

International Workshop on Hybrid Perovskite Photovoltaic and Optoelectronic Devices

October 8 - 10, 2018

Jointly organized by

National Centre for Physics (NCP), Islamabad

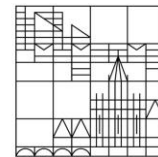
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University of Konstanz, Konstanz Germany

Venue: National Centre for Physics, Islamabad



Universität
Konstanz



Introduction

The solar energy conversion technologies are entering into a new regime with novel device architectures, new materials and process ability of hybrid structures in the devices. Organic-inorganic Perovskite materials have attracted the interest of the scientific community primarily due to the remarkable power conversion efficiency of above 22 % achieved within six years, since their inception. However, despite the high efficiency, the stability of these devices is still a challenge, so that investigations of physical processes that can help overcome this setback still need to be explored.

The main purpose of the workshop is to strengthen the photovoltaic related research activities and broaden the understanding of young researchers in the new generation of photovoltaic and optoelectronic devices. The workshop topics will mainly cover fundamentals of hybrid photovoltaic & optoelectronic devices, their physics, processing & characterization techniques and stability of third generation solar cells. Moreover, advanced topics such as emerging concepts in photovoltaics, role of interfaces and charge transfer dynamics will be also part of the workshop.

Participation

Research students, post-doctoral researchers, faculty members and research scientists who are actively involved in the related research areas are encouraged to apply for participation and presentation (oral or poster). The travel expenses of the participants shall be borne by their parent institutes. Partial travel assistance may be provided to selected outstation student participants on merit basis.

Advisors

Dr. Hafeez Hoorani (NCP)
Dr. Sara Qaisar (NCP)
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Workshop secretary

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Best Poster Presentation Prize

1st: **Rs. 5000**
2nd: **Rs. 3000**
3rd: **Rs. 1500**

Sponsors

- German Academic Exchange Service (DAAD), Germany
- The Abdus Salam International Centre for Theoretical Physics, Italy

For Further Information

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Coordinators

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Mr. Muhammad Arshad
Mr. Naveed Imran
Ms. Abida Saleem
Ms. Anila Iqbal
Mr. Hafeez Ullah Jan
Mr. Muhammad Asjad
Ms. Kalsoom Fatima

Speakers and Lectures Topics

Prof. Wang Zhijie: Hybrid Perovskite materials and related plasmonic nanolasers
Prof. Lukas Schmidt-Mende*: 1) Perovskite solar cells: A research update. 2) Defects in metal halide Perovskites
Prof. Thomas Brown*: An introduction on Perovskite solar cells on flexible substrates
Prof. Iván Mora Seró*: Introduction to characterization of solar cells by impedance spectroscopy
Dr. Zefeng Ren: Charge transfer dynamics at MoS₂/SiO₂/Si heterojunction by ultrafast time-resolved spectroscopic photoemission electron microscopy
Dr. Mohd Asri Mat Teridi : Stable and null current hysteresis Perovskite solar cells-based nitrogen doped graphene oxide nanoribbons hole transport layer
Dr. Zeeshan Ur Rehman: Atomic layer deposition technique for thin film solar cells layers fabrication
Dr. Azhar Fakhruddin*: Perovskite optoelectronic devices
Dr. Muhammad T. Sajjad*: Engineered exciton diffusion length enhanced device efficiency in highly efficient small molecules photovoltaics
Tobias Seewald: 1) Characterization methods for perovskite solar cells. 2) Time-resolved spectroscopy and charge carrier dynamics
Carola Ebenhoch: TiO_{2-x} Nanostructures: application, fabrication and characterization
Azam Ali: Realizing highly efficient Perovskite solar cells
Dr. M. Mazhar: Perovskite structured photovoltaic materials for energy conversion
Dr. Safeer Ahmad: Dye sensitized solar cells-prologue and prospects
Dr. Waqas Khalid: Inorganic Perovskite solar cells
Dr. Abdul Basit: Quantum dot solar cells
Dr. Azhar Iqbal: Ultrafast energy/charge transfer kinetics across the interfaces of hybrid photoactive materials
Dr. G H Jafferri: Studies of Cr doped TiO₂ and mixed-halide Perovskite coated rutile TiO₂ nanorods
Dr. Yasir Saeed: The dynamics of formamidinium ions in α -CH(NH₂)₂PbI₃ Perovskite from ab-initio molecular dynamic simulations
Dr. Saqib Javaid: Organic cation steered interfacial electron transfer within organic-inorganic Perovskite solar cells
Dr. Abid Ali: Laminated carbon nanotubes for the facile fabrication of cost-effective polymer solar cells
Dr. Amna Bashir: Carbon based Perovskite solar cells
*Online video talks

