

# International Conference on Trends in Nanotribology 2017 (TiN17)

**26 - 30 June 2017**

*ICTP, Miramare, Trieste, Italy*

The physics of tribology --a vast interdisciplinary field covering friction, adhesion, lubrication, and wear-- has been largely revived by experimental, theoretical, and technological advances that approach these phenomena at the microscopic scales. This International Conference will bring together scientists from laboratories all over the world that are active in nano and meso-scale tribology and will offer a fresh view of all new developments. In parallel with more academic subjects, this activity intends to increase the potential collaboration and sharing of know-how with the engineering and industrial community. The Conference will also mark the conclusion for the COST Action MP1303 "Understanding and controlling nano and meso-scale friction" supported by the EU Framework Programme Horizon 2020, with the added opportunity to gather a large fraction of Europe's scientists and students. Support is also provided by ERC MODPHYSFRICT and SISSA, Trieste, by the Physics Department, University of Milano, by AC<sup>2</sup>T, Excellence Centre of Tribology, and by the Austrian Tribological Society OeTG, both in Wiener Neustadt, Austria. This rich and diversified attendance will offer a strategic opportunity to discuss the future directions of this whole area.

Keynote speakers will be required to make a pedagogical effort in their introductory part and to reserve ample time for discussion. Contributed abstracts are solicited within the deadline for poster contributions or for additional short talks.

The scientific focus will be on novel conceptual and experimental trends, such as:

- \* The nonlinear nature of sliding friction: from stick-slip motion to superlubric regimes
- \* Controlling and tuning friction, adhesion and wear at the nanoscale
- \* Tribology of confined systems and lubricants under shear
- \* Fundamentals of friction theory
- \* Tribology in electrochemical conditions
- \* Electronic and magnetic friction
- \* Atomistic friction of graphene, nanotubes and layered materials
- \* Nanomanipulation and dynamics of clusters and nano-objects at surfaces
- \* Collective mechanisms in friction across the time and length scales
- \* Bio-mimetic friction and adhesion
- \* Novelties in experimental and computational nanotribology
- \* Tribology research towards innovation and novel technologies
- \* Developments in macroscopic tribology: granulars, earthquakes, fracture, plasticity

## **PARTICIPATION**

Scientists and students from all countries which are members of the United Nations, UNESCO or IAEA may attend the Conference. As it will be conducted in English, participants should have an adequate working knowledge of that language. Although the main purpose of the Centre is to help research workers from developing countries, students and research scientists from all countries are warmly welcome to attend.

There is no registration fee. As a rule, travel and subsistence expenses of non-COST participants should be borne by the home institutions. Every effort should be made by candidates to secure support for their fare (or at least half-fare). Limited funds are available for some participants who are nationals of, and working in, a developing country, and who are no more than 45 years old. Such support is available only for those who attend the entire activity.

## **HOW TO APPLY FOR PARTICIPATION**

The application form can be accessed at the activity website <http://indico.ictp.it/event/7971/> where comprehensive instructions will guide you on how to fill and submit the application form.

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## **DIRECTORS**

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## **LOCAL ORGANIZER**

Erio Tosatti (Trieste, Italy)

## **KEYNOTE SPEAKERS**

Clemens Bechinger  
Roland Bennewitz  
Lyderic Bocquet  
Carlos Drummond  
Rosa Espinoza-Marzal  
Friedrich Franek  
Ronit Goldberg  
Nitya Nand Gosvami  
Oded Hod  
Tonya Kuhl  
Lasse Laurson  
Ming Ma  
Ernst Meyer  
Martin H. Muser  
Georg Papastavrou  
Elisa Riedo  
Mark O. Robbins  
Nicholas Spencer  
Michael Urbakh  
Markus Valtiner  
Andras Vernes  
Kislon Voitchovsky  
Vladan Vuletic  
Michaël Wiertlewski  
Quanshui Zheng

*\* to be confirmed*

**DEADLINE  
for requesting  
participation**

**15 March 2017**

