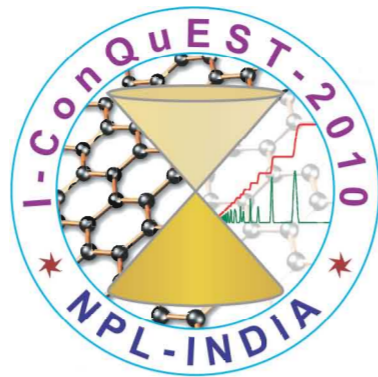
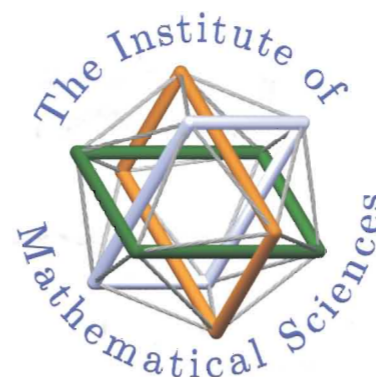




International Conference on Quantum Effects in Solids of Today (I-ConQuEST)



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K.S. Krishnan Discussion Meeting on Frontiers in Quantum Science (FQS2010)
of the Quantum Science Centre of the Institute of Mathematical Sciences (IMSc), Chennai, India

December 20 to 23, 2010

National Physical Laboratory, New Delhi (India)

OVERVIEW & SCOPE

Condensed matter systems display a rich variety of quantum effects when subjected to low temperatures. The study of quantum phase transitions tuned by high magnetic fields, pressure and/or injected charge carriers is a field of contemporary interest. The discovery of new compounds; the ability to synthesize clean interfaces, heterostructures, tunnel junctions and field effect devices, which allow manipulation of carrier density in the material; clever ways of nano-structuring and advanced imaging techniques have permitted visualization of quantum phenomena and simultaneously have opened up avenues for their technological usage.

The purpose of this conference is to review recent development in the studies of quantum processes in bulk materials, surfaces, interfaces, nano materials and nanostructured materials. Both theoretical and experimental aspects of quantum processes such as electron-electron correlations, correlations driven phase transitions, superconductivity and magnetism in correlated electronic systems; electron, spin- polarized-electrons and superconducting condensate transport in mesoscale and nanoscale planar structures and tunnel junctions; integral and fractional quantum Hall effect in new class of materials such as graphene, oxide interfaces and other novel 2D systems; topological insulators in two and three dimensional systems, design and synthesis of such system which show robust topological states at ambient temperature, spin Hall effect and other quantum transport phenomena in such systems, and applications of these phenomena in quantum metrology.

Important Dates : Abstract Submission: October 15, 2010; Abstract Decision: October 31, 2010
(Young researchers and graduate students are encouraged to participate even without an abstract)

REGISTRATION IS MANDATORY

Registration Fee : Foreign Faculty Members \$ 300; Foreign Students \$ 100; Indian Faculty Members Rs. 5000; Indian Students Rs. 2000

Conference Chair : R. C. Budhani; Co-Chair : Hari Kishan, R. Shankar (IMSc.); Secretaries : Govind, H.K. Singh

INVITED SPEAKERS

Franz J. Ahlers

Physikalisch Technische Bundesanstalt, Germany

Eva Andrei

University of Rutgers, USA

Arun Bansil

North Eastern University, USA

G. Baskaran

Institute of Mathematical Sciences, Chennai, India

Ernst Bauer

Vienna University of Technology, Vienna

Venkat Chandrasekhar

North Western University, USA

Ratnamala Chatterjee

Indian Institute of Technology-Delhi, India

Herve Courtois

Joseph Fourier University, France

Yoran Dagan

Tel-Aviv, Israel

Kedar S. Damle

Tata Institute of Fundamental Research, India

Mandar Deshmukh

Tata Institute of Fundamental Research, India

Arindam Gosh

Indian Institute of Science, India

Richard L. Greene

University of Maryland, USA

Anjan Gupta

Indian Institute of Technology-Kanpur, India

M. Zahid Hasan

Princeton University, USA

Axel Hoffmann

Argonne National Laboratory, USA

Zakir Hossain

Indian Institute of Technology-Kanpur, India

J. K. Jain

Pennsylvania State University, USA

Kazushi Kanoda

University of Tokyo, Japan

Aharon Kapitulnik

Stanford University, USA

Ribhu Kaul

University of California, S.B., USA

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Brijesh Kumar

Jawaharlal Nehru University, India

Jerome Lesueur

LPEM, France

Jeremy Levy

University of Pittsburgh, USA

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Cavendish Laboratory, Cambridge University, UK

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Harish-Chandra Research Institute, India

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Indian Association for Cultivation of Science, India

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University of Michigan, USA

Bruce Normand

University Freiburg, Switzerland

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Princeton University, USA

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Indian Institute of Science, India

David Pappas

National Institute of Science & Technology, USA

R. Prasad

Indian Institute of Technology, Kanpur, India

T. V. Ramakrishnan

Banaras Hindu University, India

Mohit Randheria

Ohio State University, USA

Arup Raychaudhuri

S N Bose National Centre for Basic Sciences, India

Pratap Raychaudhuri

Tata Institute of Fundamental Research, India

E. V. Sampathkumaran

Tata Institute of Fundamental Research, India

D.D. Sarma

Indian Institute of Science, India

Siddharth (Montu) Saxena

University of Cambridge, UK

Thomas Schurig

Physikalisch Technische Bundesanstalt, Germany

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University of South Florida, USA

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University of Geneva, Switzerland

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Ohio State University, USA

Alexander Tzalenchuk

National Physical Laboratory, UK

Venky Venkatesan

National University of Singapore, Singapore

Ashwin Vishwanath

University of California, Berkeley, USA

Katsunori Wakabayashi

National Institute of Material Science, Japan

*Confirmation Awaited

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