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News from ICIAM and ICM

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## **Invitation to attend ICIAM 2007**

### **from Rolf Jeltsch, Congress director**

It is a great pleasure to invite all interested persons to attend the 6th International Congress on Industrial and Applied Mathematics, ICIAM 2007, to be held in Zurich, Switzerland during 16-20 July. We welcome not only colleagues in the field from academia but also those persons, especially from industry and the sciences, who make applications of mathematics in their work. We wish also to extend this welcome to those who enjoy having contact with mathematicians as well as to those who are generally interested in finding out what is currently happening in this exciting field.

Our ambitious goal is to create the most important worldwide conference in the field of Industrial and Applied Mathematics since the last congress, ICIAM 2003, held in Sydney. The conference aims to cover the developments in research in applied mathematics, the industrial applications of mathematics, and last but not least the interaction of mathematics with industry and the sciences.

The congress is held under the auspices of the International Council for Industrial and Applied Mathematics, ICIAM, an international body consisting of approximately 25 professional applied mathematical societies and mathematical societies with a strong membership of applied mathematicians. Previous meetings have been held in Paris 1987, Washington 1991, Hamburg 1995, Edinburgh 1999, Sydney 2003.

ICIAM 2007 is hosted by the Swiss Mathematical Society, SMG, and by the community of Swiss mathematicians.

For more information, please see the ICIAM website at <http://www.iciam07.ch/>.

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## **ICIAM 2007 Prizes**

At the 2007 Congress in Zürich five ICIAM prizes will be awarded:

- the Pioneer Prize: awarded to — joint winners: Ingrid Daubechies (Princeton University, USA) and Heinz Engl (Johannes Kepler Universität Linz, Austria and Austrian Academy of Sciences)

... established for pioneering work introducing applied mathematical methods and scientific computing techniques to an industrial problem area or a new scientific field of applications. The prize commemorates the spirit and impact of the American pioneers.

It was created on the initiative of SIAM, and was first awarded in 1999. The Pioneer Prize is presently funded by SIAM.

- the Collatz Prize: awarded to Felix Otto (Universität Bonn, Germany)

... established to provide international recognition to individual scientists under 42 years of age for outstanding work on industrial and applied mathematics.

It was created on the initiative of GAMM, and first awarded in 1999. The Collatz Prize is presently funded by GAMM.

- the Lagrange Prize: awarded to Joseph Keller (Stanford University, USA)  
... established to provide international recognition to individual mathematicians who have made an exceptional contribution to applied mathematics throughout their careers.  
It was created on the initiative of SMAI, and first awarded in 1999. The Lagrange Prize is presently funded by SMAI, SEMA and SIMAI.
- the Maxwell Prize: awarded to Peter Deuffhard (ZIB Berlin, Germany)  
... established to provide international recognition to a mathematician who has demonstrated originality in applied mathematics.  
It was created on the initiative of the IMA (with the support of the J.C. Maxwell Society), and first awarded in 1999. The Maxwell Prize is presently funded by IMA.
- the Su Buchin Prize: awarded to Gilbert Strang (MIT, USA)  
... established to provide international recognition of an outstanding contribution by an individual in the application of Mathematics to emerging economies and human development, in particular at the economic and cultural level in developing countries.  
It was created on the initiative of the CSIAM, and will be awarded for the first time in 2007. The Su Buchin Prize is presently funded by CSIAM.

The value of the Prizes in 2007 will be \$1,000 multiplied by the number of supporting societies. For more details, including photos and the citations about these prize-winners, please download the PDF document from <http://www.iciam.org/Prizes/PrizeNominations2007.pdf>

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## Report on ICM 2006 Madrid

by Bill Langford, CAIMS•SCMAI President

The International Congress of Mathematicians (ICM) is the largest international gathering of mathematicians in the world. Held every four years, the 2006 ICM was in Madrid, Spain, August 22-30. Spain had never hosted an ICM before, but the Spanish mathematicians did a spectacular job of organizing this event. The King of Spain officially opened the Congress, the Spanish Post Office issued a special commemorative stamp and the media attention was prodigious. Approximately 4000 delegates, from all over the world, participated in the Congress.

A highlight of every ICM is the awarding of the Fields Medals. This is of special interest to Canadians, because of course these medals were initiated by John Charles Fields, a Canadian, and even today the gold medals are struck by the Canadian mint, of Canadian gold. The Canadian Embassy in Madrid hosted a special reception to honour this year's Fields Medalists. The winners were: Andrei Okunov (Princeton) for his contributions bridging probability, representation theory and algebraic geometry, Grigori Perelman (St. Petersburg) for proving the famous Poincare conjecture, Terence Tao (UCLA) for his contributions to PDE, combinatorics and harmonic analysis

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and Wedelin Werner (Paris-Sud) for his contributions to stochastic Loewner evolution, Brownian motion and conformal field theory. All four winners are less than 40 years of age, as is the tradition for Fields medals (although Fields never stipulated this rigid condition). Perelman in particular caused a stir at the Congress and in the press for declining to accept his medal. According to insiders this was not a political act of protest but a reflection of Perelman's desire for privacy.

Of special interest to CAIMS•SCMAI members, this year a new medal was awarded for outstanding work in applied mathematics (with no age limitation), called the Gauss Prize. The inaugural winner of the Gauss Prize is Kyosi Ito (Kyoto), inventor of the stochastic "Ito Calculus" that has revolutionized work in many fields from rocket science to financial options pricing. The Gauss Prize will become a regular feature of the ICM. Also of applied interest, the Rolf Nevanlinna Prize for outstanding contributions in mathematical aspects of information sciences was awarded to Jon Kleinberg (Cornell).

In addition to being an outstanding mathematical event in its own right, with a feast of excellent presentations (beyond the capacity of any human to absorb), for the Canadians present it was a valuable lesson in how to organize a vast international mathematics meeting as we prepare to host ICIAM 2011 in Vancouver.

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## SIAM Conference on Applications of Dynamical Systems (DS07)

May 28-June 1, 2007

Snowbird Ski and Summer Resort

Snowbird, Utah

*Sponsored by SIAM Activity Group on Dynamical Systems*

Program Committee

- Sue Ann Campbell (co-chair), University of Waterloo, Canada
- Arjen Doelman, University of Amsterdam, The Netherlands
- Jinqiao Duan, Illinois Institute of Technology
- Alain Goriely, University of Arizona
- Aric Hagberg, Los Alamos National Laboratory
- Bernd Krauskopf (co-chair), University of Bristol, United Kingdom
- Mary Silber, Northwestern University
- Mary Lou Zeeman, University of Texas, San Antonio

Online registration begins February 2007. For further information see the conference webpage at <http://www.siam.org/meetings/ds07/>.

Upcoming Conferences

**COMPUTATIONAL NEUROSCIENCE SUMMER SCHOOL  
UNIVERSITY OF OTTAWA  
JUNE 17-29, 2007**

We are pleased to announce the first Canadian Summer School in Computational Neuroscience, which will be held from Sunday June 17, 2007 until Friday June 29, 2007 inclusively. It is organized by the new Center for Neural Dynamics and Computation at the University of Ottawa. The course is directed at graduate students and postdoctoral fellows from the physical sciences (e.g. physics, applied mathematics, engineering, computer science) and the life sciences (e.g. neuroscience, biology, physiology, human kinetics) who wish to develop their skills in neural data analysis and in mathematical modeling of neural activity. The topics will range from cellular to systems neuroscience, with a focus on sensory and motor systems.

The course will consist of 3 hours of lectures in the mornings, followed by 3-hour MATLAB-based computer laboratories in the afternoons. Participants will pair up for these laboratories, and an effort will be made to pair someone from the life sciences with someone from the physical sciences. All classes and laboratories will be held on the main downtown campus of the University of Ottawa (Biosciences Complex). The School will be held in English, although many of the lecturers also speak French. The course can be taken for credit, since it is a University of Ottawa three-credit graduate course (NSC8104). The mark will be based on work done in the computer laboratories and a short project. The first day of the school (Sunday June 17th) will be a mathematics refresher open to all participants, which will include some introduction to differential equations.

Enrollment in the course will be limited to 40 participants.

The summer school ends just before Canada Day (July 1st), and a week before the beginning of the Computational Neuroscience Meeting which will be held next year in Toronto from July 8-12, 2007.

**MATH PRE-REQUISITES:** Calculus I and II, first-year university level Linear Algebra and Probability and Statistics.

**LIFE SCIENCES PRE-REQUISITES:** first-year university level life science courses for students in the physical sciences.

**FACULTY:**

- Prof. Ramesh Balasubramaniam, School of Human Kinetics, U. Ottawa
- Prof. Maurice Chacron, Physiology, McGill University
- Prof. Victor LeBlanc, Mathematics and Statistics, U. Ottawa
- Prof. John Lewis, Biology, U. Ottawa
- Prof. Tim Lewis, Mathematics, U. California at Davis
- Prof. André Longtin, Physics and Cellular and Molecular Medicine, U. Ottawa
- Prof. Len Maler, Cellular and Molecular Medicine, U. Ottawa

**TUITION:** \$1400 CAN with credit, \$800 CAN without credit.

**ACCOMMODATION:** Accommodation will be available at the New Residence of the University of Ottawa, a few minutes walk away from the Biosciences Complex and cafeterias and restaurants. Accommodation consists of a single room with a double bed, with two such rooms per apartment. Each apartment has a living room, kitchen and bathroom. The cost is approximately \$48 CAN per night per person.

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## Upcoming Conferences

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FINANCIAL SUPPORT: Partial financial support will likely be available for those demonstrating the need.

IMPORTANT DATES: February 1st, 2007: Application (website to follow). March 15th 2007: Notification of acceptance and level of financial support. April 1st, 2007: Notification of acceptance by the participant. Accommodation: as soon as possible after notification of acceptance, participants can reserve their accommodation online at [reserveuottawa.ca](http://reserveuottawa.ca) or by phoning 1-888-564-4545.

CONTACT: [compneuro07@uottawa.ca](mailto:compneuro07@uottawa.ca)

[www.neurodynamics.uottawa.ca/summerschool](http://www.neurodynamics.uottawa.ca/summerschool) (website will go online soon)

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## Other Upcoming conferences

Title: 5th Int'l Conference on Differential Equations and Dynamical Systems

Date: Dec. 16 - 18, 2006

Location: Edinburg, Texas

Web site: <http://www.watam.org/deds06.htm>

Title: SIAM Conference on Applications of Dynamical Systems

Date: May 28 - June 1, 2007

Location: Snowbird, Utah

Web site: <http://www.siam.org/meetings/ds07/>

Title: SIAM Conference on Control and its Applications

Date: June 29 - July 1, 2007

Location: San Francisco, California

Web site: <http://www.siam.org/meetings/ct07/>

Title: 2nd European Conference for Aerospace Sciences

Date: July 1 - 6, 2007

Location: Brussels, Belgium

Web site: <http://www.vki.ac.be/eucass2007/>

Title: 2nd Conference on Computational and Mathematical Population Dynamics

Date: July 16 - July 20, 2007

Location: Campinas, Brazil

Web site: <http://www.cmpd2.ime.unicamp.br/>