

The Sixth International Conference
"Dynamics of Systems on the Nanoscale"



DySoN 2020

Santa Margherita Ligure, Italy
November 23-27, 2020



FIRST ANNOUNCEMENT

Scope

The Sixth International Conference “Dynamics of Systems on the Nanoscale” (DySoN 2020) will take place on **November 23-27, 2020** in Santa Margherita Ligure, Italy. The Conference is co-organized by the [University of Ferrara](#) (Ferrara, Italy), [University of Kent](#) (Canterbury, United Kingdom) and [MBN Research Center](#) (Frankfurt am Main, Germany).

The 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 2003-2019, 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 the 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 in Rome, Italy in 2010. Since then, four further DySoN conferences were held in St. Petersburg, Russia (2012); Edinburgh, UK (2014); Bad Ems, Germany (2016); and Potsdam, Germany (2018). DySoN 2020 is the sixth conference in this series.

The DySoN 2020 Conference will promote the growth and exchange of interdisciplinary scientific information on the structure formation and dynamics of animate and inanimate matter on the nanometer scale. There are many examples of complex many-body systems of micro- and nanometer 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 nanoscale is a difficult and fundamental task, the solution of which is necessary in numerous applications of nano- and biotechnology, materials 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 nanoscale? Are these principles classical or quantum? How does function emerge at the nano- and mesoscale 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 DySoN 2020. 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, irradiation-induced biodamage, channeling phenomena and construction of novel light sources, and many more.

Finally, DySoN 2020 will provide a platform to host discussions about current research, technological challenges and related initiatives within the Topical Areas of DySoN Conference Series.

Topical Areas of DySoN:

- 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 and spin transport in molecular systems
- Collision processes, fusion, fission, fragmentation
- Propagation of particles through medium and construction of novel light sources

Scientific Program

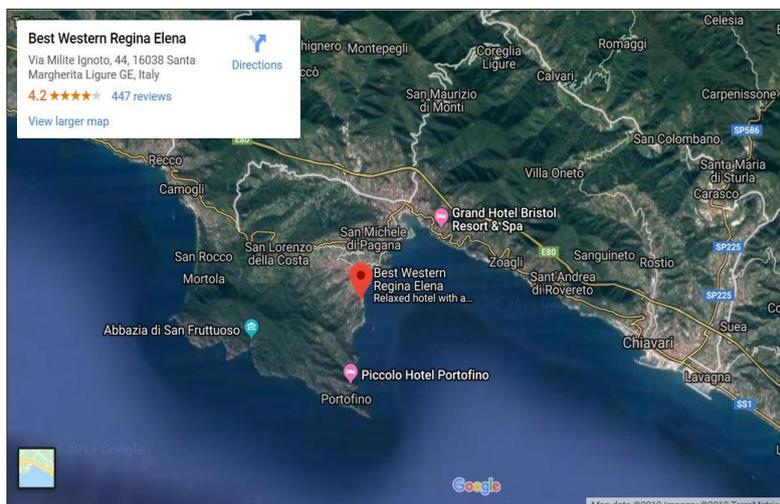
The scientific program for DySoN 2020 will consist of interdisciplinary sessions which will include invited lectures, review talks and progress reports. A number of hot topic reports will be chosen by the DySoN International Advisory Committee from the submitted abstracts. Other contributions will be presented in a poster session. PhD students and young researchers are encouraged to submit their contributions and participate in the conference. Suggestions about possible candidates for invited speakers should be sent to the Chairpersons of the DySoN 2020. The list of invited speakers will be distributed with the second announcement.

Important Dates

Distribution of the first announcement	November 01, 2019
Distribution of the second announcement	May 01, 2020
Deadline for early-bird registration	August 01, 2020
Deadline for hotel reservation	September 15, 2020
Deadline for abstract submission	October 01, 2020

Conference Venue and Travel Information

The Conference will be hosted by [Best Western Hotel Regina Elena](#), Lungomare Milite Ignoto 44, 40128 Santa Margherita Ligure, Italy. The hotel is located on the seafront that connects **Santa Margherita Ligure** to **Portofino**, among the **Regional Natural Park** and the Tigullio Gulf and the **Marine Protected Area** of Portofino.



Santa Margherita Ligure is a municipality in the Italian region Liguria, located about 35 kilometers southeast of Genoa, in the area traditionally known as Tigullio. The town is known for Castello di Santa Margherita Ligure, built by the Republic of Genoa in 1550 as a defense against the increasing attacks of North African pirates, as well as for Villa Durazzo - a complex that includes two patrician villas, a 16th-century castle and a 17th-century park.

The information on how to reach the conference venue can be found [here](#). The hotel is located about 35 km away from the Genoa Airport, 150 km from the Pisa Airport and about 220 km from Milan-Malpensa and Milan-Bergamo airports. Santa Margherita Ligure train station is operated by Trenitalia, see [here](#) for prices and schedule. The venue can also be reached by car from A12 highway (exit Rapallo).

Detailed information on how to reach the conference venue will be circulated in further announcements.

Registration

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

- Regular conference fee: **450 €** (early-bird) / **500 €** (late)
- Undegraduate and PhD students: **350 €** (early-bird) / **400 €** (late)
- Accompanying persons: **120 €** (+optional 3-lunch pack for 105 €)

The conference fee includes the book of abstracts, coffee breaks, lunches, the conference reception, a sightseeing tour and the conference dinner. The fee for accompanying persons includes the conference reception, a sightseeing tour and the conference dinner. Optionally, accompanying persons can also book a 3-lunch package for 105 € (35€ per lunch).

The payment to the order of “DySoN 2020” 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. If you need an invoice for the payment or want to pay with a credit card, please send a short email to dyson.conference@gmail.com.

Conference Program

Monday, November 23, 2020	Registration, Afternoon Scientific Programme and Welcome Reception
Tuesday, November 24, 2020	Scientific Programme
Wednesday, November 25, 2020	Scientific Programme and Conference Excursion
Thursday, November 26, 2020	Scientific Programme and Conference Dinner
Friday, November 27, 2020	Morning Scientific Programme and Departure after Lunch

Accommodation

Please book accommodation directly with the [Best Western Hotel Regina Elena](#) and quote “DYSON” to book either (i) a single room for 55€ per night, or (ii) a double room for single use for 69€ per night, or (iii) a double/twin room for 40€ per night per person. There is also a supplement of 30€ per room per night for a double/twin room with balcony and sea view. The rooms will be reserved before September 15, 2020, and will then be released so please book early.

Official Invitation and Visa

Conference participants are advised to check the passport and visa requirements for travel to Italy well in advance. For invitation requests please contact Professor Vincenzo Guidi (University of Ferrara), see the contact information below.

International Advisory Committee

- Andrey V. Solov'yov (MBN Research Center, Frankfurt am Main, Germany) - **IAC Chair**
- Ilko Bald (University of Potsdam, Germany)
- Catherine Bréchnignac (Laboratoire Aime Cotton, CNRS, Orsay, France)
- Michel Broyer (University of Lyon, France)
- Jean-Patrick Connerade (Imperial College London, London, UK)
- Franco Gianturco (The University of Innsbruck, Austria)
- Vincenzo Guidi (University of Ferrara, Italy)
- Julius Jellinek (Argonne National Laboratory, Argonne, Illinois, USA)
- Shiv Khanna (Virginia Commonwealth University, Richmond, USA)
- Nigel Mason (University of Kent, Canterbury, UK)
- Iliia Solov'yov (Carl von Ossietzky Universität, Oldenburg, Germany)
- Eugene Surdutovich (Oakland University, Rochester, Michigan, USA)

Organizing Committee

- Vincenzo Guidi (University of Ferrara, Italy) - **Co-Chair**
- Nigel Mason (University of Kent, United Kingdom) - **Co-Chair**
- Andrey Solov'yov (MBN Research Center, Germany) - **Co-Chair**
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- Irina Solovyeva (MBN Research Center, Germany)
- Ilia Solov'yov (Carl von Ossietzky Universität Oldenburg, Germany)
- Alexey Verkhovtsev (MBN Research Center, Germany)

Sponsors

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

- MBN Research Center, Frankfurt am Main, Germany
- University of Ferrara, Ferrara, Italy
- University of Kent, Canterbury, United Kingdom
- H2020- RISE-N-Light
- H2020- RISE- RADON

Conference Language

The language of the conference is English.

Contact Information

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DySoN 2020 Co-Chair

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DySoN Conference Web Page

Updated information on the conference series is available at www.dyson-conference.org

Conference e-mail

dyson.conference@gmail.com