Program SCPOC 2024 / September 2-6, Štrbské Pleso, Slovakia

Date	3.9.2024	4.9.2024	5.9.2024	6.9.2024
Time \ Day	Tuesday	Wednesday	Thursday	Friday
8:30 - 8:45	Opening	**Photonic devices** Wiesław Królikowski	Hiking/Trip	**Hot topics III** Tomáš Čižmár
8:45 - 9:00	**Hot topics I** Maciej Kowalczyk			
9:00 - 9:15		Tomasz Czyszanowski		Bartosz Krajnik
9:15 - 9:30	Pavel Zemánek			
9:30 - 9:45		Dana Seyringer		O. Hejtman
9:45 - 10:00	Radan Slavík			A. Laha
10:00 - 10:15		Tomasz Stefaniuk		G. Chimczak
10:15 - 10:30	Daniel Benedikovič			M. Szatkowski
10:30 - 10:45		Coffee break		Coffee break
10:45 - 11:00	Coffee break			
11:00 - 11:15		**Optical Imaging** Alžbeta Marček Chorvátová		**EUV/THz** - H. Fiedorowicz
11:15 - 11:30	**Spectroscopies** Martin Foldyna			L. Pina
11:30 - 11:45		Maciej Szkulmowski		J. Liu
11:45 - 12:00	Tomasz Sowiński			K. Postava
12:00 - 12:15		Ota Samek/Mojmír Šerý		J. Toběrný
12:15 - 12:30	Pavel Malý			Closing
12:30 - 12:45		Lunch		Lunch
12:45 - 13:00	Lunch		Lunch	
13:00 - 13:15				
13:15 - 13:30				
13:30 - 13:45				
13:45 - 14:00				
14:00 - 14:15		**Hot topics II** Robert Kuschmierz		
14:15 - 14:30	**New trends in Photonics** Filip Gucman			
14:30 - 14:45		Maria Cywińska	**Earth and Space Optics** Andrzej Bartnik	
14:45 - 15:00	Patrik Miček			
15:00 - 15:15		**Fiber Opt I** - P. Peterka / **Quantum Opt II** - J. Peřina	Jan Hrabina	
15:15 - 15:30	**Sensing** - M. Čížek / **Phot Techn** - S. Rerucha	I. Bugár / J. Soubusta		
15:30 - 15:45	J. Chýlek / L. Halagačka	T. Osuch / V. Trávníček	Piotr Kolenderski	
15:45 - 16:00	M. Nikodem / T. Kohut	B. Mikel / K. Thapliyal		
16:00 - 16:15	M. Śmietana / J. Chovan	Coffee break	Leszek R. Jaroszewicz	
16:15 - 16:30	Coffee break			
16:30 - 16:45		**Fiber Opt II** - R. Buczynski / **Ph Str/Dev** - R. Piramidowicz	Coffee break	
16:45 - 17:00	**Wave Opt** - Z. Jaroszewicz / **Quantum Opt I** - J. Fiurášek	A. Anuszkiewicz / P. Wróbel		
17:00 - 17:15	P. Jákl / K. Jiráková	P. Honzatko / J. Vejrosta	**Quant. and Non-linear Opt** Ondřej Haderka	
17:15 - 17:30	J. Vacula / J. Kalaga	K. Stefańska / M. Jakubowska		
17:30 - 17:45	D. Litwin / W. Leoński	G. Stępniewski / J. Olszewski	Zdenek Hradil Jaroslav Řeháček	
17:45 - 18:00	M. Marzejon / P. Tulewicz	M. Bernas		
18:00 - 18:15	M. Salamaga / M. T. Pham	Poster session 18:00-20:00	Michał Karpiński	
18:15 - 18:30	J. Winnik / A. Čepil			
18:30 - 18:45	J. Galas / J. Wójcik		Karol Tarnowski	
18:45 - 19:00				
	Dinner (19:30)	Grill Party (20:00)	Dinner (19:30)	

Congress Hall 1

Congress Hall 2 - Hunting Lounge

Monday, September 2, 2024

15:00 – 21:00 Arrival/registration

19:00 – 21:00 Dinner

Tuesday, September 3, 2024

Hot Topics I / Congress Hall 1

Chairman: Dusan Pudis, University of Zilina, Slovakia

8:30 Opening

8:45 *Development of ultrastable and ultrafast mid-IR laser sources*, **Maciej Kowalczyk** Laser & Fiber Electronics Group, Faculty of Electronics, Photonics and Microsystems, Wrocław University of Science and Technology, Wrocław, Poland, (invited)

9:15 *Optically levitated and cooled nanoparticles as a toolbox for stochastic and semi-quantum experiments*, **Pavel Zemánek**, Oto Brzobohatý, Martin Duchaň, Petr Jákl, Vojtěch Liška, Stephen Simpson, Martin Šiler, Tereza Zemánková, Institute of Scientific Instruments of CAS, Brno, Czech Republic, (invited)

9:45 *Distributed measurement of hollow core fibres*, **Radan Slavík**, Optical Research Centre, University of Southampton, Southampton, England, (invited)

10:15 *Coupling strategies for integrated photonics: advances and opportunities*, **Daniel Benedikovič**, Dept. of Multimedia and Information-Communication Technologies, University of Zilina, Zilina, Slovakia (invited)

10:45-11:55 Coffeebreak

Spectroscopies / Congress Hall 1

Chairman: Petr Hlubina, Technical University Ostrava

11:15 *Mueller matrix polarimetry as a tool for optical characterization at micro and nanoscale*, **Martin Foldyna**, LPICM-CNRS, Ecole Polytechnique, IP Paris, Palaiseau, France, (invited)

11:45 *Precise spectroscopy of antiprotonic atoms*, **Tomasz Sowiński**, Institute of Physics, Polish Academy of Sciences, Warsaw, Poland (invited)

12:15 *Ultrafast broadband fluorescence-detected coherent spectroscopy: from single molecules to in-vivo dynamics*, **Pavel Malý**, Institute of Physics of Charles University, Charles University, Prague, Czech Republic (invited)

12:45-14:15 Lunch

New Trends in Photonics / Congress Hall 1

Chairman: Piotr Wróbel, Warsaw University of Technology

14:15 *Gallium oxide for applications in electronics and optics*, **F. Gucmann**, K. Hušeková, A. Rosová, E. Dobročka, F. Egyenes, F. Hrubišák, J. Keshtkar, H. Chouhan, M. Krettová, P. Eliáš, P. Nádaždy, D. Gregušová, O. Pohorelec, A. Kozak, M. Ťapajna, Institute of Electrical Engineering, Slovak Academy of Sciences, Bratislava, Slovakia, (invited)

14:45 *Scattering-type scanning near-field optical microscopy for nanoimaging and nanospectroscopy*, **Patrik Micek**[a], Ivana Lettrichova[b], Dorota Anna Pawlak[a] [a]Ensemble3, Warsaw, Poland, [b]Dept. of Physics, University of Zilina, Zilina, Slovakia (invited)

Sensing / Congress Hall 1

Chairman: Frantisek Uherek, Slovak University of Technology

15:15 *Interferometric vibration sensing in optical fibers*, **Martin Cizek**, Lenka Pravdova, Jan Hrabina, Ondrej Cip, Dept. of Coherence Optics, Institute of Scientific Instruments of the CAS, Brno, Czech republic

15:30 *Potential sensor applications of one-dimensional photonic crystal-based resonators*, **J. Chylek**[a], T. Mizera[b], J. Ďurišová[b], D. Pudiš[b], P. Hlubina[a], [a]Department of Physics, Technical University Ostrava, Ostrava-Poruba, Czech Republic, [b]Department of Physics, University of Žilina, Žilina, Slovakia

15:45 *Reflective gas sensing probe based on anti-resonant hollow-core fiber*, **Michał Nikodem**[a], Patrycja Gronowicz[a,b], Grzegorz Gomółka[a], Ryszard Buczyński[c,d], [a]Department of Optics and Photonics, Wroclaw University of Science and Technology, Poland, [b]Whitecarbon/Nanores, Wrocław, Poland, [c]Department of Fiber Optics, Institute of Microelectronics and Photonics, Poland, [d]Faculty of Physics, University of Warsaw, Poland

16:00 *Electrochemically-enhanced optical sensing*, **Mateusz Śmietana**[a,b], Emil Pituła[a], Dujearic-Stephane Kouao[c], Petr Sezemsky[a,d], Dariusz Burnat[a], Ondrej Kyllian[e], Radka Simerova[d], Pavel Curda[d], Marcin Koba[a,f], Katarzyna Grochowska[c], Katarzyna Siuzdak[c], Vitezslav Stranak[d], [a]Warsaw University of Technology, Institute of Microelectronics and Optoelectronics, Warsaw, Poland, [b]Łukasiewicz Research Network – Institute of Microelectronics and Photonics, Warsaw, Poland, [c]The Szewalski Institute of Fluid-Flow Machinery, Polish Academy of` Sciences, Gdansk, Poland, [d]University of South Bohemia, Faculty of Science, Institute of Physics and Biophysics, Ceske Budejovice, Czech Republic, [e]Charles University, Faculty of Mathematics and Physics, Department of Macromolecular Physics, Prague, Czech Republic, [f]National Institute of Telecommunications, Warsaw, Poland

Photonic Technologies / Congress Hall 2 Hunting Lounge

Chairman: Paweł Mergo, Maria Curie-Skłodowska University

15:15 *Developing temperature-controlled enclosure for investigating temperature effects in displacement measurement interferometry*, **S. Rerucha**, M. Fridrich, B. Mikel, O. Cip, Institute of Scientific Instruments of the CAS (ISI), Brno, Czech Republic

15:30 *Optical study of p- to n-type transition of nitrogen-dopped zinc oxide thin films prepared by reactive magnetron sputtering*, **L. Halagacka**[a,b], Z. Gelnarova[a], K. Postava[a], [a]Faculty of Materials Science and Technology, VSB - Technical University of Ostrava, Ostrava, Czech Republic, [b]Nanotechnology Centre, CEET, VSB – Technical University of Ostrava, Ostrava, Czech Republic

15:45 *Characterization of the properties of photoresist for precise lithography with direct laser writing*, **T. Kohut**[a], Jakub Toběrný[a], Libor Kotačkab, Kamil Postava[a], [a]Faculty of Materials Science and Technology, VSB – Technical University of Ostrava, Czech Republic, [b]CCL Secure, Craigieburn, Australia

16:00 *Quasi-Planar Assembly of a Twelve-Fiber Array to a PCB*, **J. Chovan**[a, b], F. Uherek[a, c], D. Seyringer[d], E. Koza[e], [a]Slovak Centre of Scientific and Technical Information, International Laser Centre, Bratislava, Slovakia, [b]OptoNet Slovakia, s. r. o., Hriňová, Slovakia, [c]Slovak University of Technology, Faculty of electrical engineering and information technology, Institute of Electronics and Photonics, Bratislava, Slovakia, [d]Vorarlberg University of Applied Sciences, Research Centre for Microtechnology, Hochschulstraße 1, 6850 Dornbirn, Austria, [e]Sylex, s.r.o., Bratislava, Slovakia

16:15-16:45 Coffeebreak

Wave Optics / Congress Hall 1

Chairman: Jan Masajada, Wrocław University of Science and Technology

16:45 *Review of optical elements with extended depth of focus*, **Zbigniew Jaroszewicz**[a], Andrzej Kołodziejczyk[b], [a]National Institute of Telecommunications, Warsaw, Poland, [b]Faculty of Physics, Warsaw University of Technology, Warsaw, Poland

17:00 *Direct aberration measurement of a high NA miniature Fresnel lens*, **P. Jákl**, J. Vejrosta, T. Maňka, O. Vaculík, V. Richterová, T. Plichta, M. Šerý, P. Zemánek, Dept. of Microphotonics, Institute of Scientific Instruments of the Czech Academy of Sciences, Brno, Czech Republic

17:15 *Optimization and characterization of a light source for calibration purposes*, **Martin Vacula**[a,b], Pavel Horvath[a], Ladislav Chytka[a,b], Miroslav Hrabovsky[a], Dusan Mandat[a,b], Stanislav Michal[a,b], Libor Nozka[a,b], Miroslav Palatka[a,b], Miroslav Pech[a,b], Petr Schovanek[a,b], [a]Palacký University, Faculty of Science, Joint Laboratory of Optics of Palacky University and Institute of Physics of CAS, Olomouc, Czech Republic,

[b]Institute of Physics of the Czech Academy of Sciences, Joint Laboratory of Optics of Palacky University and Institute of Physics of CAS, Olomouc, Czech Republic

17:30 *Optical and IT modifications in microscopic interferometry*, **Dariusz Litwin**[a], Kamil Radziak[a], Adam Czyżewski[a], Jacek Galas[a], Tadeusz Kryszczyński[a], Robert Szumski[b], Justyna Niedziela[b], [a]Łukasiewicz Research Network-Tele and Radio Research Institute, Warsaw, Poland, [b]Central Office of Measures, Time and Length Department, Warsaw, Poland

17:45 *Nanoscale object tracking with holographic in-line microscopy*, **Marcin J Marzejon**[a], Piotr Zdańkowski [a], Maciej Trusiak[a], [a]Institute of Micromechanics and Photonics, Department of Mechatronics, Warsaw University of Technology, Warsaw, Poland

18:00 Optimization of one-way reflective Mueller polarimetry using twisted nematic liquid crystal, **Monika Salamaga**, Władysław A. Woźniak, Department of Optics and Photonics, Wrocław University of Science and Technology, Wrocław, Poland

18:15 *Phase retrieval methods for lensless digital holographic microscopy and their robustness to data errors*, **Julianna Winnik**[a], Damian Suski[b], Maciek Trusiak[a], [a]Warsaw University of Technology, Institute of Micromechanics and Photonics, Warsaw, Poland, [b]Warsaw University of Technology, Institute of Automatic Control and Robotics, Warsaw, Poland

18:15 *Flotation froth content estimation on the basis of Machine Learning process*, **Jacek Galas**[a], Dariusz Litwin[a], Michał Kozielski[b], Dariusz Foszcz[c], Daniel Saramak[c], Stanisław Lenczowski[d], Ewelina Kasińska-Pilut[e], Jarosław Prętki[e], [a]Łukasiewicz Research Network, Tele and Radio Research Institute, Warsaw, Poland, [b] Łukasiewicz Research Network – Institute of Innovative Technologies EMAG, [c]AGH University of Cracow, Cracow, Poland, [d]AGH University of Cracow, Cracow, Poland, [e]KGHM Polska Miedź S.A., Division of Concentrators, Polkowice, Poland

Quantum Optics I / Congress Hall 2 – Hunting Lounge

Chairman: Jan Peřina Jr., Palacky University in Olomouc

16:45 *Experimental generation of multiphoton-added coherent states of light*, Jiří Fadrný, Michal Neset, Martin Bielak, Miroslav Ježek, Jan Bílek, **Jaromír Fiurášek**, Department of Optics, Olomouc Czech Republic

17:00 *Improvement of collective entanglement witnesses via machine learning*, **Kateřina Jiráková**[a], Antonín Černoch[a], Artur Barasiński[b], Karel Lemr[c], [a]Institute of Physics of the Academy of Sciences of the Czech Republic, Joint Laboratory of Optics of Palacký University and Institute of Physics AS CR, Olomouc, Czech Republic, [b]Institute of Theoretical Physics, University of Wroclaw, Wroclaw, Poland, [c]Palacký University in Olomouc, Faculty of Science, Joint Laboratory of Optics of Palacký University and Institute of Physics AS CR, Olomouc, Czech Republic

17:15 *Violation of the Bell-CHSH inequality in three-qubit systems*, **Joanna K. Kalaga**[a], Wiesław Leoński[a], Jan Peřina Jr.[b], [a]Quantum Optics and Engineering Division, Institute of Physics, University of Zielona Góra, Zielona Góra, Poland, [b]Joint Laboratory of Optics, Faculty of Science, Palacký University, Olomouc, Czech Republic

17:30 *The two-mode bosonic system, the entanglement, and Legget-Garg inequality*, **Wiesław Leoński**[a], Joanna K. Kalaga[a], Anna Kowalewska-Kudłaszyk[b], Jan Peřina Jr.[c], [a]Quantum Optics and Engineering Division, Institute of Physics, University of Zielona Góra, Zielona Góra, Poland, [b]Nonlinear Optics Division, ISQI, Faculty of Physics, A. Mickiewicz University, Poznań, Poland, [c] Joint Laboratory of Optics, Faculty of Science, Palacký University, Olomouc, Czech Republic

17:45 *Quantifying quantum entanglement and Bell's nonlocality in two-qubit states: An Experimental Approach*, **Patrycja Tulewicz**, Karol Bartkiewicz, Institute of Spintronics and Quantum Information, Adam Mickiewicz University, Poznań, Poland

18:00 *Optical clock based on ultra-cold calcium atom*, **Tuan M. Pham**[a], Jakub Grim[a], Martin Čížek[a], Petr Jedlička[a], Lukáš Slodička[b], Ondřej Číp[a],[a]Department of Coherent Optics, Institute of Scientific Instruments of the CAS, Brno, Czechia, [2]Department of Optics, Palacky University, Olomouc, Czechia

18:15 *Real-time image processing of multi-ion quantum experiments*, **Adam Čepil**[a], Tuan M. Pham[a], Martin Čížek[a], Petr Jedlička[a], Lukáš Slodička[b], Ondřej Číp[a], [a]Department of Coherent Optics, Institute of Scientific Instruments of the CAS, Brno, Czechia, [b]Department of Optics, Palacky University, Olomouc, Czechia

18:30 *Quantum walk as a model for exploring topological phenomena*, Andrzej Grudka, Marcin Karczewski, Paweł Kurzyński, **Jan Wójcik**, Antoni Wójcik, Institute of Spintronics and Quantum Information, Faculty of Physics, Adam Mickiewicz University, Poznań, Poland

Wednesday, September 4, 2024

Photonic Devices / Congress Hall 1

Chairman: Ryszard Buczyński, Warsaw University of Technology

8:30 Generation of structured light in nonlinear photonic crystals, **W. Krolikowski**[a], Shan Liu[a], Yan Sheng[b], [a]Department of Quantum Science and Technology, Australian National University, Canberra ACT 2601, Australia,[b] Laboratory of Infrared Materials and Devices, Ningbo University, Ningbo, Zhejiang, China, (invited)

9:00 *Enhancing VCSEL emitted power by breaking circular symmetry*, M. Marciniak[a], M. Janczak[a], M. Gebski[a], M. Więckowska[a], M. Wasiak[a], J.A. Lott[b], I. Fischer[c], **T. Czyszanowski**[a], [a]Insitute of Physics, Lodz University of Technology, Poland, [b]Institute for Cross-Disciplinary Physics and Complex Systems, University of the Balearic Islands, Spain, [c]Institute of Solid-State Physics, Technical University Berlin, Germany, (invited)

9:30 *Arrayed Waveguide Gratings: from Design to Applications*, **Dana Seyringer**, Research Centre for Microtechnology, Vorarlberg University of Applied Sciences, Dornbirn, Austria, (invited)

10:00 *Optically accessible memristor switch*, Alexander Korneluk, Katarzyna Brańko, **Tomasz Stefaniuk**, University of Warsaw, Faculty of Physics, Warsaw, Poland, (invited)

10:30-11:00 Coffeebreak

Optical Imaging / Congress Hall 1

Chairman: Pavel Zemánek, Academy of Sciences of the Czech Republic

11:00 *Evaluation of the presence of microplastics by biophotonic methods*, **A. Marcek Chorvatova**[a,b], [a]Department of Biophotonics, International Laser Center SCSTI, Bratislava, Slovakia, [b]Faculty of Natural Sciences, Univ. Ss Cyril and Methodius, Slovakia, (invited)

11:30 *The eye in motion – what can we learn from eye dynamics?*, **Maciej Szkulmowski**, Nicolaus Copernicus University, Toruń, Poland, (invited)

12:00 *Practical utilization of Raman microspectroscopy for identification of microorganisms,* **O. Samek, M. Šerý,** Institute of Scientific instruments of the ASCR, Brno, Czech Republic, (invited)

12:30-14:00 Lunch

Hot Topics II / Congress Hall 1

Chairman: Alžbeta Marček-Chorvátová, International Laser Centre SCSTI

14:00 *Building a mechanical flexible and ultrathin lens for minimally invasive endoscopy*, **R. Kuschmierz**[a], J. Dremel[a], T. Glosemeyer[a], K. Zolnacz[a,c], R. Stephan[b], M. Steinke[b], J. Czarske[a], [a]TU Dresden, Dresden, Germany, [b]Leibniz Universität Hannover, Hannover, Germany, [c]Wroclaw University of Science and Technology, Wroclaw, Poland, (invited)

14:30 *How deep learning can improve digital interferometry?*, **Maria Cywińska**, Warsaw University of Technology, Institute of Micromechanics and Photonics, Warsaw, Poland, (invited)

Fiber Optics I / Congress Hall 1

Chairman: Pavel Honzatko, Academy of Sciences of the Czech Republic

15:00 *Numerical modelling of dual-wavelength (at 1040 and 1550 nm), fiber lasers based on active fibers with structured cores*, **Pavel Peterka**, Ivo Bartoň, Institute of Photonics and Electronics of the Czech Academy of Sciences, Prague, Czech Republic

15:15 *All-optical switching of near-infrared femtosecond pulses using dual-core fibers for telecommunications and spectroscopy*, Mattia Longobucco[a,b], Sarah Pulikottil Alex[c], Edgar Kaksis[c], Dariusz Pysz[a], František Uherek[d], Ryszard Buczyński[a,b], Andrius Baltuška[c], Audrius Pugžlys[c], **Ignác Bugár**[c], [a]Department of Glass, Łukasiewicz Research Network - Institute of Microelectronics and Photonics, Warsaw, Poland, [b]Department of Photonics, Faculty of Physics, University of Warsaw, Warsaw, Poland, [c]Photonics Institute, Vienna University of Technology, Vienna, Austria, [d]Slovak Centre of Scientific and Technical Information, International Laser Centre, Bratislava, Slovakia

15:30 *Femtosecond laser direct-written fiber Bragg gratings with efficient harmonic reflections*, **Tomasz Osuch**[a,b], Lena Potkańska[b], Mariusz Zdanowicz[a], [a]National Institute of Telecommunications, Warsaw, Poland, [b]Faculty of Electronics and Information Technology, Warsaw University of Technology, Warsaw, Poland

15:45 *Analysis of transmitted gamma spectrum upon scintillator shading*, **Tadeáš Zbožínek**, Michal Jelínek, Břetislav Mikel, Department of Coherence Optics, Institute of Scientific Instruments of the CAS, Brno, Czech Republic

Quantum Optics II / Congress Hall 2, Hunting Lounge

Chairman: Wiesław Leoński, University of Zielona Góra

15:00 *Quantification of quantum correlations in two-beam Gaussian states using photon-number measurements*, **Jan Peřina Jr.**[a], Artur Barasiński[a,b], Antonín Černoch[c], [a]Joint Laboratory of Optics of Palacký University and Institute of Physics of CAS, Faculty of Science, Palacký University, Olomouc, Czech Republic, [b]Institute of Theoretical Physics, Uniwersity of Wroclaw, Wroclaw, Poland, [c]Institute of Physics of the Czech Academy of Sciences, Joint Laboratory of Optics of Palacký University and Institute of Physics of CAS, Olomouc, Czech Republic

15:15 *Classification of quantum correlations of two-qubit states*, **Jan Soubusta**[a], Antonín Černoch[a], Karel Lemr[a], [a] Institute of Physics of the Czech Academy of Sciences, Joint Laboratory of Optics of Palacký University and Institute of Physics CAS, Olomouc, Czech Republic, [b] Palacký University in Olomouc, Faculty of Science, Joint Laboratory of Optics of Palacký University and Institute of Physics CAS, Olomouc, Czech Republic

15:30 *Sensitivity versus selectivity in entanglement detection via collective witnesses*, **Vojtěch Trávníček**[a], Jan Roik[b], Karol Bartkiewicz[c], Antonín Černoch[a], Pawel Horodecki[d,e], Karel Lemr[b],[a] Institute of Physics of the Czech Academy of Sciences, Joint Laboratory of Optics of PU and IP AS CR, Olomouc, Czech Republic, [b]Joint Laboratory of Optics of Palacký University and Institute of Physics of Czech Academy of Sciences, Olomouc, Czech Republic, [c]Faculty of Physics, Adam Mickiewicz University, Poznan, Poland, [d]Faculty of Applied Physics and Mathematics Gdansk University of Technology, Gdansk, Poland, [e]International Center for Theory of Quantum Technologies University of Gdansk, Gdansk, Poland

15:45 *Addition and subtraction of photons: Sub-Poissonian twin beams*, **K. Thapliyal**[a], J. Peřina Jr.[a,b], O. Haderka[a], V. Michálek[b], R. Machulka[b], [a]Joint Laboratory of Optics, Faculty of Science, Palacký University, Olomouc, Czech Republic, [b]Joint Laboratory of Optics of Palacký University and Institute of Physics of the Czech Academy of Sciences, Institute of Physics of the Czech Academy of Sciences, Olomouc, Czech Republic

16:00-16:30 Coffeebreak

Fiber Optics II / Congress Hall 1

Chairman: Wacław Urbańczyk, Wrocław University of Science and Technology

16:30 *Development of ultrafast lasers based on nanostructured free-form active fiber*, **Ryszard Buczynski**[a,b], Yutian Wang[a,c], Katarzyna Krupa[d], Ivo Barton[e], Jan Aubrecht[e], Songnian Fu[f], Ming Tang[c], Marcin Franczyk[b], Yuriy Stiepanienko[d], Ivan Kasik[e], Mariusz Klimczak[a], Pavel Peterka[e], Luming Zhao[c], [a]Faculty of Physics, University of Warsaw,

Warsaw, Poland, [b]Department of Optical Fiber Technology, Łukasiewicz Research Network - Institute of Microelectronics and Photonics, Warsaw, Poland, [c]School of Optical and Electronic Information and Wuhan National Laboratory for optoelectronics, Huazhong University of Science and Technology, Wuhan, China, [d]Institute of Physical Chemistry, Polish Academy of Sciences, Warsaw, Poland, [e]Institute of Photonics and Electronics of the Czech Academy of Sciences, Prague, Czech Republic, [f]Advanced Institute of Photonics Technology, School of Information Engineering, and Guangdong Provincial Key Laboratory of Information Photonics Technology, Guangdong University of Technology, Guangzhou, China

16:45 *Microstructured dual-core fiber for selective inscription of fiber Bragg grating*, **Alicja Anuszkiewicz**[a,b], Paweł Pogorzelski[a], Paweł Mergo[c], Tomasz Osuch[a,d], Tadeusz Martynkien[e], [a]Faculty of Electronics and Information Technology, Warsaw University of Technology, Warsaw, Poland, [b]Institute of Microelectronic and Photonics, Łukasiewicz Research Network, Warsaw, Poland, [c]Faculty of Chemistry, Maria Curie-Sklodowska University, Lublin, Poland, [d]National Institute of Telecommunications, Warsaw, Poland, [e]Faculty of Fundamental Problems of Technology, Wroclaw University of Science and Technology, Wroclaw, Poland

17:00 *Acoustic waves interactions with light in hollow core fibres*, **Pavel Honzatko**, Andrei Borodkin, Yauhen Baravets, Ondrej Moravec, Ondrej Podrazky, Ivo Barton, Martin Grabner, Ali Jasim, Institute of Photonics and Electronics of the Czech Academy of Sciences, Prague, Czech Republic

17:15 *Towards spontaneous helicon wavepacket generation in multimode optical fibers*, **Karolina Stefańska**[a,b], Pierre Béjot[a], Karol Tarnowski[b], and Bertrand Kibler[a], [a]Laboratoire Interdisciplinaire Carnot de Bourgogne, UMR6303 CNRS-UBFC, Dijon, France, [b] Department of Optics and Photonics, Wrocław University of Science and Technology, Wrocław, Poland

17:30 *Octave-spanning supercontinuum generation in photonic crystal fiber drawn from 3D printed soft glass preform*, **Grzegorz Stępniewski**[a], Paweł Wiencław[b,c], Przemysław Gołębiewski[a], Dariusz Pysz[a], Paweł Socha[a], Adam Filipkowski[a], Ireneusz Kujawa[a], Andrzej Burgs[c], Ryszard Buczyński[a,b], [a]Lukasiewicz Research Network, Institute of Microelectronics and Photonics, Warsaw, Poland, [b]Faculty of Physics, Warsaw University, Warsaw, Poland, [c]Sygnis S.A., Gdansk, Poland

17:45 *Sensing properties of spun highly birefringent optical fibers*, **M. Bernas**[a], G. Statkiewicz-Barabach[a], D. Kowal[b], M. Napiorkowski[a], P. Chmielowski[a], M.Garbacka[a], P. Mergo[c], and W. Urbanczyk[a], [a]Department of Optics and Photonics, Faculty of Fundamental Problems of Technology, Wrocław University of Science and Technology, Wrocław, Poland, [b]Lukasiewicz Research Network - PORT Polish Center For Technology Development, Wrocław, [c]Laboratory of Optical Fiber Technology, Faculty of Chemistry, Maria Curie-Sklodowska University, Lublin, Poland

Photonic Structures and Devices / Congress Hall 2, Hunting Lounge

Chairman: Mateusz Śmietana, Warsaw University of Technology

16:30 *Integrated photonics for sensing – MIRPIC technology platform*, **R. Piramidowicz**[a,b,c], S. Stopiński[a,b,c], K. Anders[a,b,c], A. Jusza[a,c], A. Paśnikowska[a], M. Lelit[a,d], A. Połatyński[e], A. Bieniek-Kaczorek[a], Ł. Kozłowski[a], P. Wiśniewski[d], M. Słowikowski[d], M. Juchniewicz[d], K. Pierściński[f], D. Pierścińska[f], J. Jureńczyk[b], M. Liebert[b], [a]Warsaw University of Technology, Institute of Microelectronics and Optoelectronics, Warsaw, Poland, [b]VIGO Photonics S.A., Ożarów Mazowiecki, Poland, [c]LightHouse Sp. z o.o., Lublin, Poland, [d]Warsaw University of Technology, Centre for Advanced Materials and Technologies CEZAMAT, Warsaw, Poland, [e]VPIphotonics GmbH, Berlin, Germany, [f]Łukasiewicz Research Network - Institute of Microelectronics and Photonics, Warsaw, Poland

16:45 *Large-area chiral plasmonic structures via nanosphere lithography*, **Piotr Wróbel**, Maksymilian Ogorzałek, Faculty of Physics, University of Warsaw, Pasteura 5, 02-093 Warsaw, Poland

17:00 *Preparation of microfluidic chip with surface waves*, **J. Vejrosta**, T. Plichta, M. Šerý, T. Maňka, S. Cabalová, Institute of Scientific Instruments of the CAS, v. v. i, Brno, Czech Republic

17:15 *Studies of light-matter interaction of 2D perovskite emitter in plasmonic cavity*, **Małgorzata Jakubowska**, Maria Kamińska, Piotr Wróbel, Faculty of Physics, University of Warsaw, Warsaw, Poland

17:30 *Reducing the length of a long-period waveguide grating broadband TE_0-TE_1 mode converter through direct multi-parameter optimization*, **J. Olszewski**, E. Środa, W. Urbańczyk, Department of Optics and Photonics, Wroclaw University of Science and Technology, Wrocław, Poland

Thursday, September 5, 2024

Earth and Space Optics / Congress Hall 1

Chairman: Henryk Fiedorowicz, Military University of Technology

14:30 *Soft X-ray and extreme ultraviolet optics in photoionized plasma research for materials processing and laboratory astrophysics*, **A. Bartnik**, M. Majszyk, W. Skrzeczanowski, T. Fok, Ł. Węgrzyński, H. Fiedorowicz, Military University of Technology, Warsaw, Poland, (invited)

15:00 *Molecular spectroscopy and laser standards in space applications*, **Jan Hrabina**, Jindřich Oulehla, Pavel Pokorný, Miroslava Holá, Lenka Pravdová, Ondřej Číp, Josef Lazar, Institute of Scientific Instruments, Czech Academy of Sciences, Brno, Czech Republic, (invited)

15:30 *Non-classical light for space and microscopy applications*, **Piotr Kolenderski**, Institute of Physics, Faculty of Physics, Astronomy and Informatics, Nicolaus Copernicus University in Torun, Torun, Poland, (invited)

16:00 *The usefulness of different kinds of rotational seismometers in seismological and engineering applications*, **Leszek R. Jaroszewicz**[a,b], Anna T. Kurzych[a,b], [a]Military University of Technology, Warsaw, Poland, [b]Elproma Elektronika Ltd., Czosnow, Poland, (invited)

16:30-17:00 Coffeebreak

Quantum and Nonlinear Optics / Congress Hall 1

Chairman: Tomasz Sowiński, Polish Academy of Sciences

17:00 *Quantum correlations in optical fields as observed by photon counting*, **O. Haderka**[a], J. Peřina Jr.[a], V. Michálek[b], R. Machulka[b], K. Thapliyal[a], I. Arkhipov[a], P. Pavlíček[b], [a]Palacký University Olomouc, Faculty of Science, Joint Laboratory of Optics of Palacký University and Institute of Physics of the Czech Academy of Sciences, Olomouc, Czech Republic, [b]Institute of Physics of the Czech Academy of Sciences, Joint Laboratory of Optics of Palacký University and Institute of Physics of the Czech Academy of Sciences, Olomouc, Czech Republic, (invited)

17:30 Optical Resolution at the Quantum Fisher Information Limit, **Zdeněk Hradil, Jaroslav Řeháček**, Department of Optics, Palacký University, Olomouc, Olomouc, Czech Republic, (invited)

18:00 *Spectral-temporal shaping of quantum light pulses*, **Michał Karpiński**, University of Warsaw, Warsaw, Poland, (invited)

18:30 *Looking into the landscape of frequency conversion processes in optical fibers: from single mode to multimode*, **Karol Tarnowski,** Dept. of Optics and Photonics, Wrocław University of Science and Technology, Wrocław, Poland, (invited)

Friday, September 6, 2024

Hot Topics III / Congress Hall 1

Chairman: Kamil Postava, Technical University Ostrava

8:30 *In vivo imaging and spectroscopy of deep brain neural activity by multimode fiber endoscope*, **Tomáš Čižmár,** Leibniz Institute of Photonic Technology, Jena, Germany, (invited)

9:00 *Luminescence nanothermometry: single nanoparticles approach*, **B. Krajnik**[a], N. Gumułka[a], N. Rybarczyk[a], M. Święs[a], D. Horak[b], Department of Experimental Physics, Wroclaw University of Science and Technology, Wroclaw, Poland, [b]Institute of Macromolecular Chemistry, Academy of Sciences of the Czech Republic, Prague, Czech Republic, (invited)

9:30 *Modeling of stationary and dynamical properties of lasers and spin-lasers for ultrafast applications*, **Oliver J. Hejtman**[a], Tibor Fördös[a], Maciej Dems[b], Kamil Postava[a], [a]Faculty of Materials Science and Technology, VSB-Technical University of Ostrava, Ostrava, Czech Republic, [b]Faculty of Technical Physics, Information Technology and Applied Mathematics, Lodz, University of Technology, Lodz, Poland

9:45 *Specialty Optical Microcavity Systems Exhibiting Conjugate Exceptional Points*, **Arnab Laha**[a], Adam Miranowicz[a], Somnath Ghosh[b], [a] Institute of Spintronics and Quantum Information (ISQI), Faculty of Physics, Adam Mickiewicz University, Poznań, Poland, [b]Department of Physics, Indian Institute of Technology (IIT) Jodhpur, Rajasthan, India

10:00 *Cloud of emitters can significantly improve two-photon blockade*, **Grzegorz Chimczak**, Anna Kowalewska-Kudłaszyk, Shilan Abo, Julia May, Adam Miranowicz, Institute of Spintronics and Quantum Information, Adam Mickiewicz University, Poznań, Poland

10:15 *Wavefront sensing with phase singularities*, **Mateusz Szatkowski**, Magdalena Łukowicz, Kamil Kalinowski, Aleksandra Korzeniewska, Jan Masajada, Singular Optics Group, Department of Optics and Photonics, Wrocław University of Science and Technology, Wrocław, Poland

10:30-11:00 Coffeebreak

EUV, X-ray, Terahertz Optics / Congress Hall 1

Chairman: Jan Jabczyński, Military University of Technology

11:00 *Laser-plasma X-ray and extreme ultraviolet (EUV) sources based on a gas puff target for applications in science and technology*, **H. Fiedorowicz**, A. Bartnik, E. Trafny, P. Wachulak, J. Czwartos, A. Nowak-Stępniowska, T. Fok, A. Lech, M. Majszyk, P. Osuchowska, M. Wardzińska, Ł. Węgrzyński, Military University of Technology, Warsaw, Poland

11:15 *Grazing incidence X-ray and EUV optics*, **Ladislav Pina,** Czech Technical University, Prague, Czech Republic

11:30 *Optical function of mercury chloride (Calomel) from infrared to Terahertz range*, **Jiaming Liu**[a], Pierre Koleják[a,b], Kamil Postava[a] ,Ondřej Ballada[c], Čestmír Barta[c], [a]Faculty of Materials Science and Technology, VŠB – Technical University of Ostrava, Ostrava, Czech Republic, [b]Univ. Lille, CNRS, Centrale Lille, Univ. Polytechnique Hauts-de-France, UMR 8520 - IEMN – Institut d'Electronique de Microélectronique et de Nanotechnologie, Lille, France, [c]BBT - Materials Processing s.r.o., Praha, Czech Republic

11:45 *Terahertz time-domain spectroscopic ellipsometry*, **Kamil Postava**, Jiaming Liu, Pierre Kolejak, Robin Silber, Faculty of Materials Science and Technology, VŠB – Technical University of Ostrava, Ostrava, Czech Republic

12:00 *Development of THz antennas and metasurfaces for high power THz emission*, **J. Toběrný**[a], H. Jaffres[b], T. Kohut[a], K. Postava[a], [a]Faculty of Materials Science and Technology, VSB – Technical University of Ostrava, Ostrava, Czech Republic, [b]Laboratoire Albert Fert, CNRS, Thales, Université Paris-Saclay, Palaiseau, France

12:15 *Closing*

12:30-13:45 Lunch

	Poster session - Wednesday September 4, 18:00-20:00				
1	Elisabeth Andriantsarazo	Simulating co-propagation of Quantum Key Distribution and White Rabbit Protocols	CESNET, z.s.p.o.	Prague	Czech Republic
2	Sahithya Atikukke	Advanced Laser-Induced Breakdown Spectroscopy Techniques for Depth Profile Analysis and Elemental Characterization in Fusion-Relevant Materials	Department of Astronomy, Physics of the Earth and Meteorology, FMPI	Bratislava	Slovakia
3	Andrei Borodkin	All-PM dispersion-managed Tm-doped fiber laser mode-locked by the NOLM	Institute of Photonics and Electronics, Czech Academy of Sciences	Prague	Czech Republic
4	Daniel Benedikovic	Optical sensing and data transport systems within single optical fiber	University of Zilina	Zilina	Slovakia
5	Agnieszka Boszczyk	What do the mutual positions of Purkinje images tell us and how do they relate to the corneal refraction, age and accommodation state?	Wroctaw University of Science and Technology	Wroctaw	Poland
6	Soňa Cabalová	Pilot experiments on microfluidic chip with surface acoustic waves	Institute of Scientific Instruments of the CAS, v. v. i.	Brno	Czech Republic
7	Rafał Cichowski	Depolarization mechanisms of Raman solitons in birefringent photonic crystal fibers	Wroclaw University of Science and Technology	Wroctaw	Poland
8	Sławomir Drobczyński	Experimental and numerical studies of the trajectory of an object in an optical trap	Wroclaw University of Science and Technology	Wroctaw	Poland
9	Jozef Dubovan	Reduced impact of polarization mode dispersion using channel reservoir switching	University of Zilina	Zilina	Slovakia
10	Peter Gašo	IP-Dip Polymer Cantilevers for AFM: analytical and numerical analysis of resonant frequencies	University of Zilina	Zilina	Slovakia
11	Przemysław Gontar	2D lens array alignment method using Newton ring interferometry	Military University of Technology	Warsaw	Poland
12	Matej Goraus	Polymer microgripper controlled by magnetic field	University of Zilina	Zilina	Slovakia
13	Jakub Grim	A comparison of Zeeman splitting properties for different source of magnetic field generations	Institute of Scientific Instruments of the Czech Academy of Sciences	Brno	Czech Republic
14	Patrycja Gronowicz	Micromachining silica-based anti-resonant hollow-core fibers with focused ion beam (FIB) or femtosecond lasers	Department of Optics and Photonics, Wroclaw University of Science and Technology	Wroctaw	Poland
15	Daniel Jandura	Preparation of polymer table-like mirror grating using 3D laser micro-printing	University of Zilina	Zilina	Slovakia
16	Petr Jedlička	Design of radiofrequency resonator for ion trap drive	Institute of Scientific Instruments of the Czech Academy of Sciences	Brno	Czech Republic
17	Jan Ježek	ROMED – Robotic system for detection of metabolic substances and pathogens in plants	ISI CAS, v.v.i.	Brno	Czech Republic
18	Agnieszka Jóźwik	Birefringent model of the human cornea	Wroctaw University of Science and Technology	Wroctaw	Poland
19	Daniel Kacik	Railway Weight-in-Motion based on optical fiber interferometry	University of Zilina	Zilina	Slovakia
20	Marcin Koba	Thin film bi-stack on fiber tip – the impact of the internal film material on label-free sensing properties	National Institute of Telecommunications	Warsaw	Poland
21	Tomas Kohut	Practical application of direct laser write lithography - synthetic security holograms	VSB - Technical University of Ostrava	Ostrava	Czech Republic
22	Dušan Kokosík	Patterning of gratings by two-beam fiber-optic interference lithography	University of Žilina	Zilina	Slovakia
23	Łukasz Kozłowski	Water contamination analysis using optical methods	Warsaw University of Technology	Warsaw	Poland
24	Ewelina Lange	The interplay between atom and cavity dissipation in quantum batteries	Institute of Spintronics and Quantum Information, Faculty of Physics, Adam Mickiewicz University	Poznań	Poland
25	Jan Látal	Study of New Generation Optical Networks with Regards to Type of Optical Amplifiers Connected in the Network	Vysoká škola báňská – Technická univerzita Ostrava	Ostrava	Czech Republic
26	Jan Látal	Multimedia Services Problems in Hybrid Network	Vysoká škola báňská – Technická univerzita Ostrava	Ostrava	Czech Republic
27	Marcin Lelit	Low-loss light coupling strategies for integrated photonics platforms designed for non-typical spectral ranges (VIS and MIR)	Politechnika Warszawska	Warsaw	Poland
28	Ivana Lettrichova	NSOM measurements of polymer-based plasmonic structures	Dept. of Physics, University of Zilina	Zilina	Slovakia
29	Jan Litvik	Silicon nitride beam splitters for O-band power and polarization management	University of Zilina	Zilina	Slovakia
30	Ivan Martincek	Optical fiber sensor for arterial pulse waveform measurement	University of Zilina	Zilina	Slovakia
31	Tadeusz Martynkien	Light coupling into planar integrated circuits using photonic structures imprinted on the optical fiber end face	Wroctaw University of Science and Technology	Wroctaw	Poland
32	Stanislav Michal	Upgrade of SAP and its verification	FZU - Institute of Physics of the CAS	Praha	Czech Republic
33	Tomas Mizera	1x6 asymmetric multi-mode interferometric optical power splitter in 3D geometry	Department of Physics ,FEIT, University of Zilina	Zilina	Slovakia
34	Daniel Mrena	2D quasicrystals and Moiré lattices fabricated by laser interference lithography	University of Zilina	Zilina	Slovakia

35	Tomáš	Novák	Assessment of Polarization Entanglement Source: Photon Counting and Correlation Measurement	CESNET z.s.p.o.	Prague	Czech Republic
36	Terézia	Nyárjasová	Polymer-based structures for application in theranostics	University of Zilina	Zilina	Slovakia
37	Adam	Paździor	Sensor probes for monitoring temperature changes in active layer of permafrost based of fiber Bragg gratings	University of Maria Curie-Skłodowska in Lublin	Lublin	Poland
38	Agnieszka	Popiołek-Masajada	Vortex quadrupole trajectory seeded in the Gaussian beam	Wroctaw University of Science and Technology	Wroctaw	Poland
39	Lenka	Pravdova	Optical frequency dissemination through hollow-core fibers	Institute of Scientific Instruments of the CAS, v. v. i	Brno	Czech Republic
40	Adam	Riha	Quasi-collinear Pumping Configuration of Fe:ZnSe Single Crystal – Temperature Dependence of Laser Output Properties under ~2.94 and ~4.04 μm Excitation	Czech Technical University in Prague	Prague	Czech Republic
41	Dana	Seyringer	STEAM-Workshops at Secondary Schools	Fachhochschule Vorarlberg	Dornbirn	Austria
42	Petr	Sezemský	Beyond Transparency: Tayloring ITO Films for Enhanced Electrochemical Performance in Opto-Electrochemical Sensors	Warsaw University of Technology	Warsaw	Poland
43	Petr	Siska	Simulation of Hybrid TWDM-PON with broadband AWG in topology	Vysoká škola báňská – Technická univerzita Ostrava	Ostrava	Czech Republic
44	Petr	Siska	Measurement of performance parameters in the GPON optical network	Vysoká škola báňská – Technická univerzita Ostrava	Ostrava	Czech Republic
45	Jędrzej	Stempin	Multiple Quantum Trajectories and Superluminal Observers	Adam Mickiewicz Univeristy	Poznań	Poland
46	Miroslav	Stibůrek	A hair-thin tool for investigation of the deepest living mouse brain structures and their activity	Institute of Scientific Instruments of the CAS, v. v. i.	Brno	Czech Republic
47	Lubos	Suslik	Near-field measurement of photonic structures for optoelectronics applications	University of Zilina	Zilina	Slovakia
48	Lukáš	Šilhan	Induced change of refractive index in borosilicate glass with femtosecond laser oscillator	Ústav přístrojové techniky AV ČR, v. v. i.	Brno	Czech Republic
49	Matěj	Špaček	Tomographic microscope for low-coherent quantitative phase imaging	Brno University of Technology	Brno	Czech Republic
50	Bára	Švejkarová	Issues affecting temperature-dependent emission spectra measurements of Thulium-doped fibers around 2 μm	The Institute of Photonics and Electronics	Prague	Czech Republic
51	Norbert	Tarjányi	Spectral dependence of birefringence induced by a liquid absorption in spatially confined PDMS samples	University of Zilina	Zilina	Slovakia
52	Josef	Vojtěch	Country wide Shared Fiber Based Infrastructure for Dissemination of Precise Time, Coherent Optical Frequency with Vibration Sensing	CESNET	Praha	Czech Republic
53	Marek	Zdurienčík	Effective grayscale laser lithography for large area 2.5D structures	University of Zilina	Zilina	Slovakia