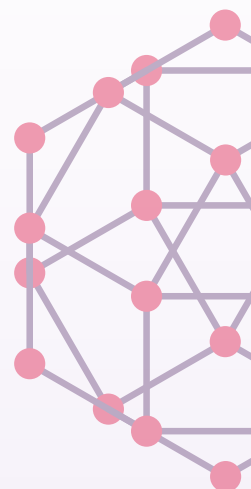


International Congress on **Materials Science and Nanotechnology**

20 21 22

**November, 2025
Singapore**



**CONFERENCE
PROGRAM**



IN-PERSON

Village Hotel Changi
1 Netheravon Rd, Singapore 508502



VIRTUAL

Greenwich Mean Time
(GMT Time Zone)

DAY 1

THU 20

IN-PERSON

08:00-08:50

Registrations

08:50-09:00

Inaugural Session

09:00-11:00

In-person Keynote Presentations

11:20-18:20

In-person Oral Presentations

11:00-11:20 Coffee Break

13:00-13:40 Lunch Break

16:20-16:40 Coffee Break

DAY 2

FRI 21

IN-PERSON

09:00-10:50

In-person Keynote Presentations

11:10-16:10

In-person Oral Presentations

16:30-17:30

In-person Poster Presentations

10:50-11:10-Coffee Break

12:50-13:30 Lunch Break

16:10-16:30 Coffee Break

DAY 3

SAT 22

VIRTUAL

07:30-08:00

AV Testing

08:00-10:00

Virtual Keynote Presentations

10:00-14:40

Virtual Oral Presentations

14:40-15:10

Virtual Poster Presentation

15:10-16:30

Virtual Keynote Presentations

16:30-18:30

Virtual Oral Presentations

Conference Timing & Participation Guidelines

- The conference will follow Singapore Time (SGT) for in-person sessions and Greenwich Mean Time (GMT) for virtual sessions.
- When the program mentions Local Timings, it refers to the presenter's own country time zone.
- In-person presentations will take place at Village Hotel Chango, located at 1 Netheravon Rd, Singapore 508502, while virtual presentations will be conducted via Zoom.
- Please remain available in the conference hall or Zoom meeting throughout the day, as the program may experience minor adjustments due to technical issues or presenter changes.



Moderator: Manoj Kumar, IFTM University, India

Chairs: Mohd. Ghulam Haider Zaidi, G.B. Pant University of Agriculture & Technology, India
Nasimuddin, Institute for Infocomm Research, A*STAR, Singapore

08:00-08:50 Registrations

08:50-09:00 Inaugural Session

Keynote Presentations

- 09:00-09:40 **Sergey Suchkov, N.D. Zelinskii Institute for Organic Chemistry of the Russian Academy of Sciences, Russian Federation**
Title: Personalized and Precision Medicine (PPM) as a unique healthcare model through biodesign-inspired & biotech-driven translational applications and upgraded business marketing to secure the human healthcare and biosafety
- 09:40-10:20 **Nasimuddin, Institute for Infocomm Research, A*STAR, Singapore**
Title: Exploring tunable materials for reconfigurable antenna technology
- 10:20-11:00 **Mohd. Ghulam Haider Zaidi, G.B. Pant University of Agriculture & Technology, India**
Title: Supercritical fluids in polymer science and engineering

Group Photo

11:00-11:20 | Coffee Break @Foyer

Oral Presentations

- 11:20-11:40 **Mitra Mosharraf, HTD Biosystems, United States**
Title: Artificial intelligence in nano drug delivery: From formulation design to clinical translation
- 11:40-12:00 **Rajiv Nayar, HTD Biosystems, United States**
Title: Designing a pharmaceutically acceptable drug delivery system: Importance of defining the Target Product Profile (TPP)
- 12:00-12:20 **Shamil Akhmedov, Russian Academy of Sciences, Russia**
Title: Potential of using chemically modified iron nanocomposites with a carbon layer (Fe@C) in the treatment of atherosclerosis
- 12:20-12:40 **Wei Zhang, Taiyuan University of Technology, China**
Title: Forging-mediated microstructural control and enhanced properties in lightweight refractory high-entropy alloys $\text{Al}_{20}\text{Nb}_{15}\text{Ti}_{35}\text{Zr}_{30}$
- 12:40-13:00 **Atlang Gild Mpolokang, Botswana International University of Science and Technology, Botswana**
Title: Analysis of exhaled human breath for diagnosis of Tuberculosis disease from human breath

13:00-13:40 | Lunch Break @Restaurant



- 13:40-14:00 **Mineo Hiramatsu, Meijo University, Japan**
Title: Three-dimensional graphene: Synthesis and application
- 14:00-14:20 **Muhammet Toprak, KTH Royal Institute of Technology, Sweden**
Title: Development of nanoparticle-based contrast agents for X-Ray fluorescence computed tomography bioimaging
- 14:20-14:40 **Shenmin Zhu, Shanghai Jiao Tong University, China**
Title: Functionalization of cellulose nanocrystals and its application as biomaterials
- 14:40-15:00 **Sathish Sundar Dhillip Kumar, University of Johannesburg, South Africa**
Title: Advancing PBM with nanobiomaterials: From lab to life
- 15:00-15:20 **Dan Sathiaraj, IIT Indore, India**
Title: Laser shock peening-induced nanostructure evolution and mechanical response of LDED-fabricated CoCrNi medium-entropy alloy
- 15:20-15:40 **Huixue Ren, Shandong JianZhu University, China**
Title: Optimization and mechanistic insights into electromagnetic shielding performance of nano-carbon composite films fabricated via magnetron sputtering
- 15:40-16:00 **Manoj Kumar, IFTM University, India**
Title: Microwave assisted fabrication of poly butyl methacrylate reinforced biocomposites with improved mechanical properties solvent and chemical resistance
- 16:00-16:20 **Mohammed S. Al-Ghamdi, King Abdulaziz University, Saudi Arabia**
Title: Temperature-dependent carrier dynamics in InAsP/AlGaInP quantum dot lasers: Threshold current behavior and emission state contributions
- 16:20-16:40 | Coffee Break @Foyer
- 16:40-17:00 **Cristina Pachiu, National Institute for Research and Development in Microtechnologies (IMT-Bucharest), Romania**
Title: Spray deposition of Carbon-Zinc Oxide nanomaterials: A scalable approach for advanced electroshielding and flexible electronics
- 17:00-17:20 **Deepa Sharma, SUS Government College, India**
Title: Doping and co-doping as optical engineering tools for Graphene
- 17:20-17:40 **Nikolai Kargin, National Research Nuclear University MEPhI, Russia**
Title: Nanosensor for weak magnetic fields based on the Kramers degenerate spin system of $^{14}\text{NV}-^{13}\text{C}$
- 17:40-18:00 **Shizheng ZHOU, University of Macau, China**
Title: Label-free spatiotemporal decoding of single-cell fate via acoustic driven 3D tomography
- 18:00-18:20 **Seiichi TAGUCHI, Shinshu University, Japan**
Title: Lactate-based polyester (LAHB) as a multi-functional modifier of non biodegradable polylactide



Moderator: Yashu Swami, Manav Rachna International Institute of Research and Studies, India

Chairs: Maria VISA, Transilvania University of Brasov, Romania

Thomas J. Webster, Hebei University of Technology, China

Keynote Presentations

- 09:00-09:30 • **Maria Visa, Transilvania University of Brasov, Romania**
Title: TiO_2 and WO_3 semiconductor particles in contact with fly ash for removal the pollutants from wastewater
- 09:30-10:10 • **Oleg Dimitriev, V. Lashkaryov Institute of Semiconductor Physics, Ukraine**
Title: Management of light emission of near-infrared dyes mediated by nanomaterials: From anti-stokes to anti-kasha fluorescence
- 10:10-10:50 • **Thomas J. Webster, Hebei University of Technology, China**
Title: 30,000 Nanotextured implants in human: No cancer, no infection, only success

10:50-11:10 | Coffee Break @Foyer

Oral Presentations

- 11:10-11:30 • **Li Jun, The First Affiliated Hospital of Xinjiang Medical University, China**
Title: Oral delivery of liver-targeting nanodrug against hepatic alveolar echinococcosis
- 11:30-11:50 • **Xinlong Zhang, Taiyuan University of Technology, China**
Title: Core equipment and key technologies for near-isothermal rolling forming of titanium-based difficult-to-form alloys
- 11:50-12:10 • **Yashvi Vijaybhai Sheth, Indian Institute of Technology Bombay, India**
Title: Mg-doped hydroxyapatite and its impregnation on nylon-6 fabric for effective uptake of Pb(II) and Cd(II) from wastewater
- 12:10-12:30 • **Yashu Swami, Manav Rachna International Institute of Research and Studies, India**
Title: Transforming VLSI circuit design through artificial intelligence: A review and future outlook
- 12:30-12:50 • **Sergey Suchkov, N.D. Zelinskii Institute for Organic Chemistry of the Russian Academy of Sciences, Russian Federation**
Title: The promise of nanotechnology in personalized & precision medicine: Drug discovery & development being partnered with nanotechnologies via the revolution at the nanoscale
- 12:50-13:30 | Lunch Break @Restaurant
- 13:30-13:50 • **Zhou Yinning, University of Macau, China**
Title: Acousto-optogenetics bandpass stabilizer: A programmable platform for mapping single-cell phenotypic life trajectories
- 13:50-14:10 • **Ruonan Miao, Southeast University, China**
Title: Photoluminescence properties of $\text{Cs}_3\text{Cu}_2\text{Cl}_5$ and CsCu_2Cl_3 with 1D-polyhedron-chain structure



- 14:10-14:30 **Huaxin Wu, Southeast University, China**
Title: Molecule intercalation molds supramolecular assembly of crowned octahedrons into extremely thermally-anomalous two-family hybrid semiconductors
- 14:30-14:50 **Yusha Luo, Southeast University, China**
Title: Design of near- β Ti-Zr-Mo-Cu multi-principal element alloys with low elastic modulus and enhanced corrosion resistance
- 14:50-15:10 **Nazym Akhmediyeva, Institute of Metallurgy and Ore Beneficiation, Kazakhstan**
Title: Alternative sources of alumina
- 15:10-15:30 **Yerkezhan Abikak, Institute of Metallurgy and Ore Beneficiation, Kazakhstan**
Title: Innovative processing of red mud for recovery of valuable and rare elements
- 15:30-15:50 **Aleksandra Lobnik, University of Maribor, Slovenia**
Title: Nanomaterials for sensor applications: Challenges, opportunities and risks
- 15:50-16:10 **Daniel José da Silva, Palacký University Olomouc, Czech Republic**
Title: Biomimetic toolkit: Amino acids as modifiers for tunable cellulose nanofibril morphology

16:10-16:30 | Coffee Break @Foyer

Poster Presentations (16:30-17:30)**Poster Judge:** Mohd. Ghulam Haider Zaidi, G.B. Pant University of Agriculture & Technology, India

- P1 **Mihaela BADEA, Transilvania University of Brasov, Romania**
Title: Challenges of nanotechnologies in medicine
- P2 **Hayato Hamashima, Chuo University, Japan**
Title: Improving the performance of carbon nanotube sensors by selective noise removal
- P3 **Wen-Ta Su, National Taipei University of Technology, Taiwan**
Title: MgO and SrO nanoparticle synthesized from Hemerocallis fulva extract for bone tissue regeneration
- P4 **Jae Won Lee, Chungbuk National University, Republic of Korea**
Title: Synthesis of cobalt-iron selenide graphene-carbon nanotube composite with 3D layered structure using the spray pyrolysis process and evaluation of anode characteristics of potassium ion battery
- P5 **Tae Ha Kim, Chungbuk National University, Republic of Korea**
Gi Dae Park, Chungbuk National University, Republic of Korea
Title: Novel scalable synthesis mechanism of uniform size yolk-shell microsphere by one-pot spray pyrolysis with in-situ polymerization and application as outstanding performance anodes for potassium-ion batteries
- P6 **Osamu Maida, Osaka University, Japan**
Title: Transient photocapacitance measurement for characterization of deep defects in B-doped (001) and (111) diamond films
- P7 **Mitsuki Kosaka, Chuo University, Japan**
Title: Broadband non-destructive structural reconstruction via reflection angle estimation using carbon nanotube thin-film sensors



- P8 **Ji Lichen, Tongji University, China**
Title: Oligopeptide modified ICG/Cisplatin@CaCO₃ for targeted osteosarcoma NIR-II imaging guided multimodal therapy
- P9 **Huang Jiaqing, Zhejiang Chinese Medical University, China**
Title: Sophora flavescens-derived extracellular vesicles loaded with oncolytic vaccinia virus/IR1061 for NIR-II photoacoustic imaging guided multimodal treatment of diffuse large B-cell lymphoma
- P10 **MARINESCU Maria - Roxana, National Institute for Research and Development in Microtechnologies (IMT-Bucharest), Romania**
Title: The integration of montmorillonite and RE:ZnO in humidity sensor development
- P11 **Sobia Dilpazir, King Fahd University of Petroleum & Minerals, Saudi Arabia**
Title: Biomass derived jute carbon integrated FeCoNi alloy as a robust catalyst for alkaline water splitting
- P12 **Min Gyeong Kang, Jeonbuk National University, Republic of Korea**
Title: Enhanced piezoelectric potential of ZnO-based composite piezoelectric nanogenerators with various nanostructures
- P13 **Ira Artilia, Jenderal Achmad Yani University, Indonesia**
Title: Biocompatible porosity of self-cure acrylic resin reinforced PAN-PMMA nanofibers
- P14 **Tatiana S. Kolesnikova, Southern Federal University, Russia**
Title: Obtaining metal-polymer nanocomposites by thermolysis of calcium salts with unsaturated mono- and dicarboxylic acids
- P15 **Julia D. Bryantseva, Southern Federal University, Russia**
Title: Magnetic nanocomposites of cobalt terephthalate with magnetite: Synthesis and functional characterization
- P16 **Jinhyeok Kang, Jeonbuk National University, Republic of Korea**
Title: Solar-heated ferrimagnetic cellulosic sponge with mono-domain architecture prepared via bidirectional freeze casting for efficient liquid adsorption
- P17 **Ramakant Shivram Gavale, Indian Institute of Technology (IIT) Indore, India**
Title: Stimuli-responsive phenothiazine-based materials: Multicolor emission, mechanochromism, and anticounterfeiting applications
- P18 **Ki-Seob Hwang, Korea Institute of Industrial Technology (KITECH), Republic of Korea**
Title: Development of CO₂-responsive colorimetric films for visual indication of kimchi fermentation maturity
- P19 **Jun-Young Lee, Korea Institute of Industrial Technology (KITECH), Republic of Korea**
Title: Thermoresponsive polymer composites for wavelength-independent light scattering control

Moderators: Sara TAMY, Independent researcher, Morocco
Yarub Kahtan Al-Douri, European Academy of Science, Belgium

07:30-08:00 AV Testing

Keynote Presentations

GMT	Speaker's Local Time	
08:00-08:40	11:00-11:40	Osman Adiguzel, Firat University, Turkey Title: Thermomechanical transformations for thermoelasticity and superelasticity in shape memory alloys
08:40-09:20	16:40-17:20	Vladimir G. Chigrinov, Hong Kong University of Science and Technology, Hong Kong Title: Azodye nanolayers for liquid crystal devices: New trends
09:20-10:00	12:20-13:00	Hakan ATES, Gazi University, Turkey Title: Computational materials engineering and nanotechnology: The transformative impact of the digital age on materials science

Oral Presentations

10:00-10:20	21:00-21:20	Yang Yang, University of New South Wales (UNSW), Australia Title: Enhanced prediction and evaluation of hydraulic concrete compressive strength using multiple soft computing and metaheuristic optimization algorithms
10:20-10:40	18:20-18:40	Xue Liu, Chinese Academy of Agricultural Sciences, China Title: Selected-atom-regulated C_3N_4 for enhanced photocatalytic degradation of pesticides
10:40-11:00	17:40-18:00	Nguyen Quang Thai, Can Tho University of Medicine and Pharmacy, Vietnam Title: Antibacterial efficacy of silver nanoparticle–chitosan composite films against acne-associated bacteria
11:00-11:20	14:30-14:50	Shahab Ahmadi Seyedkhani, Sharif University of Technology, Iran (Islamic Republic of) Title: Cutting-edge biomaterials for next-generation brain-computer interfaces
11:20-11:40	16:50-17:10	Mamata Pradhan, JSW Steel Coated Products Private Limited, India Title: Smart-multifunctional nanocoatings
11:40-12:00	14:40-15:00	Delia Teresa Sponza, Dokuz Eylül University, Turkey Title: Ternary nanocomposites for photocatalytic degradation of endocrine disruptors
12:00-12:20	17:00-17:20	Haseeba Shahzad, University of the Punjab, Pakistan Title: A peculiar construct of lab on chip scaffold of bioluminescent bacteria-based cellulosic nanostructured biosensor for luciferase-based detection of organophosphates

12:20-12:40	13:20-13:40	Sara TAMY, Independent researcher, Morocco Title: Potential applications of nanotechnology in industry 4.0: Towards advancing products and processes
12:40-13:00	13:40-14:00	Fatima Zahra Siyouri, Mohammed V University, Morocco Title: The impact of weak measurements on quantum characteristics of coupled semiconductor quantum dots system
13:00-13:20	14:00-14:20	Salah OUDJERTLI, Research Center in Industrial Technologies (CRTI), Algeria Title: Scalable CVD-Grown graphene on copper: Tailoring electrical, thermal, and optical properties for advanced device applications
13:20-13:40	16:20-16:40	Aleksandr S. Kamzin, Ioffe Physical-Technical Institute RAS, Russia Title: Magnetic nanocomposites for future theranostic medicine: Diagnostics (MRI and MPI) and Magneto-HyperThermic Treatment (MHT)
13:40-14:00	14:40-15:00	Salah OUDJERTLI, Research Center in Industrial Technologies (CRTI), Algeria Title: Reduced graphene oxide as a gateway to next-generation nanoelectronics: Insights into structure property relationships
14:00-14:20	19:30-19:50	Shuchitangshu Chatterjee, RKDF University, India Title: Using indian galena ore for preparing thermoelectric generator, pressure transducer and solar selective coating
14:20-14:40	09:20-09:40	Ivonne Eliana Monje López, University of Pamplona, Colombia Title: Electrochemical behavior of silicon oxycarbide as negative electrodes in lithium- ion batteries: A study of binder–ionic liquid electrolytes

Poster Presentations

14:40-14:50	22:40-22:50	Jiaqi Wang, National University of Singapore, Singapore Title: A square 3-D sensor based on anomalous hall effect and spin hall effect
14:50-15:00	22:50-23:00	Jiaqi Wang, National University of Singapore, Singapore Title: Magnetic angular position sensor via a single wheatstone bridge
15:00-15:10	07:00-07:10	Edwin Maina, Portland State University, United States Title: A minimal correction law for magnetic nanofluids capturing concentration curvature and field-dependent enhancements

Keynote Presentations

15:10-15:50	12:10-12:50	Paulo Cesar De Moraes, Catholic University of Brasilia, Brazil Title: Cell viability assays under radiofrequency application modulated by nanomaterials
15:50-16:30	16:50-17:30	Yarub Kahtan Al-Douri, European Academy of Sciences, Belgium Title: Nanotechnology overview of engineering

Oral Presentations

16:30-16:50	08:30-08:50	Meiyan Gao, University of California, United States Title: Structurally precise coordination compounds: Applications in the separation and conversion of C-compounds
16:50-17:10	22:20-22:40	Rajkumar Singh, Kalyani Center for Technology and Innovation, India Title: Life enhancement of fluid end using surface engineering on 4330V steel
17:10-17:30	19:10-19:30	Taoreed Adesola Adegbola, Tshwane University of Technology, South Africa Title: Effects of pores distribution on tensile strength of recycled polyacrylonitrile and polyethylene terephthalate blends
17:30-17:50	12:30-12:50	Juan Manuel Giraldo Millán, Universidad del valle, Colombia Title: Optical filter based on a 1D photonic crystal with graphene defect layers: $(\text{BaTiO}_3/\text{Y}_2\text{O}_3)\text{N}/\text{G}/\text{Y}_2\text{O}_3/\text{G}/(\text{BaTiO}_3/\text{Y}_2\text{O}_3)\text{N}$ for multispectral sensing
17:50-18:10	22:50-23:10	Ibragimova Elvira Memetovna, Institute of Nuclear Physics of Uzbekistan Academy of Sciences, Republics of Uzbekistan Title: Nanocrystals produced by nuclear reactions in Lithium Fluoride crystals
18:10-18:30	22:10-22:30	Raheema Jahangir Khan, Higher Colleges of Technology, United Arab Emirates Title: Melting of colloidal crystals in suspension at the elevated temperatures with and without resins

Thank You For Being a Part of M-Nano 2025!

We sincerely thank all speakers, delegates, and partners for making this conference a great success. Your enthusiasm and contributions have strengthened our shared vision of advancing innovation in materials science and nanotechnology.

“Together, we shape the future of materials for a sustainable world.”

– Organizing Committee

Mathews International Conferences

Stay Connected For the Next Edition

2nd Edition of International Congress on
Materials Science and Nanotechnology
November 16-18, 2026 | Singapore

Interested in participating as a speaker or listener?

Contact us at materials@mathewsconference.com

Phone: +1 (312) 462-4448 | Whatsapp: +1 (424) 377 0967