

Second Circular

In continuation of a very successful series of 5 conferences in Europe and overseas, we invite you to participate in **Diffusion Fundamentals VI**, scheduled for **August 23rd – 26th, 2015** in **Dresden/Germany**.

Scope

As a ubiquitous process of random movement, ranging from molecular up to macroscopic and even cosmic scales, diffusion is key to spreading phenomena in quite diverse areas. Bringing together scientists from disciplines as different as archaeology, ecology, epidemics, ethnology, linguistics and sociology with biologists, chemists, physicists, mathematicians and engineers, *Diffusion Fundamentals VI* is scheduled to highlight the astonishingly similar patterns of spreading phenomena in Humanities, Natural Sciences and Engineering. The conference is preceded by a pre-school on Sunday, August 23rd, introducing into basics of diffusion and spreading.

Confirmed Invited Speakers and Tentative Titles of Talks

Dirk Brockmann (Berlin)	Epidemics Spreading
Frank Cichos (Leipzig)	Hot Brownian Motion: Experiment
Marc-Olivier Coppens (London)	Nature-Inspired Transport Optimization
Joaquim Fort (Girona)	The Neolithic Transition: Diffusion of People or Diffusion of Culture?
Albrecht Fritzsche (Erlangen)	Spreading Innovations
Russel Gray (Jena)	Expansion of Language Families
Detlef Gronenborn (Mainz)	The Expansion of Farming as seen from Archaeology and related Disciplines
Shlomo Havlin (Ramat Gan)	Spreading of Failures in the Internet and in Power Grids
Anne Kandler (London)	Analysing Language Shift: The Example of Scottish Gaelic
Rainer Klages (London)	Search for Food of Birds, Fish and Insects
Rajamani Krishna (Amsterdam)	Uphill Diffusion
Klaus Kroy (Leipzig)	Hot Brownian Motion: Theory
Michael Leitner (Munich)	Dispersal in Plants and Animals: Modelling
Carsten Lemmen (Geesthacht)	The Expansion of Farming as seen from Archaeology and related Disciplines
Philipp Maass (Osnabrück)	Diffusive Transport in Non-Equilibrium Steady States
Hernán Makse (New York)	A New Class of Superspreader: From Twitter, Cities and the Brain
Christoph Neinhuis (Dresden)	Transport Systems in Living Organisms
Charles Nicholson (New York)	Brain Structure Revealed by Diffusive Spread of Molecules
William S. Price (Sydney)	NMR Versatility
Anita Roth-Nebelsick (Stuttgart)	Transport Systems in Living Organisms
Martin Schnittler (Greifswald)	Spore Dispersal in Lower Organisms: From Model Assumptions to Reality
Manfred Wendisch (Leipzig)	Diffusion Processes in Atmospheric Physics
Søren Wichmann (Leiden)	Language Migration: Empirical Data and Modelling

Evening lecture on Sunday, August 23rd, by **Hans Joachim Meyer** (Berlin), Minister for Higher Education, Research and Culture of Saxony (ret.), on "A Global Language or a World of Languages"

Venue

In recent years Dresden has evolved as an internationally recognized center for materials research and technology. The presence of 3 Max-Planck-Institutes, 2 Leibniz-Institutes, 11 Fraunhofer-Institutes, one Helmholtz-Center, and the Technical University with appr. 30,000 students renders the location as a focal point for interdisciplinary cooperation. The Elbe River and the gently rolling landscape between Sächsische Schweiz and Meissen determine the nature in which Dresden is embedded with its architectural attractiveness, natural beauty and charming atmosphere. The climate is equally beneficial to the development of the arts and to viniculture. At the same time Dresden is a modern city with the flair of the former Saxon residence, simply a place with lifestyle. Dresden is famous for its baroque architecture (e.g. the Zwinger, Frauenkirche), its theaters (e.g. Semperoper), museums, festivals and events.

The Diffusion Fundamentals VI conference will take place at the TU Dresden, south of the city center. A map of the conference site and the city center can be found in the [general information](#) section of the conference website.

Pre-School

A pre-conference school will be organized on "Mathematical basics of diffusion and spreading fundamentals" on August 23rd, 2015 in the conference building. The half-day event is in particular scheduled for PhD students, post-docs and younger scientists who would like to gain an introduction into the mathematical concepts used for the description of spreading phenomena. The lectures will be given by *Armin Bunde*, *Jürgen Caro*, *Jörg Kärger* and *Gero Vogl* and cover topics such as

- Diffusion Step by Step
- From Random Walk to Fluxes
- Growth, Conversion, Interaction

Though the pre-school is free of charge for conference attendees, participation will be possible only after [registration](#).

Excursion and Cultural Activities



Prior to the conference dinner, on Tuesday afternoon (August 25th) the participants will have some free time for an individual walk through the magnificent city of Dresden. The conference dinner will take place in the restaurant **Pulverturm** which is located in the historical center of Dresden next to **Frauenkirche**.

The participants are invited to book the optional **Guided Walk** through the City of Dresden (free of charge) which is scheduled to start on Wednesday 26th at 3 pm after the end of the conference. Also, a hiking trip to the **Elbsandsteingebirge - Sächsische Schweiz**

(free of charge, participants pay for tickets and food) shall be offered (via the conference office) for Thursday 27th.

Important Dates

May 31st	Early payment deadline
June 15th	Abstract submission deadline
July 31st	Final Announcement Deadline of recent research poster abstracts Late payment deadline
August 12th	Cash payment registration deadline
August 23rd	Pre-School of Diffusion Fundamentals VI
August 23rd – 26th	Diffusion Fundamentals VI

Travel and Accommodation

The City of Dresden, capital of Saxony is located in the eastern part of Germany, about 200 km to the south of Berlin and about 150 km to the north-east of Prague. On account of its airport, Dresden is easily accessible. The German railway network links Dresden with all major German and European destinations. Furthermore, the city possesses ideal connections by road and river, both with its immediate surroundings and with more distant destinations. Further details are given in the [travel information](#) section at the conference website.

Accommodation has to be directly reserved by the participants. A list of suitable hotels is available at the [conference website](#). Early booking is highly recommended.

Registration

The conference fee includes all catering during the conference comprising the Conference Dinner and the guided walk through the City of Dresden. Please note that a participation in the conference excursion requires a registration, which is possible online at the [conference website](#).

Conference Fee	Early Payment, until May 31st, 2015	Late Payment, until July 31st, 2015	Register by August 12th, cash payment on arrival
Full Delegate	250 €	300 €	350 €
Student/PhD	150 €	200 €	250 €
Accomp. Person	70 €	85 €	100 €

If a cancellation request is received before May 31st, 2015, 100% of the amount paid minus a handling fee of 25 € will be refunded. If a cancellation request is received before July 15th, 2015, 50% of the amount paid will be refunded. No refund will be possible after this date. Please send your request for cancellation to [Dr. Lutz Schiffer](mailto:df6@diffusion-fundamentals.org) (df6@diffusion-fundamentals.org).



Alumni of the fellowship and award programs of the Alexander von Humboldt Foundation, who are based abroad and will be presenting a poster at the conference, may contact the Alexander von Humboldt Foundation to apply for a conference allowance for the attendance of specialist conferences in Germany. For more information please refer to <http://www.humboldt-foundation.de/web/specialist-conferences.html>.

Abstract Submission

The conference will comprise invited talks and two extended poster sessions. You are welcome to submit a poster contribution. Please submit your poster abstract until May 31st, 2015 by e-mail to abstract@diffusion-fundamentals.org. Please use the abstract template ([.doc](#)) supplied in the [download section](#) of the conference website for submission. The length is limited to two A4 pages.

Posters should fit in DIN A0 portrait format (width: 84.1 cm, height 118.9 cm). "Best Poster Awards" are scheduled for posters highlighting particularly impressively the impact and beauty of interdisciplinarity in diffusion research.

Accepted abstracts shall be published, together with short versions of the invited plenary talks, in the conference proceedings appearing as a special volume of the [Diffusion-Fundamentals Online Journal](#).

Local Organization

- Jürgen Caro, Cornelia Breitkopf, Eike Brunner, Grit Kalies, Stefan Kaskel, Christoph Neinhuis, Lutz Schiffer, Hans Wiesmeth

Scientific Committee

- Jörg Kärger, Armin Bunde, Jürgen Caro, Christian Chmelik, Gero Vogl

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- Ilpo Vattulainen, Tampere University of Technology, Finland
- Gero Vogl, University of Vienna, Austria
- George H. Weiss, Center for Information Technology Maryland, Bethesda, USA

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Conference Secretariat

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