



*Ivan Chapalo, PhD**

Heraklion, Greece

10+ years of experience in research and engineering (fiber optic sensors, fiber optics, optics, photonics, electronics, LabVIEW programming), work experience in 4 countries, 30+ publications, 7 grants and scholarships, conference presentations in 10 countries, work experience in international projects and collaborations.

Work experience and internships

Since 2023	IESL-FORTH, Heraklion, Greece: experienced researcher (postdoc);
2020-2023	University of Mons (Belgium), Electromagnetism and Telecom Department: experienced researcher (postdoc);
2018	Cyprus University of Technology, Photonics and Optical Sensors Research Laboratory: visiting research;
2012-2020	St. Petersburg Polytechnic University: teaching assistant, engineer, PhD candidate, experienced researcher;
2010-2011	Technical University of Munich, Institute for Measurement Systems and Sensor Technology: internship;

Education

2017	St. Petersburg Polytechnic University (SPbSTU), PhD degree , «Interference effects in multimode optical fiber with varying mode composition», specialization – Physics;
2011	SPbSTU, Master degree , specialization – Radiophysics and Electronics, «Optical fiber strain and vibration sensor based on fiber Bragg gratings and linear transmittance thin film filter» (conducted at TUM, Munich);
2009	SPbSTU, Bachelor degree , specialization – Applied Physics, «Optical fiber intrusion detection sensor based on intermodal fiber interferometer».

Courses and trainings

2023	Introduction to AGILE (short intensive course conducted by PYXIS Belgium, provided by UMONS);
2020-2021	French language certification - A2 (University of Mons);
2015	Professional development course (PDC) «Microsoft Project», SPbSTU (72 hours); PDC «MATLAB», SPbSTU (72 hours);
2014	SPIE Short Course «Effective Technical Presentations», San Diego, USA; SPIE Short Course «Effective Scientific Papers», San Diego, USA; Technology entrepreneurship intensive training «Commercialization Pathfinder Boot Camp» (by CRDF Global and FASIE, Kazan, Russia);
2013	Online training «Technology Entrepreneurship Development» (CRDF Global, Univ. of Texas at Austin);
2012	PDC «LabVIEW and National Instruments technologies in scientific and educational problems»;
2011	Educational courses from The Schlumberger Company (Acoustics, Petrochemicals, English), 3 months;

Achievements and grants

2014-2023	30+ publications (13 – first author), conference presentations in 10 countries;
2014	One of the 5 projects from St. Petersburg selected for the Youth Innovation Exhibition «U-NOVUS», Tomsk, Russia (project «FiBERSec - fiber optic intrusion detection system»);
2013	Grant by The BP company for youth research teams (as a collaborator);

2013	Selected for a «Commercialization Pathfinder Boot Camp» (20 selected participants over ~200 candidates), organized by CRDF Global;
2012-2014	Grant by FASIE (Russia) and BMBF (Germany) for collaborating Russian-German technology enterprises, project «Distributed fiber optic seismic sensing» (as a collaborator);
2011	Grant «Innovation development - youth school of success», Moscow; Grant «St. Petersburg government grant for students and young researchers» (Gov. of St. Petersburg);
2011-2013	Grant «Youth Innovation Competition» (FASIE, Russia);
2011-2012	Russian LabVIEW programming competitions, member of the university team;
2011	The Schlumberger Company scholarship;
2010-2011	Winner of the DAAD scholarship (Technical University of Munich, Institute for Measurement Systems and Sensor Technology, 7-months internship)
2009	Winner of the youth innovative research projects competition, SPbSTU.

Teaching experience

2012-2020	Laboratory practicum at the St. Petersburg Polytechnic University: «Theory of Electrical Circuits», «Radio-technical circuits and signals», «Microwave Devices and Antennas», «Numerical Methods».
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Organization of conferences

2021	IEEE Benelux Chapter Annual Symposium 2021, University of Mons, Belgium (organizing committee).
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Main Conferences

2023	SPIE Optics+Optoelectronics, Prague, «Elimination of temperature cross-sensitivity for polymer FBG-based humidity sensor by gamma radiation treatment», poster;
2023	European Workshop on Optical Fibre Sensors 2023, «Temperature and RH response of polymer CYTOP FBG treated by gamma radiation», poster;
2022	POF 2022, Bilbao, «Gamma-radiation impact on temperature and RH sensitivity of FBGs in a few-mode polymer CYTOP fiber», oral presentation;
2022	IEEE Benelux Photonic Chapter Annual Symposium, Eindhoven, «Gamma radiation response of FBG inscribed in 20- μ m core graded-index polymer CYTOP fiber», poster;
2021	RADOPT 2021, Saint-Etienne, France, «Evolution of CYTOP fiber radiation induced attenuation during and after irradiation by gamma rays», oral presentation;
2021	ANIMMA 2021, Prague, «Long-term transmission characteristics of CYTOP fiber exposed by gamma radiation», poster;
2021	IEEE Benelux Photonic Chapter Annual Symposium, Mons, «The impact of relative humidity on transmission properties of CYTOP polymer optical fiber», «Intermodal fiber interferometer based on broadband source and optical spectrum analyzer: experimental demonstration of the correlation approach», posters;
2020	SPIE Photonics Europe (online): «Multimode CYTOP fiber interferometric response to laser wavelength scanning», poster;
2019	7 th European Workshop on Optical Fibre Sensors, Limassol «Multimode fiber interferometer with embedded long period grating», «Multimode CYTOP fiber interferometer: an experimental study», posters;
2019	SPIE Optics + Optoelectronics, Prague, «Methods of signal averaging for a multimode fiber interferometer: an experimental study», poster;
2019	Western China Overseas Postdoc Innovation Forum, Xi'an, China, participant;
2018	SPIE Photonics Europe, Strasbourg, «Dual-wavelength one-directional multimode fiber interferometer with impact localization ability», poster;
2017	SPIE Optical Metrology, Munich, «Signal-to-noise ratio for mode-mode fiber interferometer», poster;

- 2016 SPIE Photonics Europe, Brussels, «Mode-mode fiber interferometer with localization ability», poster;
- 2015 OSA IONS, Karlsruhe Institute of Technology, «Experimental investigation of the intermode fiber interferometer signals caused by laser optical frequency modulation», poster;
- 2014 SPIE Optics and Photonics, San Diego, «Mode-mode interference sensor with increasing number of modes along the multimode optical fiber», oral presentation.

Main Publications

- 2023 Chapalo I., *et al.* «Gamma-radiation enhancement of sensing properties of FBGs in a few-mode polymer CYTOP fiber», **Optics Letters**, vol. 48, no. 5, pp. 1248-1251;
- 2023 Chapalo I. *et al.* «Online Gamma Radiation Monitoring Using Few-Mode Polymer CYTOP Fiber Bragg Gratings», **Sensors**, vol. 23, no. 1, 39;
- 2022 Chapalo I. *et al.* «Postirradiation Transmission Characteristics of CYTOP Fiber Exposed by Gamma Radiation», **IEEE Transactions on Nuclear Science**, vol. 69, no. 4, 656-662;
- 2021 Chah, K., Chapalo, I. *et al.* «800 nm femtosecond pulses for direct inscription of FBGs in CYTOP polymer optical fiber», **Optics Letters**, 2021, vol. 46, no. 17, pp. 4272-4275.
- 2020 Chapalo I. *et al.* «Averaging methods for a multimode fiber interferometer: experimental and interpretation», **Journal of Lightwave Technology**, 2020, Vol. 38, no. 20, pp. 5809-5816;
- 2020 Petrov A., Chapalo I. *et al.* «Intermodal fiber interferometer with frequency scanning laser for sensor application» 2020, **Applied Optics**, Vol. 59, no. 33, pp. 10422-10431;
- 2018 Kotov O., Bisyarin M., Chapalo I., Petrov A. «Simulation of the multimode fiber interferometer using averaged characteristics approach» **JOSA B**, 2018, Vol. 35, Issue 8, pp. 1990-1999;

Other experience

- From 2013 Certified tennis coach: Professional Tennis Registry (PTR) certification for coaches: «11-17 years» – instructor, «Adults development» - professional. Attended workshops: PTR «11 to 17 Certification Workshop», PTR «Adults Development Certification Workshop», PTR «Tennis Fitness Workshop», PTR «10S introduction».