



RAVSHANJON NAZAROV

PERSONAL DETAIL

Date of birth:
December 13, 1996

Languages:
Native: Tajik
Foreign languages: Russian, English

RESEARCH INTERESTS

Mathematical physics, Terahertz spectroscopy, Biophysics, Optics, Theoretical physics, Numerical modeling

SOFTWARE EXPERIENCE AND SKILLS

MATLAB, OriginLab, LabVIEW, Fortran 96, Gnuplot, MSoffice (Word, Excel, Powerpoint), Phyton(beginner).

EDUCATION

Altai State University, Barnaul, Altai Kray

- **2014-2018.** Department of General and Experimental Physics, Faculty of Physics and Technology; Bachelor's degree in physics
- Topic of the thesis:
"Development and testing of the installation for diagnostic impedance measurement"(in Russian)

ITMO University, St. Petersburg

- **2018-2020.** Faculty of Photonics and Optoinformatics, MegaFaculty of Photonics; Master's degree in Biophotonics
- Topic of the thesis:
"Development of phantoms of biological tissues based on a five-component mixture with different concentrations of bentonite for the terahertz frequency range"

ITMO University, St. Petersburg

- **2020-2024.** PhD in optics, Department of Physics and Engineering of ITMO University



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<https://scholar.google.com/citations?hl=en&user=tOF1mH4AA>
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AWARDS AND ACHIEVEMENTS

2021 Advanced training certificate on the course "Technologies of Personalized Learning", ITMO University

2020 SPIE Photonics Europe Career Summit Volunteer Travel Grant

2019-2020 Increased State Scholarship; RF Government scholarship; Scientific Scholarship

2018 Diploma for the best report in the conference: 5th Regional Youth Conference "My Choice-Science!"

2017 Silver medal in the category "Measurement, control and automation in medicine" for the development of a personal virtualized blood glucose meter.

Bronze medal in the category "Methods and measuring instruments" for the development of an eddy current thickness gauge for monitoring protective coatings.

Third degree diploma in the conference "18th International Scientific and Technical Conference: Measurement, Control, Informatization of IKI-2017" for the report on the topic "Hodographs for a subminiature eddy current transformer meter."

Diploma for success in educational, scientific, and social activities of the Association of Foreign Students of Altai State University

2016 First degree diploma for the best report in the conference "3 regional youth conference" My choice is science! ", In the section" Foreign language of natural science faculties "

Certificates for participation in various seminars and scientific conferences

2014 Bronze medalist, winner of the Republican Olympiad among schoolchildren in physics, Dushanbe, Tajikistan

2013 First degree diploma, winner of the regional Olympiad in physics of the environment for schoolchildren in Khujand, Tajikistan

2012 First degree diploma, winner of the regional Olympiad in physics of the environment for schoolchildren, Guliston, Tajikistan

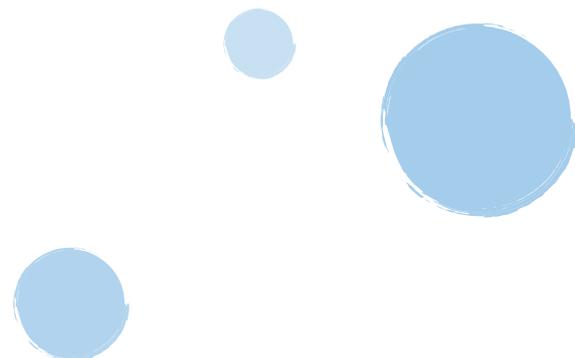
PUBLICATIONS

- Nazarov, Ravshanjon Kh**, et al. "Tunable physical effects in Bi-mica hyperbolic structures." *Optics Communications* (2022): 12767 <https://doi.org/10.1016/j.optcom.2021.127673>
- Nazarov R.**, Zhang T., Khodzitsky M.K. Effective Medium Theory for Multi-Component Materials Based on Iterative Method // *Photonics* - 2020, V. 7 <https://doi.org/10.3390/photonics7040113>
- Zaitsev A., Zykov D., Demchenko P., Novoselov M., **Nazarov R.**, Masyukov M., Makarova E., Tukmakova A., Asach A., Novotelnova A., Kablukova N., Khodzitsky M. Experimental investigation of optically controlled topological transition in bismuth-mica structure // *Scientific Reports* - 2021, Vol. 11, No. 1, pp. 13653
- Zhang T., **Nazarov R.**, Popov A.P., Demchenko P., Bykov A.V., Grigorev R., Kuzikova A., Soboleva V., Zykov D., Meglinski I., Khodzitskiy M. Development of oral cancer tissue-mimicking phantom based on polyvinyl chloride plastisol and graphite for terahertz frequencies // *Journal of Biomedical Optics* - 2020, Vol. 25, No. 12, pp. 123002 <https://doi.org/10.1117/1.JBO.25.12.123002>
- Zhang T., **Nazarov R.**, Pham L., Soboleva V., Demchenko P.S., Uspenskaya M.V., Olekhovich R.O., Khodzitsky M.K. Polymer composites based on polyvinyl chloride nanofibers and polypropylene films for terahertz photonics // *Optical Materials Express* - 2020, Vol. 10, No. 10, pp. 2456-2469 <https://doi.org/10.1364/OME.398262>

6. Zhang T., Zakharova M., Anna V., Podshivalov A., Fokina M., **Nazarov R.**, Kuzikova A., Demchenko P., Uspenskaya M., Khodzitsky M.K. Terahertz optical and mechanical properties of the gelatin-starch-glycerol-bentonite biopolymers // Journal of Biomedical Photonics & Engineering - 2020, Vol. 6, No. 2, pp. 020304 DOI: [10.18287/JBPE20.06.020304](https://doi.org/10.18287/JBPE20.06.020304)
7. Anna V., Zakharova M., Podshivalov A., Fokina M., Kuzikova A., **Nazarov R.**, Demchenko P., Zhang T., Uspenskaya M., Khodzitsky M. Phantom tissues from membrane biopolymer composite materials for terahertz applications // Proceedings of SPIE - 2020, Vol. 11582, pp. 115821S
8. **Nazarov R.**, Pham L.Q., Zhang T., Soboleva V., Uspenskaya M., Vozianova A., Khodzitsky M. Terahertz optical properties of polymer composite based on electrospun PVC nanofibers // Proceedings of SPIE - 2020, Vol. 11582, pp. 115821U
9. **Nazarov R.**, Khodzitskiy M.K., Zhang T. Comparison of Mathematical Models for the Calculation of Optical Properties of Composite Medium in the Terahertz Regime//International Conference on Infrared, Millimeter, and Terahertz Waves, IRMMW-THz, 2019, pp. 8874268
10. **Nazarov R.**, Zhang T., Khodzitsky M., Demchenko P. Comparative study of quantitative methods to determine component concentration for water-free biotissue phantom//Proceedings of SPIE, 2019, Vol. 11075, pp. 11075-31
11. **Nazarov R.Kh.**, Dmitriev S.F., Shimko E.A. Development and testing of the installation for diagnostic impedance measurement // Proceedings of young scientists of Altai State University -2018. - No. 15. - P. 272-275 (in Russian)
12. **Nazarov R.Kh.**, Dmitriev S.F., Ishkov A.V., Repetun D.Yu., Sagalakov A.M., Nebylitsa Ya.I. Hodographs for a subminiature eddy current transformer meter // Measurement, control, informatization: materials of the XVIII international scientific and technical conference (Barnaul, May 18, 2017) -2017. - S. 127-130 (in Russian)
13. Dmitriev S.F., Kushnarev M.E., Malikov V.N., Muravlev K.A., **Nazarov R.Kh.**, Podriz E.Yu., Repetun D.Yu., Sagalakov A.M. The system of amplification and filtering of the useful signal of eddy-current converters // Multi-core processors, parallel programming, FPGA, signal processing systems - 2017. - T. 1. - No. 7. - P. 208-213 (in Russian)
14. Dmitriev S.F., Zhdanov D.I., Zakharov D.I., Ivlev A.I., Malikov V.N., Madirov L.N., Lyndin R.E., **Nazarov R.Kh.**, Sagalakov A.M. Virtualized transformer meter // Multi-core processors, parallel programming, FPGAs, signal processing systems -2017. - T. 1. - No. 7. - P. 231-237(in Russian)

CONFERENCES

1. Speech at the conference "European conference on Biomedical Optics", which was held in Munich (Germany) from 23 to 27 June 2019;
2. Speech at the conference "44th International Conference on Infrared, Millimeter, and Terahertz Waves", which was held in Paris (France) from September 1 to September 6, 2019



WORK EXPERIENCE

2016 — till now

Physics Tutor • PROFI.RU <https://spb.profi.ru/profile/NazarovRH2/>

2016 — till now

Math tutor • PROFI.RU <https://spb.profi.ru/profile/NazarovRH2/>

2019 — till now

Physics tutor • Online school "Tetrika" <https://tetrika-school.ru/profile>

2020 — till now

Math assistant • ITMO University <http://mathdep.ifmo.ru/>

2022 — till now

Engineer • Department of Physics and Engineering of ITMO University <https://physics.itmo.ru/en>

ADDITIONAL INFORMATION

I am engaged in science, art, I speak fluently in Russian, Persian, Turkic languages, and improve myself in English. From 2015 to 2018, I was a curator of foreign students at Altai State University at the Faculty of Physics and Technology. Sociable, I participate in humorous shows: Stand up, OpenMic.