

Monday, July 25, 2011

7:30-8:00

Registration

8:00-8:30

Opening Session

8:30-9:15

Plenary Talk I: Konstantin Novoselov, University of Manchester

9:15-10:00

Plenary Talk II: M. Zahid Hasan, Princeton University

10:00-10:30

Coffee break

Session Mo-1: Optical Processes in Carbon Nanomaterials

10:30-11:00

A. C. Ferrari, *University of Cambridge*, "Graphene Photonics" (invited talk)

11:00-11:15

A. Urich, K. Unterrainer, and T. Mueller, *Vienna University of Technology*, "Intrinsic Response Time of Graphene Based Photodetectors"

11:15-11:30

P. Plochocka, P. Kossacki, A. Golnik, T. Kazimierczuk, C. Berger, W. A. de Heer, and M. Potemski, *Laboratoire National des Champs Magnétiques Intenses, University of Warsaw, and Georgia Institute of Technology*, "Ultrafast Dynamics of Carriers in Graphene in External Magnetic Field"

11:30-11:45

J. H. Kim, K. J. Yee, M. H. Jung, B. H. Hong, E. H. Házroz, and J. Kono, *Chungnam University, Sungkyunkwan University, and Rice University*, "Observation of Coherent Phonons in Single-Walled Carbon Nanotubes and Graphene"

11:45-12:00

Z. Jiang, L.-C. Tung, W. Yu, P. Cadden-Zimansky, and D. Smirnov, *Georgia Institute of Technology, National High Magnetic Field Laboratory, and Columbia University*, "Magnetic-Field Tunable Electron-Phonon Coupling in Graphite"

12:00-13:30

Lunch

Session Mo-2: Carbon Nanotubes, Graphite, and Graphene

- 13:30-14:00 M. Zheng, *National Institute of Standards and Technology*, "Enrichment of Single-Chirality Carbon Nanotubes Using DNA" (invited talk)
- 14:00-14:15 E. H. H  roz, W. D. Rice, B. Y. Lu, J. G. Duque, S. K. Doorn, P. Nikolaev, S. Arepalli, R. H. Hauge, and J. Kono, *Rice University, Los Alamos National Laboratory, and Sungkyunkwan University*, "The Colors of Armchair Carbon Nanotubes"
- 14:15-14:30 M. E. Portnoi, R. R. Hartmann, N. J. Robinson, C. A. Downing, and D. A. Stone, *University of Exeter, Universidade Federal do Rio Grande do Norte, and University of Oxford*, "Fully Confined States in Graphene Waveguides, Quantum Dots and Rings"
- 14:30-14:45 J. Karch, P. Olbrich, M. Schmalzbauer, C. Zoth, C. Brinsteiner, M. Fehrenbacher, U. Wurstbauer, M. M. Glazov, S. A. Tarasenko, E. L. Ivchenko, D. Weiss, J. Eroms, R. Yakimova, S. Lara-Avila, S. Kubatkin, and S. D. Ganichev, *University of Regensburg, Russian Academy of Sciences, Link  ping University, and Chalmers University of Technology*, "Photon Helicity Driven Electric Currents in Graphene"
- 14:45-15:00 R. He, L. Zhao, N. Petrone, K. S. Kim, V. Shenoy, A. Pasupathy, J. Hone, P. Kim, and A. Pinczuk, *Columbia University and Brown University*, "Strain and Morphology of CVD Graphene on Copper Substrate"
- 15:00-15:15 Y. Kim, A. Lombardo, N. G. Kalugin, J. Kono, A. C. Ferrari, and D Smirnov, *Florida State University / National High Magnetic Field Laboratory, New Mexico Technical University, Rice University, and University of Cambridge*, "Magneto-phonon Resonance in Graphite"
- 15:15-15:30 Break

- 15:30-18:00 **Poster Session I**

Tuesday, July 26, 2011

7:30-8:30 Registration

Session Tu-1: Spintronics I: RKKY, Spin-Orbit, and Hyperfine Interactions

- 08:30-09:00 W. Wegscheider, *ETH Zürich*, "Magnetic Coupling of a High-Mobility 2D Hole Gas with Remotely-Doped Mn Ions" (invited talk)
- 09:00-09:15 D. Tutuc, B. Popescu, D. Schuh, W. Wegscheider, and R. J. Haug, *Leibniz Universität Hannover and Universität Regensburg*, "Chirally Coupled Quantum Dots in Kondo Regime"
- 09:15-09:30 C. M. Yin, N. Tang, J. X. Duan, F. J. Xu, B. Shen, and Y. H. Chen, *Peking University and Chinese Academy of Sciences*, "Photoinduced Anomalous Hall effect in $\text{Al}_{0.25}\text{Ga}_{0.75}\text{N}/\text{GaN}$ Heterostructures"
- 09:30-09:45 H. Sanada, T. Sogawa, H. Gotoh, K. Onomitsu, M. Kohda, J. Nitta, and P. V. Santos, *NTT Basic Research Laboratories, Tohoku University, and Paul-Drude-Institute für Festkörperelektronik*, "Acoustically Controlled Spin-Orbit Interactions in GaAs"
- 09:45-10:00 E. A. Chekhovich, A. B. Krysa, M. S. Skolnick, and A. I. Tartakovskii, *University of Sheffield*, "Direct Measurement of the Hyperfine Interaction of Valence Band Holes Using Single Quantum Dots"
- 10:00-10:30 Break

Session Tu-2: Photonic Structures, Devices, and Crystals

- 10:30-11:00 O. Makarovskiy, *University of Nottingham*, "Nanoscale LEDs and Electrostatic Quantum Dots in GaMnAs/GaAs Heterostructures" (invited talk)

MSS-15

- 11:00-11:15 A. Laucht, S. Pütz, T. Günthner, M. Bichler, M. Kaniber, and J. J. Finley, *Technische Universität München*, "Emission Dynamics and Efficient Single Photon Emission from Single Quantum Dots Coupled to Propagating Modes in a Photonic Crystal Waveguides"
- 11:15-11:30 J. Claudon, J. Bleuse, N. S. Malik, P. Jaffrennou, M. Bazin, C. Sauvan, P. Lalanne, N. Gregersen, and J. M. Gérard, *CEA-CNRS-UJF, Institut d'Optique/LCFIO, and DTU-Fotonik*, "A Highly Efficient Single-Photon Source Based on a Quantum Dot in a Photonic Nanowire"
- 11:30-11:45 S. Frédérick, K. Mnaymneh, D. Dalacu, P. J. Poole, G. C. Aers, J. Lapointe, A. J. SpringThorpe, and R. L. Williams, *National Research Council of Canada*, "Coupling Site-Selected InAs/InP Quantum Dots to Photonic Crystal Waveguides"
- 11:45-12:00 N. Hauke, S. Lichtmannecker, T. Zabel, M. Kaniber, D. Bougeard, G. Abstreiter, J. J. Finley, and Y. Arakawa, *Technische Universität München, Universität Regensburg, and University of Tokyo*, "Enhanced Luminescence from Silicon on Insulator Photonic Crystal defect Nanocavities with and without Self-Assembled Ge-Islands"

12:00-13:30 Lunch

Session Tu-3: Single-Dot Spectroscopy

- 13:30-14:00 M. Atatüre, *University of Cambridge*, "Spin-Resolved Quantum-Dot Resonance Fluorescence" (invited talk)
- 14:00-14:15 A. Reinhard, T. Volz, and A. Imamoglu, *Eidgenössische Technische Hochschule Zürich*, "Photon Blockade and Two-Photon Resonance in Quantum Dot Cavity-QED"
- 14:15-14:30 J. M. Gérard, J. Claudon, J. Bleuse, N. M. Singh, M. Creasey, I. Maksymov, J. P. Hugonin, P. Lalanne, and N. Gregersen, *CEA-CNRS-UJF, Institut d'Optique/LCFIO, and DTU-Fotonik*, "Strong Inhibition and Single-Mode Behavior for the Spontaneous Emission of Quantum Dots in Photonic Wires"

MSS-15

- 14:30-14:45 S. Göpfert, L. Worschech, S. Lingemann, C. Schneider, D. Press, S. Höfling, and A. Forchell, *Universität Würzburg and Stanford University*, "Telecom Light Sensor with Single Site-Controlled InAs Quantum Dots"
- 14:45-15:00 E. B. Flagg, A. Muller, S. V. Polyakov, A. Ling, A. Migdall, and G. S. Solomon, *National Institute of Standards and Technologies & University of Maryland*, "Two-Photon Interference from Separate InAs Quantum Dots"
- 15:00-15:15 Y. Ota, S. Iwamoto, N. Kumagai, and Y. Arakawa, *University of Tokyo*, "Observation of Spontaneous Two Photon Emission from a Single Quantum Dot in a High Q Photonic Crystal Nanocavity"
- 15:15-15:30 K. Müller, G. Reithmaier, A. Bechtold, M. Zecherle, E. C. Clark, M. Betz, G. Abstreiter, and J. J. Finley, *Technische Universität München and Technische Universität Dortmund*, "Excited State Quantum Couplings, Dynamics and Optical Switching of an Artificial Molecule"
- 15:30-15:45 Break

- 15:45-18:00 **Poster Session II**

Wednesday, July 27, 2011

07:30-09:00

Registration

09:00-13:30

Excursion (Wakula)

13:30-14:00

Break

14:00-14:45

Plenary Talk III: Jérôme Faist, ETH Zürich

14:45-15:30

Plenary Talk IV: Amir Yacoby, Harvard University

15:30-18:00

Poster Session III

Thursday, July 28, 2011

7:30-8:30

Registration

Session Th-1: Spintronics II: Spin Dynamics, Transport, and Manipulation

08:30-08:45

J. Kierig, A. Wild, J. Sailer, K. M. Itoh, E. E. Haller, G. Abstreiter, S. Ludwig, and D. Bougeard, *Universität Regensburg, Technische Universität München, Keio University, Lawrence Berkeley National Laboratory, and University of California, Berkeley*, "Towards Electron Spin Qubits in Nuclear Spin Free Si/SiGe Heterostructures"

08:45-09:00

S. Z. Denega, M. Sladkov, D. Reuter, A. D. Wieck, and C. H. van der Wal, *University of Groningen and Ruhr-Universität Bochum*, "Ultrafast Mapping of Optical Polarization States onto Spin Coherence of Localized Electrons in a Semiconductor"

09:00-09:15

Y. Kodriano, I. Schwartz, Y. Benny, R. Presman, E. Poem, and D. Gershoni, *Technion - Israel Institute of Technology*, "Complete Control of a Single Exciton Spin State by a Single, Fast Laser Pulse"

09:15-09:30

V. Jovanov, T. Eisfeller, S. Kapfinger, E. C. Clark, F. Klotz, M. Bichler, J. G. Keizer, P. M. Koenraad, G. Abstreiter, J. J. Finley, *Technische Universität München, Eindhoven University of Technology*, "Electrical Control of the Exciton g-factor in InGaAs Quantum Dots"

09:30-09:45

E.A.Chekhovich, J.Puebla, A.B.Krysa, M.S.Skolnick, and A. I. Tartakovskii, *University of Sheffield*, "Light Polarization Independent Nuclear Spin Alignment in Quantum Dots"

09:45-10:00

X. G. Jin, A. Mano, N. Yamamoto, M. Suzuki, T. Yasue, T. Koshikawa, N. Tanaka, and Y. Takeda, *Nagoya University, Osaka prefecture University*, "Super-high Brightness and High Spin-Polarization Photocathode for Spin-Polarized LEEM and Pulse Spin-TEM"

10:00-10:30

Break

Session Th-2: Growth and Fabrication of Novel Materials and Structures

- 10:30-10:45 H. Groiss, F. Schäffler, G. Hesser, N. Zakharov, P. Werner, K. Koike, and M. Yano, *Johannes Kepler University, Max Planck Institut für Mikrostrukturphysik, and Osaka Institute of Technology*, "Formation of Coherent PbTe Nanocrystals in MBE-Grown PbTe/CdTe Heterostructures"
- 10:45-11:00 U. Wurstbauer, T. Schiros, A. S. Plaut, A. Rigosi, L. Zhao, C. Gutierrez, R. He, C. Dean, P. Kim, L. N. Pfeiffer, A. Pasupathy, A. Pinczuk, and J. M. García, *Columbia University, University of Exeter, Princeton University, and Instituto de Microelectrónica de Madrid*, "Molecular Beam Growth of Graphene Layers on Dielectrics"
- 11:00-11:15 D. Lindgren, K. Kawaguchi, M. Heurlin, M. T. Borgström, M. Ek, and L. Samuelson, *Lund University and Fujitsu Laboratories*, "Migration-Modulated Formation of InAs Quantum Dots on Stacking-Fault Controlled InP Nanowires with Wurtzite Crystal Structure"
- 11:15-11:30 K. Akahane and N. Yamamoto, *National Institute of Information and Communications Technology*, "Wide-band Electroluminescence from Highly Stacked Quantum Dot Grown Using Strain-Compensation Technique"
- 11:30-11:45 F. Hackl, M. Brehm, M. Grydlik, E. Lausecker, H. Groiss, F. Schäffler, T. Fromherz, and G. Bauer, *Johannes Kepler University*, "Regular SiGe Island Arrays on Patterned Si (001) Substrates: Towards Perfect Ordering for Widely Scaled Pit-Periods"
- 11:45-12:00 C. Bombis, J. Mielke, L. Lafferentz, H. Yu, S. Hecht, and L. Grill, *Fritz-Haber-Institute and Humboldt University Berlin*, "Single Polymers on Ultrathin NaCl Films Studied by STM: Towards Hybrid Structures"
- 12:00-13:30 Lunch

Session Th-3: Optical Processes in Modulated Semiconductor Structures

- 13:30-14:00 M. Wagner, *Forschungszentrum Dresden-Rossendorf*, "Terahertz Nonlinear Optics of Intra-exciton Dynamics in Quantum Wells" (invited talk)
- 14:00-14:15 J. B. Kinzel, D. Rudolph, M. Bichler, G. Koblmüller, G. Abstreiter, J. J. Finley, A. Wixforth, and H. J. Krenner, *Universität Augsburg and Technische Universität München*, "Directional and Dynamic Modulation of the Optical Emission of an Individual GaAs Nanowire Using Surface Acoustic Waves"
- 14:15-14:30 M. Korkusinski, O. Voznyy, and P. Hawrylak, *National Research Council of Canada*, "Atomistic Theory of Coupling of Exciton Complexes with Different Number of Excitations in Semiconductor Nanostructures"
- 14:30-14:45 D. Sager, S. Vinaji, C. Gutsche, A. Lysov, I. Regolin, W. Prost, F. J. Tegude, and G. Bauer, *Universität Duisburg-Essen*, "Spatially and Temporally Resolved Photo-electric Analysis of a Single p-n GaAs Nanowire Diode"
- 14:45-15:00 I. Suemune, H. Sasakura, C. Hermannstädter, J.-H. Huh, Y. Asano, K. Tanaka, T. Akazaki, and H. Kumano, *Hokkaido University, Japan Science and Technology Agency, Hamamatsu Photonics, and NTT Basic Research Laboratory*, "Radiative Recombination Processes Based on Electron Cooper Pairs in Doped Semiconductors: Quantitative Evaluation of Roles of Cooper Pairs and Normal Electrons"
- 15:00-15:15 S. Funk, I. Zardo, D. Rudolph, D. Spirkoska, G. Koblmüller, J. J. Finley, and G. Abstreiter, *Technische Universität München*, "Structural and Electronic Properties of GaAs Based Core-Shell Nanowires Probed by Resonant Raman Spectroscopy"
- 15:15-15:45 Break

Session Th-4: Transport in Modulated Semiconductor Structures

- 15:45-16:00 D. Borowsky, E. Schubert, F. Bauer, J. Heyder, J. v. Delft, W. Wegscheider, and S. Ludwig, *Ludwig-Maximilians-University of Munich and Eidgenössische Technische Hochschule Zürich*, "Origin of the 0.7 Structure of Quantum Point Contacts? Universal Scaling"
- 16:00-16:15 B. Ganjipour, J. Wallentin, M. T. Borgström, L. Samuelson, and C. Thelander, *Lund University*, "InP/GaAs Nanowire Tunnel Field Effect Transistors"
- 16:15-16:30 P. Vitushinskiy, M. Ohmori, and H. Sakaki, *Toyota Technological Institute and National Institute for Materials Science*, "Confined Transport of Electrons through Self-Organized InGaAs Quantum Rods"
- 16:30-16:45 P. Moetakef, J. Y. Zhang, A. Kozhanov, B. Jalan, R. Seshadri, S. J. Allen, and S. Stemmer, *University of California, Santa Barbara*, "Transport in Ferromagnetic GdTiO₃/SrTiO₃ Heterostructures"
- 16:45-17:00 A. Baumgartner, A. Patanè, E. Stock, L. Eaves, D. Bimberg, and M. Henini, *University of Nottingham and Technische Universität Berlin*, "Optical Imaging of Electrical Carrier Injection into Individual InAs Quantum Dots"
- 17:00-17:15 Z. Pan, N. Rawat, L. Manning, C. Lamarche, I. Cour, R. L. Headrick, and M. Furis, *University of Vermont*, "Imaging Excitons in Crystalline Organic Semiconductors"

Friday, July 29, 2011

7:30-8:30

Registration

Session Fr-1: Infrared Semiconductor Lasers and Detectors

08:30-09:00

G. Springholz, Johannes Kepler University, "First Mid-infrared Quantum Dot Lasers Emitting at Wavelengths beyond 3 μm " (invited talk)

09:00-09:15

C. Schwarzer, E. Mujagic, T. Zederbauer, H. Detz, W. Schrenk, Y. Yao, C. Gmachl, and G. Strasser, Vienna University of Technology and Princeton University, "Ring Cavity Surface Emitting Quantum Cascade Lasers and Their Two-Dimensional Integration"

09:15-09:30

C. Deutsch, H. Detz, M. Nobile, A. Benz, A. M. Andrews, P. Klang, W. Schrenk, G. Strasser, and K. Unterrainer, Vienna University of Technology, "Type II InGaAs/GaAsSb Terahertz Quantum Cascade Lasers"

09:30-09:45

G. C. Dyer, N. Q. Vinh, S. Preu, S. J. Allen, G. R. Aizin, J. L. Reno, and E. A. Shaner, Sandia National Laboratories, University of California, Santa Barbara, and City University of New York, "On-Chip 2D Plasmonic Wave Vector Engineering in Si Lens Coupled Terahertz Detectors"

09:45-10:00

T. Gebhard, D. Alvarenga, C. A. Parra-Murillo, R. Kawabata, P. S. S. Guimarães, K. Unterrainer, M. P. Pires, G. S. Vieira, J. M. Villas-Boas, M. Z. Maialle, M. H. Degani, P. F. Farinas, N. Studart, and P. L. Souza, Technische Universität-Wien, DISSE-Instituto Nacional de Ciência e Tecnologia de Nanodispositivos Semicondutores, Universidade Federal de Minas Gerais, Pontificia Universidade Católica, Universidade Federal do Rio de Janeiro, Instituto de Estudos Avançados, Universidade Federal de Uberlândia, Universidade Estadual de Campinas - Limeira, and Universidade Federal de São Carlos, "Exceptionally Narrow Band Quantum Dot Infrared Photodetector"-----
10:00-10:15

Break

MSS-15

10:15-11:00 **Plenary Talk V: Jochen Mannhart, *Max-Planck-Institut für Festkörperforschung, Stuttgart***

11:00-11:45 **Plenary Talk VI: Loren N. Pfeiffer, *Princeton University***

11:45-12:00 **Closing**