This is the first conference organized together by two sections of Academia Europaea with 28 top speakers!

GRAZ UNIVERSITY OF TECHNOLOGY, AUSTRIA
AUGUST 30 - 31, 2010

aiecs

Advances of **I**nformatics and **E**arth & **C**osmic **S**ciences

AIECS 2010 is a conference of the Academia Europaea (www.acadeuro.org or www.ae-info.org), organized by the two Sections "Informatics" and "Earth&Cosmic Sciences". Speakers are **by invitation only**, either because they are members of one of the two sections mentioned, or because they have been specifically invited, like a number of excellent other researchers.

Attendance of the conference is open to the general scientific public.

The aim of the conference is to bring together researchers from Informatics and Earth-&Cosmic Sciences. The meeting is organized in three streams: one dealing mainly with Informatics, one mainly with Earth&Cosmic Sciences, one with topics connecting both areas, such as similarity recognition, data analysis, visualization, knowledge management, problems in creating and maintaining common infrastructures, especially in software development and maintenance, etc.

Structure of AIECS 2010

The afternoon of August 30 is used for separate meetings. One such meeting will be organized for all persons interested in the Informatics Section or the Informatics Journal JUCS (www.jucs.org) form 15:00 – 17:30 in a seminar room of Graz University of Tehcnology. Contact hmaurer@iicm.edu for all arrangements you might need.

There will be an informal "everyone pays for themselves" dinner starting at 18:00 in the heart of the city of Graz, and registration is possible there to avoid a big rush in the morning.

Registration continues August 31 at the conference venue at 8:15. The conference proper starts at 9:00 with a short welcome and two keynotes. It continues with talks in 3 parallel streams throughout the day. A detailed schedule is shown below. Refreshments will be served all day, and a warm buffet-style lunch will be provided. The conference closes with a reception (with food and drinks) co-sponsored by the city of Graz starting at 7:00 p.m. in the historic city hall. All this is included for speakers and attendees in the registration fee of €80.- **For registration and payment see** http://www.ae-info.org/AIECS/Registration/ .

Note that on the next day (Sept. 1) the 10th International Conference on Knowledge Management (http://i-know.tugraz.at/) Sept. 1-3, 2010 is starting. The opening keynote talk may well be of interest to participants of AIECS 2010. We have successfully negotiated that this talk, and only this opening keynote, is free for members of AIECS 2010. If you want to stay for the rest of I-KNOW please register separately.

Geology and regional excursion as special treat

For those members of AIECS 2010 interested, we have prepared a special treat on Sept. 1 following the keynote mentioned: You can join this trip guided by our colleague Professor Walter Kurz from the Department of Earth Sciences of the University of Graz http://erdwissenschaften.uni-graz.at/mitarbeiter/personal/homepages/kurz/index_de.php as a combination of information on geological and volcanic aspects of Southern Styria while also observing the beautiful country-side (including ancient castles or fortifications) and visiting the wine-growing region of Styria with excellent local food and wine. It will leave at 10:30 from the conference venue.

Further information

A block of rooms for only 69.- Euros per night (single room) and 89.- Euros per night (double room), in both cases including a breakfast buffet, has been reserved in a modern hotel opposite the main conference venue: AMEDIA Hotel Graz, Conrad-von-Hötzendorf-Strasse 60, 8010 Graz, Ph.: +43 (0) 316 24 555-0, Fax: +43 (0) 316 24 555-900, E-mail: graz@amediahotels.com .Please be so kind to book yourself using the Password AKADEMIETAGUNG **by Fax or E-Mail** to get the discounted price, and do book before end of June. Do not try to book via the homepage of the hotel: Since we booked a block of rooms you will get the automatic reply "nothing available".

Organisation

Overall Coordination and Informatics Program Chair: Hermann Maurer (Chair of the Section Informatics of the Academia Europaea), Graz, hmaurer@iicm.edu

Earth-&Cosmic Science Program Chair: Donald Dingwell (Chair of the Section of Earth&Cosmic Sciences of the Academia Europaea), Munich, dingwell@lmu.de

Coordination of JUCS Editorial team and overall Public Relations: Klaus Tochtermann (Editor in Chief of JUCS, and former Dean of Computer Science at Graz University of Technology), ktochter@know-center.at and Nara Kulathuramaiyer (Editor in Chief of JUCS, Dean of Computer Science at UNIMAS), Kuching, nara@fit.unimas.my

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Schedule of talks August 31, 2010

8:15 Start of Registration

9:00 - 9:10: Welcome and Chairs for Keynote Speakers: H. Maurer, D. Dingwell

9:10 - 9:50: Opening Keynote 1: Dieter Fellner, Fraunhofer IGD, Darmstadt, Germany, Section Informatics; Visualizing semantically enriched 3D models

9:55 - 10:35: Opening Keynote 2: Evgenii Burov, UPMC, Paris, France, Section Earth&Cosmic Sciences; Recent advances in numerical modelling in Earth Sciences

10:35 - 11:10: Break

11:10 - 12:50: Section 1

Note: A section consists of two or three talks of 25-30 minute each with 5 minute break to change rooms if desired. "Overlap" means talks that are suitable for members of both sections.

Informatics: Chair: S. Havemann
--- Egon Boerger, U. of Pisa, Italy. Ambient Abstract State Machines for modelling an architecture of current WEB applications systems
--- Maurice Margenstern, U. of Metz, France: Computer Science and hyperbolic geometry-promising interactions
--- Bruno Buchberger, RISC and U. of Linz, Austria: How Can Algorithms Be Invented Automatically?

Cosmic&Earth Sciences: Chair: H. Suenkel
--- Karin Sigloch, U. of Munich**:** Illuminating the darker corners of Earth's deep interior: computational waveform modelling and seismic tomography.
--- Sierd Cloetingh, VU Amsterdam, The Netherlands: Challenges of Earth and Cosmic Sciences to Informatics.
--- Taras Gerya, ETH Zurich, Switzerland: Innovative Solid Earth Modelling.

Overlap: Chair: N. Scerbakov
--- Manfred Broy, TU Munich, Germany: Reliable Software Development and Maintainance
--- Margrit Gelautz, Vienna University of Technology, Vienna, Austria. Spatial Scene Reconstruction for 3D Video/TV
--- Narayanan Kulathuramaiyer, Universiti Malaysia Sarawak, Kota Samarahan, Malaysia: Knowledge Management in Rural Communities

12:50 – 14:15: Lunch

14:15 – 15.55: Section 2

Informatics: Chair: E. Duval
--- Erol Gelenbe, Imperial College, London: Search in Uncertain Environments
--- Krzysztof R. Apt, CWI and University of Amsterdam: Quo Vadis Program Verification
--- Herbert Edelsbrunner, IST-A, Vienna, Austria: Using homology to visualize scale and structure in datasets

Cosmic&Earth Sciences: Chair: Sierd Cloetingh
--- Hans Suenkel, Graz U. of Technology, Austria: Gravity field determination from space.
--- Don Dingwell, U. of Munich, Germany: Magma: The ultimate materials modelling challenge
--- Christos Zerefos, U of Athens, Greece: Physics of climate change and its manifestation in art.

Overlap: Chair: Ch. Guetl
--- Wolfgang Reisig, Humboldt U., Berlin, Germany: Informatics concepts for early discovery of earthquakes.
--- Ivan M. Havel, Center for Theoretical Study, Prague, Czech Republic: Seeing Numbers.
--- Martin Ebner, Graz U. of Technology, Graz, Austria: Academic Use of Microblogging.

15:55 - 16:30: Break

16:30 - 18:10: Section 3

Informatics: Chair: N. Kulathuramaiyer
--- Detlef Seese, Karlsruhe Institute of Technology, Germany. Complexity in theory and application structural and descriptive aspects.
--- Wilfried Imrich, Montan U., Leoben, Austria: Product Graphs and Large Networks
--- C.A. de Moura, Rio de Janeiro State U., Brazil: Mathematical Modeling- an art, a duty, a danger

Cosmic&Earth Sciences: Chair: D. Dingwell
--- Paolo Papale, INGV Pisa, Italy: Volcano modelling: control of deep magma dynamics on geophysical network signals.
--- Peter Hanappe, SONY Computer Science Laboratory, Paris: The use of volunteer computing for large-scale climate simulations
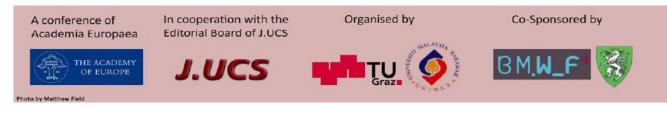

Overlap: Chair: K. Apt
--- Horst Bischof, Graz U. of Technology, Austria: Aerial based 3D Reconstructions of Cities.
--- Hans Zima, CALTEC, USA: Adaptive Fault Tolerance for Many-Core Based Parallel Computation in Space
--- Erik Duval, K. U . Leuven, Belgium: The Snowflake Effect in Science, Learning and Music.

19:00 – 22:00: Reception in City Hall

Hope to see you all in Graz!

Logistics:

To come to Graz:
--- By car via autobahn from four directions, including Vienna (160 km)
--- By train from Vienna (3 minutes after full our from "Wien-Meidling" every hour, trip takes 2:30)
--- By plane from many cities, most connections via Frankfurt, Munich, Vienna, also low-cost carriers from many cities

In Graz (see map below)
--- Conference Venue Stadthalle Graz, bottom marker. Taxi from airport less than 20 Euros, from train station less than 15 Euros. Bus for excursion Sept. 1 leaves here at 10:00
--- Recommended Hotel: AMEDIA Hotel Graz (description on page 2 above under further information): opposite conference venue, 100 m direction city center
--- Reception at city hall ("Rathaus") August 31, 19:30, top marker, this is center of old town
--- Informal get-together dinner August 30, any time after 18:00 in Gösser Bräu, Neutorgasse 48, 8010 Graz, ph.0316 829909, www.goesserbraeugraz.at , second marker from top
--- Potential pre-conference meetings August 30, afternoon, Inffeldgasse 16c, right-most marker