



Mission 10 000: BATTERIES

October 10th - 11th of 2019 | INL, Braga, Portugal

PROGRAMME | October 10th, 2019

8h00 - 9h00 Registration

OPENING SESSION

9h00 **Lars Montelius**, Director-General INL

9h10 **Ricardo Rio**, Mayor of Braga

09h20 **Welcome Message**

:: **The European Battery Landscape**

Charles Amos, Research Group of Atomic Structure-Composition of Materials (ASCM), INL

:: **Competence Centers in Batteries at INL and IST**

Lifeng Liu, Group Leader, Nano Materials for Energy storage and conversion, INL

Alberto Adán Más, Researcher, Department of Chemical Engineering, IST

09h50 **Video Interview with the lithium-ion battery pioneer John Goodenough**, Professor, Department of Mechanical Engineering, University of Texas at Austin

MORNING SESSION

INVITED TALK

10h00 :: **European Battery Alliance - Building the European Battery Industry**

Policy

Thore Sekkenes, Program director for European Battery Alliance, InnoEnergy Scandinavia AB

10h45 Poster Session Presentations - Break

CONTRIBUTED TALKS

11h15 :: **High Power Blue Lasers, a Disruptive Technology for Battery Welding** :: **Victor Blanco**, Laser 2000 SAS / NUBURU

11h35 :: **High-Capacitance Negative Electrode based on Cobalt Phosphide Nanocrystals** :: **Nan Zhang**, INL

INVITED TALK

11h55 :: **European Partnership on Advanced Materials for Batteries**

Policy / Science

Joaquín Villar, Head of Department, Internationalisation and Foresight, Andalusian Energy Agency

ROUNDTABLE DISCUSSION

Funding & Collaboration Opportunities

12h20 **Luís Maia**, Horizon 2020 National Delegate and Contact Point, GPPQ - Portuguese Framework Promotion Office

Joaquín Villar, Head of Department, Internationalisation and Foresight, Andalusian Energy Agency

Juliana Restrepo Sintes, Director General, AEPIBAL - Industrial Association for Batteries and Energy Storage | BatteryPlat

Moderator: **Paula Galvão**, Chief Business and Strategic Relations, INL



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13h20

Networking Lunch

Networking Opportunity

AFTERNOON SESSION

INVITED TALK

14h50

:: *Fast Charging of Lithium-Ion Batteries*

Science

Daniel Abraham, Senior Materials Scientist, Argonne National Laboratory

CONTRIBUTED TALKS

15h35

:: *Free-Standing N-Graphene as Conductive Matrix For Ni(OH)₂ Based Supercapacitive Electrodes* :: Kush Upadhyay, IST

15h55

:: *Compositional Mapping of Li_{Nix}CoyMnzO₂ Cathode Materials* :: Cristiana Alves, INL

16h15

Coffee break

INVITED TALK

16h45

:: *Technology Transfer within the EU Batteries Ecosystem: our experience*

Innovation / Industry

Oscar Miguel, Director, CIDETEC Energy Storage

INVITED TALK

17h30

:: *Structural Characterization of Li-ion Battery Materials Using Advanced Electron Microscopy Techniques*

Science

Karalee Jarvis, Research Engineering/Scientist, University of Texas at Austin

18h15

INL Tour / Happy Networking Hour

PROGRAMME | October 11th, 2019

8h30 - 9h00

Registration

MORNING SESSION

INVITED TALK

9h00

:: *Batteries: Industrial Initiatives and Opportunities in Iberia*

Policy

Mikel Lasa, CEO, InnoEnergy Iberia

CONTRIBUTED TALKS

9h45

:: *How relevant is for Asset Operators to Access Cell Data in Large Scale Stationary Li-ion Battery Projects: the case of 2nd life Batteries* :: Mario Simões, EDP Inovação

10h05

Poster Session Presentations – Break



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10h55

:: *From Thermal Harvesting to Electrical Storage in Li/Na Devices*

Science

Maria Helena Braga, Associate Professor, Department of Engineering Physics, University of Porto

CONTRIBUTED TALKS

11h40

:: *Nanoconfined Ionic Liquids and Hybrid Ionogels: Tuning the Electrolyte-Electrode Interface* :: Luis Miguel Varela, University of Santiago de Compostela

12h00

:: *Ionic Liquids: Next Generation Electrolytes* :: Oscar Cabeza, University of Coruña

INVITED TALK

12h20

:: *Printed and Solid-state Batteries: Materials, Challenges and Opportunities*

Senentxu Lanceros-Mendez, Scientific Director and Professor, Basque Center for Materials, Applications, and Nanostructures

Technology/Innovation

13h05

Networking Lunch

Networking Opportunity

AFTERNOON SESSION

INVITED TALK

14h35

:: *Batteries Interfaces for Renewable Energies and Electric Vehicles*

Enrique Romero-Cadaval, Professor, Power Electric and Electronic Systems R&D Group, University of Extremadura

Technology/Innovation

INVITED TALK

15h20

:: *Redox Flow Batteries: Present and Future Perspectives*

Adélio Mendes, Professor, Department of Chemical Engineering, University of Porto

Science

16h05

Coffee break

ROUNDTABLE DISCUSSION

:: *Scaling Battery Innovations: now and tomorrow
Opportunities and challenges for the lithium ion battery value chain*

16h30

António Silva, Geologist, Lusorecursos

Jorge Magalhães, Senior VP, Vestas

Mario Simões, Technology Expert in Energy Storage, EDP Innovation

Mikel Lasa, CEO, InnoEnergy Iberia

Moderator: Fátima Montemor, IST

17h30

AWARDS SESSION

Lars Montelius, Director-General INL

17h45

CLOSING REMARKS

Fátima Montemor, Professor, Department of Chemical Engineering, Vice-President of IST



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POSTER LIST

AUTHOR	POSTER TITLE
01 Alberto Adan Mas	From bench-scale to prototype: case study on a hybrid energy storage device
02 Alvaro Caballero	Advances in sustainability for Lithium-Sulfur battery technology: Biomass-derived carbon electrodes
03 Alvaro Caballero	Advances in safety for Lithium-Sulfur battery technology: alternative anodes and electrolytes
04 Alvaro Caballero	Advances in performance for Lithium-Sulfur battery technology: Graphene-based electrodes
05 Ana Mafalda Macatrao	Effect of Magnetic Field on the Electrodeposition of Copper-Iron Nanofoams
06 Bruno Xavier	Synthesis of nanostructured transition metal phosphides via a one-step vapor-solid reaction method for electrochemical energy storage
07 Carlos Miguel Costa	Metal-organic framework reinforced poly(vinylidene fluoride) membranes for lithium-ion battery separators
08 Eduardo Lopez	Testing and evaluation of battery technologies for commercial and residential applications in AGERAR project
09 Kamil Jasso	Application of carrageenans in lithium-sulfur batteries
10 Mario Andre Madeira de Almeida	Manganese Sulfide Crystallites - Development and Supercapacitor application
11 Rajesh Thomas	Improved lithium storage performance of Bi ₂ Se ₃ electrode with effective surface modification via conductive coating
12 Zhixin Tai	High-shear exfoliation technology to produce ultrathin 2D nanosheets for high capacity and long-life alkali-ion batteries
13 Ziyu Lu	Tips-covered anode achieving uniform lithium deposition for stable lithium metal batteries
14 Ziyu Lu	Plasma assisted sponge-like carbon coating towards stable lithium anodes