



SOCIETÀ ITALIANA DI FISICA  
**INTERNATIONAL SCHOOL OF PHYSICS**  
**“ENRICO FERMI”**

UNDER THE SPONSORSHIP OF CAMERA DI COMMERCIO DI LECCO - ISTITUTO NAZIONALE DI FISICA NUCLEARE  
CONSIGLIO NAZIONALE DELLE RICERCHE - ISTITUTO NAZIONALE DI RICERCA METROLOGICA  
MUSEO STORICO DELLA FISICA E CENTRO STUDI E RICERCHE “ENRICO FERMI”



**SUMMER COURSES 2014**  
VILLA MONASTERO - VARENNA, LAKE COMO

Course 191

**QUANTUM MATTER AT ULTRALOW TEMPERATURES**

7 – 15 July

Topics:

- Spin-orbit coupling and gauge fields
- Dipolar physics
- Quantum magnetism
- Low dimensional physics and spin chains
- Quantum Hall effect and topological insulators
- Quantum microscope
- New lattice geometries
- Spinor physics
- Unitarity limit for fermions and bosons
- Transport
- Disorder
- Solitons
- Mixtures
- Polarons
- Quantum simulation
- Rydberg blockade

Lecturers and Seminar Speakers:

A. ASPECT – Laboratoire Charles Fabry, Institut d’Optique, Palaiseau (France)  
M. BARANOV – Institut für Quantenoptik und Quanteninformation, Innsbruck (Austria)  
I. BLOCH – MPQ, Max-Planck-Institut für Quantenoptik, Garching and LMU Ludwig-Maximilians-Universität, München (Germany)  
J. DALIBARD – Collège de France and ENS, Paris (France)  
E. DEMLER – Department of Physics Harvard University, Cambridge, MA (USA)  
T. ESSLINGER – ETH, Departement Physik, Zürich (Switzerland)  
T. GIAMARCHI – University of Geneva (Switzerland)  
W. KETTERLE – MIT, CUA, RLE and Department of Physics, Cambridge, MA (USA)  
M. LEWENSTEIN – ICFO and ICREA, Barcelona (Spain)  
G. MODUGNO – LENS, Università di Firenze, Sesto Fiorentino (Italy)  
T. PFAU – Universität Stuttgart (Germany)  
A. RECATI – INO-CNR BEC Center and Università di Trento (Italy)  
C. SALOMON – LKB, Département de Physique, ENS, Paris (France)  
L. SANTOS – Leibniz Universität Hannover (Germany)  
J. SCHMIEDMAYER – VCQ, Technische Universität Wien (Austria)  
D. STAMPER-KURN – Department of Physics, University of California, Berkeley, CA (USA)  
J. YE – JILA, NIST and University of Colorado, Boulder, CO (USA)  
W. ZWERGER – TUM, Technische Universität München, Physik Department, Garching (Germany)  
M. ZWIERLEIN – MIT, CUA, RLE and Department of Physics, Cambridge, MA (USA)

Directors of the Course:

M. INGUSCIO – LENS, Università di Firenze, INRIM, Torino (Italy)  
W. KETTERLE – MIT, Cambridge, MA (USA)  
S. STRINGARI – Università di Trento, INO-CNR, BEC Center, Trento (Italy)

Scientific Secretary:

G. ROATI – INO-CNR and LENS, Università di Firenze, Sesto Fiorentino (Italy)

Deadline for application:

20 April 2014

Correspondence and application forms should be sent to:

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Arrival day:

Sunday, 6 July 2014

Opening of the Course:

Monday, 7 July 2014

Closing of the Course:

Tuesday, 15 July 2014

Participation fee:

€ 1300,00 (for attendance, board, lodging and Proceedings)