

First Announcement (June 16, 2026)

## **Frontiers of Quantum and Mesoscopic Thermodynamics - FQMT'26**

**26 July (Sunday) – 1 August (Saturday) 2026, Prague, Czech Republic**

<https://fqmt.fzu.cz/26/>

### **Topics**

#### **Fields**

- Non-equilibrium statistical physics, thermodynamics
- Foundations of quantum physics
- Cosmology, gravitation, astrophysics
- Many body physics, quantum field theory
- Quantum optics, optoelectronics, plasmonics, atomtronics
- Physics of imaging and quantum sensors
- Quantum simulations
- Metrology
- Tests of quantum gravity
- Physics of quantum information and computing
- Quantum machine learning
- Biophysics, physics of active matter, quantum biology
- Physics of neural networks, artificial intelligence

#### **Phenomena**

- Non-equilibrium quantum phenomena
- Transport phenomena far from equilibrium
- Quantum measurement, vacuum, entanglement, coherence
- Macroscopic quantum behavior, cold atoms and molecules
- Turbulence at various scales
- Dissipation, dephasing, noise, decoherence
- Light - matter interactions
- Emergent phenomena in strongly interacting open systems
- Topological states of quantum matter, quantum phase transitions
- Dynamics of cellular structures

#### **Systems**

- Quantum open systems at various space and time scales
- Quantum heat engines, molecular motors
- Mesoscopic, nano-electromechanical and nano-optical systems
- Biological systems, organoids

## The conference is held under the auspices of

Prof. Ing. Jiří Drahoš, DrSc.

1st Vice-President of the Senate of the Parliament of the Czech Republic

Prof. RNDr. Radomír Pánek, Ph.D.

President of the Czech Academy of Sciences

## 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 Quantum Science and Engineering, Colleges of Science and Engineering, Texas A&M University.
- College of Engineering and Science, University of Detroit Mercy, USA

## 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

## Conference format

The organizers would like to meet all FQMT'26 participants on-site in Prague. However, if some speakers would have a serious problem to come to Prague, limited number of them will still have a possibility to present his/her contribution online.

### Invited contributions:

Core of the conference scientific program will consist of:

- **Invited Talk**

The program has two basic types of talks:

- Overview invited talks cover a somewhat broader area or a few related topics (30 minutes),
- Shorter invited talks (20 minutes) deal with promising progress in developing and understanding particular topics or techniques related to the scope of the conference.

**No contributed talks are assumed.**

- **Invited posters** presented by participants invited by the Scientific Committee.

### Non-invited contributions:

- Contributed posters
  - Participants who are not invited are encouraged to submit one or two poster contributions. The Scientific Committee will decide on poster acceptance.

## Public Lectures

Following the tradition of FQMT conferences, the FQMT'26 program will include public lectures which will present interesting topics in the form attractive for both the conference participants and general audience. The public lectures will be accompanied by concerts.

The following speakers and topics of their lectures are confirmed:

- Amir O. Caldeira (*Universidade Estadual de Campinas, Brasil*)  
Macroscopic quantum phenomena and related matters: A brief history and the Nobel Prize in Physics 2025
- Philippe Grangier (*Institut d'Optique / CNRS, Université Paris-Saclay, Palaiseau, France*)  
Quantum Mechanics: from Fundamental Principles to Technological Revolutions
- Bob Montgomery & Allen Hermann (*University of Colorado Boulder, USA*)  
How Jazz Musicians Use Improvisation in Communicating with Each Other and with the Audience

## Important dates

- **Conference on-site registration starts:** Sunday, July 26, 2026, 17:00 (5 p.m.)
- **Scientific program starts:** Monday, July 27, 2026, 7:50 (7:50 a.m.)
- **Scientific program (preliminary) ends:** Saturday, August 1, 2026, 16:00 (4 p.m.)

## Deadlines

- Hotel Pyramida (main conference site) reservation deadline: **June 26, 2026**
- Deadline for minor modifications of the submitted abstracts: **June 19, 2026**
- Non-contributing participant online registration deadline **June 26, 2026**
- Bank transfer/card payment deadline: **June 26, 2026**

## Registration

Those who intend to participate in the conference, including invited speakers and poster contributors, should register on-line in advance, by filling out the registration form ([Main conference web page](#), left column menu).

Please note that the on-line registration is independent of the conference fee payment. Details of the fee payment and link for card payment are available [here](#).

## Length of stay at the conference

To avoid serious problems in the creating of the conference program, it is essential that maximum number of participants will be available during the whole conference (from Monday morning to Saturday late afternoon).

Please bear in mind that Saturday's conference program will be equally important as in other days and will include some key talks.

Please take the above facts seriously when you plan your stay in Prague.

## Personal homepage (My Profile)

**Participant's homepage**, called **My Profile** is available for each participant. When you log in to your homepage you can check and deal with various tasks related to the FQMT'26.

The My Profile page is accessible from the FQMT'26 [main page](#) via [Login](#) button (placed below the left menu column). Your "My Profile" page centralizes the access to the most of your activities, i.e. from the "My Profile" page you can:

1. review and modify your registration data
2. enter, review and modify your abstract(s)
3. pay conference and accompanying person fee(s) on-line and review your payments (including the bank transfer payments that have already arrived at the conference account).

## 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 for participants will cover:

- Social program for the participants
- Conference materials and a soft attaché case
- Poster session buffet

- Refreshments during all coffee breaks
- Selected conference materials in electronic form
- On-line access (via Zoom) to all talk sessions (for remote participants only)
- Records of all talk sessions - available for re-play during the conference and one week after the conference
- On-line access to public lectures and (highly probably) to concerts (for remote participants only)

Before April 15, 2026: **790 EUR**

Between April 15 and June 26, 2026: **840 EUR**

On site after arrival: **890 EUR**

### **Registration fee of accompanying persons will cover:**

- Social program for the accompanying persons mentioned in the section Accompanying persons (below)
- Several guided tours through Prague for accompanying persons will be organized in time of the conference daily scientific program
- Personal badge - free entrance to the conference sites buildings
- Handbag with maps, writing pad and pencils

Payable at any time, for each accompanying person: **190 EUR**

## **Instructions for participants**

### **Instructions for speakers**

After finalizing the scientific program, you will find a session, room, and time of your talk in the [alphabetically sorted on-line list of speakers](#).

Facilities available for oral presentations:

- Conference notebook with MS Windows operating system
- Video projector
- Flip chart
- Laser pointers

Formats allowed for the computer presentations:

- PowerPoint files (MS Office 97-2019, 365)
- PDF files

**For your presentation you can use either your notebook or the conference one.**

## Posters

**The poster session will take place on Thursday, June 30, 2026, at 16:20 (4:20 p.m.).**

A single board will be assigned for each poster. Poster boards will be labeled by poster numbers to be found in the FQMT'26 abstract book.

Dimensions: width 97 cm, height 119 cm

Pins will be available.

## Accommodation

The organizers of the conference have reserved limited number of rooms for participants of FQMT'26 **in the Pyramida Hotel, the site of the conference**, with advantageous price.

In the Pyramida Hotel most of the FQMT'26 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 the possibility to buy a lunch at a reduced price. Participants are strongly recommended to stay in this hotel and to book since this gives them a possibility of optimal use of their time during the conference.

**You can make your reservation using the direct link to the Pyramida Hotel which is available at the conference [Accommodation](#) pages.**

## 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 this city.

Participants of FQMT'26 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'26 program will feature concerts performed by world-class musicians, some of them held at outstanding venues of the city. The list of these places will include the St. Nicholas Church at Lesser Town (beautiful Baroque church) and the Břevnov Monastery.

The scientific, the fine art, 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.

## **Accompanying persons**

**The following events and tours will be available for the accompanying persons:**

- **All conference concerts**, some of them to be held at exceptional venues of Prague like Saint Nicholas Church at Lesser Town and Břevnov Monastery.
- **Other social events**, e.g. Welcome Party in the beautiful Baroque Wallenstein Palace Garden
- **All public lectures** in Pyramida Hotel
- **Guided tours (subject to change)**
  - Monday, July 27, 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 28, 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 29, 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 30, 9.30 a.m. – 12 a.m.  
**Historical Site of Vysehrad**
  - Panoramic views of Prague
  - Baroque fortress
  - National Cemetery

## Venue

**Main conference site** of the FQMT'26 conference is the [Pyramida Hotel](#).

Address: Orea Hotel Pyramida, Bělohorská 24, 169 01 Praha 6

In the Pyramida Hotel most of the FQMT'26 conference events will take place, including all regular talks, public and special lectures and some concert, and poster session.

The Pyramida Hotel is a comfortable four-star hotel situated in the residential area of Prague called Břevnov near the Prague Castle and the historical centre of Prague.

**Other conference sites** (*and the events to be held there*) are:

- Wallenstein Palace and its Garden (*Welcome Party on Monday evening*)  
Wallenstein Palace is a monumental Baroque palace with Sala Terrena and huge Baroque garden, nowadays a seat of the Senate of the Czech Parliament.
- St. Nicholas Church at Lesser Town (*Concert on Wednesday evening*)  
This church is the most famous Baroque church in Prague and belongs to the most valuable Baroque buildings north of the Alps.
- Břevnov Monastery (*Conference dinner and concert on Friday evening*)  
The oldest parts of this Benedictine monastery date from the 10th century. The monastery's interiors are decorated by valuable paintings.

More details on all FQMT'26 conference venues and hints how to get there are available at the [Venue conference page](#).

## Scope of the Conference

The main goal of the conference is to contribute to a better understanding of the behavior of quantum systems out of equilibrium. To reach this aim we also need to include studies and improve our knowledge of systems in equilibrium and steady state situations. The conference will thus address foundations of quantum physics, quantum many body physics, statistical physics, and thermodynamics relying on the theoretical and experimental methods of condensed matter physics and quantum optics. To cover transition between quantum and classical behavior and to

understand better under which conditions quantum behavior emerges, the systems of the order of mesoscopic (nanoscale) size (both artificial and natural origin) will be especially considered. Special attention will be given to non-equilibrium quantum systems, physics of information and physics of biological systems. Subjects from astrophysics, gravitation or cosmology related to the above scope will also be included.

The aim of FQMT'26 conference is to create a bridge between researchers from the fields of physics and related disciplines as covered by the above conference topics.

Following the tradition of the FQMT conferences, the FQMT'26 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.

Additional information on the conference series history, including programs of the public lectures and concerts presented at the previous conferences, can be found in the text on [The history, characteristics, and overview of the FQMT conference events](#). For the history of the FQMT conferences and details of their programs see also the [FQMT overview pages](#).

## Organizing Committee

**Conference chair:** Václav Špička (*Institute of Physics, Czech Academy of Sciences, Prague*)

Jiří Bok (*Charles University, Prague*)

Howard Brubaker (*Detroit*)

Pavla Bušová (*Prague*)

Barbora Chudíčková (*Institute of Physics, Czech Academy of Sciences, Prague*)

Petr Chvosta (*Charles University, Prague*)

Soňa Fialová (*Tacca Agency, Prague*)

Etienne Hofstetter (*London*)

Pavel Hubík (*Institute of Physics Czech Academy of Sciences, Prague*)

Peter D. Keefe (*University of Detroit Mercy*)  
Souheil Khaddaj (*Kingston University, London*)  
Halyna Kozak (*Institute of Physics, Czech Academy of Sciences, Prague*)  
Zdeněk Kožíšek (*Institute of Physics, Czech Academy of Sciences, Prague*)  
Josef Kšica (*Prague*)  
Karla Kuldová (*Institute of Physics, Czech Academy of Sciences, Prague*)  
Vladimír Kunický (*Prague*)  
Jiří J. Mareš (*Institute of Physics, Czech Academy of Sciences, Prague*)  
Theo M. Nieuwenhuizen (*University of Amsterdam*)  
Claudia Pombo (*Amsterdam*)

## Scientific Committee

**Chair:** Václav Špička (*Institute of Physics, Czech Academy of Sciences, Prague*)

**Co-Chair:** Theo M. Nieuwenhuizen (*University of Amsterdam*)

Raymond Dean Astumian (*University of Maine, Orono*)  
Biman Bagchi (*Indian Institute of Science, Bengalúru*)  
Vanderlei S Bagnato (*Texas A&M University*)  
Roger Balian (*IPhT, Saclay*)  
Gordon Baym (*University of Illinois at Urbana - Champaign*)  
Dietrich Belitz (*University of Oregon, Eugene*)  
Ofer Biham (*Hebrew University, Jerusalem*)  
Miles Blencowe (*Dartmouth College, Hanover*)  
Dirk Bouwmeester (*University of California, Santa Barbara*)  
Michel Brune (*Laboratoire Kastler Brossel, Paris*)  
Amir Ordacgi Caldeira (*Universidade Estadual de Campinas*)  
Juan Ignacio Cirac (*Max Planck Institute, Garching*)  
Pawel Daniel Danielewicz (*Michigan State University, East Lansing*)  
Luiz Davidovich (*Universidade Federal do Rio de Janeiro*)  
Michel H. Devoret (*Yale University and College de France*)  
Mark Dykman (*Michigan State University, East Lansing*)  
Daniel Esteve (*CEA-Saclay*)  
Karl John Friston (*University College London*)  
Steven Mark Girvin (*Yale University, New Haven*)  
Peter Hänggi (*University of Augsburg*)  
Dudley Herschbach (*Harvard University*)  
Ortwin Hess (*Trinity College Dublin*)  
Gregg Jaeger (*Boston University*)  
Christopher Jarzynski (*University of Maryland, College Park*)  
Andrew N. Jordan (*Chapman University, Orange*)  
Richard Jozsa (*University of Cambridge*)  
Wolfgang Ketterle (*Massachusetts Institute of Technology, Cambridge*)  
Andrei Khrennikov (*Linnaeus University, Växjö*)  
Stefan Klumpp (*University of Goettingen*)  
Norbert Kroó (*Wigner Research Center of Physics*)  
Anthony J. Leggett (\* 26 March 1938, † 8 March 2026)

Igor Lerner (*University of Birmingham*)  
Maciej Andrzej Lewenstein (*ICFO – The Institute of Photonic Sciences, Barcelona*)  
Heiner Linke (*Lund University*)  
Peter Vaughan Elsmere McClintock (*Lancaster University*)  
Yigal Meir (*Ben Gurion University, Beer Sheva*)  
Ralf Metzler (*Universität Potsdam*)  
Franco Nori (*RIKEN, Wako-shi, and University of Michigan, Ann Arbor*)  
Henri Orland (*CEA-Saclay*)  
Giorgio Parisi (*Sapienza Università di Roma*)  
Felix Ritort (*University of Barcelona*)  
Christophe Salomon (*Laboratoire Kastler Brossel, Paris*)  
Marlan Scully (*Texas A&M University, Baylor University and Princeton University*)  
Georgy Shlyapnikov (*Université Paris-Saclay*)  
Wolfgang Schleich (*University of Ulm*)  
Ady Stern (*Weizmann Institute of Science*)  
Michael Thorwart (*University of Hamburg*)  
Jan van Ruitenbeek (*Leiden University, Kamerlingh Onnes Laboratory*)  
Vlatko Vedral (*University of Oxford, Clarendon Laboratory*)  
Anton Zeilinger (*IQOQI-Vienna–Austrian Academy of Sciences, Uni Vienna & Vienna Center for Quantum Technology*)

