



The Abdus Salam
**International Centre
for Theoretical Physics**

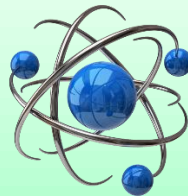


ICTP.IT

PHTI.TJ

Scientific Programme

ICTP
INTERNATIONAL CONFERENCE
«NEW TRENDS IN CONDENSED MATTER
PHYSICS: QUANTUM TRANSPORT, NOVEL
MATERIALS AND ADVANCED
TECHNOLOGIES»



October 4-6, 2021

S.U. Umarov Physical-Technical Institute of the NAST

Dushanbe, Tajikistan

| Day 1, October 4 | | |
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| CET Moscow Dushanbe | 09:30-10:00 10:30-11:00 12:30-13:00 | <i>Opening</i> |
| Speaker 1: Prof. Giulio Casati <i>University of Insubria, Italy</i> | | |
| CET Moscow Dushanbe | 10:00-10:30 11:00-11:30 13:00-13:30 | <i>Heat control, Onsager relations and efficiency of thermal machines</i> |
| Speaker 2: Prof. Farhan Saif <i>University of Ulm, Germany</i> | | |
| CET Moscow Dushanbe | 10:30-11:00 11:30-12:00 13:30-14:00 | <i>From Anderson localization to dynamical localization: Cold atoms in driven Systems</i> |
| Speaker 3: Prof. Davron Matrasulov <i>Turin Polytechnic University in Tashkent, Uzbekistan</i> | | |
| CET Moscow Dushanbe | 11:00-12:00 12:00-13:00 14:00-15:00 | <i>Supercritical phenomena in artificial planar atoms in graphene</i> |
| CET Moscow Dushanbe | 12:00-13:30 13:00-14:30 15:00-16:30 | Coffee / Lunch Break |
| Speaker 4: Prof. Iman Askerbeyli <i>Ankara University, Turkey</i> | | |
| CET Moscow Dushanbe | 13:30-14:00 14:30-15:00 16:30-17:00 | <i>Critical temperature and plasmon spectrum of Dirac superconductors: the case of graphene monolayer on substrate</i> |
| Speaker 5: Prof. Seyed Akbar Jafari <i>Sharif University of Technology, Iran</i> | | |
| CET Moscow Dushanbe | 14:00-15:00 15:00-16:00 17:00-18:00 | <i>Spacetime structures in solid state physics</i> |
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Day 2, October 5

Speaker 1:

Prof. Kholmirzo Kholmurodov

Joint Institute for Nuclear Research, Dubna, Russia

Dubna State University, Lomonosov Moscow State University

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| CET | 09:00-09:30 | <i>Molecular dynamics of nanoscale systems combined with neutron scattering and spectroscopy methods</i> |
| Moscow | 10:00-10:30 | |
| Dushanbe | 12:00-12:30 | |

Speaker 2:

Dr. Elchin Jafarov

Institute of Physics, Azerbaijan National Academy of Sciences, Azerbaijan

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| CET | 09:30-10:00 | <i>On the exact solution of the quantum harmonic oscillator model exhibiting semiconfinement effect</i> |
| Moscow | 10:30-11:00 | |
| Dushanbe | 12:30-13:00 | |

Speaker 3:

Dr. Ilhom Rahmonov

Joint Institute for Nuclear Research, Dubna, Russia

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| CET | 10:00-11:00 | <i>Resonance features of the DC-SQUID with the Phi-0 junctions</i> |
| Moscow | 11:00-12:00 | |
| Dushanbe | 13:00-14:00 | |

Speaker 4:

Prof. Yuval Gefen

Weizmann Institute of Science, Israel

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| CET | 11:00-12:00 | <i>Anyonic interferometry in quantum Hall phases</i> |
| Moscow | 12:00-13:00 | |
| Dushanbe | 14:00-15:00 | |

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| CET | 12:00-13:00 | Coffee / Lunch Break |
| Moscow | 13:00-14:00 | |
| Dushanbe | 15:00-16:00 | |

Speaker 5:

Prof. Vittorio Peano

Max Planck Institute for the Science of Light, Germany

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| CET | 13:00-13:50 | <i>Predicting band structures and topological invariants using deep learning</i> |
| Moscow | 14:00-14:50 | |
| Dushanbe | 16:00-16:50 | |

Speaker 6:

Dr. Mehrdod Subhoni

Physical-Technical Institute of the NAST, Tajikistan

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| CET | 13:50-14:20 | <i>First-principles studies of the electronic, geometrical and elastic properties of Mn⁴⁺ doped A₂XY₆ red phosphors</i> |
| Moscow | 14:50-15:20 | |
| Dushanbe | 16:50-17:20 | |

Day 3, October 6

Speaker 1:

Assoc. Prof. Dr. **Makhsud I. Saidaminov**
Chemistry, ECE & CAMTEC, University of Victoria, Canada

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| CET | 08:00-08:30 | <i>Novel Materials for Solar Energy</i> |
| Moscow | 09:00-09:30 | |
| Dushanbe | 11:00-11:30 | |

Speaker 2:

Prof. **Ali Rezakhani**
*Sharif University of Technology and Institute for Research in
Fundamental Science (IPM), Iran*

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| CET | 08:30-09:00 | <i>Correlation Picture for Dynamics of Open Quantum Systems</i> |
| Moscow | 09:30-10:00 | |
| Dushanbe | 11:30-12:00 | |

Speaker 3:

Prof. **Vahid Karimipoor**
Sharif University of Technology, Iran

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|----------|-------------|---------------------------------------------------------------------------|
| CET | 09:00-10:00 | <i>Simulation of a simple spin system on the IBM Quantum Computer</i> |
| Moscow | 10:00-11:00 | |
| Dushanbe | 12:00-13:00 | |

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| CET | 10:00-10:30 | Coffee Break |
| Moscow | 11:00-11:30 | |
| Dushanbe | 13:00-13:30 | |

Speaker 4:

Prof. **Aikaterini Mandilara**
Nazarbaev University, Kazakhstan

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| CET | 10:30-11:10 | <i>Multimode waveguides: a way for coherent and non-dispersive propagation</i> |
| Moscow | 11:30-12:10 | |
| Dushanbe | 13:30-14:10 | |

Speaker 5:

Dr. **Neslihan Akcay**
Department of Mechanical Engineering, Baskent University, Turkey

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| CET | 11:10-11:40 | <i>Emerging Cu_2SnS_3 Thin Film Photovoltaic Absorbers: Production, Characterization and Device Performance</i> |
| Moscow | 12:10-12:40 | |
| Dushanbe | 14:10-14:40 | |

Speaker 6:

Prof. **Sabur Abdullaev**
Physical-Technical Institute of the NAST, Tajikistan

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| CET | 11:40-12:10 | <i>Variations of Aerosol Optical Thickness, Water Vapor and Angstrom Parameter</i> |
| Moscow | 12:40-13:10 | |

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| Dushanbe | 14:40-15:10 | <i>Over the Semi-arid Zone of Tajikistan</i> |
| CET | 12:10-13:30 | Coffee / Lunch Break |
| Moscow | 13:10-14:30 | |
| Dushanbe | 15:10-16:30 | |
| Speaker 7: Dr. Jambul Yusupov <i>Yeoju Technical Institute in Tashkent, Uzbekistan</i> | | |
| CET | 13:30-14:00 | <i>Modeling and design of PT-symmetric networks: Quantum transport, soliton dynamics and dissipation effects</i> |
| Moscow | 14:30-15:00 | |
| Dushanbe | 16:30-17:00 | |
| Speaker 8: Prof. Anastasios Bountis <i>P.G. Demidov Yaroslavl State University, Yaroslavl, Russia</i> | | |
| CET | 14:00-14:30 | <i>Energy Transport in 1-Dimensional Models of Engineering Materials</i> |
| Moscow | 15:00-15:30 | |
| Dushanbe | 17:00-17:30 | |
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