



EUROPEAN ACADEMY OF SCIENCES

IN SUPPORT OF EXCELLENCE IN SCIENCE AND TECHNOLOGY

The Presidium
has the pleasure to invite you to
the Symposium « Progress in Science, progress in Society » and
the Ceremony of Awards 2016
of the European Academy of Sciences

Friday, November 18th, 2016

&

Saturday, November 19th, 2016

Palais des Académies

Espace Baudouin

Rue Ducale 1

1000 Brussels

<http://eurasc.wix.com/eurasc2016>

With the support of :





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JANSSEN



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Programme of the event

November 18th, 2016

09:00 am to 09:45 am: Opening speeches

09:45 am to 12:15 pm : Symposium «Progress in Science, Progress in Society »
Part 1 . Trust / Distrust / Public Reception / Communication

02:00 pm to 03:30 pm : Symposium «Progress in Science, Progress in Society »
Part 2 . Sciences and Technologies of the Living: promises, resistances, refusals, violence.

04:00 pm to 05:30 pm : Symposium «Progress in Science, Progress in Society »
Part 3 . Information Sciences and Technologies / Robotics / Nanotechnologies

05:40 pm to 06:20 pm: Evening Lecture
« Making Europe a « Standard » for Science » by Prof. Philippe Busquin

November 19th, 2016

09:00 am to 10:30 am: Symposium «Progress in Science, Progress in Society »
Part 4. Short term / Long term / Industry

10:30 am to 11:00 am : Conclusion of the Symposium by Claude Debru, President of EURASC

11:20 am to 12:00 am: Ceremony of Awards of Blaise Pascal Medals
Delivery of diplomas to the new Fellows of EURASC
Photos

02:00 pm to 04:15 pm : Lectures of the Blaise Pascal Medallists



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Programme of the Ceremony of Awards *November 19th, 2016*

Part IV. Short term / Long term / Industry

Chairman of the session: Prof. Alberto Carpinteri, Head of the Engineering Division of EURASC

09.00 – 09.30 : Prof. Yves Pouillet (Namur)

« Law, a response to the risks of technology application? »

09.30 – 10.00 : Prof. Koenraad Debackere (Louvain)

« Research and the Industry of the Future »

10.00 – 10.30 : Prof. Torsten Wilholt (Germany)

« Why and in what sense ought scientific research to be free? »

Conclusion of the Symposium

10.30 – 11.00 : Prof. Claude Debru, President of EURASC

11.00 – 11.20 : Coffee Break

11.20 – 12.00 : Ceremony of Awards of Blaise Pascal Medals, Delivery of diplomas to the new Fellows of EURASC, and photos

12.00 – 01.45 : Lunch



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Programme of the Ceremony of Awards *November 19th, 2016*

Chairman of the Ceremony of Awards: Prof. Alain Tressaud, Vice President of EURASC

02.00 – 02.30 : Opening speeches of the Awardees Lectures

02.30 – 03.00 : Prof. Gianfranco Pacchioni, Blaise Pascal Medal in Chemistry
« Two-dimensional oxides : new structures, new functions and new materials »

03.00 – 03.30 : Prof. Ni-Bin Chang, Blaise Pascal Medal in Earth and Environmental Sciences
« How does Artificial Intelligence work with Remote Sensing Technologies for multi-scale Environmental Change Detection? »

03.30 – 04.00 : Prof. Elvira Fortunato, Blaise Pascal Medal in Materials Science
« Where Science Fiction meets reality? »

04.00 – 04.15 : Final Conclusion by Prof. Claude Debru, President of EURASC

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Ceremony of Awards

November 19th

Palais des Académies

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1000 Brussels

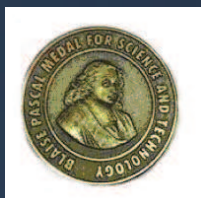
Continuation of the Symposium
"Progress in Science, Progress in Society"
Ceremony of Awards,
Lectures of the Blaise Pascal Medallists 2016





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Blaise Pascal Medal 2016 in Chemistry

Professor Gianfranco Pacchioni

Full Professor
Vice-Rector for Research
University of Milano Bicocca
Italy



«In recognition of his outstanding and lasting contributions to the theoretical understanding of oxide surfaces and thin films »

“Two-dimensional oxides: new structures, new functions and new materials ”

Graphene is the prototype of two-dimensional (2D) materials, but is not the only one. SiO₂ films of few nanometers thickness grown on Si have been the basis of the microelectronics revolution in the second half of last century. In general, ultrathin oxide films grown on a metal, also called two-dimensional oxides, have a wide range of roles and applications, as separating layers in new generations of magnetic devices, as passive layers in corrosion protection, or as active heterogeneous catalysts, just to mention a few. Oxides at the nanoscale may exhibit specific surface morphology, physical properties, chemical reactivity, thus providing new opportunities for the design of innovative materials. Quantum theory has a very important role in this field and, in combination with experiments, can answer fundamental questions and help in the design of 2D oxides with tailored properties. In this talk we will discuss, among others, oxide ultrathin films in heterogeneous catalysis and nanocatalysis, including new phenomena such as charging of supported metal particles, structural flexibility, nanoporosity, that contribute to make these systems unprecedented.



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Blaise Pascal Medals 2016 in Earth and Environmental Sciences

Professor Ni-Bin Chang

Director,
Stormwater Management Academy
University of Central Florida
Orlando, FL, USA



« *In recognition of his outstanding contributions to Environmental Sustainability, Green Engineering, and Systems Analysis* »

“How does Artificial Intelligence work with Remote Sensing Technologies for multi-scale environmental change detection?”

Contemporary challenges in remote sensing for environmental change detection include: 1) the complexity of remote sensing images with varying spatial, spectral, and temporal resolution, 2) the need for feature extraction of different objects from terrestrial to aquatic environments with differing nature at the ground level, and 3) the need for image reconstruction and cross mission data merging due to cloud contamination. This presentation will focus on how the artificial intelligence techniques can come to help for dealing with these challenges. The spectrum of applications will cover a suite of urban land use and land cover change detection and water quality monitoring with artificial intelligence techniques. In this context, emphasis will be placed on the possible integration between data fusion and data mining. In addition, it is noticeable that cloud contamination is a big obstacle when processing satellite images retrieved from visible and infrared spectral ranges for earth observations. A new algorithm called the SMart Information Reconstruction (SMIR) for cloudy pixel reconstruction using artificial intelligence techniques will be discussed as well. Such advancement led to a series of breakthroughs in earth system observations.



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Blaise Pascal Medals 2016 in Materials Science

Professor Elvira Fortunato

Director of the Associate Laboratory I3N
Full Professor
FCT-UNL
Portugal



« *In recognition of the outstanding originality and creativity of her research in Physics and Materials Science* »

« *Where science fiction meets reality?* »

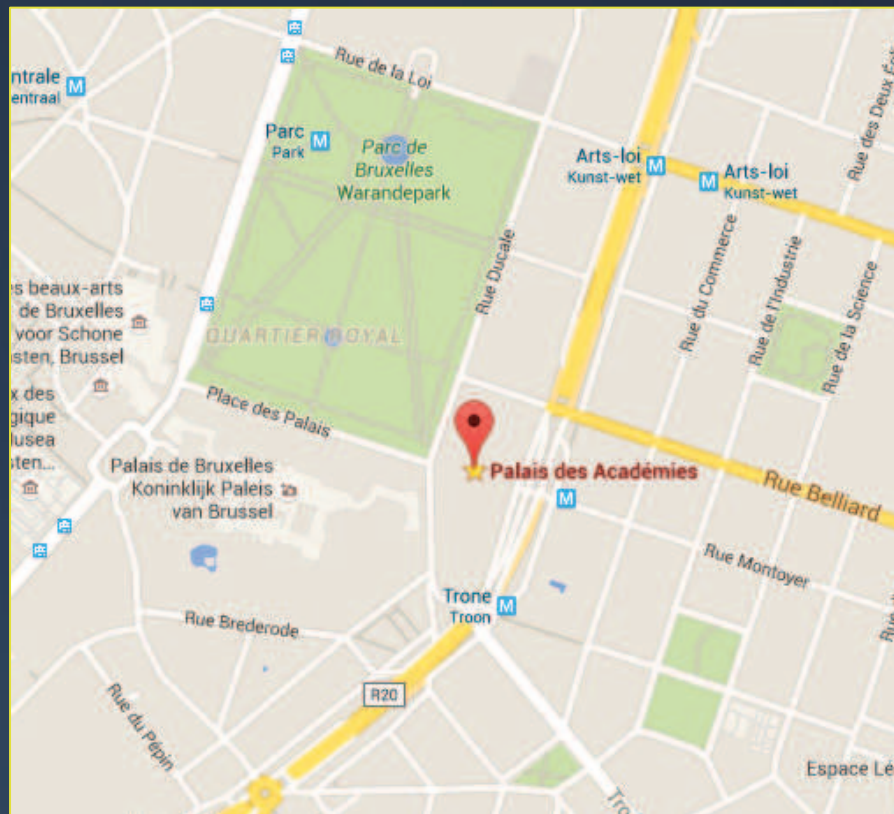
The evolution from rigid silicon-based electronics to flexible electronics requires the use of new materials with novel functionalities that allow non-conventional, low-cost and environmental friendly processing technologies. Among the alternatives, metal oxide semiconductors have brought to attention as backplane materials for the next generation of flat panel displays. After the huge success and revolution of transparent electronics and with the worldwide interest in displays where metal oxide thin films have proved to be truly semiconductors, display backplanes have already gone commercial in a very short period of time, due to the huge investment of several high profile companies: SHARP, SAMSUNG, LG and BOE. These materials have demonstrated exceptional electronic performance as active semiconductor components and can be tuned for applications where high transparency/electrical conductivity is demanded. The new paradigm of transparent electronics has attracted much interest as a novel technical solution in the field of the next generation of consumer electronics. The ultimate goal of this “see-through” device is to realize an integrated system equipped with ubiquitous functions of information storage, image display and networking, which strongly demands an embeddable transparent array of non-volatile memory.



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Location



Symposium and Ceremony of Awards

Palais des Académies

Rue Ducale 1

1000 Brussels

From the airport : Reach the city center by train.

Tram : Line 92 / 94 (Palais)

Metro : Line 1 or 5 (Arts-Loi) - Line 2 or 6 (Trône)

Bus : Line 21 / 27 / 38 / 54 / 71 / 95 (Ducale)

Line 34 / 64 / 80 (Trône)

Train : Brussels/Luxembourg Station

Central Station

More information and map [on this website](http://www.stib-mivb.be/reisweg-itineraire.html?l=fr)

(<http://www.stib-mivb.be/reisweg-itineraire.html?l=fr>)