

INSTITUT D'ETUDES SCIENTIFIQUES DE CARGESE

Cargèse International School 2016

DIADEMS Summer School

April 26 - May 6, 2016



Web site

Jean-François ROCH

Laboratoire Aimé Cotton,
Orsay, France
jean-francois.roch@ens-
cachan.fr

Thierry DEBUISSCHERT

Thales Research &
Technology
thierry.debuisschert@thales
group.com



The DIADEMS Summer School is centred on the emerging field of quantum sensing. It will provide a solid basis for students aiming at a scientific career in this highly active field.

The lectures will give an overview of different quantum-enhanced sensing techniques, with a focus on the **Nitrogen-Vacancy (NV) center in diamond**, while providing an understanding of complementary, and sometimes competing magnetometry methods. The program will cover the very basics of NV physics, from diamond growth and implantation, through measurement protocols for coherent manipulation - to modern diamond sensor fabrication and demonstration of applications in biophysics, condensed matter physics and industry. A large space will also be given to comparison to other magnetometry techniques, such as spin-polarized STM, scanning SQUID, MRFM and GMR.

The school is organized and partly funded by the 7th Framework European project DIADEMS.

Eminent scientists will animate the school. These include:

J. Wrachtrup (Universität Stuttgart), M. Orrit (Universiteit Leiden), J. Maze (Pontificia Universidad Católica, Santiago de Chile), C. Nebel (Fraunhofer Institut Freiburg), J. Meijer (Universität Leipzig), F. Reinhard (Technische Universität München), D. Suter (Universität Dortmund), A. Retzker (Hebrew University of Jerusalem), F. Treussart (Laboratoire Aimé Cotton), C. Becher (Universität des Saarlandes), F. Jelezko (Universität Ulm), T. Debuisschert (Thales), A. Edmonds (Element 6), K. Karrai (Attocube), D. Awschalom (University of Chicago), R. Wiesendanger (Universität Hamburg), D. Rugar (IBM), C. Fermon (CEA Saclay), Eli Zeldov (Weizmann Institute of Science), O. Arcizet (Institut Néel CNRS), M. Lukin (Harvard University), R. Walsworth (Harvard University), A. Yacoby (Harvard University), M. Loncar (Harvard University), Ophir Auslaender (Technion - Israel Institute of Technology).

Scientific Committee

Christoph Becher (Universität des Saarlandes), Thierry Debuisschert (Thales), Amit Finkler (Universität Stuttgart), Vincent Jacques (CNRS), Fedor Jelezko (Universität Ulm), Patrick Maletinsky (Universität Basel), Jean-François Roch (Laboratoire Aimé Cotton).

Organization Committee

Thierry Debuisschert (Thales), Jean-François Roch (Laboratoire Aimé Cotton), Emmanuelle Da Silva (ARTTIC), Elisabeth Graf (ARTTIC).

Application and registration

Participation is subject to online application:

Please provide a motivation letter & résumé (including a list of recent publications) on <http://www.iesc.univ-corse.fr/en/participation/online-registration/>

Additional information on: <https://www.eurtd.com/diadems/2016/summer-school/>

Deadline for Registration: January 31st, 2016

Registration Fees: 1300 Euros (may be lower, subject to possible external funding)