EDS: 2022

Hanseatic Workshop on "Exciton Dynamics and Spectroscopy"

CONFERENCE PROGRAMME

Center for Physical Sciences and Technology (FTMC), Vilnius, Lithuania
Venue: FTMC at Sunrise Valley, Sauletekio Ave. 3, Vilnius, Lithuania

24 August		
8:00-9:15		REGISTRATION
9:00		**CONFERENCE OPENING CEREMONY**
9:00-10:30		**Section 1: Exciton Dynamics and Spectroscopy** **Chair Prof. *Darius Abramavičius***
9:15-10:00	Invited lecture	**Leonas Valkūnas** (*Vilnius University, Lithuania*) "Roots and fruits of excitons"
10:00-10:30	Invited	**Michael Thorwart** (*Universität Hamburg, Germany*) "Vibronic quantum coherence at ultralow temperatures in photosynthetic protein complexes"
10:30-11:00		**Coffee break**
11:00-12:30		**Section 2: Exciton Dynamics and Spectroscopy** **Chair Prof. *Donatas Zigmantas***
11:00-11:30	Invited	**Jianshu Cao** (*Cambridge, USA*) "Quantum Coherence in Excitation Energy Transfer"
11:30-11:50	Oral	**Rokas Jasiūnas** (*Lithuania*) "Charge Carrier Back Transfer in Non-Fullerene Organic Solar Cells"
11:50-12:10	Oral	**Vitalii Boiko** (*Poland*) "Trap type determination in luminescence ceramics: an approach combining Raman and Thermoluminescence spectroscopy"
12:10-12:30	Oral	**Karolina Maleckaitė** (*Lithuania*) "Red fluorescent BODIPY molecular rotors for lifetime-based sensing of microviscosity"

12:30-13:30		**Lunch**
13:30-15:00		**Section 3: Exciton Dynamics and Spectroscopy** **Chair Prof. *Michael Thorwart***
13:30-14:00	Invited	**Donatas Zigmantas** (*Lund University, Sweden*) "Radiative transitions and relaxation pathways in plexcitons"
14:00-14:20	Oral	**Tomas Polivka** (*Czech Republic*) "On the origin of high-energy excited states of carotenoids: Multi-pulse vs. direct excitation"
14:20-14:40	Oral	**Joachim Seibt** (*Austria*) "Signatures of intramolecular vibrational and vibronic Qx-Qy coupling effects in absorption and CD spectra of chlorophyll dimers"
14:40-15:00	Oral	**Regimantas Januskevicius** *(EKSPLA, Lithuania)* „Laser light sources for spectroscopy"
15:00-15:30		**Coffee break**
15:30-17:30		**Section 4: Tutorial section** **Chair Asoc. Prof. *Mindaugas Macernis***
15:30-16:00	Invited	**Yuri Svirko** *(University of Eastern Finland, Finland)* "Exciton-exciton interaction and resonant third-order nonlinear optical response at the semiconductor band edge"
16:00-16:30	Invited	**Jevgenij Chmeliov** (*Vilnius University, Lithuania*) "Exploiting the Supercomputer facilities in physical science: Identifying molecular origin of different conformational states of the pigment–protein complexes"
16:30-17:30	Workshop	**Laurynas Diska, Mindaugas Mačernis** (*Lithuania*) „Introduction into supercomputers and the first steps to use supercomputer (*EuroCC, Lithuania*)" *Requirements: notebook, internet access*
17:00-17:80		**Coffee break**
17:30-19:00		**Poster session: Exciton Dynamics and Spectroscopy**

25 August		
9:00-10:30		**Section 5: Exciton Dynamics and Spectroscopy** **Chair Prof. *Leonas Valkūnas***
9:00-9:30	Invited	**Bruno Robert** (University Paris-Saclay, *France*) "Low frequency modes in photosynthetic pigments and proteins"
9:30-10:00	Invited	**Arvi Freiberg** (*University of Tartu, Estonia*) "Exciton prominence in color tuning of light-harvesting"
10:00-10:30	Invited	**Thomas Renger** (*JKU Linz, Austria*) "Theory of Energy Transfer in the Fenna-Matthews-Olson Trimer"
10:30-11:00		**Coffee break**
11:00-12:30		**Section 6: Modeling Exciton Dynamics** **Chair Prof. *Yuri Svirko***

11:00-11:30	Invited	**Thomas L.C. Jansen** (*University of Groningen, The Netherlands*) "Modeling Exciton Dynamics and Spectroscopy of Natural Light-Harvesting (Super) Complexes"
11:30-11:50	Oral	**Florian Otterpohl** (*Germany*) "The Hidden Phase of the Spin-Boson Model"
11:50-12:10	Oral	**Jaemin Lim** (*Germany*) "Multimode vibronic effects in photosynthetic systems"
12:10-12:30	Oral	**Jakub Dostál** (*Czech Republic*) "Nonresonant Coherent Two-Dimensional Spectroscopy"
12:30-13:30		**Lunch**
13:30-15:00		**Section 7: Ultrafast Spectroscopy** **Chair Prof. *Vidmantas Gulbinas***
13:30-14:00	Invited	**Juergen Hauer** (*Technical University of Munich, German*) "Molecular annihilation dynamics measured in the perturbative regime of excitation"
14:00-14:20	Oral	**Frantisek Sanda** (*Czech Republic*) "What can be learnt from 2D line-shape analysis of the fifth order signals?"
14:20-14:40	Oral	**Christopher Duffy** (*England*) "Exciton Migration, Annihilation and Quenching in LHCII Aggregates: Identifying the NPQ Mechanism with Fluorescence Lifetime Measurements"
14:40-15:00	Oral	**Light Conversion** "Light Conversion for Ultrafast Spectroscopy"
15:00-15:30		**Coffee break**
15:30-17:00		**EXCURSION to EKSPLA or Light Conversion**
17:00		**Departure by bus to Trakai region**
19:00		**CONFERENCE DINNER**

26 August		
9:00-10:30		**Section 8: Exciton Dynamics and Spectroscopy** **Chair Prof. *Arvi Freiberg***
9:00-9:30	Invited	**Ulrich Kleinekathoefer** (*Jacobs University, Germany*) "Multi-scale modelling of spectral densities and absorption spectra from different light-harvesting complexes"
9:30-9:50	Oral	**Pavel Malý** (*Czech Republic*) "Multi-excitonic probes of coherent-to-diffusive dynamics"
9:50-10:10	Oral	**Saulius Bagdonas** (*Lithuania*) "Excitation energy transfer in J-aggregates of meso-tetra-(4-sulfonatophenyl) porphyrin"

10:10-10:30	Oral	**Arvydas Ruseckas** (*Scotland*) "Understanding the morphology of organic bulk heterojunctions using energy transfer and exciton diffusion"
10:30-11:00		**Coffee break**
11:00-12:30		**Section 9: Exciton Dynamics and Spectroscopy** **Chair Prof. *Thomas Renger***
11:00-11:30	Invited	**Thorsten Hansen** (*University of Copenhagen, Denmark*) "Electron transfer in non-equilibrium environments"
11:30-11:50	Oral	**Mindaugas Macernis** (*Lithuania*) "Challenges for modeling excited states and Raman spectra properties for carotenoids and complexes with them"
11:50-12:10	Oral	**Erić Vesna** (*The Netherlands*) "Spectral simulations elucidate effects of structural disorder on ultrafast exciton dynamics in chlorosomes"
12:10-12:30	Oral	**Stepas Toliautas** (*Lithuania*) "Tracking photoexcitation to sense environment: design of BODIPY-based molecular rotors"
12:30-13:00		**Closing Remarks**
13:00-14:00		**Lunch**
14:00-16:00		**EXCURSION to Light Conversion**

Poster session: Exciton Dynamics and Spectroscopy

P1	**Chris Rehhagen** (*Germany*) "Singlet and Excimer Exciton Mobility in Perylene Orange Nanoparticles"
P2	**Mykhailo Chaika** (*Poland*) "Multiphoton ionization phenomena in Cr-doped transparent garnet ceramics"
P3	**Callum Gray** (*UK*) "Energy migration and quenching models in LHCII"
P4	**Petra Čubáková** (*Czech Republic*) "Evolution of the excited state dynamics of fucoxanthin studied by Femtosecond Stimulated Raman Spectroscopy"
P5	**Martyna Patera** (*Poland*) "Crystal Phase Quantum Dots: Excitonic Calculation in Electric Fields"
P6	**Laura Baliulytė** (*Lithuania*) "Quantum-chemical study on TPPS4 monomers and dimers including their spectra"
P7	**Yaraslau Padrez** (Lithuania) "Dynamic spectroscopic properties of single-crystal diamond needles synthesized by different methods"
P8	**Lea Northcote Sørensen** (*Denmark*) "Charge Separation in Nature"
P9	**Long Nguyen** (*The Netherlands*) "Studying energy transfer dynamics in photosystem II complexes using 2D electronic spectroscopy"
P10	**Mantas Jakučionis** (*Lithuania*) "Modeling molecular aggregate spectra using Dirac-Frenkel variational method"
P11	**Vytautas Bubilaitis** (*Lithuania*) "Nonlinear exciton equations at fifth order to the optical field: Intensity dependent nonlinear spectra dynamics in J-type aggregate"

P12	**Gabrielė Kareivaitė** (*Lithuania*) “Changes in spectral properties of *trans*-stilbene induced by aggregates formation”
P13	**Vasyl Veremeienko** (*France*) “Singlet exciton fission mechanisms in carotenoids with strong excitonic interactions”
P14	**Lena Golubewa** (*Lithuania*) “Single-walled carbon nanotubes for photothermoacoustic destruction of cancer cells”
P15	**Kai Zhong** (*The Netherlands*) “A New Method for Excitation Transfer Applied to the LH2 System”