

MABOC17

Metal Air Batteries International Congress

JUNE 4TH - 7TH, 2017
WALQA TECHNOLOGY PARK
HUESCA, SPAIN



Organizer

Energy Storage
albufera

Technical Secretariat



agendaplus

Support and Collaboration



Sponsorship

Communication Partners

Transport



Huesca Import

What is MaBIC?

MaBIC is a meeting point among the professionals related to Metal-air batteries technology, which offers the opportunity to discuss through whole operational chain starting with the R & D passing by manufacturing and interoperability to its final point of marketing.



What are Metal-air batteries?

Although the Metal-air batteries family have an old tradition, its use has not yet spread. This is mainly due to the difficulty of its electrical recharge. So far, these batteries have been used in very specific applications such as:

- Hearing Aids.
- Electric vehicle: expecting to provide more than 1000 km of autonomy in the next future.
- Railway signaling.
- Electrified fences for livestock.
- Batteries for military communication devices.

The main advantage of Metal-air batteries is having theoretical highest storage capacity and it offer large benefits if their possibilities are maximally exploited, point where actually the great challenge lies.

Besides its mayor energy storage capacity, Metal-air batteries may be cheaper than presently known devices. In addition, they use oxygen from the air as one of the battery's main reactants, reducing the weight of the battery and freeing up more space devoted to energy storage.

These features, especially popular and demanded lately, due to the gain of employing safe, low cost and abundant materials makes very promising technology for future applications.

Smart Grids concept is particularly significant in this sense, since one of the uses that these batteries are expected to have in the next few years is the efficient energy storage, one of the most relevant aspects in the R & D & I that is being carried out by the energy agents.

Without any doubt Metal-air technology will replace conventional technologies in certain applications and surely will be the first choice for new developments, such as electric and hybrid vehicles, robots and large energy storage.

HONOUR COMMITTEE

HIS MAJESTY THE KING FELIPE VI PRESIDENT OF HONOUR COMMITTEE

- Mr. Francisco Javier Lambán. President of Aragon.
- Mrs. Marta Gastón. Minister of Economy, Industry and Employment of Aragon and President of Walqa.
- Mrs. Carmen Vela. Secretary of State for Research, Development and Innovation.
- Mr. Luis Felipe. Mayor of Huesca.

SCIENTIFIC COUNCIL

Scientific Council chaired by Enrique Fatás, Full Professor of Autónoma University of Madrid, in Department of Applied Physical Chemistry since 1992. His research has focused on the field of electrochemistry, with special projection on Electrochemical Kinetics, Semiconductors Electrochemistry, Electrochemical Energy Conversion and Storage and Electrochemical Coatings.

Four international level scientists will accompany Professor Fatás in the exciting job of providing the relevant scientific rigor to the articles and posters which will be exposed and presented during the congress.

- Prof. Marc Anderson. Associate Senior Researcher & Head of the Electrochemical Processes Research Unit" at IMDEA Energy Institute.
- Prof. Francesca Soavi. Assistant Professor in Department of Chemistry "Giacomo Ciamician" University of Bologna, Chair Elect of Division 3 - Electrochemical Energy Conversion and Storage of The International Society of Electrochemistry (ISE).
- Dr. María de Fátima Negrelli. Battery Researcher in Fundation CPqD.
- Prof. Richard Wills. Lecturer Electrochemical Energy Storage in Faculty of Engineering and the Environment University of Southampton.
- Dr. Joaquín Chacón. CEO of Albufera Energy Storage and President of MaBIC.

TECHNOLOGY TRANSFER COMMITTEE

- Mr. Ramón Tejedor. Managing Director of IAF - Instituto Aragonés de Fomento. Regional Development Agency.
- Mr. Ángel Fernández. Director of ITAINNOVA - Technological Institute of Aragon.
- Mrs. Cristina de la Hera. Managing director of Walqa.
- Mr. Óscar López. Director Executive of Campus Iberus.
- Mr. José Carlos Arnal. Director of Aula Dei Scientific Technological Park.
- Mr. Marcos Rubio. TECNARA.
- Mr. Andrés Llombart. General Director of CIRCE.
- Mr. Fernando Palacín. Director of Aragon Hydrogen Foundation.
- Mr. Salvador Cored. General Secretary of CEOS-CEPYME.
- Mr. David Romeral. Director of CAAR - Automotive Cluster of Aragon.
- Mrs. Nieves Vela. Responsible of Photovoltaic Solar Energy unit of CIEMAT.
- Mr. Antonio Morlanes. President of Aragonex.

General Coordination:

- Mrs. Maja Jousif. Communication Director of Albufera Energy Storage.
- Mr. Fernando González. CEO of Agendaplus, Technical Secretariat of MaBIC.

Daily Shuttle Bus guaranteed 30 min before and 15 min after the congress between ABBA Huesca Hotel and WALQA Félix de Azara Congress Venue

(*Sunday 4th June - ABBA Huesca Hotel - ARAGONES ASTRONOMICAL CENTRE)



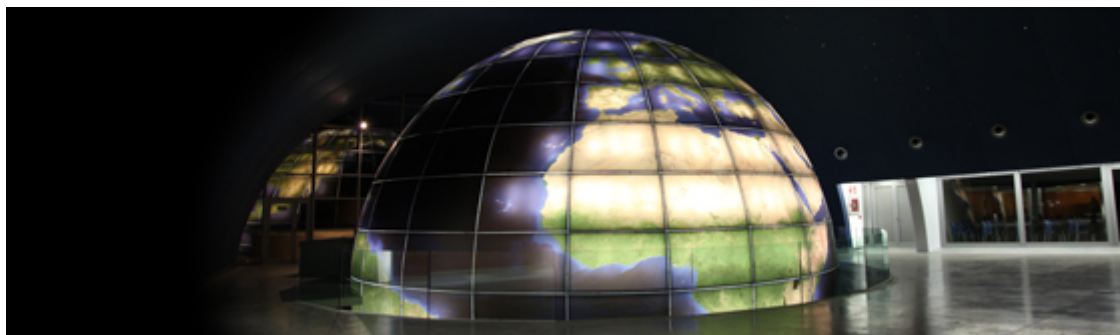
SUNDAY 4th JUNE, 2017

7:00 P.M. GUIDED VISIT - PLANETARIUM. WALQA TECHNOLOGY PARK. HUESCA

7:30 P.M. MAYOR of HUESCA, LUIS FELIPE

**WELCOME'S RECEPTION to SPONSORS, COLLABORATING ENTITIES
AND ATTENDEES of MaBIC17**

***FAREWELL ARAGON WINE OFFERED BY THE CITY COUNCIL OF HUESCA**



CONGRESS PRESENTATIONS Days: June 5th-6th, 2017

During this double presentation day, held in English, the professionals from all over the world related to Metal-air batteries technology will show their research works, previously rigorously selected by the Scientific Council.

CALL FOR PAPERS

- 17th March, 2017 - Final date for submission of Abstracts for Posters / Oral Presentations
- 31st March, 2017 - Authors notified expected
- 12th May, 2017 - Deadline for final reception Presentation / Poster

Extended Deadline 24th March, 2017

KEYNOTE SPEAKER DR. MARTIN KREBS - VARTA Microbattery GmbH

In addition to academic conferences will include Dr. Martin Krebs, Manager Innovative Projects of VARTA Microbattery GmbH as Keynote Speaker, who will be offering a Keynote talk on the current uses and applications of Metal-air batteries.





CONGRESS PRESENTATIONS Monday 5th June, 2017

MORNING SESSION

- 8:45 a.m. - 9:15 a.m. Check-in at Information Desk.

9:15 a.m. INAUGURATION

- Marta Gastón. MINISTER OF ECONOMY, INDUSTRY AND EMPLOYMENT OF ARAGON AND PRESIDENT OF WALQA.
- Luis Felipe. MAYOR OF HUESCA.
- Francesca Soavi. CHAIR ELECT OF DIVISION 3 - ELECTROCHEMICAL ENERGY CONVERSION AND STORAGE OF ISE.
- Enrique Fatás. CHAIRMAN OF MaBIC SCIENTIFIC COUNCIL.
- Joaquín Chacón. CEO OF ALBUFERA ENERGY STORAGE AND PRESIDENT OF MaBIC.

- 9:45 a.m. **Rechargeable Zinc-air Cell with Choline Acetate Electrolyte.**
A. A. Shah, M. Sakthivel, J.-F. Drillet
DECHEMA-Forschungsinstitut, Theodor-Heuss-Allee 25,
60486 Frankfurt a.M., Germany.
- 10:05 a.m. **Improvement of Secondary Zinc-air Batteries: Effect of Electrolyte Formulation and Nature.**
Aroa R. Mainar^{a,b}, Luis C. Colmenaresa, J. Alberto Blázquez^{a,*}
^a IK4-CIDETEC, Pº Miramón, 196, 20009 Donostia-San Sebastián (Guipúzcoa), Spain.
^b Departamento de Ciencia y Tecnología de Polímeros, Facultad de Química, (UPV/EHU), Pº Manuel de Lardizábal 3, 20018 Donostia-San Sebastián (Guipúzcoa), Spain.
- 10:25 a.m. **Study for Substituting PbO with Environmentally Friendlier Substances in Zinc-air Battery.**
C. Evangelisti^{a*}, D. Yazili^a, L. Jörissen^a
^a Zentrum für Sonnenenergie- und Wasserstoff-Forschung Baden-Württemberg, Ulm, Germany.
- 10:45 a.m. **Morning Coffee-Break.**
- 11:15 a.m. Keynote Speaker - Dr. Martin Krebs.
"Metal-air Batteries: Use and Application".
- 12:00 a.m. **Recent Development of Rechargeable Zinc-air Battery.**
Zhao Yan^{a,b}, Erdong Wang^{a,*}, Jianxin Gao, Min Liu, Gongquan Sun^{a,*}
^a Dalian Institute of Chemical Physics, Chinese Academy of Sciences, China.
^b University of Chinese Academy of Sciences, Beijing, 100039, China.
- 12:20 p.m. **Novel Electrolytes for Zinc-Air Batteries.**
Birger Horstmann^{a,b,*}, Tobias Schmitt^{a,b,c}, Max Schammer^{a,b,c}, Simon Clark^{a,b,c}, Johannes Stamm^{a,b}, Arnulf Latz^{a,b,c}
^a German Aerospace Center, Pfaffenwaldring 38-40, 70569 Stuttgart, Germany.
^b Helmholtz Institute Ulm, Helmholtzstraße 11 89081 Ulm, Germany.
^c Ulm University, Albert-Einstein-Allee 47 89081 Ulm, Germany.
- 12:40 p.m. **3D Modelling and Simulation of Rechargeable Zinc-air Cells.**
Tobias Schmitt^{*1,2,3}, Birger Horstmann^{1,3}, Arnulf Latz^{1,2,3}
¹ German Aerospace Center (DLR), Institute of Technical Thermodynamics, Stuttgart, Germany.
² Ulm University, Institute of Electrochemistry, Ulm, Germany.
³ Helmholtz Institute Ulm, Ulm, Germany.
- 1:00 p.m. **Luncheon.**



CONGRESS PRESENTATIONS Monday 5th June, 2017

AFTERNOON SESSION

- 2:30 p.m. **Electrochemical Energy Storage for Renewable Energy Integration: Zinc-air flow Batteries.**
Belén Amunátegui^a, Ana Ibáñez^{a,*}, Miguel Sierra^a
^aTécnicas Reunidas, Madrid, Spain.
- 2:50 p.m. **Tuning the Structure of MnO₂ Catalysts for Enhanced Bifunctional Oxygen Reduction / Evolution Reaction in Rechargeable Metal-Air Batteries.**
Dr. Elod Gyenge and Dr. Pooya Hosseini-Benhangi.
University of British Columbia, Dept. of Chemical and Biological Engineering and Catalyst Square Inc.
Vancouver, British Columbia, Canada.
- 3:10 p.m. **Bifunctional Catalysts for Metal-air Batteries based in CoMe (Me: Ni, Mn, Fe) spinel type oxides.**
A. Stassi, E. Modica, A. Di Blasi, O. Di Blasi, C. Busacca, C. Alegre, A.S. Aricò, V. Antonucci, V. Baglio.
Istituto di Tecnologie Avanzate per l'Energia "Nicola Giordano", CNR-ITAE. Salita S. Lucia sopra Contesse, 5. 98126 Messina, Italy.
- 3:30 p.m. **Bifunctional Air-electrodes for Iron-air and Zinc-air Batteries.**
R.D. McKerracher^a H.A. Figueredo Rodríguez^a, C.A. Ponce de León^a, R.G.A. Wills^a, C. Alegre^b, V. Baglio^b, A.S. Aricò^b, F.C. Walsh^a
^a Faculty of Engineering & the Environment, University of Southampton, SO17 1BJ, UK.
^b Consiglio Nazionale delle Ricerche, Istituto di Tecnologie Avanzate per l'Energia " Nicola Giordano", Salita S.Lucia sopra Contesse, 5. 98126 Messina, Italy.
- 3:50 p.m. **High-Rate Iron-Anodes for Rechargeable Iron-Air Batteries: Effects of Electrochemical Formation on Electrode Performance and Structure.**
H.Weinrich^a, M.Gehring^a, H.Tempel^a, H.Kungl^a, R.-A.Eichel^{a,b}
^a Institute of Energy and Climate - Fundamental Electrochemistry (IEK-9), Forschungszentrum Jülich GmbH, 52425 Jülich, Germany.
^b RWTH Aachen University, Institute of Physical Chemistry, 52074 Aachen, Germany.

4:20 p.m.- 4:40 p.m. *Afternoon Coffee-Break.*

CONGRESS PRESENTATIONS Monday 5th June, 2017



AFTERNOON SESSION

- 4:40 p.m. Roundtable: *Synergies between Fuel Cells and Metal-air Technology in the Battery Market.*

Session moderated by Fernando Arteche. Technology Coordinator of the Electrical Power Systems at ITA.

- Pedro Casero. Head of Innovation Department of Aragon Hydrogen Foundation.
- Joaquín Chacón. CEO of Albufera Energy Storage.

- 5:15 p.m. Guided visit to Aragon Hydrogen Foundation.



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CONGRESS PRESENTATIONS Tuesday 6th June, 2017

MORNING SESSION

- 9:30 a.m. **Pd, Co and Ru-based Electrocatalysts for Non-Aqueous Li-O₂ Cells.**
 Julia Amici^a, Usman Zubair^a, Vankova Svetoslava^a, Daniele Versaci^a,
 Mojtaba Alidoost^a, Carlotta Francia^a, Nerino Penazzi^a, Silvia
 Bodoardo^a, Sandra Martinez^b, Colm O'Dwyer^c
^a Department of Applied Science and Technology (DISAT), Politecnico
 di Torino, C.so Duca degli Abruzzi 24, 10129 Torino, Italy.
^b Leitat Technological Center, Carrer de la Innovació 2, 08225
 Terrassa, Spain.
^c Department of Chemistry, University College Cork, Cork,
 T12 YN60, Ireland.
- 9:50 a.m. **Lithium-air Batteries: the Advantages of using Membranes.**
 Julia Amici^a, Mojtaba Alidoost^a, Usman Zubaira, Vankova
 Svetoslava^a, Daniele Versaci^a, Carlotta Francia^a, Nerino Penazzi^a,
 Miriam Biasizzo^b, Fabrizio Caldera^b, Francesco Trotta^b, Silvia
 Bodoardo^a
^a Department of Applied Science and Technology (DISAT), Politecnico
 di Torino, C.so Duca degli Abruzzi 24, 10129 Torino, Italy.
^b Department of Inorganic Chemistry, Physical Chemistry and
 Chemistry of Materials, Università degli Studi di Torino, Via Pietro
 Giuria 7 - 10125 Torino, Italy.
- 10:10 a.m. **Freestanding, Binder-Free Metal Sulfide Nanotubes Array as High
 Efficient Cathode for High Performance Lithium-O₂ Batteries.**
 Jing-Hua Tian^a, Jin Wang^a, Yue Fu^a, Hai-Yang Yu^a, Chenjie Zhang^b,
 Jianlin Yao^b, Jian-Feng Li^c, Xiaowei Li^a, Ruizhi Yang^a
^a Soochow Institute for Energy and Materials InnovationS, Soochow
 University, Suzhou 215006, China.
^b Department of Chemistry, Soochow University, No. 199 Renai Road,
 Suzhou, China.
^c MOE Key Laboratory of Spectrochemical Analysis and
 Instrumentation, State Key Laboratory of Physical Chemistry of Solid
 Surfaces, Xiamen University, Xiamen 361005, China.
- 10:30 a.m. **Rechargeable Hybrid Lithium-air Batteries with Scalable Flexible
 Protected Anode Systems.**
 D. Safanama^a, S. Adams^a
^a Department of Materials Science and Engineering,
 National University of Singapore, Singapore 117579.
- 10:50 a.m. *Morning Coffee-Break.*
- 11:20 a.m. **NESSOX: a NEw Semi-Solid Flow Lithium OXYgen Battery.**
 Ruggeri, F. De Giorgio, C. Arbizzani, F. Soavi
 Alma Mater Studiorum-University of Bologna
 Department of Chemistry "Giacomo Ciamician" via F. Selmi 2, 40132
 Bologna, Italy.



CONGRESS PRESENTATIONS Tuesday 6th June, 2017

MORNING SESSION

- 11:40 a.m. **Combining Different Electrochemical Methods to understand Cathode processes in Na-O₂ Batteries.**
I. Landa-Medrano^{a,b}, J. T. Frith^c, I. Ruiz de Larramendi^a, I. Lozano^a, N. Ortiz-Vitoriano^{d,e}, N. Garcia-Araez^c, T. Rojo^{a,d}
^a Departamento de Química Inorgánica, Universidad del País Vasco (UPV/EHU), Barrio Sarriena s/n, 48940, Leioa, Bizkaia, Spain
^b BCMaterials, Parque Científico y Tecnológico de Bizkaia, Derio, Spain.
^c Dept. of Chemistry, University of Southampton, SO17 1BJ, Southampton, UK.
^d CIC EnergiGUNE, Albert Einstein 48, 0150, Miñano, Spain.
^e IKERBASQUE, Basque Foundation for Science, 48013, Bilbao, Spain.
- 12:00 p.m. **AlCl₃-based Electrolytes for Electrically Rechargeable Al-air Battery.**
N. Bogolowski, J.-F. Drillet
DECHEMA-Forschungsinstitut, Theodor-Heuss-Allee 25, 60486 Frankfurt a.M., Germany.
- 12:20 p.m. **Are Rechargeable Aluminium-based Batteries possible? Yes, they are!**
M. Pino, A. López-Cudero, F.J. Pérez-Alonso, P. Rodriguez
ALBUFERA ENERGY STORAGE
Faraday 7, 28049 Madrid, Spain.
- 12:40 p.m. **New Insights on the Electrodeposition of Aluminum and their Impact on Rechargeable Al-batteries.**
David Muñoz-Torrero^a, Enrique García-Quismondo^a, Marc Anderson^{a,b}, Jesús Palma^a, Rebeca Marcilla^a
^a IMDEA Energy Institute, Mostoles, Spain
^b Environ. Chem. & Tech. Program, University of Wisconsin-Madison, WI, USA.
- 1:00 p.m. *Luncheon.*

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POSTER VIEWING



CONGRESS PRESENTATIONS Tuesday 6th June, 2017

AFTERNOON SESSION

- 2:30 p.m. **Graphene-based Batteries to Improve the Efficiency of the existing Technologies.**
Raquel González Teresa^a, David Martínez Hernández^a, Lucia González Bermudez^a
^a GrapheneTech S.L
María de Luna, 11. Centro Europeo de Empresas e Innovación de Aragón, (CEEIARAGÓN) Nave 1 Polígono Actur 50018 Zaragoza, Spain.

- 2:50 p.m. **Discharge Behavior of Non-aqueous Si-air Batteries - Influence of the Si Anode Type.**
Yasin Emre Durmus^{a,b,*}, Hermann Tempel^a, Özgür Aslanbas^{a,b}, Simon Jakobi, Thomas Beuse^a, Florian Hausen^{a,b}, Hans Kungl^a and Rüdiger-A. Eichel^{a,b}
^a Fundamental Electrochemistry (IEK-9), Institute of Energy and Climate Research, Forschungszentrum Jülich GmbH, 52425 Jülich, Germany.
^b RWTH Aachen University, Institute of Physical Chemistry, 52074 Aachen, Germany.

- 3:10 p.m. **METAL-AIR BATTERIES IN EASTERN EUROPE.**



Session moderate by Daniel Urquizu. Managing Director of TechnoPark MotorLand from Alcañiz and Moto Engineering Foundation.

- **Dr. Vladimir V. Panic.** Institute of Chemistry, Technology and Metallurgy - University of Belgrade - “Tailored structures of multicomponent electrode materials for Metal-air batteries”.
- **Dr. Andrey Z. Zhuk.** Russian Academy of Sciences - “R&D in the field of Al-air batteries and combined power plants based on their use”.

- 4:10 p.m. *Afternoon Coffee-Break.*
- 5:30 p.m. **Discover the city of Huesca with guided tour.**



- 8:00 p.m. **GALA DINNER.**

CONGRESS and TECHNOLOGY TRANSFER Wednesday 7th June, 2017

MORNING SESSION

- 9:30 p.m. Guided visit to ITANNOVA - Technological Institute of Aragon: "Immersive Visualization: Virtual and Augmented Reality and demo session".



- 11:10 a.m. *Morning Coffee-Break.*



- 11:30 a.m.-1:00 p.m. **EUROPEAN STRATEGY IN ENERGY STORAGE.**
Session moderated by Elena Calvo. Director of the Innovation and Promotion Unit at CIRCE Foundation.
 - *"Achieving a Supportive Regulatory Framework for Energy Storage in Europe".*
 - **Brittney Becker.** Policy Officer. The European Association for Storage of Energy - EASE.
 - *"Energy storage - an overview of EU energy R&I policies".*
 - **Andreea STRACHINESCU.** Head of Unit, DG Energy - Unit C.2 - New energy technologies, innovation and clean coal, European Commission.
 - *"Participation of Spanish entities in energy storage calls in H2020".*
 - **Pilar González.** Energy EU Programmes Division. Directorate, International Programmes. CDTI.
 - *"Business Case: Second Life of EV Batteries".*
 - **Gorka Goicoechea.** Account Manager of CIRCE Foundation.
- 1:00 p.m. **MaBIC17 Conclusions.**
- 1:20 p.m. **Closing Ceremony.**
- 1:30 p.m. *Farewell Aragonese Wine Cocktail.*
"El Vermú" cocktail offered by Bodegas Valdovinos.

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POSTER VIEWING

TECHNOLOGY TRANSFER Wednesday 7th June, 2017 (Spanish - Open Public Session)



Fundación Aula Dei
PARQUE CIENTIFICO TECNOLÓGICO

SESIÓN DE MAÑANA

"ALMACENAMIENTO ENERGÉTICO EN EXPLOTACIONES AGRÍCOLAS Y GANADERAS".

Sesión coordinada por la Fundación Parque Científico Tecnológico Aula Dei.

Modera: José Carlos Arnal. Director del Parque Científico Tecnológico Aula Dei.

- 09:00 a.m. Bienvenida y presentación de la jornada.
 - Cristina de la Hera. Directora del Parque Tecnológico Walqa.
- 09:10 a.m. Conferencia introductoria: *"Una visión general de la problemática de los costes energéticos del sector agroalimentario"*.
 - José María Yusta Loyo. Profesor Titular de la Universidad de Zaragoza - Experto en mercados energéticos e infraestructuras críticas.
- 09:40 a.m. Panel de proyectos: *"Experiencias y potencial de las nuevas tecnologías de almacenamiento en agricultura y ganadería"*.
 - Nieves Vela. Responsable de la Unidad de Energía Solar Fotovoltaica del CIEMAT. *Bombeo de agua para riegos con energía fotovoltaica.*
 - Luis Valiño García. Laboratorio de Investigación en Fluidodinámica y Tecnologías de la Combustión. CSIC -UNIZAR. *Proyecto LIFE REWIND - Renewable Energy in the Wine Industry.*
 - Nicolás Velasco. Director Comercial de ALBUFERA ENERGY SERVICES. *Integración Batería/Energía solar para sustitución de Gasoil como fuente primaria de energía en una granja porcina.*
- 10:10 a.m. Panel de expertos: *"Necesidades, desafíos y oportunidades medioambientales, energéticas y de almacenamiento en el sector agrario"*.
 - Jesús Abadías. Responsable de Innovación de Cooperativas Agro-alimentarias de Aragón.
 - Enrique Morgades. Responsable de Desarrollo de Mercado de Fundación CIRCE.
 - Francisco Mur. Coordinador de I+D+i de Grupo Jorge.
 - Miguel Ángel García Muro. ITAINNOVA.
 - David Solano. Responsable de Innovación de UAGA - Aragón.
 - Víctor Viñuales. Director de la Fundación Ecología y Desarrollo.
- 11:00 a.m. Clausura de la sesión.
 - Javier García. Director de la Escuela Politécnica Superior de Huesca.
- 11:10 a.m. *Morning Coffee-Break.*

KNOWLEDGE CENTER & NETWORKING

POSTER VIEWING

TECHNOLOGY TRANSFER Wednesday 7th June, 2017 (Spanish - Open Public Session)

SESIÓN DE MAÑANA

ENCUENTROS B2B PARA EL FOMENTO DE ALIANZAS TECNOLÓGICAS EN ENERGÍA Y MEDIO AMBIENTE.

Este espacio permitirá la creación de Proyectos Tecnológicos entre Empresas de Energía y Medio Ambiente y Unidades de Investigación.

A su vez las Mesas de Trabajo contarán con Asesores en Financiación de Proyectos y Especialistas en Inversión.

Asimismo, Estudiantes y Emprendedores tendrán la oportunidad de presentar sus Proyectos Empresariales y Tecnológicos.

Horario pendiente de determinar en función de las reuniones que se programen.

Esta actividad se organiza en colaboración con CAMPUS IBERUS y CEOS-CEPYME.

Ponentes: Pendientes de confirmación

- Emprendedores.
- Grupos de Investigación.
- Centros Tecnológicos.
- Empresas.
- Expertos en Inversiones y Financiación.

1:00 p.m. CONCLUSIONS AND CLOSING CEREMONY OF MaBIC 17

MaBIC17 Conclusions

- **Joaquín Chacón.** CEO OF ALBUFERA ENERGY STORAGE AND PRESIDENT OF MaBIC.

Closing Ceremony

- **Ramón Tejedor.** MANAGING DIRECTOR OF IAF-INSTITUTO ARAGONÉS DE FOMENTO. REGIONAL DEVELOPMENT AGENCY.
- **Pilar Novales.** FIRST MAYOR DEPUTY OF THE CITY COUNCIL OF HUESCA.
- **Ángel Fernández.** DIRECTOR OF ITAINNOVA - TECHNOLOGICAL INSTITUTE OF ARAGON.
- **Enrique Fatás.** CHAIRMAN OF MaBIC SCIENTIFIC COUNCIL.

1:30 p.m. Farewell Aragonese Wine Cocktail.

"El Vermú" cocktail offered by



KNOWLEDGE CENTER & NETWORKING

POSTER VIEWING

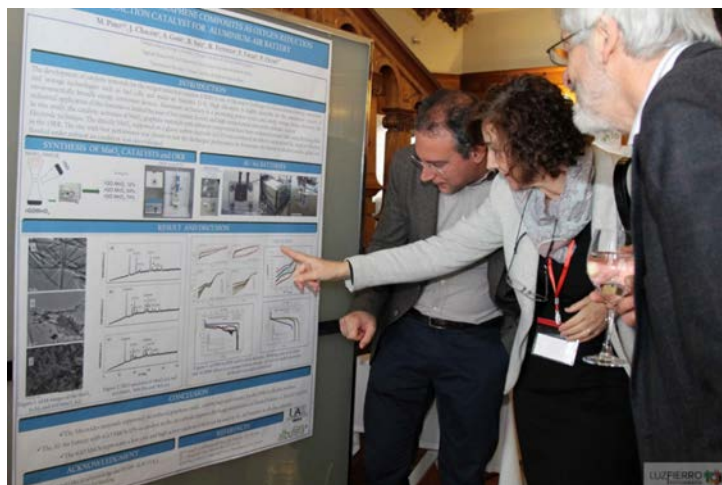
KNOWLEDGE CENTER & NETWORKING: Exhibition Area

This permanent space is conceived as a reference meeting point where catering services (Coffee-breaks & luncheons) will share room with Exhibition area for Sponsors, Collaborating Entities and Technological Companies.



POSTER VIEWING

At the confluence of the meeting point, there will be also an area dedicated to the Posters viewing, where all participants will have the opportunity to present their guidelines inspired by the latest research in the Metal-air batteries community.





CASA DE S. M. EL REY

C R E D E N C I A L

Nº 302/2016

Su Majestad el Rey, accediendo a la petición que tan amablemente Le ha sido formulada, ha tenido a bien aceptar la

PRESIDENCIA DE HONOR

del «**III METAL AIR BATTERIES INTERNATIONAL CONGRESS – MABIC 17**», que se celebrará en Huesca del 4 a 8 de junio de 2017.

Lo que me complace participarle para su conocimiento y efectos.

PALACIO DE LA ZARZUELA, 5 de diciembre de 2016

EL JEFE DE LA CASA DE S.M. EL REY,

SEÑOR PRESIDENTE DEL III CONGRESO MABIC.

HUESCA