



**School on Modern Trends in Theoretical Physics:  
from Low-Dimensional Nanoscale Systems  
to Advanced Materials for Photovoltaics**  
18 May – 29 May 2015  
Khiva, Uzbekistan

The International Centre for Theoretical Physics (ICTP), Trieste, Italy, in collaboration with the Turin Polytechnic University in Tashkent, Uzbekistan is organizing a School on Modern Trends in Theoretical Physics: from Low-Dimensional Nanoscale Systems to Advanced Materials for Photovoltaics to be held in Khiva, Uzbekistan from 18 to 29 May 2015.

**PROGRAMME**

The goal of the School is to give a comprehensive review of the contemporary trends in Condensed Matter Physics. The School will cover a wide spectrum of modern topics:

- Quantum dots**
- Luttinger Liquids in one-dimensional systems**
- Cavity polaritons**
- Novel superconductors**
- Strongly correlated and strongly disordered superconductivity**
- Topological effects in condensed matter physics**
- Physics and technological perspectives of graphene**
- Non-linear dynamics**
- Thermoelectric phenomena in metals, superconductors and advanced materials**
- Density functional theory and photovoltaic materials**

**LIST OF CONFIRMED INVITED LECTURERS AND SPEAKERS**

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|--|--|
| <b>B. Abdullaev</b> , NUUz, Tashkent, Uzbekistan             | <b>I. Lerner</b> , University of Birmingham, UK        |
| <b>F. Abdullaev</b> , Int'l Islamic Un. of Malaysia, Kuantan | <b>D. Matrasulov</b> , TTPU, Tashkent, Uzbekistan      |
| <b>B. Altshuler</b> , Columbia Univ., New York, USA          | <b>K. Nakamura</b> , NUUz, Tashkent, Uzbekistan        |
| <b>A. Buzdin</b> , University of Bordeaux, France            | <b>T. Riedl</b> , University of Wuppertal, Germany     |
| <b>G. Casati</b> , University of Insubria, Como, Italy       | <b>R. Sagdeev</b> , Un. of Maryland, College Park, USA |
| <b>V. Dyakonov</b> , University of Würzburg, Germany         | <b>S. Scandolo</b> , ICTP, Trieste, Italy              |
| <b>V. Falko</b> , Lancaster University, UK                   | <b>R. Scholz</b> , Technical Univ. of Dresden, Germany |
| <b>V. Gurarie</b> , Univ. of Colorado, Boulder, USA          | <b>T. Yokoyama</b> , Tokyo Inst. for Technology, Japan |
| <b>J. Hong</b> , APCTP, Pohang, Korea                        | <b>V. Yudson</b> , RQC, Skolkovo & In. Spectr. Troitsk |
| <b>B.S. Kandemir</b> , University of Ankara, Turkey          | <b>A. Zakhidov</b> , Univ. of Texas at Dallas, USA     |
| <b>A. Kavokin</b> , Univ. of Southampton, UK & MIFP          | <b>A. Zinovev</b> , Los Alamos National Lab., USA      |
| <b>V. Kravtsov</b> , ICTP, Trieste, Italy                    |  |

Local assistants of Organizing Committee for help with visa to enter Uzbekistan and travel and accommodation arrangements:

- Olga Karpova** [tcmp2015@gmail.com](mailto:tcmp2015@gmail.com)
- Visa applications, Hotels, local travel, Cultural program**
- Sonia Hristova** [sgh@utdallas.edu](mailto:sgh@utdallas.edu)
- Air flights from abroad, presentations**

**PARTICIPATION**

For details about participation as well as the **Application form**, which should be completed on-line **before 20th February 2015**, please refer to:

**Activity Web page:**  
<http://indico.ictp.it/event/a14241>

Further information may be retrieved at: <http://www.tcmp2015.sci.uz>

General requests for information may be addressed to:

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**Sponsors:**

- **ICTP, International Center for Theoretical Physics, Trieste**
- **APCTP, Asia-Pacific Center for Theoretical Physics, Pohang**
- **Turin Polytechnic University in Tashkent**
- **National University of Uzbekistan, Tashkent**
- **Urgench State University, Khorezm, Uzbekistan**
- **Khorezm Mamun Academy, Khiva, Uzbekistan**
- **Physical Society of Uzbekistan**

**Organizing Committee**

- Vladimir Kravtsov** (ICTP Organizer, Director)
- Anvar Zakhidov** (UTDallas, co-Director)
- Davron Matrasulov** (TTPU, Local Organizer)
- Yusuf Musakhanov** (NUU, Tashkent)
- Ulug'bek Aminov** (Khorezm Mamun Academy)
- Atabek Atamuratov** (Urgench State University)
- Umar S. Salikhbaev** (INP, Tashkent)

**DEADLINE**  
**for requesting participation**  
**20 February 2015**

