

# Diffusion Fundamentals III

## Basic Principles of Theory, Experiment and Application

August 23<sup>rd</sup> – 26<sup>th</sup>, 2009

Athens, Greece



Two years after Diffusion Fundamentals II in L'Aquila, Italy, and as part of the celebration of the 600<sup>th</sup> anniversary of the foundation of Leipzig University, the cradle of the Diffusion Fundamentals Conference series in 2005, the world-wide community of researchers in the field of diffusion is invited to Athens, to highlight current developments.

Again, the conference will consist of invited plenary talks and poster sessions, where both chairmen and plenary speakers are encouraged to refer extensively to the posters relevant for their session. Following the tradition, a Conference Volume with local paintings by Taro Ito will be issued. Simultaneously, all conference contributions shall be available electronically via the Diffusion Fundamentals Online Journal.

The invited plenary talks will address a broad interdisciplinary audience within the wide-stretching field of diffusion:

- Christoph Bräuchle** (München): Exploring Diffusional Behaviour in Nanostructured Systems with Single Molecule Probes: From Nanoporous Materials to Living Cells
- Dirk Brockmann** (Evanston): The Scaling Laws of Human Travel - From Money Dispersal to Global Disease Dynamics
- Mark Conradi** (St. Louis): Diffusion of helium-3 gas in lungs: Understanding lung structure and disease
- Denis Evans** (Canberra): A simple mathematical proof of Boltzmann's equal probability hypothesis
- Benny Freeman** (Austin): Diffusion-Controlled Gas Separation Using Polymers
- Ulrich Gösele** (Halle): Nanoscale Kirkendall Effect and Beyond
- Keith Gubbins** (North Carolina): Transition from Single-File to Fickian Diffusion in Carbon Nanotube and Nanotube Bundles: Pure Components and Mixtures
- Paul Heitjans** (Hannover): Mobile Ions in Nanocrystalline and Amorphous Solids
- Jörg Kärger** (Leipzig): The wealth of information from transient guest profiles
- Walter Kob** (Montpellier): Diffusion processes in Glass-Forming Systems
- Klaus Kroy** (Leipzig): Rheological redundancy and universality – From polymers to living cells
- Graeme E. Murch** (Newcastle): Diffusion Kinetics in Hollow and Core/Shell Nanoparticles
- Alex Neimark** (Piscataway): Multiscale simulation of perm-selective polyelectrolyte membranes
- John H. Petropoulos** (Athens): Beyond Fick: How best to deal with non-Fickian behaviour in a Fickian spirit
- Douglas M. Ruthven** (Orono): Diffusion through Porous Media: Ultrafiltration, Membrane Permeation and Molecular Sieving
- Michael Saxton** (Davis): Single-particle tracking: Connecting the dots
- Randy Snurr** (Evanston): Molecular simulation of diffusion in nanoporous metal-organic frameworks
- Ulrich W. Suter** (Zürich): Mechanisms and Predictability: Why Fundamentals Matter
- James Steele** (London): Diffusion models in anthropology: population spread and cultural contact

The following session chairmen have accepted our invitation:

Thomas Franosch (München)  
Philip Kuchel (Sydney)  
William S. Price (Sydney)  
Gero Vogl (Wien)

George Fytas (Heraklion)  
Helmut Mehrer (Münster)  
Gunter Schütz (Jülich)

Conference chairmen:

Christian Chmelik (Leipzig)  
Nick Kanellopoulos (Athens)  
Jörg Kärger (Leipzig)  
Doros Theodorou (Athens)

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