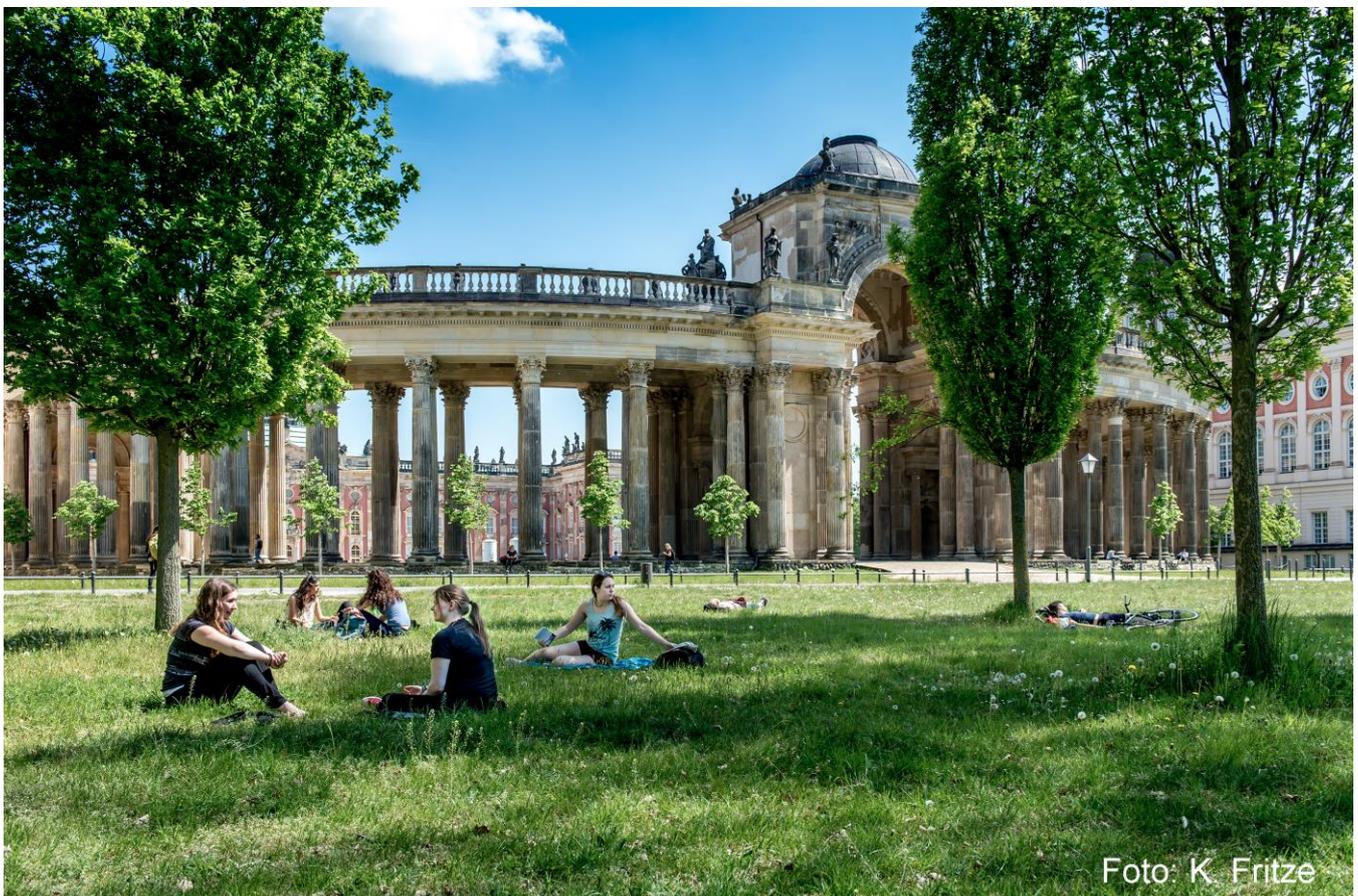


International Conference
"Dynamics of Systems on the Nanoscale"

DySoN Conference 2018

Steigenberger Hotel Sanssouci, Potsdam, Germany
October 08 - 12, 2018



FIRST ANNOUNCEMENT

Scope

The Fifth International Conference "Dynamics of Systems on the Nanoscale" (DySoN 2018) will be held in Potsdam, Germany 8th -12th October, 2018 in the Steigenberger Hotel Sanssouci located directly in the historical city centre of Potsdam. The Conference will be preceded on 6th and 7th October with the comprehensive training course on multiscale modelling of Meso-Bio-Nano (MBN) systems molecular structure and dynamics with MBN Explorer and MBN Studio – the powerful and universal software being developed by the MBN Research Center in Frankfurt am Main, Germany.

This DySoN conference has been built upon a series of International Symposia "Atomic Cluster Collisions: structure and dynamics from the nuclear to the biological scale" (ISACC 2003, ISACC 2007, ISACC 2008, ISACC 2009, ISACC 2011, ISACC 2013 and ISACC2015, see isacc-portal.org). During these meetings it has become clear that there is a need for an interdisciplinary conference covering a broader range of topics than just atomic cluster collisions, related to the Dynamics of Systems on a Nanoscale. Therefore, in 2010 the ISACC International Advisory Committee decided to launch a new conference series under the title "Dynamics of Systems on the Nanoscale". The first DySoN conference took place at the National Research Council, Rome, Italy in 2010, the second conference was held in St. Petersburg, Russia in 2012, the third one was held in Edinburgh, UK in 2014, and the fourth one in Bad Ems, Germany in 2016. DySoN 2018 is the fifth conference in this series.

The DySoN 2018 Conference will promote the growth and exchange of interdisciplinary scientific information on the structure formation and dynamics of animate and inanimate matter on the nanometre scale. There are many examples of complex many-body systems of micro- and nanometre scale size exhibiting unique features, properties and functions. These systems may have very different nature and origin, e.g. atomic and molecular clusters, nanostructures, ensembles of nanoparticles, nanomaterials, biomolecules, biomolecular and mesoscopic systems. A detailed understanding of the structure and dynamics of these systems on the nanometre scale is a difficult and fundamental task, the solution of which is necessary in numerous applications of nano- and biotechnology, material science and medicine.

Although mesoscopic, nano- and biomolecular systems differ in their nature and origin, a number of fundamental problems are common to all of them: What are the underlying principles of self-organization and self-assembly of matter at the micro- and nano-scale? Are these principles classical or quantum? How does function emerge at the nano- and the meso-scale in systems with different origins? What criteria govern the stability of these systems? How do their properties change as a function of size and composition? How are their properties altered by their environment? Seeking answers to these questions is at the core of a new interdisciplinary field that lies at the intersection of physics, chemistry and biology, a field now entitled Meso-Bio-Nano (MBN) Science.

Experimental, theoretical and applied aspects of these problems will be discussed at the DySoN 2018 Conference. Particular attention will be devoted to dynamical phenomena and many-body effects taking place in various MBN systems on the nanoscale, which include problems of structure formation, fusion and fission, collision and fragmentation, surfaces and interfaces, collective electron excitations, reactivity, nanoscale phase and morphological transitions, irradiation driven transformations of complex molecular systems and biodamage, channelling phenomena and many more.

Finally, DySoN 2018 will provide a platform to host discussions about current and future research challenges and initiatives within the DySoN Conference Topical Areas.

Topical Areas of DySoN Conference:

- ◆ Structure and dynamics of clusters, nanoparticles, biomolecules and bio-nano systems
- ◆ Clustering and self-organization on the nanoscale
- ◆ Cluster and biomolecular ensembles, complexes, nanostructured materials
- ◆ Surfaces and interfaces
- ◆ Nanoscale phase and morphological molecular transitions
- ◆ Reactivity and nanocatalysis
- ◆ Irradiation driven transformations of complex molecular systems and biodamage
- ◆ Biomedical applications of radiation
- ◆ Thermal, optical and magnetic properties of nanosystems

- ◆ Electron & spin transport in molecular systems
- ◆ Collision processes, fusion, fission, fragmentation
- ◆ Propagation of particles through medium

Scientific Program

The scientific program for this conference will consist of interdisciplinary sessions, which will include invited lectures, review talks and progress reports. A number of hot topic reports will be chosen by the International Advisory Committee of the DySoN 2018 from the submitted abstracts. Other contributions will be presented in a poster session. Suggestions about possible candidates for invited speakers should be sent to the Chairman of the DySoN 2018. The list of invited speakers will be distributed with the second announcement.

Important Dates

Distribution of the first announcement	December 15, 2017
Distribution of the second announcement	April 01, 2018
Deadline for early-bird registration	August 01, 2018
Deadline for abstract submission	August 01, 2018
Deadline for hotel reservation	August 07, 2018

Conference Venue and Travel Information

The Conference will be hosted by [Steigenberger Hotel Sanssouci, Potsdam, Germany.](#)



Potsdam, located southwest of Berlin, is a former seat of the royal Prussian residence and a UNESCO World Heritage Site with an exquisite garden. The symbol of Potsdam is Sanssouci Palace. Frederick the Great had it built according to his own sketches in the middle of the 18th century and it was soon given the nickname of the 'Prussian Versailles'. The palace is only five minutes' walk from Steigenberger Hotel Sanssouci, an ideal starting point for a tour of Potsdam.

You can get to Potsdam by public transport from the airports Berlin-Tegel or Berlin-Schoenefeld or from Berlin Main Station.

By train from:

- Berlin-Tegel Airport (located about 30 km from Potsdam)
- Berlin-Schönefeld Airport (located about 30 km from Potsdam)

The train schedule and tickets could be found at www.bahn.de

By car: Potsdam can be reached from the A10 and the A115 Highway.

Detailed information on how to reach the conference venue will be circulated closer to the arrival date.

Registration

The number of rooms reserved at the hotels for conference participants is limited. We advise the participants to register for the conference and the hotel at the earliest convenience.

Conference Fee: 400 €

The fee includes the book of abstracts, coffee breaks, lunches, the conference reception, a sightseeing tour and the conference dinner. The payment to the order of “DySoN 2018” can be made

By bank transfer to

Bank Account Name:	MBN Research Center gGmbH
Bank name:	Deutsche Bank
Branch Address:	Hauptstr. 561462 Koenigstein Germany
IBAN:	DE15500700240137588000
BIC:	DEUTDEDBFRA

Please quote your **NAME** and **DYSON** on the transfer.

Please ensure there are **NO** charges to us.

Conference Program

Monday, 08 October 2018

	Registration, Afternoon Scientific Programme and Welcome Reception
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Tuesday, 09 October 2018

	Scientific Programme
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Wednesday, 10 October 2018

	Scientific Programme and Conference Excursion
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Thursday, 11 October 2018

	Scientific Programme and Conference Dinner
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Friday, 12 October 2018

	Morning Scientific Programme and Departure after Lunch
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Accommodation

Please book accommodation directly with the [Hotel Steigenberger, Potsdam, Germany](#) and quote “DYSON” to book a single room for 109 € per night and a double room for 129 € per night, see also the [link on the Conference site](#). The rooms are being held until 7th of August 2018, and will then be released so please book early.

If a cheaper accommodation is required, we recommend the B&B hotel close to Potsdam Main Station.

Official Invitation and Visa

Conference participants are advised to check the passport and visa requirements for travel to Germany.

Conference Language

The language of the conference is English.

International Advisory Committee

- ◆ A.V. Solov'yov (MBN Research Center, Frankfurt am Main Germany), **Chair**
- ◆ C. Bréchnac (Laboratoire Aime Cotton, CNRS, Orsay, France)
- ◆ M. Broyer (University of Lyon, Lyon, France)

- ◆ J.-P. Connerade (Imperial College London, London, UK)
- ◆ F. Gianturco (The University of Innsbruck, Innsbruck, Austria)
- ◆ J. Jellinek (Argonne National Laboratory, Argonne, Illinois, USA)
- ◆ S. Khanna (Virginia Commonwealth University, Richmond, USA)
- ◆ N. Mason (The Open University, Milton Keynes, UK)
- ◆ E. Surdutovich (Oakland University, Rochester, MI, USA)

Organizing Committee

- ◆ Ilko Bald (University of Potsdam, Potsdam, Germany), **Co-Chair**
- ◆ Ilia A. Solov'yov (University of Southern Denmark, Odense, Denmark), **Co-Chair**

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DySoN Conference Web Page

Updated information on the conference is available at the following internet address:

<http://www.dyson-conference.org>

Conference e-mail

dyson.conference@gmail.com

Sponsors

The conference will be held under the auspices of the following sponsors:

- ◆ MBN Research Center, Frankfurt am Main, Germany
- ◆ University of Potsdam, Potsdam, Germany
- ◆ University of Southern Denmark, Odense, Denmark
- ◆ Lundbeck Foundation, Copenhagen, Denmark