Research Center, Finland); **Lucian Toma Ciocan** ("Carol Davila" University of Medicine and Pharmacy, Bucharest, Romania); **Claudia C. Cotca** (Washington Institute for Dentistry & Laser Surgery, USA); **Biljana Gaković** (University of Belgrade, Serbia); **Tomohiko Hayakawa** (Tokyo University of Science, Japan); **Vladimir Iakovlev** (NVIDIA Switzerland); **Mihai Iovea** (ELI-NP, Bucharest, Romania); **Anca Jivanescu** (Victor Babes University of Medicine and Pharmacy of Timisoara, Romania); **Horia Manolea** (University of Medicine and Pharmacy, Craiova, Romania); **Teodora V. Kirova** (University of Latvia); **Michael-Bogdan Mărgineanu** (Institute Francis Crick, UK); **Mariana Pacurar** (George Emil Palade University of Medicine, Pharmacy, Science, and Technology of Târgu Mureș, Romania); **Cristina Polonschii** (International Centre of Biodynamics, Bucharest, Romania); **Nicolina Pop** (Polytechnic University of Timisoara, Romania); **Vladimir A. Sreckovic** (Institute of Physics Belgrade, Serbia); **Dan Stutman** (ELI-NP, Bucharest, Romania); **Mousumi Upadhyay Kahaly** (ELI-ALPS, Hungary); **Daniel Ursescu** (ELI-NP, Bucharest, Romania)

12 Awards for Students participants have been established from the 1st Edition:

(1) Best Oral Presentation Award; (2) Best Poster Award; (3) Best Paper in Optomechatronics; (4) Best Paper in Optical Metrology; (5) Best Paper in Biomedical Imaging; (6) Best Paper in Materials Studies; (7) Best Paper of an Undergraduate Student; (8) Best Paper of a Master Student; (9) Best Paper of a PhD Student; (10) Best Doctoral Thesis, (11) Best Master Thesis, and (12) Best Bachelor Thesis, the latter three Awards in Optics or Imaging in Romania (for Thesis defended in 2021-2023).

Please see all necessary details [here](#).



"Deep Tech Entrepreneurial Workshop – the hardware perspective" is a joint-event co-organized with ADR Vest in the second day of the Conference. It provides a unique platform for discussing the key factors that are instrumental in defining a successful entrepreneurial culture with differentiation provided by emerging hardware platforms. Technologies like advanced electronics, optics and photonics, robotics, medical systems, or nanotechnology, have long development cycles and require dedicated infrastructure. The unique challenges, opportunities, and requirements for success, will be discussed in topical sessions dedicated to the role of specialized research infrastructures, public funding, EU-level cooperation, and the need for building a versatile entrepreneurial culture.



Venue: [Conference Center of the Polytechnic University of Timisoara](#)

Registration – [Advances in 3OM 2023](#)

Contact – [Advances in 3OM 2023](#)

Sponsors:



Advancing Optics and Photonics Worldwide



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