

First Announcement (August 29, 2016)

Frontiers of Quantum and Mesoscopic Thermodynamics (FQMT'17)

9 July (Sunday) – 15 July (Saturday) 2017, Prague, Czech Republic

<https://fqmt.fzu.cz/17/>

Scope of the Conference

The conference will address non-equilibrium statistical physics, quantum many body physics, foundations of quantum physics and quantum thermodynamics. The systems considered will be mainly on the order of mesoscopic (nanoscale) size, and include those of both natural and artificial origin. The main goal of the conference is to contribute to a better understanding of the behavior of mesoscopic systems, and to provide insight into the problems of the foundations, relying on the theoretical and experimental methods of condensed matter physics and quantum optics. Special attention will be given to non-equilibrium quantum systems, physics of quantum information and manifestation of quantum effects in biological systems, in terms of both theory and experiment. Subjects from astrophysics, gravitation or cosmology related to the above scope will also be included.

Topics

Non-equilibrium statistical physics
Quantum many body physics, quantum field theory
Foundations of quantum physics
Quantum thermodynamics
Quantum optics
Photonics, plasmonics, atomtronics
Quantum simulations
Physics of quantum information and computing
Cosmology, gravitation and astrophysics
Quantum measurement, entanglement and coherence
Dissipation, dephasing, noise and decoherence
Topological states of quantum matter, quantum phase transitions
Macroscopic quantum behavior
Cold atoms and molecules, Bose-Einstein condensates
Mesoscopic, nano-electromechanical and nano-optical systems
Biological systems, molecular motors and quantum biology

History of the Conference

FQMT'17 is a follow-up to the five previous, successful Prague conferences “Frontiers of Quantum and Mesoscopic Thermodynamics” (FQMT'04, FQMT'08, FQMT'11, FQMT'13, and FQMT'15). For the details of their programs and the history of the FQMT conferences see the www pages: <https://fqmt.fzu.cz/17/>. The title of the conference is historical and survives due to tradition. Today its meaning corresponds only partly to the actual topics of the FQMT'17 conference, see above.

The contributions from the previous conferences have been published in *Physica E* (vol. 29, issues 1-2, 2005, and vol. 43, issue 3, 2010), and *Physica Scripta* (vol. T151, 2012, and vol. T165, 2015) Contributions from the FQMT'15 will appear in the special volume of *Fortschritte der Physik* (Progress of Physics).

Multidisciplinary Character of the Conference

The aim of FQMT'17 is to create a bridge between the fields of non-equilibrium statistical physics, quantum many body physics, foundations of quantum physics, quantum thermodynamics, quantum optics, physics of quantum information, astrophysics, condensed matter physics, physics of mesoscopic systems, chemical physics and biophysics.

Following the tradition of the FQMT conferences, FQMT'17 will again bring together a unique combination of both young and experienced scientists across a disciplinary spectrum covering the above mentioned topics. The interdisciplinary character of the conference will be supported by the choice of key speakers who, apart from their specializations, are not only able to report specific results within their fields, but are also able to discuss the state of the art of their fields from the standpoint of a broader perspective of overlap with other fields. It is an objective to gather important scientists from overlapping branches of physics who can mutually benefit from the exchange of different views and ideas, experiences from studies of many different systems and various theoretical and experimental approaches to the study of current problems in physics. It is intended that this arrangement of the scientific program of the conference will again significantly contribute to the formulation of challenging questions and problems, as well as their related answers that are nowadays essential to improve the understanding of the foundations of quantum physics, many body physics, quantum statistical physics of systems far from equilibrium, the physics of nanoscale and biological systems, and further, will motivate new collaboration and intensive discussions between experts from differing fields of physics, chemistry, and biology.

Musical, Art and Social Programs

An encompassing social program includes the number of social events and tours in order that participants may enjoy not only physics but also Prague during the conference, sometimes in a way, which is hardly available to common visitors of Prague. Hence for accompanying persons this is an opportunity of rare quality to visit to this city.

Participants of FQMT'17 conference will have an exceptional opportunity to spend some time in the Wallenstein Palace. The participants and their partners could enjoy the large baroque Garden of the Wallenstein Palace with its nice Sala Terrena for discussions during the evening welcome party. A guided tour will be organized through the huge baroque complex of the Wallenstein

Palace. This would be a unique experience by itself since it is difficult to see all these places under ordinary circumstances.

In keeping with the multidisciplinary character of the scientific program, the cultural richness of the city of Prague and the tradition of the previous FQMT conferences, the FQMT'17 program will feature concerts performed by world-class musicians, held at outstanding venues of the city. The list of these places will likely include, e.g., the St. Simon and Juda Church (seat of the Prague Symphonic orchestra FOK), Dvořák's Hall of the Rudolfinum (the seat of the Czech Philharmonic Orchestra and famous by concerts of Prague Spring Festival), the gothic Cathedral of St. Vitus at Prague Castle (one of the symbols of the Czech lands), and the baroque St. Margaret Church at the Břevnov Monastery.

Special evening talk(s) related to the history of music and fine arts will be maybe included in the evening program. The scientific, the fine arts, and the musical programs are intended as a complement to one another, where scientists, historians of the arts and musicians are encouraged to mingle and share their knowledge and experience. An encompassing social program is planned which will include tours and a number of very special events unavailable to the general tourist.

The following events and tours are available for the accompanying persons:

- **All conference concerts** at exceptional venues of Prague like Saint Vitus Cathedral of the Prague Castle, Rudolfinum or Prague churches.
- **Other social events**, e.g. Welcome party in the beautiful Baroque Wallenstein Palace Garden
- **Guided tours (subject to change)**
 - Monday, July 10, 2 p.m. – 4 p.m.
Leisure orientation tour: Basic facts about Prague
 - Strahov Monastery
 - Panoramic view of Prague
 - Walking through the courtyards of Prague Castle and some of its garden
 - Tuesday, July 11, 9.30 a.m. – 12 a.m.
Old and New Town of Prague
 - Franciscan Garden
 - Church of Our Lady of the Snows
 - Wenceslav Square
 - Lucerna Palace
 - Old Town Square
 - Church of Our Lady Before Týn and Saint Jacob Church
 - Rudolfinum
 - Manes Bridge

- Wednesday, July 12, 9.30 a.m. – 12 a.m.
The Lesser Town of Prague
 - Picturesque New World of Hradcany
 - Stag Moat
 - Charles Bridge
 - Kampa Island and John Lennon Wall
 - Church of Virgin Mary Victorious: Infant Jesus Christ of Prague
 - The Lesser Town Square

- Thursday, July 13, 9.30 a.m. – 12 a.m.
Historical Site of Vysehrad
 - Panoramic views of Prague
 - Baroque fortress
 - National Cemetery

- Friday and Saturday programs and also possible program on Sunday, July 16, will be determined later on.

Conference fee

All participants, including invited speakers and organizers, are requested to pay the conference fee. Because the conference budget is created only by conference fees, all participants are kindly requested to pay the conference fee at their earliest convenience (after the conference account will be open)

Registration fee of participants will cover:

- Conference materials and a soft attaché case
- Refreshment during registration on Sunday
- Welcome party in the Wallenstein Palace
- Guided tour through Prague
- Concerts of classical/jazz music
- Poster session buffet
- Refreshments during all coffee breaks

Before March 27, 2017: 550 EUR

Between March 27 and June 1, 2017: 610 EUR

On site after arrival: 700 EUR

Registration fee of accompanying persons will cover:

- Personal badge - free entrance to the conference sites buildings
- Handbag with maps, writing pad and pencils
- Refreshment during registration on Sunday
- Welcome party in the Wallenstein Palace
- Guided tours through Prague
- Concerts of classical/jazz music

Payable at any time, for each accompanying person: 130 EUR

The conference account for the fee payment (by payment card or by bank transfer) will be open on January 16, 2017.

Important dates

- **Registration starts: October 5, 2016**
Those who intend to participate in the conference, including invited speakers and poster contributors, are kindly asked to register as soon as possible by filling out the [registration form](#). This essentially helps organizers to communicate with the participants and to prepare high-quality program.
- **Abstract submission starts: October 5, 2016**
- **Fee payment starts: January 16, 2017**
- **Conference on-site registration starts: Sunday, July 9, 2017, 16:00 (4 p.m.)**
- **Scientific program starts: Monday, July 10, 2017, 8:00 (8 a.m.)**
- **Scientific program ends: Saturday, July 15, 2017, 18:00 (6 p.m.)**

Deadlines

- Abstract submission deadline for invited talks: **February 20, 2017**
- Abstract submission deadline for posters: **March 6, 2017**
- Deadline for the specification of availability of the invited speakers for their talks: **March 20, 2017**
- Notification of author's contribution acceptance (not relevant for invited authors)
The Scientific Committee will send notification within approximately two weeks from receiving the abstract
- Lower fee payment deadline: **March 27, 2017**
- Hotel reservation deadline: **April 19, 2017**
- Deadline for minor modifications of the submitted abstracts: **May 15, 2017**
- Online registration and bank transfer/card payment deadline: **June 1, 2017**

Accommodation

The organizers of the conference have reserved limited number of rooms for participants of **FQMT'17 in the Pyramida Hotel, the site of the conference**, with advantageous price.

In the Pyramida Hotel most of the FQMT'17 conference events will take place, including all regular talks, poster session and some social events.

The hotel provides its guests with breakfast and for the participants of the conference a possibility to buy a lunch at a reduced price. Participants are strongly recommended to accommodate in this hotel and to book since this gives them a possibility of optimal use of their time during the conference.

You will be able to make your reservation using the direct link to the Pyramida Hotel which will be available at the conference www pages later on.

The conference is supported by

- Committee on Education, Science, Culture, Human Rights and Petitions of the Senate of the Parliament of the Czech Republic
- Institute of Physics, the Czech Academy of Sciences
- Institute for Theoretical Physics, University of Amsterdam, Netherlands
- Department of Physics, Texas A&M University, USA
- College of Engineering and Science, University of Detroit Mercy, USA
- Institut de Physique Théorique, CEA/CNRS Saclay, France

The conference is organized by

- Institute of Physics, the Academy of Sciences of the Czech Republic
- Committee on Education, Science, Culture, Human Rights and Petitions of the Senate of the Parliament of the Czech Republic

Scientific Committee

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Organizing Committee

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