

FULL PROGRAMME



TUESDAY, OCTOBER 29TH

SCIENTIFIC AREAS

Life and Food Sciences	Physics
Materials Sciences and Engineering	Mathematics
A - Materials and Engineering Towards Sustainable Energy	Industry Session
B- Intelligent Materials for Sustainable Technologies and Products	Startups Session
Chemistry and Biochemistry	Awards Session
Earth and Environmental Sciences	Posters Session

08:30 – 09:00 Registration

Room: Grand Hall - ACL

09:00 – 09:30 Opening Session

Armando Pombeiro (Chairman), José Luís Cardoso (ACL President),
Rodrigo Martins (EurASc President)

Chair: Alain Tressaud

09:30 – 09:50 L1- Helena Nader

Universidade Federal de São Paulo (Unifesp), Brazil

*"Navigating the complexities: challenges facing health and social
welfare in the modern world"*

09:50 – 10:10 L2- Daniel Scherman

Faculty of Pharmacy, University of Paris, France

"Biological sciences for sustainability"

10:10 – 10:30 L3- Alexander Mathys

Institute of Food, Nutrition, and Health; ETH Zürich, Switzerland

*"Environmental, Social, and Economic Sustainability Assessment of
Food Systems: from understanding to actions"*

10:30 – 11:00 Coffee Break

Chair: Yuri Gogotsi, Marcella Bonchio

Room: Grand Hall - ACL

Chair: Pierre Braunstein, José Moura

Room: Session Room - ACL

11:00 – 11:20

L4- Nicholas Long

Imperial College, London, UK

"Organometallic-enhanced nanoelectronics and solar cells"

L13- Chao-Jun Li

McGill University, Montreal, Canada

"Exploration of reactivities towards future Chemical Sustainability"

11:20 – 11:40

L5- Bing-Joe Hwang

National Taiwan University of Science and Technology (Taiwan Tech)

"Value-added Electrolysis for Sustainable Hydrogen Production"

L14- Peter Roesky

Karlsruhe Institute of Technology, Germany

"The Rare Earths"

11:40 – 12:00

L6- Zhihua Wang 

Zhejiang University, State Key Laboratory of Clean Energy Utilization, China

"Combustion of H₂/NH₃ Zero Carbon Fuels for the Sustainable Energy Solution"

L15- Annie Powell

Karlsruhe Institute of Technology, Germany

"The Dark Side of Matter from a Magnetic and Electronic Perspective: Molecules Playing Spin State Hide and Seek"

12:00 – 12:20

L7- Jihong Wang

School of Engineering, University of Warwick, Coventry UK

"The Need of Long Duration Energy Storage for Decarbonising UK Power Grid and Analysis of the Potential of Compressed Air Energy Storage"

L16- Plinio Innocenzi

Laboratory of Materials Science and Nanotechnology, University of Sassari, Italy

"The strange story of room temperature phosphorescence of boric acid"

12:20 – 12:40

L8- Ehrenfried Zschoch

Brandenburg University of Technology Cottbus-Senftenberg, Germany

"Mechanically robust microchips for reliable and sustainable high-tech products – What can we learn from nature"

L17- João Rocha

CICECO, Universidade de Aveiro, Portugal

"Nanoporous Materials for a Sustainable World: Case Studies and Applications"

12:40 – 13:00	L9- Xinliang Feng  zoom	L18- Alexey Bilyachenko  zoom
	<p>Max Planck Institute of Micro-structure Physics, Technische Universität Dresden, Germany</p> <p><i>"Building a Sustainable Future with Organic 2D Crystals"</i></p>	<p>INEOS, Moscow, Russia</p> <p><i>"Metallasilsesquioxane cages: synthesis, structure, applications"</i></p>
13:00 – 14:30	Lunch & Visit to the Museum	
	<p>Room: Grand Hall - ACL</p> <p>Chair: Ehrenfried Zschech, Xinliang Feng</p>	<p>Room: Session Room - ACL</p> <p>Chair: Guo-Xin Jin, M. Fátima Guedes da Silva</p>
14:30 – 14:50	L10- Marcella Bonchio	L19- Ana Nunes
	<p>Dipartimento di Scienze Chimiche, University of Padova, Italy</p> <p><i>"Bioinspired Supramolecular Architectures for Artificial Photosynthesis and Solar Fuels Production"</i></p>	<p>LAQV-REQUIMTE, NOVA University of Lisbon, Portugal</p> <p><i>"The Role of CO₂ in a Circular and Sustainable Carbon Economy"</i></p>
14:50 – 15:10	L11- Elvira Fortunato	L20- Peter Sadler
	<p>NOVA School of Sciences and Technology, Lisbon, Portugal</p> <p><i>"Laser-Induced Graphene: A Novel and Sustainable Way to Synthesize Graphene"</i></p>	<p>University of Warwick, Coventry, UK</p> <p><i>"Roles of the Chemical Elements in Sustaining Life"</i></p>
15:10 – 15:30	L12- José María De Teresa	L21- José J. G. Moura
	<p>Instituto de Nanociencia y Materiales de Aragón (INMA), CSIC-Univ. de Zaragoza, Spain</p> <p><i>"Efficient nanofabrication based on spin-coated organometallic films and focused ion irradiation"</i></p>	<p>LAQV, NOVA School of Science and Technology, Portugal</p> <p><i>"Bioinorganic Green Tools"</i></p>
15:30 – 15:50	L23- John Roy Porter  zoom	L22- N. Carpintero-Santamaria
	<p>University of Copenhagen, Department of Plant and Environmental Sciences, Denmark</p> <p><i>"Heresies of the 21st Century"</i></p>	<p>IFN GV, Universidad Politécnica de Madrid, Spain</p> <p><i>"Nuclear Sciences and Applied Radiation for Human Development in the 21st Century"</i></p>

15:50 – 16:20 Coffee Break

Room: Grand Hall - ACL

Chair: Pete Smith

16:20 – 16:40 L24- Filipe Duarte Santos

CHANGE - Global Change and Sustainability Institute, University of Lisbon, Portugal

"Softening the Human Sustainability Boundaries to reach Sustainable Development"

16:40 – 17:00 L25- Virender K. Sharma

School of Public Health, Texas A&M University, USA

"Science of High-Valent Iron in Sustainable Environment and Human Health"

Chair: Luís Oliveira e Silva

17:00 – 17:20 L26- Paul Lecoq

European Organization for Nuclear Research (CERN), Geneva, Switzerland

"How Physics can contribute to good health and well-being for everyone"

17:20 – 17:40 L27- Manuel G. Velarde

Instituto Pluridisciplinar, Universidad Complutense, Madrid, Spain

"Mechanics meets electronics at the nanolevel ruling out heat. Case study: a field effect transistor based on soliton assisted charge transport"

Chair: Alfio Quarteroni

17:40 – 18:00 L28- Wil Schilders

Department of Mathematics and Computer Science, Eindhoven University of Technology, The Netherlands

"The role of mathematics for the sustainable goals of UNESCO"

18:00 – 18:20 L29- Rui Vilela Mendes

CMAFçIO-UL and Academy of Sciences, Lisbon, Portugal

"Sustainability and governability"

20:00 Symposium Dinner (for registrants only)

WEDNESDAY, OCTOBER 30TH

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Chair: Armando Pombeiro

09:00 – 09:20 L30- Yu Wang

Farasis Energy (Hayward, USA; Frickenhausen, Europe; Ganzhou and Zhenjiang, China)

"Li-ion Battery Development for Electric Vehicle Application."

Chair: Daniel Scherman, Rinaldo Poli

09:20 – 09:35 L31- Eric Fernandes

RECICLOTRON, Nova Friburgo, Brazil

"Consumer engagement is key for everyday sustainability practices "

09:35 – 09:50 L32- Henrique Pombeiro

Watt-IS, Portugal

"From data to added-value services: The role of data science in the energy sector"

09:50 – 10:05 L33- Diego de Miguel

Certest, Spain

"Integral LNP delivery platform for RNA therapeutics based on novel ionizable lipids with enhanced Bioactivity"

10:05 – 10:20

L34- João Mano, Catarina Custódio

METATISSUE, Portugal

"A tale of translating human-derived biomaterials from the bench to the market"

10:20 – 10:35

L35- Pui-In Mak  **ZOOM**

Digifluidic, State-Key Laboratory of Analog and Mixed-Signal VLSI, University of Macau, Macau, China

"Automated nucleic acid analysis systems for decentralized healthcare"

10:35 – 11:00

Coffee Break

Room: Grand Hall - ACL

Chair: Daniel Scherman, Rinaldo Poli

11:00 – 11:15

L36- Gonçalo Doria

STABVIDA, Portugal

"The Future of At-Home Diagnostics in Medical Care: Introducing Doctor Vida® pocket"

11:15 – 11:30

Round Table Discussion

Chair: Rodrigo Martins, Alain Tressaud

11:30 – 11:50

AL1- Michel Goldman

Blaise Pascal Medal in Medicine and Life Sciences 2024

Institute for Interdisciplinary Innovation in Healthcare, Université libre de Bruxelles, Brussels, Belgium

"How the Covid 19 pandemic shaped the future of medicine and healthcare"

11:50 – 12:10

AL2- Alfio Quarteroni

Blaise Pascal Medal in Mathematics 2024

Politecnico di Milano, Italy; EPFL, Lausanne, Switzerland

"Scientific Machine Learning for the Simulation of the Heart Function"

12:10 – 12:30

AL3- Joachim Sauer

Blaise Pascal Medal in Chemistry 2024

Institute für Chemie, Humboldt-Universität zu Berlin, Germany

"Understanding and Improving Materials for Water Harvesting and Carbon Dioxide Capture - MOFs"

12:30 – 12:50

AL4- Luis O. Silva

Blaise Pascal Medal in Physics 2024

Instituto de Plasmas e Fusão Nuclear, IST, Universidade de Lisboa,
Lisbon, Portugal

*"Ultra intense lasers and particle beams: from fundamental science
to novel tools for discovery"*

12:50 – 14:20

Lunch & Visit to the Museum

Room: Grand Hall - ACL

Chair: Rodrigo Martins, Alain Tressaud

14:20 – 14:40

AL5- Pete Smith

Blaise Pascal Medal in Earth and Environmental Sciences 2024

Institute of Biological & Environmental Sciences, University of
Aberdeen, UK

"Managing Land to Address the World's Multiple Challenges"

14:40 – 15:00

AL6- Yury Gogotsi

Blaise Pascal Medal in Materials Science 2024

Nanomaterials Institute, and Department of Materials Science and
Engineering, Drexel University, Philadelphia, USA

"MXenes and Their Applications in Water and Energy Technologies"

15:00 – 15:20

AL7- Pol Spanos

Blaise Pascal Medal in Engineering 2024

Mechanical & Civil Engineering, Rice University, Houston, USA

"Versatile Techniques for Nonlinear Stochastic Dynamic Analyses"

15:20 – 15:50

Welcome & Diplomas to New Members

Photos | New Members; Awardees; All Participants

15:50 – 16:10

Honor for Distinguished Leadership

Past Perpetual Secretary & Past Presidents

16:10 – 16:30

Closing Session & Presentation of 2025 symposium by Paul Lecoq

16:30 – 17:00

Coffee Break

17:00 – 18:30

EurASc General Assembly



P1- Diogo Miguel Pinto

CEGOT, Faculty of Arts and Humanities of University of Porto, Portugal

"Building a Sustainable Future: some strategies and challenges leading to innovative development in rural areas"

P2- Esma Ismailova

IMT/Mines St. Etienne, Department of Bioelectronics, Gardanne, France

"Organic Bioelectronics for sustainable biomonitorin"

P3- Ana Rovisco

CENIMAT/ /i3N, Department of Materials Science, and CEMOP/UNINOVA, NOVA University of Lisbon, Portugal

"Sustainable and multifunctional ZTO nanostructures for energy and environmental applications"

P4- Ana Rovisco

CENIMAT/ /i3N, Department of Materials Science, and CEMOP/UNINOVA, NOVA University of Lisbon, Portugal

"Photodegradation of Rhodamine B under UV and Sunlight using ZTO Nanos-structures"

P5- Brij Mohan

CQE, IST, Universidade de Lisboa, Lisbon, Portugal

"MOFs Engineered for the Capture and Conversion of Carbon Dioxide"

P6- Anirban Karmakar

CQE, IST, Universidade de Lisboa, Lisbon, Portugal

"Sustainable Halogen-Decorated Metal-Organic Frameworks for Efficient Carbon Capture, Separation and Utilization"

P7- Anup Paul

CQE, IST, Universidade de Lisboa, Lisbon, Portugal

"Enhancing Oxygen Evolution Reaction Catalysis with Amide Functionalized Coordination Polymers "

P8- Abdallah Mahmoud

CQE, IST, Universidade de Lisboa, Lisbon, Portugal

"Binary Transition Metal Phosphides Embedded in multi-Codoped Carbon Matrices as Electrode Materials for Batteries and Electrocatalysis"

P9- Martin Prechtl

CQE, IST, Universidade de Lisboa, Lisbon, Portugal

"UNSDGs and Academia: Is there a holistic approach towards sustainable future societies through small molecules and hydrogen utilisation?"

P10- Sónia Carabineiro

LAQV-REQUIMTE, School of Science and Technology, NOVA University of Lisbon, Portugal

"Novel organotin-PTA complexes supported on carbon materials as recyclable catalysts for solvent-free cyanosilylation of aldehydes "

P11- Manas Sutradhar

CQE, IST, Universidade de Lisboa, and Universidade Lusófona, Lisbon, Portugal

"Vanadium in Catalysis and Sustainability"

P12- Nuno Reis Conceição

CQE, IST, Universidade de Lisboa, Lisbon, Portugal

"Catalytic C–H activation of small molecules by copper and zinc complexes towards sustainable organic synthesis"

P13- Hugo Lapa

CQE, IST, Universidade de Lisboa, Lisbon, Portugal

"Application of ball-mill technology in the synthesis of C-scorpionate complexes and catalytic oxidation reactions"

P14- Maria Leonor Matias

NOVA School of Sciences and Technology, Lisbon Portugal

"Sustainable TiO₂ platforms produced with the aid of microwave with potential for the degradation of water contaminants"

P15- Mariana Peixoto

AlmaScience Colab Madan Parque

"Cellulose-based encapsulation for all-printed flexible thermoelectric touch detectors"

P16- Tomás Pinheiro

NOVA School of Sciences and Technology, Lisbon Portugal

"Sustainable Paper-based Laser-induced Graphene for Disposable and Wearable Sensing Applications"

P17- Ana Almeida

NOVA School of Sciences and Technology, Lisbon Portugal

"Biomimetic Hygromorphic Cellulose Membranes for Water Harvesting"

P18- Diana Gaspar

NOVA School of Sciences and Technology, Lisbon Portugal

"Sustainable and Scalable Hierarchical Wood/ZnO Piezoelectric Nanogenerators towards Green Energy Harvesting"

P19- Anitta Mathew

NOVA School of Sciences and Technology, Lisbon Portugal

"Cellulose: The Smart Materials for Green Electronics"

P20- Annalisa Bracco

i3N-CENIMAT, Materials Science Department, NOVA FCT, Portugal

"Colored cholesteric cellulosic films for temperature sensors"

P21- Ghulam Abbas

i3N-CENIMAT, Materials Science Department, NOVA FCT, Portugal

"Optimizing wet chemical treatment for improved surface passivation towards high-efficiency SHJ solar cells"

P22- Maria Morais

i3N-CENIMAT, Materials Science Department, NOVA FCT, Portugal

"Flexographic printed microwave-assisted grown zinc oxide nanostructures for sensing applications"

P23- Marta C. Corvo

i3N-CENIMAT, Materials Science Department, NOVA FCT, Portugal

"Sustainable Material Design: Ion Gels for CO₂ Capture, Conversion, and Energy Applications"

P24- Pedro Moreira

NOVA School of Sciences and Technology, Lisbon Portugal

"Graphene-based green inks for use in microsupercapacitors"

P25- Jenny Boane

NOVA School of Sciences and Technology, Lisbon Portugal

"Enhancing the Performance of Perovskite Solar Cells through Advanced Light Trapping Techniques"

P26- Guilherme Mendes Ferreira

NOVA School of Sciences and Technology, Lisbon Portugal

"Advanced conformable textiles with PPy for Wearable IoT Applications"

P27- Rafael Resende Assis Silva

i3N-CENIMAT, Materials Science Department, NOVA FCT, Portugal

"Mechanical-Electrical Property Interrelationship in Electrically Charged Porous Nanogenerators for Energy Harvesting Applications"

P28- David Carvalho

i3N-CENIMAT, Materials Science Department, NOVA FCT, Portugal

"ZnO and ZTO solution-based nanostructures for UV sensing applications"

P29- Mónica Dyreby

i3N-CENIMAT, Materials Science Department, NOVA FCT, Portugal

"Perovskite (MAPbI₂Br) and silicon optoelectronic simulations with Lumerical software"

P30- Edgar Coimbra

NOVA School of Sciences and Technology, Lisbon Portugal

"Sputter-Deposited SnO₂: a Room-Temperature, Conformal Electron Transport Material for Perovskite Solar Cells"

P31- Douglas Henrique Vieira

i3N-CENIMAT, Materials Science Department, NOVA FCT, Portugal

"Printed Honey-Gated Paper Transistors: A Sustainable Flexible Platform for Photodetectors and Synapse Simulation"