



PROGRAMME
of the IOS 2026 Conference -
Integrated Optics - Sensors, Sensing Structures and Methods
Szczyrk, 09 – 13 February 2026

09.02.2026 Monday	
13.30	<i>Lunch</i>
15.00 – 15.10	OPENING CEREMONY of the Conferences 20th IOS 2026 53rd WSEAV 54th WSWQA
15.10 – 16.20	20th Integrated Optics - Sensors, Sensing Structures and Methods JUBILEE SESSION
15.10 – 15.30	20th JUBILEE of IOS Conference <u>T. PUSTELNY</u>
15.30 – 16.00	<i>Plenary Lecture</i> Stabilization of laser frequency to atomic reference <u>W. GAWLIK</u>
16.00 – 16.20	<i>Plenary Lecture</i> Tunable photonic fiber microstructures enhanced with gold nanoparticle-doped liquid crystals <u>T. R. WOLIŃSKI</u>
16.20 – 17.00	<i>Coffee Break</i>
17.00 – 18.00	Jubilee of the 50th Anniversary of Scientific Research and Academic Activity and the 75th Birthday of Professor Tadeusz Pustelny (<i>in Polish</i>)
18.00 – 19.00	<i>Supper</i>
19.15 – 20.00	MUSIC GLANCE

10.02.2026 Tuesday	
7.00 – 10.00	<i>Breakfast</i>
13.00	<i>Lunch</i>
14.30 – 16.30	Quantum Optics
14.30 – 14.50	<p>Beyond DBRs: high-contrast gratings, plasma enhanced DBRs, and fano resonance for mid-infrared VCSELs</p> <p>T. SMOŁKA, A. SZERLING, B. ŚCIANA, S. HÖFLING, T. CZYSZANOWSKI, M. MOTYKA</p>
14.50 – 15.10	<p>Spectroscopy of higher order states and valence band discontinuity in Ga-free type-II superlattices</p> <p>M. RYGAŁA, J. ZANON, A. BADER, T. SMOŁKA, F. HARTMANN, S. HÖFLING, M. FLATTÉ, M. MOTYKA</p>
15.10 – 15.40	<p><i>Plenary Lecture</i></p> <p>Searching for dark matter with optical sensor</p> <p>S. PUSTELNY</p>
15.40 – 16.30	Optical Medicine
15.40 – 16.10	<p><i>Plenary Lecture</i></p> <p>Spatio-temporal optical coherence tomography - new method for in vivo structural and functional imaging</p> <p>M. WOJTKOWSKI</p>
16.10 – 16.30	<p>Optimization of MOEMS probe scanning properties for 3D optical coherence tomography imaging</p> <p>P. STRUK, S. BARGIEL, M. JÓZWIK, B. MIRECKI, C. GORECKI, H. XIE, M. WOJTKOWSKI</p>
16.30 – 17.00	<i>Coffee Break</i>

17.00 – 18.40	Technologies for Photonics
17.00 – 17.30	<p><i>Plenary Lecture</i></p> <p>Polish perspective on integrated photonics - technologies, applications and challenges</p> <p>R. PIRAMIDOWICZ, S. STOPIŃSKI, K. ANDERS, A. JUSZA, M. LELIT, A. POŁATYŃSKI, P. WIŚNIEWSKI, M. SŁOWIKOWSKI, M. JUCHNIEWICZ, J. OLSZEWSKI, R. CIECHAŃSKI, K. MACHAŁOWSKI, J. JUREŃCZYK, K. PIERŚCIŃSKI, D. PIERŚCIŃSKA</p>
17.30 – 17.45	<p>FoSMoWater – development of an innovative photonic water resource monitoring system</p> <p>J. KALWAS, A. JUSZA, F. ŁABAJ, P. MARCHEWKA, W. CHARAZIŃSKI, M. ABRAMOWICZ, K. MACHAŁOWSKI, R. STOJEK, R. CIECHAŃSKI, M. LIEBERT, T. MIRECKI, M. WINCEL, N. MATWIEJ, E. KIEDRZYŃSKA, A. BIENIEK-KACZOREK, Ł. KOZŁOWSKI, P. BORTNOWSKI, K. ANDERS, S. STOPIŃSKI, R. PIRAMIDOWICZ</p>
17.45 – 18.00	<p>Thin-film technologies in optoelectronics</p> <p><u>N. JĘDRZEJCZAK</u></p>
18.00 – 18.15	<p>Temperature sensing with nickel-coated optical fibers</p> <p><u>D. LIS</u></p>
18.15 – 18.30	<p>Modern fusion splicing methods for multi-core and hollow-core optical fibers</p> <p><u>M. ROMANOWICZ</u></p>
18.30 – 18.40	<p>PhotonHub PHACTORY – A Gateway to Photonics Innovation</p> <p><u>R. PIRAMIDOWICZ</u>, A. SIEMION</p>
20.00	<i>Festive Supper</i>

11.02.2026 Wednesday	
7.00 – 10.00	<i>Breakfast</i>
13.00	<i>Lunch</i>
14.30 – 16.30	Photonic Sensors
14.30 – 14.50	<p><i>Plenary Lecture</i></p> <p>Sub-terahertz telecommunication link with a 3D-printed lens system for beam shaping</p> <p>P. ZAGRAJEK, M. MACIEJEWSKI, P. KOMOROWSKI, <u>N. PAŁKA</u></p>
14.50 – 15.10	<p><i>Plenary Lecture</i></p> <p>Topologically-protected edge states for intensity-selective and sensing THz photonic devices</p> <p><u>B. JANASZEK</u>, T. ŚMIAROWSKI, A. TYSZKA-ZAWADZKA, I. TSUKERMAN, P. SZCZEPAŃSKI</p>
15.10 – 15.30	<p>Numerical and experimental exploration of nanostructured five-mode optical fibers</p> <p><u>B. PAŁUBA</u>, M. NAPIÓRKOWSKI, R. KASZTELANIC, R. BUCZYŃSKI</p>
15.30 – 15.50	<p>An all-fiber optofluidic dye laser based on hollow-core anti-resonant fiber</p> <p><u>K. RECHCIŃSKA</u>, M. WINKOWSKI, M. ADAMOWSKA, B. PAŁUBA, A. FILIPKOWSKI, D. PYSZ, R. BUCZYŃSKI, T. STACEWICZ</p>
15.50 – 16.10	<p>Design constraints for mid-infrared sensing waveguides: interaction-limited perspective</p> <p><u>J. OLSZEWSKI</u>, A. ŚLIPEK, T. MARTYNKIEN, K. ANDERS, S. STOPIŃSKI, R. PIRAMIDOWICZ</p>
16.10 – 16.30	<p>How photonics and spectroscopy can shed light on cancer?</p> <p><u>D. KAŁUŻYŃSKA</u></p>
16.30 – 17.00	<i>Coffee Break</i>

17.00-19.00	Optoelectronic Structures
	<i>Plenary Lecture</i>
17.00 – 17.20	Variable wavelength interferometry for measuring phase and step-like objects-metrological aspects D. LITWIN, K. RADZIAK, A. CZYŻEWSKI, J. GALAS, T. KRYSZCZYŃSKI, N. BŁOCKI, R. SZUMSKI, J. NIEDZIELA
17.20 – 17.40	FDTD simulation for miniaturization D. GOLEMBOWSKI
17.40 – 18.00	When parts per trillion matter: emergent interfacial charge mediation governing ultra-low NO₂ sensing in hybrid nanocomposites P. KAŁUŻYŃSKI, M. PROCEK, A. STOLARCZYK, K. GŁOSZ, T. JAROSZ
18.00 – 18.20	Novel van der Waals materials for polarization-sensitive photodetection A. TOŁŁOCZKO, J. ZIEMBICKI, S. J. ZELEWSKI, M. GRODZICKI, M. ROSMUS, R. KUDRAWIEC
18.20 – 18.40	Practical implementation of Beer-Lambert law in gas detection K. JABŁOŃSKI, T. KORZEC, M. BAŁECKI
18.40 – 19.00	Biophotonic fiber optic measurement system as an advanced medical diagnostic tool increasing the safety of urological procedures M. SŁADEK, M. PROCEK, K. BARCZAK, E. MACIAK
19.00 – 20.00	<i>Supper</i>
20:00 – 21.00	<i>Poster Session</i>

12.02.2026 Thursday	
7.00 – 10.00	<i>Breakfast</i>
13.00	<i>Lunch</i>
14:30 – 16:30	Sensors and Nanostructures Systems
14.30 – 15.00	<p><i>Plenary Lecture</i></p> <p>Fabrication and applications of nonlinear soft-glass fiber and nanostructured elements based on 3D-printed preforms <u>P. WIENCŁAW</u>, P. GOŁĘBIEWSKI, G. STĘPNIEWSKI, B. PAŁUBA, P. SOCHA, A. FILIPKOWSKI, D. PYSZ, W. LIU, A. BURG, R. KASZTELANIC, R. BUCZYŃSKI</p>
15.00 – 15.20	<p>A process design kit for mid-infrared photonic pilot line <u>S. STOPIŃSKI</u>, J. OLSZEWSKI, A. ŚLIPEK, A. POŁATYŃSKI, M. LELIT, K. ANDERS, R. PIRAMIDOWICZ</p>
15.20 – 15.40	<p>Use of broadband propagation in the metrology of waveguide layers <u>K. GUT</u></p>
15.40 – 16.00	<p>Design of a mid-IR suspended GaAs/AlGaAs membrane waveguide gas sensor for CO₂ detection <u>A. ŚLIPEK</u>, J. OLSZEWSKI, T. MARTYNKIEN, J. JUREŃCZYK, K. ANDERS, S. STOPIŃSKI, R. PIRAMIDOWICZ</p>
16.00 – 16.15	<p>Optical transducers for measuring small temperature changes in aqueous environment caused by the absorption of high-energy radiation <u>C. TYSZKIEWICZ</u>, M. ZIĘBA, P. KARASIŃSKI, Z. OPILSKI, K. BARCZAK</p>
16.15 – 16.30	<p>DAS / DVS – principle of operation and overview of applications <u>J. KORYCIŃSKI</u></p>
16.30 – 17.00	<i>Coffee Break</i>

17.00 – 18.00	Application of Optoelectronic and Photonic Systems
17.00 – 17.20	Concept to produce next-generation low-loss ZBLAN optical fibers A. DJORDJEVIC, T. UNGER, S. LEYER, H. A. MOSER, R. BUCZYŃSKI
17.20 – 17.40	Design and performance of a home-built scalable projection micro-stereolithography platform M. PTASZEK, S. ERTMAN
17.40 – 18.00	Silica fiber with Nd:YAG nanocrystals: the influence of fiber drawing process on structure and emission properties of Nd³⁺ cations M. ADAMOWSKA, B. PAŁUBA, A. MARKOVSKIY, L. SOJKA, A. FILIPKOWSKI, K. OLSZEWSKA, D. PYSZ, T. RUNKA, G. STĘPNIEWSKI, R. KASZTELANIC, S. SUJECKI, R. BUCZYŃSKI
18.30 – 19.30	Supper
19.30	The State of Polish Photonics - Roundtable Discussion

13.02.2026 Friday

7.00 – 10.00	Breakfast
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POSTER SESSION

1. A. BIENIEK-KACZOREK, S. STOPIŃSKI, A. JUSZA, K. ANDERS, R. PIRAMIDOWICZ
Heart rate variability monitoring using a photonic integrated interrogator of fiber Bragg grating sensors
2. M. JANIK, T. GABLER, M. FICEK, M. PIERPAOLI, M. SAWCZAK, P. NIEDZIAŁKOWSKI, M. KOBA, M. ŚMIETANA, R. BOGDANOWICZ
Nanodiamond- decorated optical fiber interferometric probes: dual-domain sensing with improved sensitivity
3. P. BORTNOWSKI, J. KALWAS, M. KOZUBAL, A. JUSZA, F. ŁABAJ, E. KIEDRZYŃSKA, R. PIRAMIDOWICZ
Photonic system for monitoring nitrite and nitrate content in water
4. L. CZYŻEWSKA, M. GRZESIAK, M. GIL-KOWALCZYK, P. MERGO
Correlation between deposition conditions and structural properties of palladium thin films
5. Ł. DREWNIAK, S. DREWNIAK, I. ZIMOCZ, E. ŁOBOS-MOYSA, E. MACIAK
Analysis of matrix effects on nitrate determination in surface waters using UVC spectrophotometry
6. S. DREWNIAK, Ł. DREWNIAK, E. MACIAK, K. MORACZEWSKA-MAJKU, W. K. NOCOŃ
Modeling the effect of UV degradation on the raman spectrum of microplastics detected in drinking water
7. M. FICEK, A. OLEJNIK, M. BABIŃSKA, B. STONIO, M. PIERPAOLI, R. BOGDANOWICZ
Periodically patterned boron-doped diamond nanostructures for enhanced opto-electrochemical transduction
8. M. GIL-KOWALCZYK, M. JÓZWICKI, P. MERGO
Dye-assisted optical detection of trace water in diesel fuel
9. M. JUCHNIEWICZ, M. SŁOWIKOWSKI, D. DRECKA, M. JAROSIK
Lithography methods in the fabrication of integrated photonics circuits
10. P. KAŁUŻYŃSKI, D. KAŁUŻYŃSKA
When light prints more than objects: nanoscale waste, environmental persistence, and cytotoxicity in photopolymer manufacturing
11. Ł. KOZŁOWSKI, A. BIENIEK-KACZOREK, P. BORTNOWSKI, M. ZIELIŃSKA, K. ANDERS, S. STOPIŃSKI, A. JUSZA, J. KALWAS, R. PIRAMIDOWICZ
Raman spectroscopy in water quality monitoring
12. K. KUCHTA, A. RYBCZYŃSKI, J. M. KUBICA
Application of N,N-dimethyl-4,4'-azodianiline (DMADA) for UV fiber optic sensing

13. J. GALAS, D. LITWIN, K. RADZIAK, W. MAŁKIŃSKI, M. KARLIŃSKI, N. BŁOCKI, A. CZYŻEWSKI, M. KOZIELSKI, D. FOSZCZ, D. SARAMAK, S. LENCZOWSKI, E. KASIŃSKA-PILUT, R. PEŃKOWSKI, Ł. PAŁKA
Flotation froth pattern recognition for the ore content estimation
14. J. ŁYŻWA, M. MIKA, M. ŻUK, B. SUDOŁ, A. AUGUSTOWSKI, A. OLSZEWSKI, K. BARCZAK, A. OLSZEWSKA
Analysis of FBG signal transmission in optical fiber telecom networks
15. M. MAKARA, M. GRZESIAK, K. POTURAJ, G. WÓJCIK, A. WALEWSKI, M. JÓZWICKI, L. CZYŻEWSKA, Ł. BEDNARSKI, P. MERGO
Use of low bend-loss optical fibers in distributed sensing
16. Z. OPILSKI, K. WERESZCZYŃSKI, A. DANIŁOWICZ, K. CYRAN, E. MACIAK
Photonic two-qubit system for generation and characterization of entangled photon states
17. A. ORFINGER, B. FORTUNA, M. WINKOWSKI, P. KOMOROWSKI, R. KASZTELANIC, N. PAŁKA, R. BUCZYŃSKI
3D-Printed structured optical fibers for terahertz applications
18. A. PAŹDZIÓR, J. RZECZKOWSKI, P. MACIĄG, P. MERGO
Applicability of commercial optical backscatter reflectometer LUNA OBR4600 to strain measurements in presence of vibrations
19. M. PROCEK, K. GŁOSZ, Ł. DREWNIĄK, Z. OPILSKI, E. MACIAK, A. STOLARCZYK, T. JAROSZ
From electronic sensor to optical sensor – concept of SPR hydrogen sensor based on polycarbazole receptor film
20. P. RADEK, K. BARCZAK, A. OLSZEWSKA
PVDF as a potential receptor layer in fiber-optic sensors for PFAS pollutant detection
21. P. RADEK, K. RATAJCZYK, T. WOJNAR, K. PAŁUCHOWSKI, A. GARGULA, N. TOMANEK, E. MACIAK
Optical fiber-based remote powering (POF) and sensing platform for environmental applications
22. A. PALECZEK, D. GROCHALA, S. KAR CZ, M. KO COŃ, A. RYDOSZ
Advances in sensor technologies and machine learning for glyphosate and pesticide detection in water
23. M. KAŁUŻA, K. POGORZELEC, A. SIEMION, P. LESIAK
Holographically designed diffractive optical element for efficient coupling into multicore fibers
24. M. SŁOWIKOWSKI, D. DRECKA, M. JUCHNIEWICZ, B. STONIO, M. GOLAS, M. FILIPIAK, M. LELIT, M. JAROSIK
Passive integrated photonics platform for VIS spectral range

25. S.CIĘSZCZYK, D. HARASIM, K. SKORUPSKI, P.PANAS, J.KLIMEK
Influence of polarization on demodulation methods for determining the SRI value for a single TFBG and an orthogonal grating system

26. P. WERAJTIS, J. IMAŃSKA, W. GILICKI, W. KOZŁOWSKI, V. STAWINOGA, K. BARCZAK, A. OLSZEWSKA
Multi-pass measurement chamber as a tool for detection of trace substances in aqueous environment

27. K. WIDAJ, T. SMOŁKA, M. RYGAŁA, W. GŁOWADZKA, K. BOGDANOWICZ, M. EKIELSKI, M. MARCINIAK, M. ZADURA, P. ŚPIEWAK, M. KOWALSKI, M. GĘBSKI, M. KAŁUŻA, O. SADOWSKI, M. WASIAK, A. SZERLING, T. CZYSZANOWSKI, M. MOTYKA
High contrast gratings for highly transparent and conductive mid-infrared electrodes

28. M. ZIĘBA, C. TYSZKIEWICZ, P. KARASIŃSKI
Photocatalytic properties of oxide films obtained by the sol-gel method

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