WORKSHOP PROGRAMME

MONDAY, February 14th

venue: Tumski Hotel

8:50–9:00 Opening

Mo.1. Spins and magnetic systems I

9:00–9:40 V.M. Axt
Unusual optical properties of narrow gap magnetic semiconductors

9:40–10:20 T. Korn
Electron and hole spin dynamics in semiconductor heterostructures

10:20–10:40 M. Raskin, K.M. Whitaker, G. Kiliani, S.T. Ochsenbein, N. Janßen, M. Fonin, U. Rüdiger, A. Leitenstorfer, D.R. Gamelin, R. Bratschitsch
Ultrafast spin dynamics in wide bandgap magnetic semiconductors

10:40–11:00 Coffee break

Mo.2. Quantum dots I

11:00–11:40 D. Guclu, P. Potasz, P. Hawrylak
Optical properties of graphene quantum dots

11:40–12:00 T. Kazimierczuk, M. Goryca, T. Smoleński, P. Wojnar, Ł. Kłopotowski, K. Fronc, A. Golnik, J. A. Gaj, P. Kossacki
Experimental identification of emission lines in CdTe-based quantum dots

12:00–12:20 M.-R. Dachner, A. Carmele, F. Milde, M. Richter, A. Knorr
The impact of phonon-assisted capturing on entangled light emission of semiconductor quantum dots

12:20–12:40 M. Zieliński, M. Korkusinski, P. Hawrylak
Atomistic theory of optical properties of self-assembled InAs/InP quantum dots

12:40–14:00 Lunch

Mo.3: Wires, rings and ribbons

14:00–14:40 W. Jaskólski, A. Ayuela, L. Chico, M. Pelc, H. Santos
Edge states and flat bands of graphene nanoribbons with arbitrary shape

14:40–15:00 P. Potasz, A. D. Guclu, O. Voznyy, J. A. Folk, P. Hawrylak
Electronic and magnetic properties of triangular graphene quantum rings

15:00–15:20 C. Ruppert, S. Thunich, G. Abstreiter, A. Fontcuberta i Morral, A. W. Holleitner, M. Betz
Coherent control of μA currents in single GaAs nanowires

15:20–16:00 A. Vagov, A. A. Shanenko, M. D. Croitoru, V. M. Axt, F. M. Peeters
Superconductivity in quasi-1,2D systems – role of geometrical quantization

16:00–16:30 Coffee break

Mo.4. Few-fermion correlated systems

16:30–17:10 M. Zecherle, C. Ruppert, E.C. Clark, J. J. Finley, M Betz
Ultrafast few-fermion optoelectronics of a single QD

17:10–17:30 L. Bryja, J. Jadczak, A. Wojs, G. Bartsch, D.R. Yakovlev, M. Bayer, P. Plochocka, M. Potemski
Cyclotron-assisted exciton hopping between free and acceptor-bound trions observed in magneto-photoluminescence of a two-dimensional hole gas

17:30–17:50 J. Huneke, I. D'Amico, P. Machnikowski, T. Thomay, R. Bratschitsch, A. Leitenstorfer, T. Kuhn
The impact of Coulomb correlations on single dot pump-probe spectra

TUESDAY, February 15th

venue: Wrocław University of Technology, building A-1, room 241 (the new Senate Hall)

8:30 *Departure of the bus from the Tumski Hotel to the University of Technology*

Tu.1. Laser structures, quantum optics and nanophotonics I

9:00–9:40 M. Kamp, S. Höfling, S. Reitzenstein, A. Forchel
Tailoring light-matter interaction for nanophotonic devices

9:40–10:00 W. Pacuski, T. Jakubczyk, J. Kobak, A. Golnik, T. Kazimierczuk, M. Goryca, P. Kossacki, J.A. Gaj, G. Karczewski, M. Wiater, T. Wojtowicz, C. Kruse, D. Hommel
ZnTe-based photonic structures with quantum dots

10:00–10:40 S. Reitzenstein, C. Kistner, T. Heindel, C. Schneider, F. Albert, S. Münch, P. Gold, A. Rahimi-Iman, M. Strauss, S. Höfling, L. Worschech, A. Forchel
Cavity Quantum Electrodynamics in Quantum Dot – Micropillar Cavities – Fundamental Research and Applications

10:40–11:00 Coffee break

Tu.2. Laser structures, quantum optics and nanophotonics II

11:00–11:40 R. Bratschitsch
Solid-state nanosystems for ultrafast semiconductor quantum optics

11:40–12:20 S. Höfling, N. Y. Kim, G. Roumpos, M. D. Fraser, A. Löffler, C. Schneider, A. Rahimi-Iman, W. H. Nitsche, M. Lohse, J. Keeling, M. H. Szymanska, S. Reitzenstein, L. Worschech, P. B. Littlewood, Y. Yamamoto, A. Forchel
Microcavity exciton-polariton condensates

12:20–12:40 M. Syperek, P. Leszczyński, W. Rudno-Rudziński, G. Sęk, J. Andrzejewski, J. Misiewicz, E. M. Pavelescu, C. Gilfert, J. P. Reithmaier
Photoluminescence dynamics in coupled (In,Ga)As/GaAs quantum well-quantum dots system

12:40–13:40 Lunch

Tu.3. Spins and magnetic systems II

13:40–14.20 M. Bayer
Optical control of electron spins in quantum dots

14:20–14:40 M. Goryca, P. Płochocka, T. Kazimierczuk, P. Wojnar, J. A. Gaj, M. Potemski, P. Kossacki
Brightening of dark excitons in a single CdTe quantum dot containing a single magnetic Mn^{2+} ion

14:40–15:00 D. E. Reiter, T. Kuhn , V. M. Axt
Ultrafast spin manipulation in a Mn doped quantum dot

15:00–15:30 Coffee break

Tu.4. Charge carriers and phonons

15:30–16:10 A. Knorr, T. Winzer, E. Malic
Theory of ultrafast carrier and phonon dynamics in graphene

16:10–16:30 T. Papenkort, T. Kuhn, V. M. Axt
Generation of coherent and incoherent phonons in a biased optically driven quantum well

16:30–16:50 A. Sitek, P. Machnikowski
Spontaneously generated coherence in a double quantum dot system: collective dynamics and phonon effects

16:50–18:30 Poster session and lab visit

18:40 *Departure of the bus from the University of Technology (main entrance to the A1 building) to the Tumski Hotel*

WEDNESDAY, February 16th

venue: Tumski Hotel

We.1. Quantum dots II

9:00–9:40 P. Kossacki, M. Goryca, T. Kazimierczuk, P. Płochocka, J. Suffczyński, J.A. Gaj, A. Golnik, M. Nawrocki, M. Potemski, G. Karczewski, P. Wojnar
Single dot spectroscopy of CdTe based self organized system

9:40–10:20 A. Grodecka-Grad
Decoherence channels of charge and spin qubits in quantum dots

10:20–10:40 M. Gläßl
Real time path integrals for the dynamics of strongly confined quantum dots

10:40–11:00 Coffee break

We.2. Quantum information and decoherence

11:00–11:40 I. D'Amico
Suppression of dephasing for an excitonic qubit via dynamical decoupling protocols

11:40–12:20 E. Zipper, M. Kurpas, M. Maśka
Quantum computing with quantum rings

12:20–12:40 M. Kurpas, E. Zipper
Instantaneous entanglement of qubits

12:40–14:00 Lunch

We.3. Quantum rings and dashes

14:00–14:40 B. Szafran
Magnetic forces and Aharonov-Bohm oscillations in semiconductor quantum rings

14:40–15:00 G. Sęk, A. Musiał, P. Podemski, J. Andrzejewski, P. Kaczmarkiewicz, P. Machnikowski, J. Misiewicz, S. Hein, A. Löffler, S. Höfling, J. P. Reithmaier, A. Forchel
Polarization properties of the emission from strongly in-plane asymmetric epitaxial nanostructures

15:00–15:20 P. Kaczmarkiewicz, A. Musiał, G. Sęk, P. Podemski, P. Machnikowski, J. Misiewicz
The effect of confinement and trapping on the optical properties of semiconductor quantum dashes

15:20–15:25 Closing address

POSTERS (Tuesday)

P.1 M. Bański, A. Podhorodecki, J. Misiewicz, M. Afzaal, P. O'Brien
Investigation on lanthanides doped β-$NaYF_4$ nanocrystals – synthesis and optical characterization

P.2 M. Baranowski, M. Syperek, R. Kudrawiec, J. Misiewicz, J. A. Gupta, X. Wu, R. Wang
Investigation of photoluminescence dynamics in type II GaAs/GaAsSb double quantum well

P.3 J. M. Daniels, T. Kuhn, V. M. Axt
Squeezing of lattice displacement due to anharmonic decay of phonons in a semiconductor quantum dot

P.4 K. Gawarecki, P. Machnikowski
Phonon-assisted tunneling in double quantum dots

P.5 J. Hüser, T. Kuhn
Higher-order corrections to the magnon dispersion in the Heisenberg model

P.6 J. Jadczak, L. Bryja, A. Wójs, G. Bartsch, D. R. Yakovlev, M. Bayer, P. Plochocka, M. Potemski
Cyclotron-assisted exciton hopping between free and acceptor-bound trions observed in magneto-photoluminescence of a two-dimensional hole gas

P.7 T. Jakubczyk, W. Pacuski, A. Golnik, C. Kruse, D. Hommel, J.A. Gaj
Investigation of light-matter interaction in ZnTe-based photonic structures

P.8 F. Janiak, M. Motyka, G. Sęk, K. Ryczko, J. Misiewicz, A. Bauer, M. Dallner, S. Höfling, A. Forchel
Optical properties of type II "W-shaped" quantum wells based on GaSb emitting in the mid infrared spectral range

P.9 C. Koehler, T. Watermann, A. Knorr, E. Malic
Theory of temporally resolved electron-phonon relaxation dynamics in carbon nanotubes

P.10 P. Karwat, P. Machnikowski
The role of phonon-induced dephasing in the spontaneous emission from double quantum dots

P.11 K. Korzekwa, P. Machnikowski, T. Kuhn , M. Kugler, T. Korn, C. Schüller
Theory of Kerr rotation and resonant spin amplification in p-doped nanostructures

P.12 P. Kowalski, P. Machnikowski
Multiple exciton generation in nanocrystals

P.13 M. Latkowska, R. Kudrawiec, G. Sęk, J. Misiewicz, J. Ibáñez, M. Henini, M. Hopkinson
Thermal quenching of individual exciton lines in GaInNAs measured by micro-photoluminescence experiment

P.14 Ł. Marcinowski, K. Roszak, P. Machnikowski
Modeling of the measurement of charge and spin states in QDs with quantum point contacts

P.15 A. Musiał, G. Sęk, P. Podemski, M. Syperek, J. Misiewicz , A. Löffler, S. Hein, S. Höfling, J. P. Reithmaier, A. Forchel
Microphotoluminescence of nanostructures with high lateral aspect ratio

P.16 R. Schmidt, C. Krasselt, C. von Borczyskowski
New Approach to Photoluminescence Intermittency: Luminescence Intensity-resolved Investigation of CdSe/ZnS Quantum Dots

P.17 A. Podhorodecki, G. Zatryb, J. Misiewicz
Time resolved spectroscopy of silicon nanocrystals