First Circular

Diffusion Fundamentals II
Basic Principles of Theory, Experiment and Application
August 26th - 29th, 2007
L'Aquila, Italy

Two years after the Diffusion Fundamentals I Conference in Leipzig, the worldwide community of researchers in the field of diffusion is invited to L'Aquila to highlight the current developments in the field. Following the tradition of Diffusion Fundamentals I (see book announcement) a Conference Volume with paintings of L'Aquila by the Japanese physicist and artist Taro Ito will appear as a souvenir for all participants. Diffusion Fundamentals II is co-organized by University College London, University of Leipzig and University of L'Aquila.

The scientific programme includes invited plenary talks, covering those topics of diffusion theory, experiment and application, which are in the focus of current research. The talks will address a broad, interdisciplinary audience rather than only the specialists in the different fields and include the following topics (working titles):

- Diffusion in Reduced Dimensionality
- Interdiffusion in Critical Binary Mixtures by Molecular Dynamics Simulation
- GENIS and the Benefit of Diffusion Measurement over Different Length Scales
- Correlating Nanostructure and Microdynamics
- Diffusion in Hydrogeology
- Genetic and Cultural Diffusion
- From Molecular Diffusion to the Duck-Bill Platypus
- Diffusion Challenges in (Chemical) Industries
- The Invasion of Newcomers: Isotopes, Neobiota, Foreigners
- NMR Imaging of Ventilation and Diffusion in Lungs
- Atomistic Model of Diffusion in Solids

The following plenary speakers have accepted our invitation:

John Barker – London
Clemens Bechinger – Stuttgart
Kurt Binder – Mainz
Stefano Brandani – London
Armin Brando – Gisouen
Richard Carlow – London
Luca Cavalli-Sforza – Stanford
Mark Conradi – St. Louis
Ed Cussler – Minneapolis
Hervé Jobic – Villurbanne
Yossiworks – Tel Aviv
Philip Kuchel – Sydney
Nikolaus Nestle – Ludwigshafen
Giusu Sarti – Bologna
Gero Vogl – Vienna

Each group of plenary talks shall be accompanied by poster sessions. Ideally, the contributions to the poster sessions should be related to the various aspects covered in the plenary talks. Correspondingly, the plenary speakers and the chairpersons of the sessions shall be asked to serve as first reviewers of the poster submissions and shall be encouraged to refer to individual posters during their presentations, whenever appropriate.

Again, to reach as many (in particular young) researchers as possible, the conference is planned as a low-cost conference (participation fee between 200 - € and 300 - € aspired, depending on the level of sponsorship), which implies to rely on information exchange by www as extensively as possible. This in particular concern the conference contributions, which shall be published in total only electronically, as a special volume of the Online Journal of the website http://www.diffusion-fundamentals.org. The conference fee comprises catering during the conference, the social programme, including Gala Dinner, and the Conference Volume.
The conference takes place in the city of L’Aquila one hour away from Rome. L’Aquila, laid out within medieval walls, is surrounded by mountains on all sides. A booklet by Albrecht Beutelspacher, University of Giessen, in both German and Italian (ISBN 3423330694), entitled "Pasta all’infinito - my Italian Journey into Maths", provides a nice introduction to the conference location, its people and some mathematics. As part of the social programme, with an entertaining talk on the "twoman on the streets" he is as well going to present some mathematical surprises during the conference. Following his first visit to L’Aquila described in this book, the international community of researchers in the field of diffusion is invited to take profit of a marvelous place, not yet heavily affected by tourism, and its picturesque ambience.

**Poster**

Authors are requested to send their two-pages abstracts via the Internet before April 30th, 2007. Please, follow the format as given under [http://www.uni-leipzig.de/diffusion/pdf/layout-poster-abstracts.doc](http://www.uni-leipzig.de/diffusion/pdf/layout-poster-abstracts.doc) since only in this case the contribution may be included in the Conference Volume.

**Important Dates 2007**

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<td>April 30</td>
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**Conference Chairman** Stefano Brandani, London; Jörg Käger, Leipzig; Roberto Volpe, L’Aquila

**Scientific Committee**

- Dezso L. Béke, Debrecen
- Paul Callaghan, New Zealand
- Gerhard Erdi, Berlin
- Paul Hetjans, Hannover
- Alfred Leibertz, Erlangen-Nurnberg
- Jean Philibert, Paris
- Michael J. Saxton, Davis
- Ilpo Vattulainen, Helsinki
- Stefano Brandani, London
- Alan Chadwick, Canterbury
- Dieter Freude, Leipzig
- Jörg Käger, Leipzig
- Graeme Murch, Callaghan
- William S. Price, Sydney
- Gunter Schütz, Julich
- Geri Vogl, Vienna
- Amin Bunde, Giessen
- Marc-Olivier Coppens, Delft
- Farida Grinberg, Leipzig
- Yossi Kafri, Tel Aviv
- Harry Pfeifer, Leipzig
- Douglas M. Ruthven, Orono
- Doros Theodorou, Athens
- George H. Weiss, Bethesda

**Organizing Committee:** Christian Chmelik, Tomas Binder

If you are interested in participation in the Conference you can pre-register at the website at [http://www.uni-leipzig.de/diffusion/pages/conf2007-preregistration.php](http://www.uni-leipzig.de/diffusion/pages/conf2007-preregistration.php)

We will send you the 'Second Circular' together with the final registration form in January 2007.

A poster announcing the conference may be found under [http://www.uni-leipzig.de/diffusion/pdf/diff-fund-I.pdf](http://www.uni-leipzig.de/diffusion/pdf/diff-fund-I.pdf) (pdf, 0.3 MB).