



**EUROPEAN ACADEMY OF SCIENCES**

In support of Excellence in Science and Technology



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Universita' degli Studi di Milano  
Sede Centrale "Ca' Granda"  
Via Festa del Perdono, 7  
20121 MILANO, Italy

**November 11<sup>th</sup>, 2011**

**The Presidium and the Executive Committee**

**have the pleasure to invite you to**

**the General Assembly and the Ceremony of Awards 2011**

**of the**

**European Academy of Sciences**

**with the support of**



**UNIVERSITÀ DEGLI STUDI DI MILANO**



**EUROPEAN ACADEMY OF SCIENCES**

In support of Excellence in Science and Technology

## **Universita' degli Studi di Milano**

Sede Centrale "Ca' Granda"

Via Festa del Perdono, 7

20121 MILANO, Italy

November 11<sup>th</sup>, 2011

With the support of :

**The Rector**

**The Department of Mathematics**

**ADAMSS**

(Interdisciplinary Centre for Advanced Applied  
Mathematical and Statistical Sciences)  
of the



**Universita' degli Studi di Milano**



Académie Européenne des Sciences – European Academy of Sciences

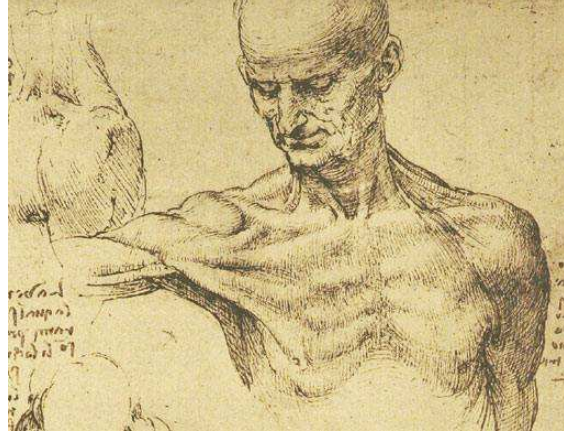
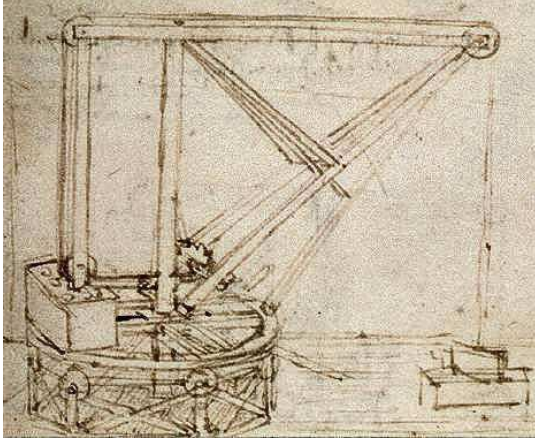
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## Morning Session



**9 to 9 : 45 am : EAS members General meeting / Ceremony Event Registration**

**10: 00 to 10 : 30 am : Welcome addresses by President**

**10 : 30 to 11 : 15 am : Delivery of the Awards 2011.**

**11 : 15 to 11 : 30 am : Coffee break**

**11 : 30 to 12 : 00 am : Presentation of the Call for the next Kepler prize.**

**12 : 00 to 12 : 30 pm : Prof. James Dickson Murray Leonardo da Vinci Award**

Lecture : “Vignettes from a mathematician’s odyssey in biology: how the leopard gets its spots, divorce prediction, the benefits of cannibalism and others ”

**12 : 30 : Lunch buffet**

**2 : 15 to 2: 45 pm : Prof. Peter Carmeliet, Bl.Pascal Medal in Medicine and Life Sciences**

Lecture : “ The Neurovascular link in health and disease ”

**2 : 45 to 3 : 15 pm : Prof. Giulio Maier, Bl.Pascal Medal in Engineering**

Lecture : “ From effects to causes: benefits of inverse analysis in structural engineering ”

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## Afternoon Session



**3 : 15 to 3:45 pm : Coffee Break**

**3 : 45 to 4 : 15 pm : Prof. Helmut Schwarz, Bl.Pascal Medal in Chemistry**

Lecture : “**Chemistry with Methane**”

**4 : 15 to 4 : 45 pm : Prof. Karl Sigmund, Bl.Pascal Medal in Mathematics**

Lecture : “**Evolutionary Game Theory**”

**4 : 45 to 5 : 15 pm : Prof. Ruslan Valiev, Bl.Pascal Medal in Materials Science**

Lecture : “ **Bulk Nanostructured Metallic Materials: Potential for Innovation in Science and Engineering** ”

**5 : 15 to 5 : 45 pm : Prof. Peter Zoller, Bl.Pascal Medal in Physics**

Lecture : “ **Quantum Simulation** ”

**6 : 15 pm : President V. Capasso : Conclusions.**

**8 : 30 pm : Social Dinner.**

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# LEONARDO DA VINCI AWARD 2011 Presentation



## James D Murray Leonardo da Vinci Medal 2011

In recognition of his long lasting contribution to establish a bridge between mathematics and life sciences. His contributions to mathematical biology have been profound, in particular in the development of a coherent mathematical theory of morphogenesis. During the 1980s, he founded the Centre for Mathematical Biology at the University of Oxford; it was the first centre for mathematical biology in the UK. In addition of being a great scientist; his dedication to teaching has made him capable of attracting scholars from all over the world. Nowadays his students (in a wide sense) are spread in many prestigious universities, from Europe to US, to Japan etc.

He has greatly contributed to founding the European Society for Mathematical and Theoretical Biology and was elected as its first President.

He holds a large number of honours, a selection of which are: Guggenheim Fellow 1968; Fellow of the Royal Society (Edinburgh) 1979; Fellow of the Royal Society (London) 1985; Fellow of the Institute of Biology (Great Britain) 1988; Foreign Member of the Academy of Sciences (France) 2000; London Mathematical Society Naylor Prize for Applied Mathematics 1989. Akira Okubo Prize 2005, University of Washington donor endowed chair in perpetuity; Honorary Member, Edinburgh Mathematical Society 2008 (Celebrating its 125th Anniversary); Royal Society Bakerian Medal and Prize Lecture (Physical Sciences premier prize lecture) 2009; Institute of Mathematics and its Applications (IMA) 2009 Gold Medal; Honorary D.Sc. degrees by University of St. Andrews 1994, and University of Strathclyde (Scotland) 1999; *Laurea Honoris causa* in Math 2004 University of Milan, Dr. Math. *Honoris causa* 2006 University of Waterloo, D.Sc *Honoris causa* 2011 University of Dundee; Honorary Fellow, Corpus Christi College, University of Oxford 2001.

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# EAS BLAISE PASCAL MEDALS 2011 Presentation



## **Peter CARMELIET Blaise Pascal Medal 2011 in Medicine and Life Sciences**



A particular strength of Carmeliet work has been the use of molecular approaches with fine and detailed studies of embryo development and in vivo pathological models. One prime example is the study by Carmeliet et al. published in Nature in 1996 on the consequence of deleting just one of the alleles for vascular endothelial growth factor (VEGF), which results in embryonic lethality due to loss of endothelial cell differentiation and blood vessel formation. This study promoted an intense interest in the VEGF family of angiogenic growth factors, which also includes Placenta growth factor (PLGF). He has been instrumental in the development of antibodies directed against PLGF, which neutralize its function. In mouse models, treatment with this antibody limits growth of tumors, and even more importantly, it suppresses the seeding of distant metastases. Treatment of human cancer with anti-PLGF antibodies is now being tested in clinical trials. Other important contributions by Dr. Carmeliet include his important studies on hypoxia-regulation of angiogenesis. Dr. Carmeliet has extensively promoted the development of life sciences in Europe.

## **Giulio MAIER Blaise Pascal Medal 2011 in Engineering**



In recognition of his outstanding scientific achievements in the field of Structural Mechanics and Engineering, and his seminal activities in the same discipline. His major and most original research contributions are distributed over several different topics: mechanics of elastoplastic structures (shake-down, extremum properties of solutions, structural design optimization), non-associative flow rules, symmetric Galerkin boundary element method, quasi-brittle fracture mechanics, development of integrated computational and non-destructive experimental methods for structural diagnosis and parameter identification by inverse analysis, mechanics of composites and microsystems, structural engineering problems (tension structures, offshore pipelines, concrete dams). Member of several National Academies (Italian: Lincei, dei XL; Foreign: Poland, Hungary, Russia (Eng.), USA (Eng.), Portugal, South Africa), and recipient of numerous prestigious awards, among which: Feltrinelli (Lincei), Koiter (ASME), Ritz-Galerkin (ECCOMAS), and three Honorary Doctoral Degrees. Giulio Maier is greatly appreciated in the Engineering Community for his particular capacity in dealing with application problems by using advanced and innovative scientific methods.

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# EAS BLAISE PASCAL MEDALS 2011 Presentation



## Gordon David PLOTKIN Blaise Pascal Medal 2011 in Computational Sciences & Information



In recognition of his major contributions to theoretical computer science; in particular, for his invention of "structural operational semantics" (SOS), which is widely adopted as the standard technique for precise specification of programming languages. Operational semantics provides a formal model of the run-time behavior of computer programs, and other computational systems. Such a model is essential if we are to have precise and unambiguous definitions of programming languages. In 1981, Plotkin proposed and developed SOS as a systematic method for defining operational behavior. In the years since its inception, SOS has proven itself to be a remarkably powerful and versatile technique. It has become the standard method for formally specifying programming languages. Recently SOS has also found use in the specification of biological models, and as a means for clarifying multiprocessor behavior (where industry manuals have been found to be ambiguous). Plotkin's SOS paper has over 3,000 citations on Google Scholar, evidencing its broad impact.

## Helmut SCHWARZ Blaise Pascal Medal 2011 in Chemistry



In recognition of his pioneering work using modern mass spectrometry for the disclosure of reaction mechanisms such as those of hydrocarbon activation, Professor Helmut Schwarz will receive the Blaise Pascal Medal 2011 in chemistry. He is presently one of the most outstanding scientists in Europe. His world wide reputation is based on more than 900 scientific articles that he authored or co-authored in the very best journals. His scientific achievements have been largely recognized by an impressive list of awards from many countries. In addition his role as a scientific leader is marked by his excellent presidency of the Humboldt Foundation and his board membership of the German National Academy of Science, Leopoldina.

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# EAS BLAISE PASCAL MEDALS 2011 Presentation



## **Karl SIGMUND Blaise Pascal Medal 2011 in Mathematics**



In recognition of his work on dynamical systems and modelling applied to population dynamics. In particular, he played a pioneering role in the development of evolutionary game theory, and in applying it to a large variety of problems in ecology and behaviour, as well as to social and economic models. He has been instrumental in developing the theory of replicator equations and adaptive dynamics. A large part of his work is devoted to the evolution of cooperation. In several books and a large number of papers, he has investigated, jointly with brilliant co-workers, many essential aspects of the emergence of cooperation, such as direct and indirect reciprocity, or the role of incentives in overcoming social dilemmas.

Despite the spectacular contributions to mathematics, he has been also engaged in making important results of current research accessible to a broad audience. He has received many honours including an Honorary Degree from the University of Helsinki, and memberships of the Austrian Academy of Sciences, the German Academy of Sciences (Leopoldina), and the European Academy of Sciences

## **Ruslan VALIEV Blaise Pascal Medal 2011 in Materials Science**



In recognition of his outstanding contribution to our understanding of the properties of bulk nanostructured materials. Prof. Valiev has done pioneering work in the field of processing of ultrafine-grained and nanostructured materials through the application of severe plastic deformation, a technique which is being undertaken in almost every materials science department worldwide. Prof. Valiev has significantly contributed to the study of mechanical and physical properties of materials introducing new concepts like the conception of “non-equilibrium grain boundaries”. With more than 2000 citations, the review of his early work published in 2000 in Progress in Materials Science, “Bulk nanostructured materials from severe plastic deformation”, is one of the most cited scientific publication in modern materials science.

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# EAS BLAISE PASCAL MEDALS 2011 Presentation



## **Peter ZOLLER      Blaise Pascal Medal 2011 in Physics**



In recognition of his outstanding, pioneering and influential work at the interface between atomic physics, quantum optics, condensed matter physics and quantum information.

Highlights include: the first realistic proposals for quantum computers based on trapped ions, atoms in cavities, Rydberg atoms, or cold molecules; proposals to implement quantum networks and repeaters using atoms in cavities or atomic ensembles; several important predictions, of a superfluid-Mott insulator quantum phase transition of atoms in optical lattices, of reduced fluctuations in atoms interacting with squeezed light, of the existence of auto-ionizing states in atoms subjected to strong laser fields; introduction of a new simulation method for atomic master equations, subsequently widely used in the fields of laser cooling and quantum optics; proposals for engineering quantum states of motion of trapped ions as well as quantum states of light. These have all stimulated new lines of research, theoretical, experimental and of potential practical application.

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# EAS BLAISE PASCAL MEDALS 2011



**Evening dinner November 11**



**More information coming soon.**



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## Map

### University of Milano: Via Festa del Perdono, 7



<http://maps.google.it/maps?q=Via+Festa+del+Perdono,+7&hl=fr&ll=45.45688,9.20723&spn=0.021222,0.038581&sll=45.460853,9.194291&sspn=0.006577,0.006223&z=15>

## **Accommodation**

The hotels listed below are known to be good for the required standards with very reasonable prices.

**Special Rates: IN ORDER TO HAVE THE SPECIAL DISCOUNT RATE YOU MUST QUOTE THAT YOU ARE INVOLVED IN A SCIENTIFIC EVENT OF THE UNIVERSITA' DEGLI STUDI DI MILANO**

It might be also of interest for the participants in the Milan Event the following web site of the city of Milan

<http://www.turismo.milano.it/>

Our Awardees 's rooms are booked at the

**HOTEL PALAZZO DELLE STELLINE.**

You can find more information about the 3 or 4 stars hotels on their home page with the attached links of the following pages.

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## **3 Stars Hotels**

1. HOTEL AUGUSTUS (Tariffe 2011) <http://www.augustushotel.it>

Tel. +39 02/66988271 +39 02/66988271, Fax +39 02/6703096

	Special Rate
Single Room	€ 89,50
Double Room	€ 136,00

2. HOTEL CANADA (Tariffe 2011) <http://www.canadahotel.it/>

Tel. +39 02/58304844, +39 02/58304844, Fax +39 02/58300282

	Special Rate
Room AVORIO	€ 95,00
Room SMERALDO	€ 107,00

3. ZEFIRO HOTEL (Tariffe 2011) <http://www.zefirohotel.it/>

Tel. +39 02/70005654, +39 02/70005654, Fax +39 02/713811

	Special Rate
Single Room	€ 85,00
Double Room	€ 134,00

4. HOTEL PALAZZO DELLE STELLINE (2011) <http://www.hotelpalazzostelline.it/>

Tel. +39 02.4818431, Fax +39 02.48519097 / +39 02.48194281

	Special Rate
Single Room	€ 90,00
Double Room	€ 132,00

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## **4 Stars Hotels**

1. HOTEL BRUNELLESCHI (Tariffe 2011) <http://www.MilanHotel.it>

Tel. +39 02/88431, Fax +39 02/804924

	Special Rate
Single Room	€ 195,00
Double Room	€ 215,00

2. HOTEL GALILEO (Tariffe 2011) <http://www.MilanHotel.it>

Tel. +39 02/77431, Fax +39 02/76020584

	Special Rate
Single Room	€ 185,00
Double Room	€ 205,00

3. HOTEL GALLES (Tariffe 2011) <http://www.galles.it>

Tel. +39 02/204841, +39 02/204841, Fax +39 02/2048422

	Special Rate
Single Room	€ 135,00
Double Room	€ 155,00

4. HOTEL DIECI (Tariffe 2011) <http://www.hoteldieci.it>

Tel. +39 02/70608180, Fax +39 02/26684206

	Special Rate
Single Room	€ 90,00
Double Room	€ 140,00

5. DORIA GRAND HOTEL (Tariffe 2011) <http://www.adihotels.com>

Tel. +39 02/67411178, +39 02/67411178, Fax +39 02/6705807

	Special Rate
Double Room	€ 150,00

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## Venue

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**Closest Metro Station :** Line 3 (yellow) Missori or Crocetta.

**From/To LINATE airport :** Connection by CityBus number 73 to/from Largo Augusto Stop, 500 meters walking distance to Via Festa del Perdono, 7.

**From/To MALPENSA airport :** Connection by TRAIN, via Malpensa Express to/from Cadorna Station and Central Station or Freccia Rossa train to/from Central Station; connection by BUS (Malpensa Shuttle) to/from Central Station. From Cadorna and Central Station one can take the metro.

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## Registration form (Compulsory)

please fax it to the Academy, FAX: +32 (0)4 254.18.16

**November 11<sup>th</sup>, 2011: EAS General Assembly, Milano**

Title:  Prof.  Dr.  Mr.  Mrs.

Name .....

Address .....

Tel. .... Fax .....

E-mail: .....

### Registration form

Morning General Assembly

Morning Session  Afternoon Session

This registration is mandatory, even if no payment is made

Evening Dinner (November 11, 2011)

Please attach 53 € proof of payment for registration to the evening dinner.

EAS Members:

Other Professors: University .....

Companies: Company .....

Accompanying person: Name .....

Date

Signature

For organisation and security reasons, participants are kindly requested to bear the registration form with them

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- **Paypal** , from the website in the mainpage, <http://www.eurasc.org> in the news about the Ceremony of Awards 2011.
- European **wire transfer** to:

European Academy of Sciences

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Object : Registration Dinner 2011 for Prof. ....

- **Credit card** – by filling the following table:

	Credit card number	Name on the card	Expiration (format: month/year)
Visa Mastercard			

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