

4th International Conference on

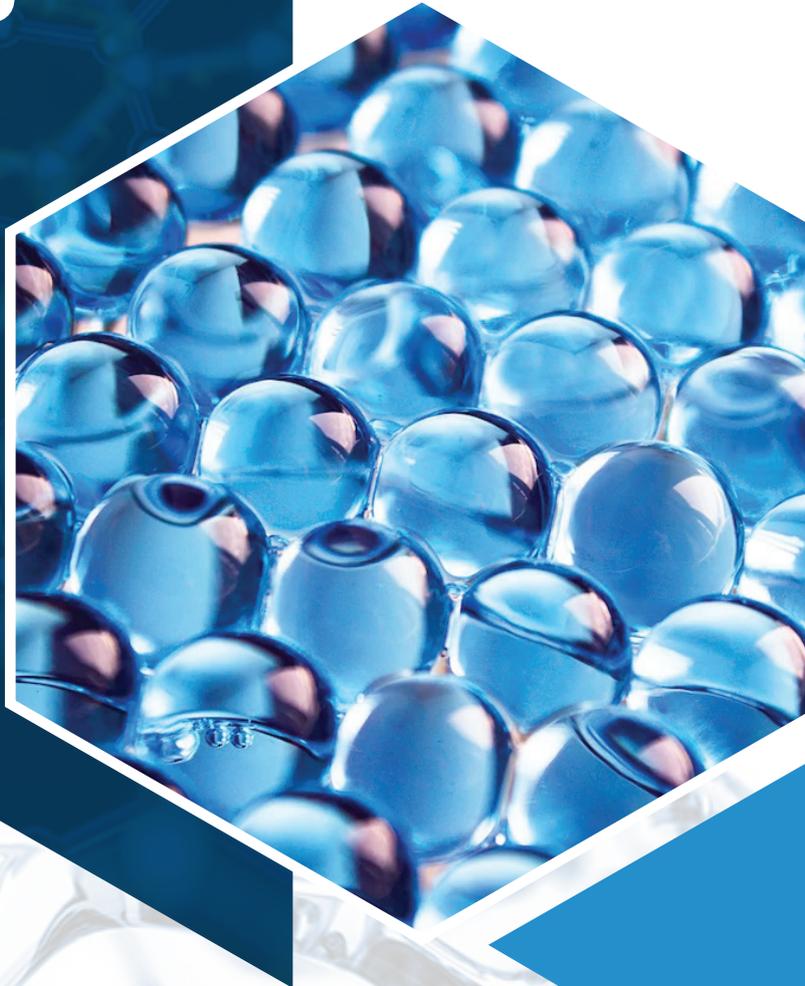
Smart Materials & Structures

March 30-31, 2026 | Berlin, Germany

Venue: SRH Berlin | University of
Applied Sciences, Germany

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srh Berlin University
of Applied Sciences



Theme:
Fostering tomorrow's possibilities:
Unveiling innovations and
applications with smart materials

- 07:30 - 08:00 Onsite Registration & Seating Arrangement
- 08:00 - 08:15 Introduction & Opening Ceremony by SRH University Leads
- 08:15 - 08:30 Recognition of Our Esteemed Sponsors and Introduction to the Conference Objectives

Time	Name	Affiliation	Title
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Plenary Presentations

Honourable Chair Person: Prof. Klaus - Ulrich Neumann

08:30 - 09:00	Prof. Klaus - Ulrich Neumann	<i>SRH Berlin University of Applied Sciences, Germany</i>	An Investigation of the Shear Transformation in the Shape Memory Alloy Ni₂MnGa
09:00 - 09:30	Prof. Dr.-Ing. Per Arvid Löthman	<i>European University of Applied Sciences Hamburg (Euro-FH), Germany</i>	The Architecture of Life: Tensegrity Structures in Nature and Engineering

Keynote Presentations

09:30 - 09:55	Prof. Ping Liu	<i>South China University of Technology, China</i>	Flexible organic electrochromic devices having multicolored, low-voltage-driven and high contrast, and organic photovoltaic properties based on Oligomers and Viologen Derivatives
09:55 - 10:20	Dr. Antoine Barbier	<i>CEA-SPEC, Université Paris-Saclay, France</i>	Structured multifunctional multiferroic materials
10:20 - 10:45	Dr. Philippe Baranek	<i>EDF R&D, EDF Lab Paris-Saclay, France</i>	A multiscale approach of the perovskites phase transitions influence on their dielectric properties: from fundamental properties of materials to cell efficiency
10:45 - 11:10	Prof. Magnus S. Magnusson	<i>University of Iceland, Iceland</i>	From polymers to genes to curricula and T-societies: the most complex structures in the known universe

11:10 - 11:20 Exhibitor Spotlight Session

11:20 - 11:40 (Refreshment & Coffee Break)

Keynote Presentations Continue..

11:40 - 12:05	Dr. Thomas W. Schmidt	<i>Fujian Huafeng New Material Co. Ltd., China</i>	HAPTIC 3D textile coatings for sustainable athletic footwear
12:05 - 12:30	Dr. Guy Mechrez	<i>Institute for Postharvest and Food Science Volcani Center, ARO, Israel</i>	Tunable pickering emulsion/polymer systems: from colloids to bio-functional materials
12:25 - 12:50	Prof. José L. OCAÑA	<i>Polytechnic University of Madrid, Spain</i>	Laser shock processing: An advanced technique for the improvement of the mechanical performance of high-added-value metallic alloys
12:50 - 13:15	Prof. Maria Tomoaia-Cotisel	<i>Babeş-Bolyai University of Cluj-Napoca, Romania</i>	Advanced Biotechnology: Modulation of doxorubicin cytotoxicity by smart gold nanoparticles multi-functionalized with natural compounds in targeting human cervical and breast cancer cells

13:15 - 13:25 (Memorable Group Photo & Guided Walk to Estrel Hotel for Networking Lunch)

13:25 - 14:15 (Tempting Buffet Lunch at Estrel Hotel Berlin)

Keynote Presentations Continue..

14:15 - 14:40	Prof. Fei You	<i>Nanjing Tech University, China</i>	Bio-based materials and sensors and their possible applications in wind turbine fire prevention and control
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Sessions: Smart Materials & Structures

Oral Presentations

14:40 - 15:00	Prof. Hiroyuki Aoki	<i>Japan Atomic Energy Agency, Japan</i>	Interface engineering to enhance adhesion strength in high humidity
15:00 - 15:20	Prof. Maude JIMENEZ	<i>Univ. Lille, CNRS, INRAE, France</i>	Smart and sustainable self-stratifying coatings
15:20 - 15:40	Christl Lauterbach	<i>Future-Shape GmbH, Germany</i>	A large-area sensor floor based on smart textiles
15:40 - 16:00	Prof. Violeta Sicilia	<i>Universidad de Zaragoza, Instituto de Síntesis Química y Catálisis Homogénea Spain</i>	Photoactive Cyclometalated Pt Complexes: Molecular design and applications
16:00 - 16:20	Mr. Jorge Roy Cavero	<i>University of Zaragoza (CSIC-ISQCH), Spain</i>	Chasing the Blue Corner: Carbazole-Decorated NHC Platinum Complexes surfing the CIE Color Map for PhOLED Applications.
16:20 - 16:40	Prof. Alojz Ivankovic	<i>University College Dublin, Ireland</i>	Characterisation of smart epoxy-based polymer composites with sensing capabilities

16:40 - 17:00 (Refreshment & Coffee & Networking Sessions)

**Session: Carbon Nanomaterials, Nanomaterials, Nanotechnology and Sensors,
Nanotechnology in Healthcare**

Oral Presentations

17:00 - 17:20	Assoc. Prof. Zdenka Fohlerova	<i>Brno University of Technology, Czech Republic</i>	Graphen acid-based nanomaterials in biosensing applications
17:20 - 17:40	Dr. Stoyan Sarg Sargoytchev	<i>World Institute for Scientific Exploration, USA</i>	Atlas of Atomic Nuclear Structures - A major contribution of the BSM - Supergravitation Unified Theory
17:40 - 18:00	Prof. Eva Rauls	<i>University of Stavanger, Norway</i>	CO₂ Capture with supramolecular structures: Efficiency and selectivity of functionalized Pillar[n]arene and Dyn[n] arene structures

***** End of Day 1 Conference *****

08:00 - 08:30 Onsite Registration & Seating Arrangement

08:30 - 08:45 Introduction & Opening Ceremony by SRH University Leads

08:45 - 09:00 Recognition of Our Esteemed Sponsors and Introduction to the Conference Objectives

Time	Name	Affiliation	Title
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Plenary Presentations

Honourable Chair-Person: Prof. Thomas Pfeiffer

09:00 - 09:30	Prof. Thomas Pfeiffer	<i>SRH Berlin University of Applied Sciences, Germany</i>	Determining vtt Biochar's densities accelerating hydration processes in mortar and concrete with regard to particle sizes
09:30 - 10:00	Hans-Joachim Freund	<i>Fritz-Haber-Institut der Max-Planck-Gesellschaft, Germany</i>	Useful tools based on surface science to study model systems for heterogeneous catalysts
10:00 - 10:30	Juergen Caro	<i>Leibniz University Hannover, Germany</i>	Catalytic Membrane Reactors for Process Intensification Using Dense and Porous Inorganic Membranes

Keynote Presentations

10:30 - 10:55	Roger Gläser	<i>Universität Leipzig, Germany</i>	Heterogeneous Catalysis in Nanopores: Enhancing the Accessibility of Active Sites by Hierarchical Pore Systems
10:55 - 11:20	Katerina Soulantica	<i>Université de Toulouse, France</i>	Colloidal nanoparticles and supported catalysis: a successful marriage?
11:20 - 11:45	Christian Paulik	<i>Johannes Kepler University Linz, Austria</i>	Polyolefins - why to still work on "old" materials
11:45 - 12:10	Mario Waser	<i>Johannes Kepler University Linz, Austria</i>	Chiral Isochalcogenourea Lewis Base Organocatalysis

12:10 - 12:20 Exhibitor Spotlight Session

12:20 - 12:40 (Refreshment & Coffee Break)

Keynote Presentations Continue..

12:40 - 13:05	Kei Ohkubo	<i>The University of Osaka, Japan</i>	C-H Oxygenation of Hydrocarbons Using Photoredox Catalysts
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Sessions: Homogeneous Catalysis and Molecular Design | Theoretical and Computational Catalysis | Heterogeneous Catalysis: Surfaces, Interfaces, and Applications | Photocatalysis and Light-Driven Transformations

Invited Speaker Presentations

13:05 - 13:25	Matteo Tiecco	<i>University of Camerino, Italy</i>	A Deeper Understanding on Catalytic Activity of Deep Eutectic Solvents (DESs) by Means of Studies on Organocatalytic Activity of Chiral-DESs
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13:25 - 13:35 (Memorable Group Photo & Guided Walk to Estrel Hotel for Networking Lunch)

13:35 - 14:25 (Tempting Buffet Lunch at Estrel Hotel Berlin)

Sessions: Catalyst Design and Materials Innovation | Heterogeneous Catalysis: Surfaces, Interfaces, and Applications

Invited Speaker Presentations

14:25 - 14:45	Ermelinda Falletta	<i>Università degli Studi di Milano, Italy</i>	Advanced floating photocatalysts for water treatment
14:45 - 15:05	Minoo Tasbihi	<i>SRH Berlin University of Applied Sciences, Berlin, Germany</i>	Degradation of Phenol via an Advanced Oxidation Process with Immobilized Commercial Titanium Dioxide Photocatalysts
15:05 - 15:25	Maria Rosaria Acocella	<i>University of Salerno, Italy</i>	Unprecedented Chiral Functionalized Biochar for Asymmetric PTC
15:25 - 15:45	Michael Schnürch	<i>TU Wien, Institute of Applied Synthetic Chemistry, Austria</i>	The best solvent is no solvent – exploring the potential of mechanochemical organic synthesis
15:45 - 16:05	Francesco Di Renzo	<i>ICGM, University of Montpellier-CNRS-ENSCM, France</i>	Platinum-nickel active phase to drive furfurylamine selectivity in the catalytic reductive amination of furfural

Oral Presentations

16:05 - 16:25	Gerard Martí	<i>Leitat Technological Centre, Spain</i>	Metal-doped carbon from plastic waste pyrolysis for electrocatalytic HER (LUPYPLAST)
16:25 - 16:45	Alessio Varotto	<i>Italian National Energy for New Technologies, (ENEA), Italy</i>	Synthesis of PtPd/CeO₂ bimetallic catalysts using a recycled hydrometallurgical solution
16:45 - 17:05	Ruchi Sharma	<i>ATLANT 3D, Taastrup, Denmark</i>	Thickness-Dependent Electrocatalytic Performance of DALP-Deposited Platinum Thin Films for the Hydrogen Evolution Reaction

17:05 - 17:25	Andi Agrah Arundana Djabbaa	<i>Korea Institute of Energy Research, Republic of Korea</i>	The Synergistic Effect of Ba and Cs Co-Promoters in Mesoporous Carbon- Supported Ru Catalysts for Ammonia Synthesis under Mild Conditions: An Experimental and DFT Study
17:25 - 17:45	Guido Smejkal	<i>EnProCo Berlin GmbH, Germany</i>	Sustainable Mobility Enhancer - Methyl Formate (MeFo) and Di-Methyl-Carbonate (DMC) Synthesis from Renewable Sources

17:45- 18:05 (Refreshment & Coffee & Networking Sessions)

Poster Presentations Continue

Posters	Andy Galvez- Rodriguez	<i>University of Alberta, Canada</i>	Utilizing a non-innocent, electron- reservoir ligand to promote the reduction of CO₂ at low overpotentials with a Mn(bpy)(CO)₃L-type electrocatalyst
	Irantzu Arenaza Prieto	<i>Technical University of Denmark, Denmark</i>	Bi-V-In based nanoparticles for visible- light driven photocatalytic water splitting without sacrificial agents
	Afrodyta Daskalakis	<i>Wrocław University of Science and Technology, Poland</i>	Synthesis and Optimization of Ga₂O₃ Thin Films on Various Substrates for UV-Driven Semiconductor Photocatalysis in the Removal of Organic Contaminants from Aqueous Environments
	Wojciech Wiśniewski	<i>Wrocław University of Science and Technology, Poland</i>	Catalytic processes in sensor technology
	Adrian Zakrzewski	<i>Wrocław University of Science and Technology, Poland</i>	Design and Implementation of a UV Photocatalytic Station for Organic Dye Degradation Using Ga₂O₃ Thin-Film Catalysts
	Prof. Vicente Sánchez- Alarcos	<i>Universidad Pública de Navarra, Spain</i>	3D-printable magnetic composites for magnetic refrigeration applications
	Dr. Brahim AISSA	<i>Hamad Bin Khalifa University, Qatar</i>	Predicting CO₂ adsorption in metal- organic frameworks through machine learning-based frameworks

***** End of Day 2 Conference *****

07:30 - 08:15 Onsite Registration & Seating Arrangement

08:15 - 08:30 Recognition of Our Esteemed Sponsors and Introduction to the Day 2 Conference Objectives

Time	Name	Affiliation	Title
Plenary Presentations			
Honourable Chair Person: Klaus - Ulrich Neumann			
Keynote Presentations			
08:30 - 08:55	Prof. Rainer Waser	<i>RWTH Aachen University, Germany</i>	A physico-chemical view on redox-based memristive switching in metal oxides
08:55 - 09:20	Prof. Niu Jianlei	<i>The Hong Kong Polytechnic University, China</i>	Nano additive enhanced phase change materials for thermal energy storage in renewable energy era
09:20 - 09:45	Prof. Silvia Bracco	<i>University of Milano-Bicocca, Italy</i>	Photoresponsive porous materials to control gas adsorption
09:45 - 10:10	Prof. Jyh-Chiang Jiang	<i>National Taiwan University of Science and Technology, Taiwan</i>	Computation study in Lithium Ion/Metal batteries
Oral Presentations			
Sessions: Biomaterials and Tissue Engineering, Bio-materials and Tissue Engineering			
10:10 - 10:20	**** Slot Available ****		
10:20 - 10:40	Ms. Alba Martínez Fernández	<i>Universitat Politècnica de Catalunya, Spain</i>	Biopolymer-based hydrogels on coatings for high-performance flexible materials
10:40 - 10:50 Exhibitor Spotlight Session			
10:50 - 11:10 (Refreshment & Coffee Break)			
Sessions: Smart Materials & Structures			
Oral Presentations Continue			

11:10 - 11:30	Dr. Elza Khutsishvili	<i>LEPL Ferdin and Tavadze Institute of Metallurgy and Materials Science, Tbilisi, Georgia; Ivane Javakhishvili Tbilisi State University, Georgia</i>	Infra-red lattice vibrations study in InP
11:30 - 11:50	Prof. Hsin-Cheng Chiu	<i>National Tsing Hua University, Taiwan</i>	Rewriting the stroma: A targeted dual-action chemo radiotherapeutic nanoplatform for stromal reprogramming in pancreatic cancer
11:50 - 12:10	Prof. Arnaud Caron	<i>Liaoning Academy of Materials, China</i>	Interfacial transformation and reaction with silicon surfaces: towards mechanochemical additive lithography methods
12:10 - 12:30	Prof. Robert Tjahjadi Tedjasaputra	<i>Hasanuddin University, Indonesia</i>	Precision medicine diagnosis of Hereditary Nonpolyposis Colorectal Cancer (HNPCC) using mRNA MSH2 quantitative expression and the correlation with Non-modifiable Factor
12:30 - 12:50	Prof. Sarawut Rimdusit	<i>Chulalongkorn University, Thailand</i>	Enhanced thermo-mechanical and shape memory performance of 3D-printed resins through UV/Thermal Dual-Curing with bio-based Benzoxazine
12:50 - 13:10	Dr. Phattarin Mora	<i>Srinakharinwirot University, Thailand</i>	Self-healing polymer composites from glass fabric reinforced covalent adaptable networks of bio-derived Polybenzoxazine actuated by Near infrared light

13:10 - 13:20 (Memorable Group Photo & Guided Walk to Estrel Hotel for Networking Lunch)

13:20 - 14:10 (Tempting Buffet Lunch at Estrel Hotel Berlin)

Sessions: Advances Materials & Engineering | Materials Science and engineering | Polymer Science | Applied physics

Oral Presentations

14:10 - 14:30	Assoc. Prof. Chanchira Jubsilp	<i>Srinakharinwirot University, Thailand</i>	Sustainable friction composite materials: Polybenzoxazine and Biochar particles
14:30 - 14:50	Prof. Annie K. Powell	<i>Karlsruhe Institute of Technology (KIT), Germany</i>	Coordination networks: Dimensionality and functionality

14:50 - 15:10	Dr. Diego Fernando Devia Narváez	<i>Technological University of Pereira, Colombia</i>	Ion density evolution in the plasma jet vacuum arcs
15:10 - 15:30	Prof. Junhui Hu	<i>Nanjing University of Aeronautics & Astronautics, China</i>	Power regulation of metal-air batteries by ultrasound
15:30 - 15:50	Mr. Chang Ho Kim	<i>Hanbat National University, South Korea</i>	Evaluation of structural integrity for bogie frame applied to hypertube train
15:50 - 16:10	Prof. Yuan Yuan	<i>Chongqing University, China</i>	The big data and intelligent design of high-performance magnesium alloys

16:10 - 16:30 (Refreshment & Coffee & Networking Sessions)

Session: Carbon Nanomaterials, Nanomaterials, Nanotechnology and Sensors, Nanotechnology in Healthcare

Oral Presentations

16:30 - 16:50	Prof. Mineo Hiramatsu	<i>Meijo University, Japan</i>	Three-Dimensional Graphene: Plasma synthesis and electrode application
16:50 - 17:10	Prof. Dr. Stefan H. Bossmann	<i>University of Kansas Medical Center, USA</i>	Detection of early solid tumors with Liquid biopsies
17:10 - 17:30	Dr. M S Yogendra Kumar	<i>Defence Bio Engineering and Electro Medical Laboratory, India</i>	Ultrasound assisted extraction (UAE) and separation method for the analyses of flame-retardant fabric blend
17:30 - 17:50	Dr. Hailu Shimels Gebremedhen	<i>Belfort-Montbéliard University of Technology, France</i>	A Voxel-Based Nonlinear Topology Optimization Framework for Thermally-Actuated 4D-Printed Structure
17:50 - 18:10	**** Slot Available ****		

Closing Ceremony | Awards | Certificate of Presentation

End of Day 2 & Conference

08:30 - 08:45 Onsite Registration & Seating Arrangement

08:45 - 09:00 Recognition of Our Esteemed Sponsors and Introduction to the Day 2 Conference Objectives

Time	Name	Affiliation	Title
Plenary Presentations			
Honourable Chair: Thomas Pfeiffer			
Sessions: Materials Science and Engineering, Environmental Sustainability			
Oral Presentations			

09:00 - 09:20	Mr. Albin Kaelin	<i>epeaswitzerland gmbh, Switzerland</i>	Cradle to cradle design innovations
08:20 - 09:40	Dr. Alexander Klur	<i>THGA Bochum, Germany</i>	Alloy development of a blade steel suitable for industrial use in the food industry
09:40 - 10:00	Dr. Alain Portavoce	<i>Aix-Marseille University, France</i>	Experimental insights into interface impact on the Seebeck coefficient of a Mn₅Ge₃/Ge bilayer
10:00 - 10:20	Ms. Mingju Chen	<i>Northwestern Polytechnical University, China</i>	Anisotropic hardening response of Cr coating induced by irradiation
10:20 - 10:40	Mr. Jinglun Yang	<i>Northwestern Polytechnical University, China</i>	Mechanism of TiC distribution regulation by Al₄C₃ for achieving homogeneous dispersion in titanium matrix composites
10:40 - 11:00	Mr. Xinyi Zhou	<i>Northwestern Polytechnical University, China</i>	Self-assembled tri-modal grains in aluminum matrix composites reinforced with high-content carbon nanotubes

11:00 - 11:10 Exhibitor Spotlight Session

11:10 - 11:30 (Refreshment & Coffee Break)

Oral Presentations Continue

Sessions: Advanced Energy Materials | Carbon Nanomaterials, devices and technologies | Physics and Chemistry of Materials | Applications in Material Science Engineering | Catalytic Materials & Green Chemistry | Chemical and Chemical Engineering

11:30 - 11:50	Prof. Andrea Sanson	<i>University of Padova, Italy</i>	Towards controlling the thermal expansion of materials
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11:50 - 12:10	Dr. Aiyeshah Alhodaib	<i>Qassim University, Saudi Arabia</i>	Photocatalysts NiSe₂/Ag₃PO₄ nanocomposites to enhance visible light for environmental remediation applications
12:10 - 12:30	Mr. Tobias Bernhard Humpf	<i>Glasgow Caledonian University, Germany</i>	From Pin-on-Disc experiments to FEM simulation: A wear modeling framework
12:30 - 12:50	Dr. Jakub Skoczylas	<i>Lublin University of Technology, Poland</i>	Advances in energy harvesting using ZnO nanowire/parylene-C piezoelectric nanogenerators
12:50 - 13:10	Prof. Viviane Pilla	<i>Federal University of Uberlândia, Brazil</i>	Green synthesis and optical characterization of fluorescent Annatto-based Carbon dots

13:10 - 13:20 (Memorable Group Photo & Guided Walk to Estrel Hotel for Networking Lunch)

13:20 - 14:10 (Tempting Buffet Lunch at Estrel Hotel Berlin)

Sessions: Chemical and Chemical Engineering

Oral Presentations Continue

14:10 - 14:30	Prof. Venko Beschkov	<i>Bulgarian Academy of Sciences, Bulgaria</i>	Fuel cell applications for sulfide removal from various substrates with consecutive sorbent regeneration
14:30 - 14:50	Zhenxu Hao	<i>Inner Mongolia University of Technology, China</i>	Morphology-Controlled CeO₂ for Enhanced Electrochemical Performance in Molten Hydroxide Direct Carbon Fuel Cells
14:50 - 15:10	Zhipeng Li	<i>Inner Mongolia University of Technology, China</i>	Machine Learning Multi-parameter Collaborative Screening and Design of Double Transition Metal HER Catalysts
15:10 - 15:30	Giovanni Di Liberto	<i>University of Milan-Bicocca, Italy.</i>	Towards the Discovery of Single-Atom Catalysts with Quantum Chemical Calculations
15:30 - 15:50	Deborah Romito	<i>École Normale Supérieure (ENS) of Lyon, France</i>	An amino acid, a calcium salt and CO₂: not the beginning of a joke, but a complex supramolecular catalytic system

****** Slot Available ******

16:10 - 16:20 (Refreshment & Coffee Break)

Poster Presentations

Posters	Ms. Weng Chi long	<i>National Tsing Hua University, Taiwan</i>	Pyroptosis-triggerable multifunctional nanotherapeutics for photothermal/ photodynamic therapy with synergistic immune activation against TNBC
	Prof. Stoyan Sarg Sargoytchev	<i>World Institute for Scientific Exploration, USA</i>	Atlas of Atomic Nuclear Structures - A major contribution of the BSM - Supergravitation Unified Theory
	Dr. Ivna Kavre Piltaver	<i>University of Rijeka, Croatia</i>	Visible-light-responsive ZnO thin films: structural and photocatalytic properties
	Dr. Irine Khutsishvili	<i>Ivane Javakhishvili Tbilisi State University, Georgia</i>	Reduction of silver and gold ions on DNA to create One-Dimensional nanostructures

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**** Slot Available ****

Closing Ceremony | Awards | Certificate of Presentation

End of Day 2 & Conference