Nanotechnology meets Quantum Information

July 11 to 14, 2016 — Donostia-San Sebastián

Ever smaller and better designed semiconductor structures are reaching the quantum realm, leading to new promises and challenges in information processing. In the school "Nanotechnology meets Quantum Information" seven leading experts will provide a comprehensive and broad overview about different implementations for both quantum information processing and quantum simulation enabled by recent progress in nanotechnologies and the experimental and theoretical challenges in exploring the prospects of quantum computing, quantum simulation, and the physics of quantum many-body systems.

Information and Registration: [http://nanoqi.dipc.org/](http://nanoqi.dipc.org/)

Application Deadline: April 30th, 2016

School fee: 200EUR

Lectures by:
Darrick E. Chang  Liang Fu  Ataç Imamoğlu  Daniel Loss
J. Ignacio Cirac  Mikhail D. Lukin  Andreas Wallraff

Organization: Géza Giedke (DIPC)  Alejandro González-Tudela (MPQ)  J. Ignacio Cirac (MPQ)
email: nanoqi@dipc.org
Program

Summerschool Nanotechnology meets Quantum Information (NanoQI)

July 11 to 14, 2016, Palacio Miramar, Donostia-San Sebastián

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<td>Registration</td>
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<tr>
<td>09:00</td>
<td>Cirac</td>
<td>Chang</td>
<td>Imamoğlu</td>
<td>Fu</td>
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<td>Wallraff</td>
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<td>Imamoğlu</td>
<td>Loss</td>
<td>Chang</td>
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Darrick Chang (ICFO): Creating Quantum Matter and Light with Cold Atoms coupled to Photonic Crystals

Ignacio Cirac (MPQ): Quantum Information and Quantum Simulation

Liang Fu (MIT): Majorana Takes Charge: Teleportation, Braiding and Computation

Ataç Imamoğlu (ETH): Solid-state Quantum Optics

Daniel Loss (U Basel): Spin Qubits in Semiconducting Nanostructures

Mikhail Lukin (Harvard): Quantum Optics and Quantum Metrology with Nanoscale Systems

Andreas Wallraff (ETH): Exploring Quantum Physics with Superconducting Circuits

Organization:
J. Ignacio Cirac (1), Géza Giedke (2), Alejandro González-Tudela (1)
(1) Max-Planck Institut für Quantenoptik (MPQ), Garching
(2) Donostia International Physics Center (DIPC), San Sebastián

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