



ANNUAL SYMPOSIUM 2023



Science Multidisciplinary in the 21st century:
The future of energy

October 23 - 24, 2023

Real Academia de Ciencias Exactas, Físicas y Naturales de España - **SPAIN**

Monday, OCTOBER 23th

08.30-09.15 Registration

09.15-09.30 Welcome & Opening

Minister of Science and Technology of the Government of Spain,
Señora Dr. Diana Morant Ripoll (*TBC*) & Organizing Committee
(Miguel Alario-Franco, Rodrigo Martins, Alain Tressaud & Jesús Sanz-Serna)

09.30-11.10 **SESSION I: CATALYSIS IN THE ENERGY WORLD**

Presented by Alain Tressaud

09.30-10.20 **Talk I – Prof. Hermenegildo Garcia | CSIC-UPV (ES)**

“Photocatalysis - Producing fuels from Sunlight”

10.20-10.45 **Talk II – Matthias Drieß | TU Berlin (DE)**

“Tackling Chemistry More Green and Electric”

10.45-11.10 **Talk III – Claude Grison | CNRS (FR) (by zoom)**

“Ecocatalysis and Nature: symbiosis for future”

11.10-11.45 **Coffee Break**

11.45-13.00 **SESSION II: SUSTAINABILITY**

Presented by Rodrigo Martins

11.45-12.10 **Talk IV – Armando Pombeiro | IST-UL (PT)**

“Shift of Alkanes from Fuels to Feedstocks for Organic Synthesis: a Proof of Concept towards Sustainability”

12.10-12.35 **Talk V – Luca Volpe | CLPU (ES)**

“Is inertial fusion going to provide an energy source for the future? Recent results and remaining challenges”

12.35-13.00 **Talk VI – Pete Smith | Univ. of Aberdeen (UK) (by zoom)**

“Environmental sustainability considerations for land-based renewables”

13.00-14.30 **Lunch**

14.30-16.35 **SESSION III: FUSION & FISSION**

Presented by Miguel Alario-Franco & Natividad Carpintero-Santamaria

14.30-14.55 **Talk VII – Ricardo Betti | Univ. Rochester (USA)**

“Burning plasmas and thermonuclear ignition via lasers”



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- 14.55-15.20** **Talk VIII – Mike Campbell | CERN (CH)**
“Quantum imaging of ionizing and non-ionizing radiation and some applications related to energy and fusion research”
- 15.20-15.45** **Talk IX – Tony Donné | EUROfusion (DE)**
“Magnetic Confinement Fusion: Status, Challenges and Prospects”
- 15.45-16.10** **Talk X – José Manuel Perlado | IFN-GV UPM (ES)**
“Inertial Fusion Energy: Principles, State-of-Art and Europe”
- 16.10-16.35** **Talk XI – Oscar Cabellos | UPM (ES)**
“The role of nuclear fission energy to a clean energy transition”
- 16.35-17.10** **Coffee Break**
- 17.10-18.50** **SESSION IV - ROUND TABLE: THE FUTURE OF ENERGY | THE COMPANY’S VIEW**
Moderators: Marisol Martín González (RAC Spain) & Natividad Carpintero Santamaría (EurASc Presidium member)
- 17.10-17.30** **Talk XII – Sara Molinero | Iberdrola - Renewables**
“An Electrified Future”
- 17.30-17.50** **Talk XIII – Teófilo Rojo | RAC Spain / UPV/EHU**
“Present challenges, future trends and effect on the energy transition of the battery technologies”
- 17.50-18.10** **Talk XIV- Amaya Igartua | TEKNIKER**
“Increasing energy efficiency and renewability in windmills use”
- 18.10- 18.30** **Talk XV - Juan Morante | IREC**
“Defossilization: electrification and circular economy”
- 18.30-18:50** **Questions & Answers**
- 18.50-19.15** **Closing remarks**
- 20.30** **Event Dinner** (for dinner registrants only)



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Tuesday, OCTOBER 24th

08.30-09.00 Registration

09.00-11.50 **SESSION V – 2023 PRIZES & AWARD CEREMONY**

09.00-09.45 **Leonardo Da Vinci Award**

Professor J.N. Reddy | Texas A&M Univ. (USA)

Presented by Rodrigo Martins and Alain Tressaud | EurASc President and Vice-President

"Computational Mechanics: The Third Pillar of Scientific Investigation"

09.45-10.10 **Engineering Blaise Pascal Medal 2023**

Professor George Z. Voyiadjis | C4G - Louisiana State Univ. (USA) (by zoom)

Presented by Giuseppe Lasidogna | Head of Engineering Division

"A Physics-based Crystal Plasticity Model with Applications in Simulation of Micropillar Compression and Strengthening Effect of Multilayered Copper-graphene Nanocomposites"

10.10 -10.35 **Mathematics Blaise Pascal Medal 2023**

Professor Athanassios S. Fokas | Univ. Cambridge (UK)

Presented by Jesús Sanz-Serna | Representative of the Head of Mathematics Division

"Unification versus Reduction: from the Unified Transform to Asymptotics"

10:35-11:00 **Coffee Break**

11:00-12:15 **SESSION VI – 2023 AWARD CEREMONY (CONTINUATION)**

11:00-11h25 **Materials Science Blaise Pascal Medal 2023**

Professor George Malliaras | Univ. of Cambridge (UK)

Presented by Tomas Torres-Cebada | Representative of Head of Materials Science Division

"Technology for Bioelectronic Medicine"

11:25-11:50 **Medicine and Life Sciences Blaise Pascal Medal 2023**

Professor Patrick Couvreur | Univ. of Paris-Saclay (FR) (by zoom)

Presented by Daniel Scherman | Head of Medicine and Life Sciences Division
(by zoom)

"Squalene-based nanomedicines for the treatment of severe diseases"

11:50-12:15 **Physics Blaise Pascal Medal 2023**

Professor Riccardo Betti | Univ. Rochester (USA)

Presented by Paul Lecoq | Head of Physics Division

"Status of laser fusion research and progress towards inertial fusion energy"



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12:15-14:00 Lunch

14:00-15:30 SESSION VII: (PARALLEL SESSIONS)

1) Madrid Declaration: Energy & Global Change RAC & EURASC

2) Iberian Sciences

Presented by Rodrigo Martins - EurASc President & Miguel Alario-Franco

15:30-16:00 Welcoming & Diplomas to new members

16:00-16:30 Closing Session

Conclusions & Future Meetings

Presented by EurASc President & Vice President

Group Photo & Awardees Photo & New Members Photo

16:30-17:00 Coffee Break

17:00-18:00 General Assembly

(Open to all EurASc Members including [by zoom](#))