

FACULTY OF ELECTRICAL ENGINEERING

INSTITUTE OF AUTOMATION, ELECTRONIC AND ELECTRICAL ENGINEERING

No.	Project title	Principal Investigator	Type of competition	Project's duration	Granted funds
16.	Development of optical fiber co-doped with quantum dots and rare-earth ions for broadband near-infrared emission	<u>Jakub Markiewicz, MA</u> Department of Photonics, Electronics and Lighting Technology	PRELUDIUM 23	16.01.2025-15.01.2028	208 620
15.	Development of low-phonon energy, glass-ceramic waveguides emitting in the 1.8-3.1 μm spectral range for the construction of microlasers	<u>Tomasz Ragiński, PhD, Eng</u> Department of Photonics, Electronics and Lighting Technology	SONATA 19	01.07.2024-30.06.2027	1 522 560
14.	Optical fibers with a profiled core doped with Tm^{3+} , Ho^{3+} ions for flat-top beam fiber lasers operating in a wavelength range of 1.7-2.1 μm Project implemented in the Scientific Consortium: Leader – Białystok University of Technology, Partner – Jarosław Dąbrowski Military University of Technology in Warsaw	<u>Assoc. Prof. Piotr Miluski, DSc, PhD, Eng</u> Department of Automatic Control and Robotics	OPUS 25	29.01.2024-28.01.2028	1 944 680; incl BUT: 1 463 024
13.	Analysis and synthesis of control systems by the use of fractional-order switched system The project is implemented by the Faculty of Electrical Engineering and the Faculty of Computer Science	<u>Prof. Tadeusz Kaczorek, DSc, PhD, Eng</u> Department of Automatic Control and Robotics	OPUS 23	10.01.2023-09.01.2026	899 140
12.	Development of an optimization algorithm for the selection of the spectral power distribution of a semiconductor illuminator to enhance the contrast of tissue imaging	<u>Łukasz Gryko, PhD, Eng</u> Department of Photonics, Electronics and Lighting Technology	MINIATURA 5	15.12.2021-14.12.2023	49 500
11.	Novel Multi-Ring-Core RE-doped optical fibres for ultra-broadband emission in the eye-safe spectral region	<u>Assoc. Prof. Piotr Miluski, DSc, PhD, Eng</u> Department of Photonics, Electronics and Lighting Technology	OPUS 19	01.02.2021-31.01.2026	1 067 760
10.	Ultra-broadband 1.0-2.1 μm emission in multicore optical fibres doped with rare earths and Ni, Cr, Bi metals	<u>Assoc. Prof. Marcin Kochanowicz, DSc, PhD, Eng</u> Department of Photonics, Electronics and Lighting Technology	OPUS 18	02.10.2020-01.10.2024	1 152 720
9.	Glass-ceramic optical fibres doped with lanthanide ions – research and technology	<u>Assoc. Prof. Jacek Żmojda, DSc, PhD, Eng</u> Department of Photonics, Electronics and Lighting Technology	PRELUDIUM BIS-1	01.10.2020-30.09.2023	439 200
8.	Predictive control of 5-levels ANPC converter with reduced number of calculations	<u>Krzysztof Kulikowski, PhD, Eng</u> Department of Electrotechnics, Power Electronics and Electrical Power Engineering	MINIATURA 2	15.03.2019-14.03.2020	13 449
7.	Model Predictive Control of Grid-Connected Power Converters with LCL Filter and Additional Feedback	<u>Piotr Falkowski, PhD, Eng</u> Department of Electrotechnics, Power Electronics and Electrical Power Engineering	MINIATURA 2	20.12.2018-19.12.2019	13 449
6.	Analysis and synthesis of selected class of linear and nonlinear fractional order systems	<u>Prof. Tadeusz Kaczorek, DSc, PhD, Eng</u> Department of Automatic Control and Robotics	OPUS 14	12.06.2018-11.12.2021	715 960
5.	Effect of rare-earth co-doping on the spectroscopic properties of fluorindate glasses Project implemented in a consortium: AGH University of Science and Technology in Krakow - Leader	<u>Assoc. Prof. Marcin Kochanowicz, DSc, PhD, Eng</u> Department of Photonics, Electronics and Lighting Technology	OPUS 13	26.02.2018-25.08-2022	1 250 780, incl. BUT: 259 840
4.	Investigation of spectroscopic properties of co-doped polymer optical fibers	<u>Assoc. Prof. Piotr Miluski, DSc, PhD, Eng</u> Department of Photonics, Electronics and Lighting Technology	MINIATURA 1	11.10.2017-10.10.2018	43 670

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3.	Optical fibres co-doped with lanthanide ions and nobel metal nanoparticles	<u>Assoc. Prof. Jacek Źmójda,</u> DSc, PhD, Eng. Department of Photonics, Electronics and Lighting Technology	SONATA 11	19.01.2017-18.01.2020	401 750
2.	Descriptor nonlinear and linear systems of fractional orders	<u>Prof. Tadeusz Kaczorek,</u> DSc, PhD, Eng. Department of Automatic Control and Robotics	OPUS 7	04.02.2015-03.02.2018	525 940
1.	Examination of mechanisms influencing differences in luminescent properties of glasses and optical fibres doped with lanthanides	<u>Assoc. Prof. Marcin Kochanowicz,</u> DSc, PhD, Eng. Department of Photonics, Electronics and Lighting Technology	SONATA 5	17.03.2014-16.03.2017	555 960