



## School and Workshop on Driven Quantum Systems

21 November - 2 December 2016

*San Carlos de Bariloche, Argentina*

The Abdus Salam International Centre for Theoretical Physics (ICTP, Trieste, Italy) in collaboration with Centro Atómico Bariloche (CAB, Argentina) is organizing a one week School followed by a week Workshop on Driven Quantum Systems to be held at San Carlos de Bariloche from 21st November to 2nd December 2016.

The field of driven quantum systems has attracted a great deal of attention in recent years, fueled by the impressive experimental advances achieved in the design and manipulation of quantum systems of very different nature: cold atoms, quantum dots in semiconductors, graphene, topological insulators, superconducting qubits, optical cavities, etc. Interest in these systems ranges from the need to deepen our understanding of the response (dynamics) of single and many-body systems to periodic or pulsed external fields, to the design of new states of matter with interesting topological properties, or the precise control of multi-qubit systems for quantum computation. The driven dynamics of quantum systems has raised important questions that gathered efforts from communities located on the interface of quantum optics, condensed matter, many-body physics and statistical mechanics.

Primary goal of the activities will be to increase the level of communication and collaboration between researchers from different backgrounds through tutorials and informal discussions as well as invited presentations. The activities will highlight recent experimental and theoretical results at the forefront of international research, including, but not limited to, the following topics:

- Cold atoms
- Driven topological insulators and graphene
- Irradiated superconductors
- Quantum optics
- Adiabatic quantum computing. Quantum memories
- Quantum control of driven solid state qubits

### **SCHOOL LECTURERS**

<b>D. ESTEVE</b> , France	<b>J. PETTA</b> , U.S.A.
<b>P. HÄNGGI</b> , Germany	<b>M. RUDNER</b> , Denmark
<b>L. KOUWENHOVEN</b> , The Netherlands	<b>F. SCHMIDT-KALER</b> , Germany
<b>J. MOORE</b> , U.S.A.	<b>P. ZOLLER</b> , Austria

### **GRANTS**

A limited number of grants are available to support the attendance of selected participants, with priority given to participants working in the regional countries.

### **HOW TO APPLY FOR PARTICIPATION**

The online application form can be accessed at the activity website

<http://indico.ictp.it/event/7611/>

Once in the website, comprehensive instructions will guide you step-by-step, on how to fill out and submit the application form.

Additional information about costs and lodging can be found at the local website:

<http://fisica.cab.cnea.gov.ar/dqs2016>

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**G. USAJ**, CAB/Instituto Balseiro

### **LOCAL ORGANIZERS:**

**F. PASCUAL WINTER**, CAB/Instituto Balseiro  
**A. REYNOSO**, CAB

### **WORKSHOP SPEAKERS:**

**A. AMO**, France  
**L.C. ARRACHEA**, Argentina  
**A. BLAIS**, Canada  
**T. CHANELIÈRE**, France  
**A. DOHERTY**, Australia  
**A. FAINSTEIN**, Argentina  
**R. FAZIO**, Italy  
**L. FOA TORRES**, Chile  
**Y. GEFEN**, Israel  
**S. KOHLER**, Spain  
**S.A. LYON**, U.S.A.  
**L.W. MOLENKAMP**, Germany  
**W.D. OLIVER**, U.S.A.  
**H. M. PASTAWSKI**, Argentina  
**J.P. PAZ**, Argentina  
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**L. PERFETTI**, France  
**J.W. ROCHA TABOSA**, Brazil  
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**DEADLINE: 1st August 2016**

