

Program

Sunday, 3 April 2011

17:00 – 21:00 Registration

from 18:30 *BUFFET SUPPER / informal get together*

Monday, 4 April 2011

8:00 *BREAKFAST*

8:40 – 8:45 Jörg Wrachtrup **Welcome**

8:45 – 9:00 Ernst Dreisigacker **About the Wilhelm and Else Heraeus Foundation**

Spintronics I

9:00 – 9:45 Bob Buckley **Coherent spin-light coupling for non-destructive readout and unitary control of single spins in diamond**

9:45 – 10:30 Fedor Jelezko **Projective readout of single nuclear spins**

10:30 – 11:00 *COFFEE BREAK*

11:00 – 11:45 Dmitry Budker **Towards sensitive magnetometers based on NV-ensembles**

Photonics special

11:45 – 12:30 Stefan Götzinger **Single molecules as basic elements of optical quantum networks**

12:30 **Conference Photo** (on the stairs in front of the lecture room)

12:35 *LUNCH*

Program

Monday, 4 April 2011

Materials

- 14:00 – 14:45 Daniel Twitchen **A short introduction to growth and defects in diamond**
- 14:45 – 15:30 Jan Meijer **Ion beam implantation as an appropriate method to address color centers in diamond**
- 15:30 – 16:15 Steven Praver **Fabrication strategies for diamond based quantum and bionic devices**
- 16:15 – 16:45 *COFFEE BREAK*

NV center – Theory and application

- 16:45 – 17:15 Paul Delaney **Singlets and triplets of the NV center**
- 17:15 – 17:45 Philip Hemmer **Secrets of sub-wavelength imaging (and lithography)**
- 17:45 – 18:30 **Poster Flash**
- 18:30 *CONFERENCE DINNER*

Followed by a social evening on invitation of the Wilhelm and Else Heraeus Foundation in the Physikzentrum

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Tuesday, 5 April 2011

8:00 *BREAKFAST*

Spintronics II

9:00 – 9:45 Neil Manson **The nitrogen vacancy optical cycle**

9:45 – 10:30 Ronald Hanson **Advanced quantum control of spins
and photons in diamond**

10:30 – 11:00 *COFFEE BREAK*

Defect Theory

11:00 – 11:45 Adam Gali ***Ab initio* theory of nitrogen-vacancy
defect in diamond**

11:45 – 12:30 Llyod Hollenberg **Quantum measurement and
orientation tracking of fluorescent
nanodiamonds in living cells**

12:30 *LUNCH*

PARALLEL WORKSHOPS

14:00 – 18:30 Christoph Becher **Diamond photonics**

 Jeronimo Maze **Group theory of defects in diamond**

 Gunnar Jeschke **Spin physics with applications to ESR
experiments**

intermediate
16:00 – 16:30 *COFFEE BREAK*

18:30 *DINNER*

20:00 **Poster Session**

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Wednesday, 6 April 2011

8:00 *BREAKFAST*

Spintronics III

9:00 – 9:45 Mikhail Lukin **Quantum optics with NV Centers**

9:45 – 10:30 Ren-Bao Liu **Control of qubit decoherence in solids and applications**

10:30 – 11:00 *COFFEE BREAK*

Surfaces / Bio-Applications

11:00 – 11:45 Jose Garrido **Controlling the charge state of nitrogen-vacancy centers in diamond**

11:45 – 12:30 Huan-Cheng Chang **Nanodiamonds for optical bioimaging**

12:30 *LUNCH*

PARALLEL WORKSHOPS

14:00 – 18:30 Christoph Becher **Diamond photonics**

 Jeronimo Maze **Group theory of defects in diamond**

intermediate
16:00 – 16:30 *COFFEE BREAK*

18:30 *DINNER*

20:00 Andrew Briggs **Quantum control of spins in condensed matter**

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Thursday, 7 April 2011

8:00 *BREAKFAST*

Photonics I

9:00 – 9:45 Marko Loncar **Diamond nanophotonics and quantum optics**

9:45 – 10:30 Dominik Wildanger **Techniques for optical far-field addressing of single spins beyond the diffraction limit**

10:30 – 11:00 *COFFEE BREAK*

Photonics II

11:00 – 11:45 Charles Santori **Optical microcavities for quantum networks in diamond**

11:45 – 12:30 Tim Schröder **Manipulation and integration of nanodiamond single photon sources into optic, photonic and plasmonic structures**

12:30 – 12:40 **Jörg Wrachtrup** **Closing remarks – Poster awards**

12:40 *LUNCH*

End of the Seminar and Departure