INTERNATIONAL WORKSHOP ON

ENERGY STORAGE IN THE GRID

LOW, MEDIUM AND LARGE SCALE REQUIREMENTS

Venue: Central building of University of Barcelona

8th - 10th January 2014

cost

Hybrid Energy Storage Devices and Systems for Mobile and Stationary Applications

Xarmae

XARXA DE REFERÈNCIA EN MATERIALS AVANÇATS PER A L'ENERGIA

Nanostructured materials for solid-state hydrogen storage

ICMAB

CSIC

IREC

Institut de Recerca en Energia de Catalunya
Catalonia Institute for Energy Research

Universitat de Barcelona

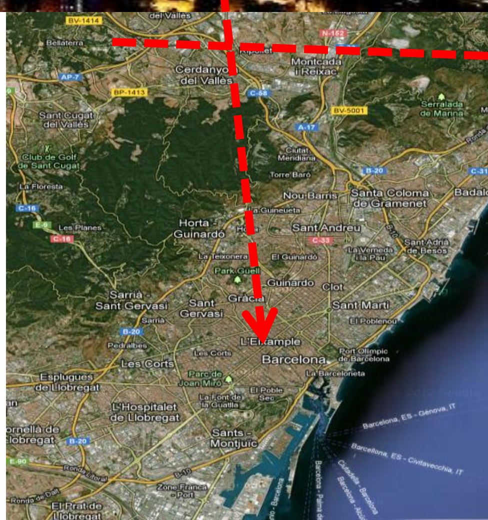
Escola Universitària d'Enginyeria Tècnica Industrial de Barcelona
Consorci Escola Industrial de Barcelona
UNIVERSITAT POLITÈCNICA DE CATALUNYA

Who we are?

Nearly 200 wise Scientists trying to develop, understand, and optimize functional materials . A part, for energy applications

Where we are?


Ireland Éire
Nederland (Netherlands)
Berlin
Polska (Poland)
Беларусь (Belarus)
London
Belgique België (Belgium)
Deutschland (Germany)
Wrocław
Kraków
Kiev
Kharkiv
Česká rep (Czech Rep)
Slovensko (Slovakia)
Україна (Ukraine)
Dnipropetrovs'k
Paris
Vaduz
Österreich (Austria)
Magyarország (Hungary)
Moldova
Казахстан (Kazakhstan)
Астана Astana
France
Ljubljana
Odesa
Bay of Biscay
Torino
Milano
Hrvatska (Croatia)
România (Romania)
Монгол Улс (Mongolia)
Улан-Батор Ulaanbaatar
Marseille
Italia (Italy)
Србија (Serbia)
București
Black Sea
Barcelona
Roma
България (Bulgaria)
საქართველო (Georgia)
Caspian Sea
Бишкек Bishkek
Алматы Almaty
Portugal
España (Spain)
Napoli
Istanbul
Azərbaycan (Azerbaijan)
O'zbekiston (Uzbekistan)
Кыргызстан (Kyrgyzstan)
Beijing 北京
Lisboa
Sevilla
Ελλάς (Greece)
İzmir
Türkiye (Turkey)
Türkmenistan (Turkmenistan)
Тошкент
Тоҷикистон (Tajikistan)
Tunis
Athina
Tehran
Casablanca
(Tunisia)
Mediterranean Sea
(Lebanon)
(Syria)
(Afghanistan)
Kabul
Islamabad
中国 (China)
(Morocco)
Alexandria
(Israel)
(Iraq)
(Iran)
Lahore
Chengdu 成都
Wuhan 武汉
Cairo
(Jordan)
(Pakistan)
New Delhi
Chongqing 重庆
(Algeria)
(Libya)
(Egypt)
Persian Gulf
Jaipur
(Nepal)
Bhutan
Lucknow


Bellaterra
Cerdanyola del Vallès
Montcada i Reixac
Sant Cugat del Vallès
Serralada de Marina
Club de Golf de Sant Cugat
Ciutat Meridiana
Torre Baró
La Floresta
Nou Barris
Santa Coloma de Gramenet
Badalona
Les Planes
Horta-Guinardó
Sant Andreu
Sant Adrià de Besòs
Park Güell
El Guinardó
Guinardó
Clot
Sarrià-Sant Gervasi
Sarrià
Sant Gervasi
Gràcia
Sant Martí
El Poblenou
Pedralbes
L'Eixample
Les Corts
Barcelona
Port Olímpic de Barcelona
Esplugues de Llobregat
La Barceloneta
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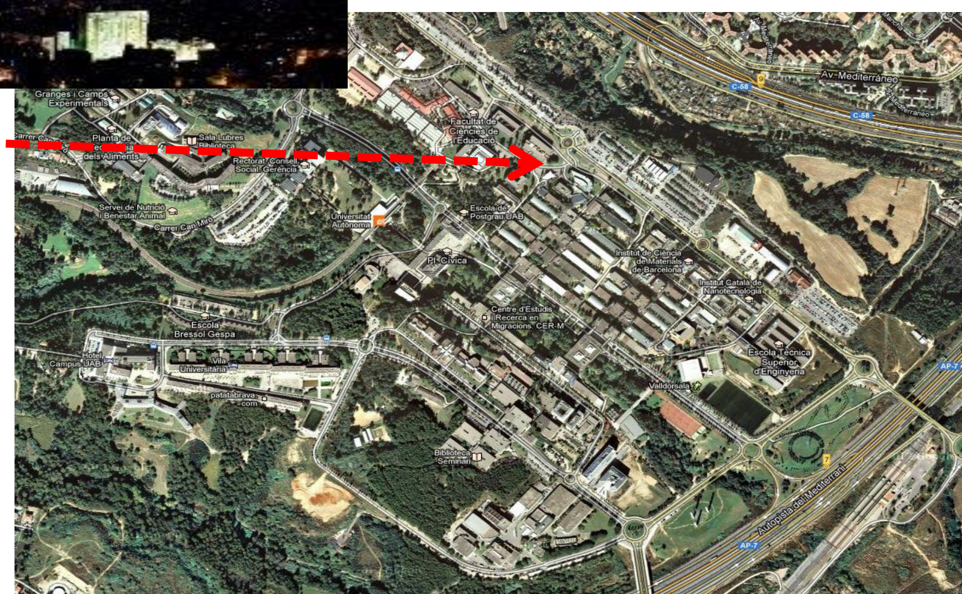
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Sala Lubres
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Escola de Postgrau UAB
Pl. Cívica
Institut de Ciència de Materials de Barcelona
Institut Català de Nanotecnologia
Centre d'Estudis i Recerca en Migracions. CER-M
Escola Bressol Gespa
Vila Universitària
Campus UAB
Escola Tècnica Superior d'Enginyeria
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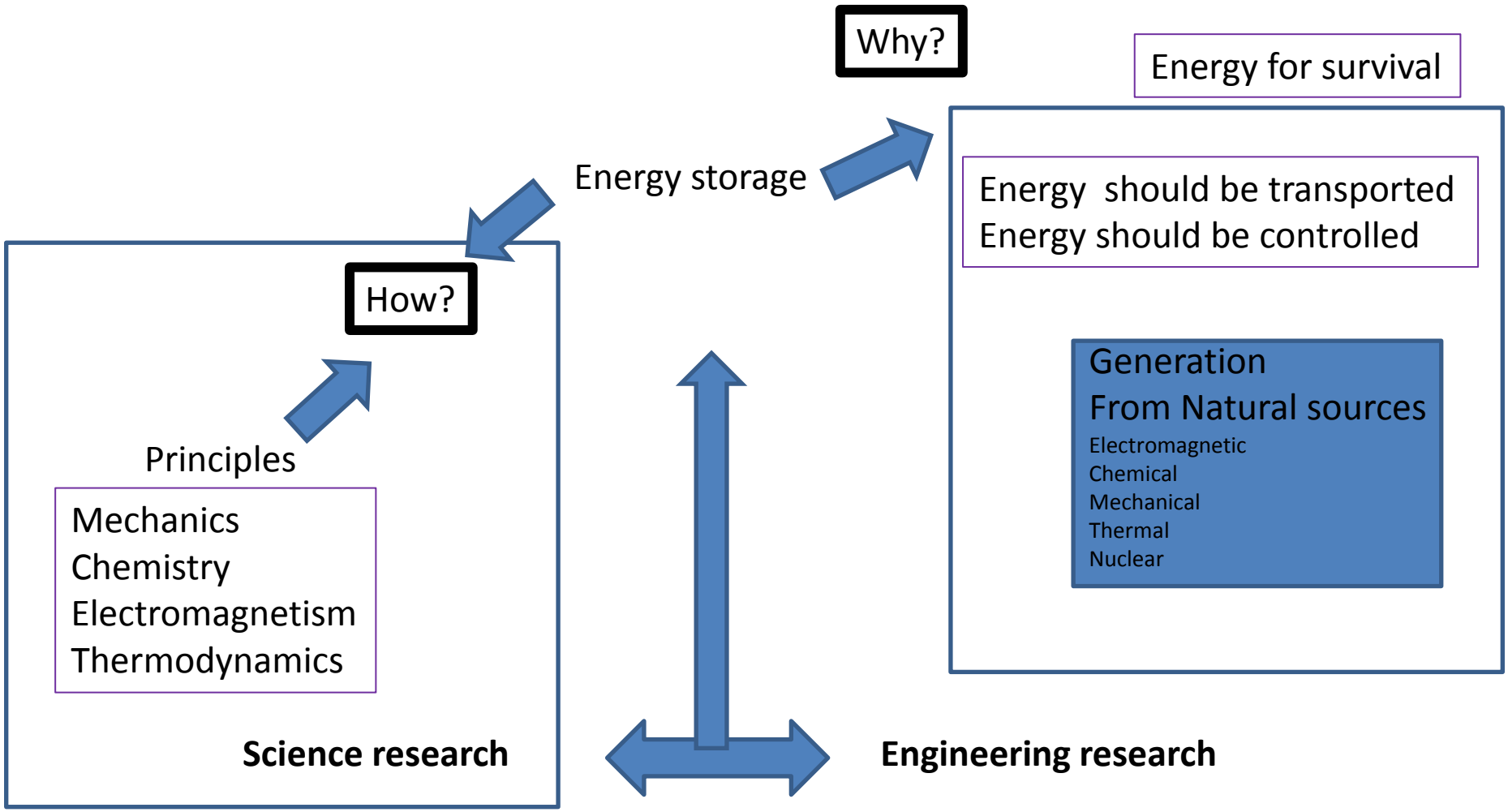
Our goals (those of the workshop)



Both should be considered simultaneously for succesful systems

Energy Storage in the grid

Which the requirements are?

Which is the best solution?

Which are the limits?

Which is the sense of our proposals?

Which is the problem?

Engineers thinking as scientist and Scientist thinking as engineers will find new solutions!

Pay attention to the workshop! And… enjoy it!

Welcome!

The program

Wednesday 8th January

8:30-9:00	Registration
9:00-9:25	Welcome X. Granados ICMAB-CSIC & J. R. Morante IREC –UB
9:25-9:45	**COST Action MP10004 "Hybrid energy storage devices and systems for mobile and stationary applications"** Dalik Sojrev, Berlin, Germany
	WM1-
9:45-10:15	**EVs 2nd life batteries applications** N. Vidal, Endesa. Spain
10:15-10:45	Towards the development of the Na-ion technology: in search of suitable electrodes and electrolytes M.R. Palacín, Institut de Ciència de Materials de Barcelona (ICMAB-CSIC)
10:45-11:15	Coffee break+Posters install
	WM2- Quality and storage in grids
11:15-11.45	Energy storage needs for Rural Smart Grids Santiago Martínez, Ramón Gallart, Estabanell Energy, Granollers. Spain
11:45-12:15	Reliable and Economic Island, Microgrid and Grid Supply with Renewable Energy using Electrochemical Storage Olaf Wollersheim, KIT, Karlsruhe. Germany
12:15-12:45	Evaluating the Economics, Social Benefits and Technology Needs of Energy Storage Peter Hall, Sheffield University, Sheffield. UK.
12:45-13:15	Interactions and Synergies in a Highly Renewable Pan-European Power System Stefan Weitemeyer, Next energy institute, Oldenburg. Germany
13:15-15:00	Lunch+ Poster Install
	WM3- Storage models and methods
15:00:15:25	**EV-Grid concept** Gerard Coquery, IFFSTAR, France
15:25-15:50	**Modelling and Validation of a Flywheel Energy Storage Lab-Setup** F Díaz, IREC, Barcelona. Spain
15:50-16:10	Integration of Energy Storage systems in Microgrids Jordi Pegueroles, IREC, Barcelona. Spain.
16:10-16:30	Vanadium redox flow battery for smart grid application: Nano-structured carbon-based electrode materials Cristina Flox, IREC, Barcelona. Spain
16:30-16:50	**Coffee break+ Posters**
16:50-18:10	Think tank Table Coordinators: Peter Hall and Dalik Sojrev

Thursday 9th January

	TM1-Storage projects
9:00-9:30	Improvements in Redox Flow Battery Technology. Project REDOX2015 Luis Manuel Santos Moro, EDP energía. Spain
9:30-10:00	Mechanical energy storage with focus on hydropower – status and future development Atle Harby, Centre for Environmental Design of Renewable Energy (CEDREN), SINTEF Energy Research, Trondheim. Norway.
10:00-10:30	Superconductors for efficient and robust hybrid storage systems Xavier Granados. ICMAB-CSIC, Barcelona, Spain
10:30-11:00	Coffee break+ Posters
11:00-11:30	Chemical Energy Storage based on CO_2 Plasmolysis Adelbert Goede. Dutch Institute for Fundamental Energy Research, Nieuwegein. The Netherlands
11:30-12:00	**Electrical storage for power system applications:** **Needs and Challenges** Luciano Martini, RSE, Milan, Italy
	TM2-European networks for energy
12:00-12:30	EERA Joint Programme Energy Research – Status and outlook EERA Eberhard Diegele, KIT, Karlsruhe. Germany
12:30-13:00	EEGI Peter Verboven, , Belgium
13:00-13:30	**CONNECT-EU initiative** Joan Gabriel Bergas-Jané, Director of research CITCEA-UPC
13:30-15:00	Lunch
	Storage methods and technologies **Contributions of the COST & XARMAE members**
15:00:15:25	Parallels between bio- and hybrid energy storage systems Paul Borza. University of Transilvania, Romania.
15:25-15:50	**Hybrid energy storage solutions for stationary applications** João Martins, Universidade Nova de Lisboa-FCT-DEE, Portugal
15:50-16:10	**A glance at the possibilities for improving efficiency in grid energy storage by superconducting technology** Alfredo Alvarez, UNEX, Badajoz, Spain
16:10-16:30	Fast response energy storage systems for wind power smoothing JL Domínguez, IREC, Barcelona. Spain.
16:30-17:00	**Coffee break**
17:00-17:30	Round table Energy research in EU, Networks trends & Funding Oportunities Moderator: Eberhard Diegele and Peter Verboven
17:30-17:45	Closing remarks
21:00	Gala Dinner at Balthazar Restaurant