



Oleh YERMAKOV

Personal Information

Date of Birth 1 February 1993
Place of Birth Kharkiv, Ukraine
Citizenship Ukraine
Family Married, son (1 y.o.)

Research Interests

Theoretical physics, photonics, near-field optics, plasmonics, metasurfaces, surface waves, hyperbolic medium, optical angular momentum, photonic spin Hall effect, optical fibers, numerical methods.

Education

- 2016 – 2020 **PhD Student**, *Optics*, ITMO University, St. Petersburg, Russia.
Supervisor - Prof. Andrey A. Bogdanov.
- 2014 – 2016 **Master of Science**, *Photonics and Optical Information Technology*, ITMO University, St. Petersburg, Russia.
Supervisor - Dr. Andrey A. Bogdanov. Advisor - Dr. Ivan V. Iorsh.
- Sept. 2015 – **Master of Science**, *Physics*, Ecole Polytechnique Federale de Lausanne (EPFL),
Jan. 2016 Lausanne, Switzerland.
1 semester as an exchange student
- 2014–2016 **Master of Science**, *Applied Physics*, V. N. Karazin Kharkiv National University,
Kharkiv, Ukraine.
- 2010 – 2014 **Bachelor of Science**, *Applied Physics (cum laude)*, V.N. Karazin Kharkiv National
University, Kharkiv, Ukraine.

PhD Thesis

- Title Dispersion and polarization peculiarities of surface electromagnetic waves on resonant anisotropic metasurfaces [download]
- Supervisor Prof. Andrey A. Bogdanov [review in Russian]
- Opponents Prof. Andrea Alù, City College of New York, USA [review]
Prof. Sergey Bozhevolnyi, University of Southern Denmark, Denmark [review]
- Defence 23 December 2020 [video recording via Youtube]

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https://physics.itmo.ru/en/personality/oleh_yermakov

Master Thesis

Title Hybrid surface plasmons on anisotropic metasurface
The best graduation research work among ITMO Univ. Masters 2016
Supervisor Dr. Andrey A. Bogdanov
Advisor Dr. Ivan V. Iorsh

Scholarships and Awards

- 2020 3^d prize, the Young Professionals Competition for the Best Paper Presentations sponsored by the European Microwave Association, IEEE Ukrainian Microwave Week 2020
- 2020 1st prize, EPS Young Minds & IRE NASU contest of articles for young scientists of Kharkiv, Kharkiv, Ukraine
- 2020 The best talk and active participation award, All-Russian school-seminar "Wave phenomena in inhomogeneous media" named after A.P. Sukhorukov ("Waves-2020")
- 2020 IEEE Photonics Society Graduate Student Scholarship**
- 2020 German-Russian Interdisciplinary Science Center (G-RISC) grant
- 2019 SPIE Optics and Photonics Education Scholarship**
- 2019 Scholarship of the Russian Federation Government
- 2018 ITMO University grant for international academic mobility of postgraduate students
- 2017 Individual grant "PhD Student" from the Foundation for the Advancement of Theoretical Physics and Mathematics "BASIS" (selects 15 best Russian PhD students in Theoretical Physics)**
- 2017 Best Student Paper Award, SPIE Optics+Optoelectronics 2017, Prague, Czech Republic
- 2017 SPIE Travel Scholarship
- 2016 First prize in the "Nano and Metamaterials Section" for the presentation, II International Young Scientists Forum on Applied Physics and Engineering, Kharkiv, Ukraine
- 2016 The best Master thesis of ITMO University**
- 2016 The best presentation (2nd prize) at the young scientists' section, International Winter School on Physics of Semiconductors, Zelenogorsk, Russia
- 2015 Award for students in Theoretical Physics from "Dynasty" Foundation**
- 2014 Scholarship for research activity from ITMO University
- 2014 Scholarship of the International Research Centre for Nanophotonics and Metamaterials
- 2013 Scholarship of the President of Ukraine
- 2011 Scholarship of Kharkiv Mayor

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Grants

Principal Investigator

2020-2022 *Polarization degree of freedom for surface and guided modes at planar structures: theory, experiment and practical devices*, Russian Foundation for Basic Research (RFBR), 20-02-00636, 3.75M RUB.

2018-2019 *Surface waves at resonant anisotropic metasurface in the optical and microwave ranges: theory and experiment*, Russian Foundation for Basic Research (RFBR), 18-32-00739, 1M RUB.

Participant

2019-2021 *Dynamically tunable photonic devices based on phase memory materials*, Russian Science Foundation (RSF), 19-72-10086, 15M RUB.

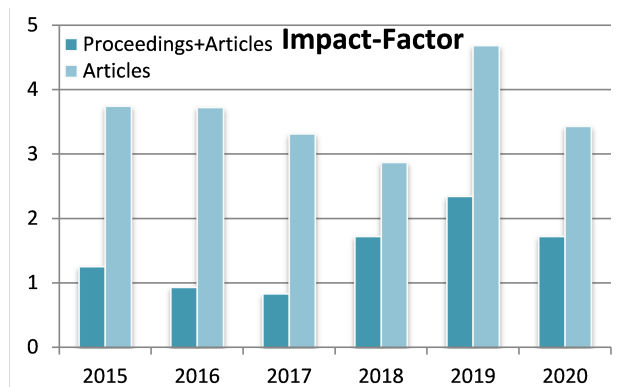
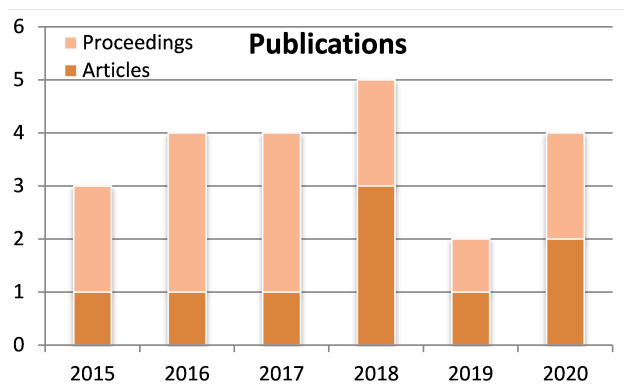
2017-2019 *Surface optical states in dielectric and plasmonic nanostructures*, Russian Foundation for Basic Research (RFBR), 17-02-01234, 2.1M RUB.

2017-2021 *High-Q microcavities based on localized optical states in the continuum*, Russian Science Foundation (RSF), 17-12-01581, 30M RUB.

2017-2019 *High-Q optical microcavities based on localized optical states in the continuum*, Ministry of Education and Science of the Russian Federation, 3.1668.2017.

Citations and h-index (updated on 31Dec2020)

	Citations	H-index
Google Scholar	236	6
Scopus	185	6
Web of Science	171	6



Preprints

1. O. Yermakov, V. Lenets, A. Sayanskiy, J. Baena, E. Martini, S. Glybovski, and S. Maci. *Surface waves on self-complementary metasurfaces: all-frequency hyperbolicity, extreme canalization and TE-TM polarization degeneracy*. arXiv preprint arXiv:2004.06038 [under review in **Physical Review X**].

Articles

2020

9. O. Yermakov, H. Schneidewind, U. Hubner, T. Wieduwilt, M. Zeisberger, A. Bogdanov, Yu. S. Kivshar and M. A. Schmidt. *Nanostructure-empowered efficient coupling of light into optical fibers at extraordinarily large angles*, **ACS Photonics**, 7(10), 2834-2841 (2020).
DOI: <https://doi.org/10.1021/acsp Photonics.0c01078>
Comment: **Front Cover of October Issue**
8. M. Mazanov, O. Yermakov, I. Deriy, O. Takayama, A. Bogdanov, and A. V. Lavrinenko. *Photonic Spin Hall Effect: Contribution of Polarization Mixing Caused by Anisotropy*, **Quantum Reports**, 2(4), 489-500 (2020).
DOI: <https://doi.org/10.3390/quantum2040034>
Comment: **Special Issue: Spin Hall Effect in Photonic Materials**

2019

7. O. Y. Yermakov, A. A. Bogdanov, and A. V. Lavrinenko. *Broadband polarization degeneracy of guided waves in subwavelength structured ZnO pattern*, **IEEE Journal of Selected Topics in Quantum Electronics** 25(3), 1 (2019).
DOI: <https://doi.org/10.1109/JSTQE.2018.2886306>
Comment: **Invited Paper**

2018

6. O. Y. Yermakov, A. A. Hurshkainen, D. A. Dobrykh, P. V. Kapitanova, I. V. Iorsh, S. B. Glybovski, and A. A. Bogdanov. *Experimental observation of hybrid TE-TM polarized surface waves supported by a hyperbolic metasurface*, **Physical Review B** 98(19), 195404 (2018).
DOI: <https://doi.org/10.1103/PhysRevB.98.195404>
Comment: **Kaleidoscope: November 2018**
5. O. Y. Yermakov, D. V. Permyakov, F. V. Porubaev, P. A. Dmitriev, A. K. Samusev, I. V. Iorsh, R. Malureanu, A. V. Lavrinenko, and A. A. Bogdanov. *Effective surface conductivity of optical hyperbolic metasurfaces: from far-field characterization to surface wave analysis*, **Scientific Reports** 8(1), 14135 (2018).
DOI: <https://doi.org/10.1038/s41598-018-32479-y>
4. O. Takayama, P. Dmitriev, E. Shkondin, O. Yermakov, M. Panah, K. Golenitskii, F. Jensen, A. Bogdanov, and A. Lavrinenko. *Experimental observation of Dyakonov plasmons in the mid-infrared*, **Semiconductors** 52(4), 442 (2018).
DOI: <https://doi.org/10.1134/S1063782618040279>

2017

3. A. Samusev, I. Mukhin, R. Malureanu, O. Takayama, D. V. Permyakov, I. S. Sinev, D. Baranov, O. Yermakov, I. V. Iorsh, A. A. Bogdanov, and A. V. Lavri-
nenko. *Polarization-resolved characterization of plasmon waves supported by an
anisotropic metasurface*, **Optics Express** 25(26), 32631 (2017).
DOI: <https://doi.org/10.1364/OE.25.032631>

2016

2. O. Y. Yermakov, A. I. Ovcharenko, A. A. Bogdanov, I. V. Iorsh, K. Y. Bliokh,
and Yu. S. Kivshar. *Spin control of light with hyperbolic metasurfaces*, **Physical
Review B** 94(7), 075446 (2016).
DOI: <https://doi.org/10.1103/PhysRevB.94.075446>

2015

1. O. Y. Yermakov, A. I. Ovcharenko, M. Song, A. A. Bogdanov, I. V. Iorsh, and Yu. S.
Kivshar. *Hybrid waves localized at hyperbolic metasurface*, **Physical Review B**
91(23), 235423 (2015).
DOI: <https://doi.org/10.1103/PhysRevB.91.235423>
Comment: **Editors' Suggestion**

Proceedings (Scopus, WoS)

2020

13. O. Yermakov, and A. A. Bogdanov. *Polarization states of surface electromagnetic
waves on resonant anisotropic metasurfaces: from theory to experimental verifica-
tion in microwaves // 2020 IEEE Ukrainian Microwave Week (UkrMW)*, 559-563
(2020).
DOI: <https://doi.org/10.1109/UkrMW49653.2020.9252569>
12. O. Yermakov, A. Hurshkainen, D. Dobrykh, P. V. Kapitanova, I. V. Iorsh, S. B.
Glybovski, and A. A. Bogdanov. *Polarization hybridization of surface waves on
anisotropic metasurface // Journal of Physics: Conference Series*, 1461, 012196
(2020).
DOI: <https://doi.org/10.1088/1742-6596/1461/1/012196>

2019

11. M. Stepikhova, D. Yurasov, A. Yablonskiy, S. Sergeev, O. Yermakov, S. Dyakov,
E. Skorokhodov, A. Novikov, and Z. Krasil'nik. *Photoluminescence enhancement
phenomena in photonic crystal slabs formed on Si structures with the self-assembled
Ge nanoislands // IEEE 16th International Conference on Group IV Photonics*,
1949 (2019)
DOI: <https://doi.org/10.1109/GRoup4.2019.8853878>

2018

10. O. Y. Yermakov, and A. A. Bogdanov. *Eigenmodes degeneracy with Huygens-like
all-dielectric metasurface // Journal of Physics: Conference Series*, 1092, 012169
(2018).
DOI: <https://doi.org/10.1088/1742-6596/1092/1/012169>

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9. O. Y. Yermakov, D. V. Permyakov, P. A. Dmitriev, A. K. Samusev, I. V. Iorsh, A. V. Lavrinenko, and A. A. Bogdanov. *Plasmonic anisotropic metasurfaces: from far-field measurements to near-field properties* // Proceedings of SPIE, 10671, 1067118 (2018).

DOI: <https://doi.org/10.1117/12.2306801>

2017

8. O. Y. Yermakov, F. V. Porubaev, A. A. Bogdanov, A. K. Samusev, I. V. Iorsh. *Retrieval procedure of effective conductivity for plasmonic resonant anisotropic metasurface* // AIP Conference Proceedings, 1874, 030040 (2017).
DOI: <https://doi.org/10.1063/1.4998069>
7. O. Y. Yermakov, I. S. Mukhin, A. K. Samusev, A. A. Bogdanov, I. V. Iorsh. *Effective conductivity tensor of plasmonic anisotropic metasurface: Theory and experiment* // Progress In Electromagnetics Research Symposium (PIERS), IEEE, 1524 (2017).
DOI: <https://doi.org/10.1109/PIERS.2017.8261988>
6. O. Y. Yermakov, A. A. Bogdanov, I. V. Iorsh, K. Y. Bliokh, and Yu. S. Kivshar. *Tunable spin-directional coupling for surface localized waves with anisotropic metasurface* // Proceedings of SPIE, 10227, 1022703 (2017).
DOI: <https://doi.org/10.1117/12.2261663>

Comment: **Best Student Paper Award**

2016

5. O. Y. Yermakov, A. I. Ovcharenko, A. A. Bogdanov, I. V. Iorsh, A. H. Babaieva. *Hybrid surface plasmon polaritons localized at anisotropic metasurface* // II International Young Scientists Forum on Applied Physics and Engineering (YSF), IEEE, 73-76 (2016).
DOI: <https://doi.org/10.1109/YSF.2016.7753804>
4. O. Y. Yermakov, A. I. Ovcharenko, A. A. Bogdanov, I. V. Iorsh, A. V. Lavrinenko, A. H. Babaieva. *New degrees of freedom of spin-optonics implemented by using hybrid surface waves localized at hyperbolic metasurface* // Proceedings of the International Conference Days on Diffraction (DD-2016), IEEE, 449-454 (2016).
DOI: <https://doi.org/10.1109/DD.2016.7756892>
3. A. A. Bogdanov, O. Yermakov, A. Ovcharenko, M. Song, D. Baranov, I. Sinev, I. Mukhin, A. Samusev, I. Iorsh, A. Lavrinenko, Y. S. Kivshar. *Hybrid localized waves supported by resonant anisotropic metasurfaces* // CLEO: QELS Fundamental Science, IEEE, FM3D-6 (2016).

2015

2. O. Y. Yermakov, A. I. Ovcharenko, I. V. Iorsh, A. A. Bogdanov, Y. S. Kivshar. *New types of surface waves on hyperbolic metasurface* // Proceedings of the International Conference Days on Diffraction (DD-2015), IEEE, 371-376 (2015).
DOI: <https://doi.org/10.1109/DD.2015.7354895>
1. I. V. Iorsh, I. Trushkov, O. Yermakov, A. Ovcharenko, A. A. Bogdanov, P. A. Belov, and Yu. S. Kivshar. *Dyakonov-like plasmonic localized waves on graphene metasurfaces* // Progress In Electromagnetics Research Symposium (PIERS), IEEE, 2347-2351 (2015).

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Conferences

2020

26. XI Young Scientists Conference "Problems of Theoretical Physics", 21 - 23 December 2020. <https://indico.bitp.kiev.ua/event/7/>
Talk: *Surface waves on resonant anisotropic metasurfaces.*
25. IEEE Ukrainian Microwave Week, 10th International Kharkiv Symposium on Physics and Engineering of Microwaves, Millimeter and Submillimeter Waves (MSMW), 21 - 25 September 2020. <http://uamweek.ieee.org.ua/>
Talk: *Polarization states of surface electromagnetic waves on resonant anisotropic metasurfaces: from theory to experimental verification in microwaves.*
Comment: **3^d prize, the Young Professionals Competition for the Best Paper Presentations sponsored by the European Microwave Association**
24. International school-seminar for young scientists "Functional materials for technical and biomedical applications", 7 - 10 September 2020. <http://school.isma.kharkov.ua/en/index.html>
Talk: *Near-field fundamentals and applications of resonant photonic metasurfaces.*
23. All-Russian school-seminar "Wave phenomena in inhomogeneous media" named after A.P. Sukhorukov ("Waves-2020"), 30 June 2020. <http://waves.phys.msu.ru/>
Talk (in Russian): *Polarization degree of freedom of highly localized waves: from fundamentals to practical devices.*
Comment: **The best talk and active participation award**
22. International scientific and technical conference "Physical and Technical Problems of Energy and Their Solutions 2020", Kharkiv (Ukraine), 30 June 2020. <http://physics-energy.karazin.ua/research>
Talk: *Near-field Fundamentals and Applications of Resonant Photonic Metasurfaces.*

2019

21. IV International Conference on Metamaterials and Nanophotonics "METANANO-2019", St. Petersburg (Russia), 15 - 19 July 2019. <https://metanano.ifmo.ru/>
Talk: *Polarization hybridization of surface waves on anisotropic metasurface.*
20. 10th International Conference on Materials for Advanced Technologies (ICMAT), Singapore, 23 – 28 June 2019. <https://icmat2019.mrs.org.sg/>
Poster: *All-dielectric metasurface supporting broadband polarization eigenmodes degeneracy.*
19. 9th International Conference on Surface Plasmon Photonics (SPP9), Copenhagen (Denmark), 26 – 31 May 2019. <http://spp9.dk/>
Poster: *Polarization degeneracy of guided modes in photonic crystal waveguide and its applications.*

2018

18. International Conference on Metamaterials and Nanophotonics "METANANO-2018", Sochi (Russia), 17 - 21 September 2018. <https://metanano.ifmo.ru/2018/>
Talk: *Eigenmodes degeneracy with Huygens-like all-dielectric metasurface.*

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17. 3rd International Conference "NanoPlasm-2018", Cetraro (Italy), 10 - 15 June 2018. <http://www.nanoplasmconference.com/>
Poster: *Surface waves of mixed TE-TM polarization at anisotropic metasurface in microwaves: theory and experiment.*
16. Annual International Conference "Days on Diffraction 2018", St. Petersburg (Russia), 4 - 8 June 2018. <http://www.pdmi.ras.ru/~dd/>
Talk: *Surface waves of mixed TE-TM polarization at Jerusalem-cross-based anisotropic metasurface in microwaves.*
15. SPIE Photonics Europe Symposium, Strasbourg (France), 22 - 26 April 2018. <http://spie.org/conferences-and-exhibitions/past-conferences-and-exhibitions/photonics-europe-2018>
Talk: *Plasmonic anisotropic metasurfaces: from far-field measurements to near-field properties.*

2017

14. International Conference on Metamaterials and Nanophotonics "METANANO-2017", Vladivostok (Russia), 18-22 September 2017. <https://metanano.ifmo.ru/2017/>
Talk: *Retrieval procedure of effective conductivity for plasmonic resonant anisotropic metasurface.*
13. PIERS 2017, St. Petersburg (Russia), 22-25 May 2017. <http://www.piers.org/piers2017StPetersburg/>
Talk: *Effective conductivity tensor of plasmonic anisotropic metasurface: theory and experiment.*
12. SPIE Optics+Optoelectronics 2017, Prague (Czech Republic), 24-27 April 2017. <https://spie.org/conferences-and-exhibitions/past-conferences-and-exhibitions/optics-and-optoelectronics-2017>
Talk: *Tunable spin-directional coupling for surface localized waves with anisotropic metasurface.*
Comment: **Best Student Paper Award**
11. 4th International School and Conference "Saint-Petersburg OPEN 2017", St. Petersburg (Russia), 3-6 April 2017. <http://ru.spbopen.spbau.com/>
Poster, pitch talk: *Spin control of light using hyperbolic plasmons.*

2016

10. II International Young Scientists Forum on Applied Physics and Engineering, Kharkiv (Ukraine), 10 - 14 October 2016. <http://ysc.org.ua/2016/index.php>
Invited talk: *Hybrid surface plasmon polaritons localized at anisotropic metasurface.*
Comment: **First prize in the "Nano and Metamaterials Section" for the presentation.**
9. II All-Russian Scientific Forum "The science of the future - the science of the youth", Kazan (Russia), 20-23 September 2016. <https://www.sfy-conf.ru/>
Poster, contest talk (in Russian): *Hybrid surface plasmons on anisotropic metasurface.*

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8. International Conference on Metamaterials and Nanophotonics "METANANO-2016", Anapa (Russia), 5-9 September 2016. <https://metanano.ifmo.ru/2016/>
Talk: *Full control of the spin angular momentum of light in the plane of anisotropic metasurface.*
7. Annual International Conference "Days On Diffraction 2016", St. Petersburg (Russia), 27 June - 01 July 2016. <http://www.pdmi.ras.ru/~dd/>
Poster: *New degrees of freedom of spin-optonics implemented by using hybrid surface waves localized at hyperbolic metasurface.*

2015

6. IONS Valencia 2015, Valencia (Spain), 24-26 September 2015. https://www.osa.org/en-us/meetings/global_calendar/events/2015/international_osa_network_of_students_valencia_201/
Talk: *Surface waves localized at hyperbolic metasurface.*
5. XV All-Russian School-Workshop "Physics and Application of Microwaves" named after A.P. Sukhorukov, Mozhaisk (Russia), 1 - 6 June 2015. <http://waves.phys.msu.ru/>
Talk (in Russian): *Electromagnetic properties of surface modes propagating along anisotropic hyperbolic metasurface.*
4. Annual International Conference "Days On Diffraction 2015", St. Petersburg (Russia), 28-29 May 2015. <http://www.pdmi.ras.ru/~dd/>
Poster: *New types of surface waves on hyperbolic metasurface.*
3. Young scientists of Russia - 2015, Moscow (Russia), 13 - 14 April 2015. <http://www.dynastyfdn.com/news/1267>
Poster: *Hybrid waves localized at hyperbolic metasurface.*
2. IV international student conference "Academic and Scientific Challenges in the 21st Century", Kharkiv (Ukraine), 20 March 2015.
Talk: *Construction of the anisotropic permittivity and conductivity tensors for uniaxial crystals.*

2014

1. Scientific and Technical Conference "Physical and Technical Problems of Energy and Their Solutions - 2014", Kharkiv (Ukraine), 25 - 26 June 2014.
Talk: *Automatic solar tracking system.*

Scientific Schools

- 7 School on Advanced Light-Emitting and Optical Materials (SLALOM), 29 - 30 June 2020. <https://slalom.physics.itmo.ru/>
- 6 PhD Summer School on nano-optics and plasmonics, Odense (Denmark), 23 - 26 May 2019. https://www.sdu.dk/en/om_sdu/institutter_centre/nanooptics/summer_school
- 5 International School on Plasmonics and Nano-Optics "Plasmonica - 2018", Cetraro (Italy), 15 - 18 June 2018. <http://www.plasmonica.it/2018school/>

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4. Doctoral Summer School: Nanophotonics and Metamaterials, St. Petersburg (Russia). <https://metalab.ifmo.ru/school/>
 - 2016: XXXI EUPROMETA Summer School "Nanophotonics and Metamaterials", 21-24 June 2016. <https://metalab.ifmo.ru/school/2016/>
 - 2017: 28 May - 1 June 2017. <https://metalab.ifmo.ru/school/2017/>
 - 2018: May 28 - 1 June 2018. <https://metalab.ifmo.ru/school/2018/>
 - 2019: Summer School on Topological Photonics, 8 - 12 July 2019. <https://metalab.ifmo.ru/school>
3. PICQUE Roma Scientific School 2015: "Integrated quantum photonics applications: from simulation to sensing", Rome (Italy), 6-10 July 2015. <http://www.picque.eu/romaschool2015/>
2. International Winter School on Physics of Semiconductors, Zelenogorsk (Russia). http://www.ioffe.ru/winter_school/index_en.html
 - 2015: Light, semiconductors and technologies, 27 February - 3 March 2015. http://www.ioffe.ru/winter_school/school2015.html
 - 2016: Advanced fabrication technologies of semiconductor nanoheterostructures and devices, 26 February - 1 March 2016. http://www.ioffe.ru/winter_school/school2016.html.
Comment: The best presentation (2nd prize) at the young scientists' section.
 - 2017: Semiconductor nano- and optomechanics, 3 - 6 March 2017. http://www.ioffe.ru/winter_school/school2017.html
 - 2018: 2D semiconductor systems, 1 - 5 March 2018. http://www.ioffe.ru/winter_school/school2018.html
 - 2019: 100th anniversary of Ioffe Institute. Current research, 28 February - 3 March 2019. http://www.ioffe.ru/winter_school/school2019.html
1. European Summer School 2014: "From the Mystery of Mass to Nobel Prizes. The Physics of the Higgs Boson", Strasbourg (France), 7-12 July 2014. <http://esc.u-strasbg.fr/2014/>

Internships

2. Leibniz Institute of Photonic Technology, group of Prof. Markus Schmidt, Jena, Germany. <https://www.leibniz-ipht.de/en/research-units/research-departments/fiber-photonics/overview.html>
 - 2020: 9-31 March.
 - 2019: 11-18 August.
1. Technical University of Denmark, DTU Fotonik, group of Prof. Andrei Lavrinenko, Kongens Lyngby, Denmark. <http://www.fotonik.dtu.dk/english/research/nanophotonics/meta>
 - 2019: 26 August - 17 September.
 - 2018: 18 June - 8 July.
 - 2018: 4-25 May.

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Seminars

5. International mini-workshop on Dyakonov surface waves.
 - o 17 November 2020
4. ITMO University, Physics and Engineering Department, Theoretical Seminar, St. Petersburg, Russia.
 - o 20 May 2020
 - o 13 February 2019
3. Technical University of Denmark, DTU Fotonik, Plasmonics and Metamaterials Group (Prof. Lavrinenko's group), Kongens Lyngby, Denmark.
 - o 10 September 2019
 - o 8 May 2018
2. Institut d'Optique, Charles Fabry Laboratory, Palaiseau, France.
 - o 27 April 2018
1. O. Ya. Usikov Institute for Radiophysics and Electronics of the National Academy of Sciences of Ukraine (IRE NASU), Radiospectroscopy Department (Prof. Tarapov's group), Kharkiv, Ukraine, 11 January 2017.
 - o 15 October 2019
 - o 11 January 2017

Reviewer

- APS (9) Physical Review Letters (2), Physical Review Applied (1), Physical Review B (2), Physical Review A (2), Physical Review Research (2)
- OSA (9) Optics Letters (4), Optics Express (1), JOSA B (2), Optical Materials Express (1), Applied Optics (1)
- IOP (10) New Journal of Physics (1), Journal of Physics D: Applied Physics (4), Journal of Optics (1), Journal of Physics: Condensed Matter (1), Physica Scripta (3)
- SPIE (2) Journal of Nanophotonics (1), Optical Engineering (1)
- IEEE (3) IEEE Transactions on Microwave Theory and Techniques (1), IEEE Sensors (2)
- Elsevier (1) Photonics and Nanostructures - Fundamentals and Applications (1)
- AIP (1) AIP Advances (1)
- Conferences Days on Diffraction (2017,2018), METANANO (2018,2020).

Organization

3. **Organizing Committee:** Summer School on Nanophotonics and Metamaterials
 - o [upcoming] Photonics of 2D Materials, 19 - 23 July 2021 (<https://school.physics.itmo.ru/>)
 - o Scattering Problems in Photonics, 6 - 10 July 2020 (<https://school.physics.itmo.ru/2020/>)
2. **Organizing and Program Committees:** VIII Young Scientists Congress (in Russian), Section: Photonics, 15 - 19 April 2019. <https://kmu.itmo.ru/>

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🌐 https://physics.itmo.ru/en/personality/oleh_yermakov

1. **Technical Committee:** Summer School on Nanophotonics and Metamaterials
 - Topological Photonics, 8 - 12 July 2019 (<https://school.physics.itmo.ru/2019/>)
 - May 28 - 1 June 2018 (<https://school.physics.itmo.ru/2018/>)
 - 15 - 19 May 2017 (<https://school.physics.itmo.ru/2017/>)
 - 21 - 24 June 2016 (<https://school.physics.itmo.ru/2016/>)

Teaching

V. N. Karazin Kharkiv National University

- 2019–2020 *Lecturer*, "Applied Numerical Simulation" course for 1st year Master students, V. N. Karazin Kharkiv National University, fall semester 2019.
- 2019 *Lecturer*, "Introduction to Photonics" intensive course for 3d year Bachelor students, V. N. Karazin Kharkiv National University, fall semester 2019.

ITMO University

- 2018–2020 *Supervisor*, Master international educational program "Nanophotonics and Metamaterials", Department of Physics and Engineering, ITMO University.
- 2018 *Teaching Assistant*, "Metamaterials" course for 2nd year Master students, Department of Physics and Engineering, ITMO University, fall semester 2018. Lecturer: Prof. Pavel Belov. Duties: seminars, labs on CST.
- 2017 *Teaching Assistant*, "Mathematical Methods in Physics" course for 1st year Master students, Department of Physics and Engineering, ITMO University, fall semester 2017. Lecturer: Dr. Andrey Bogdanov. Duties: seminars, homeworks, tests.

Popular Science Lectures

6. "Shed Light" at Right Angle [in Russian, online], 13 November 2020.
5. "Game of Thrones" from the point of view of Physics [in Russian]
 - 4 June 2019, for high school students, ITMO University, St. Petersburg, Russia.
 - 23 April 2019, open lecture (organized by Atomic Energy Information Center), art-cafe "Books and coffee", St. Petersburg, Russia.
4. Sweaty electrons, cocktail of light with matter and ultrathin iPhones - why do we need Photonics? [in Russian]
 - 8 June 2020, Summer School for high school students in Physics, Department of Physics and Engineering, ITMO University.
 - 1 December 2019, for high school students in Physics olympiad, Russian Center for Science and Culture, Kyiv, Ukraine.
 - 4 June 2019, for high school students, ITMO University, St. Petersburg, Russia.
 - 19 April 2019, open lecture, ITMO University, St. Petersburg, Russia.
3. Photonics and light control at nanoscale [in Russian] (open lecture), V. N. Karazin Kharkiv National University, Kharkiv, Ukraine, 5 January 2019.
2. Introduction to Metamaterials [in Russian] (for high school students), ITMO University, St. Petersburg, Russia, 8 June 2018.

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1. How to write a scientific article and be proud of it? [in Russian] (for students), ITMO University, St. Petersburg, Russia, 24 November 2017.

Professional Memberships

7. European Microwave Association (EuMA), ID: AM4110, October 2020 – present.
6. IEEE Microwave Theory and Techniques Society, January 2020 – present.
5. IEEE Photonics, March 2018 – present.
4. METAMORPHOSE VI AISBL, November 2016 – present.
3. IEEE, ID: 94033466, September 2016 – present.
2. OSA, ID: 1166491, December 2014 – present.
1. SPIE, ID: 3651284, October 2014 – present.

Computer Skills

Basic C/C++, Python, OriginLab, Proteus, CodeVisionAVR, Corel Draw.

Advanced LaTeX, MatLab, Wolfram Mathematica, MIT Photonic Bands (MPB), CST Microwave Studio, COMSOL Multiphysics, POV-Ray, Adobe Illustrator.

Languages

- English *Advanced*
- Russian *Mother tongue*
- French *Intermediate*
- Ukrainian *Mother tongue*

Profiles

Website https://physics.ifmo.ru/en/personality/oleh_yermakov

ORCID 0000-0001-9446-0670

Researcher ID M-3969-2016

Scopus ID 56709555600

Google Scholar <https://scholar.google.com/citations?user=VDeJ0hUAAAAJ&hl=en>

ResearchGate https://www.researchgate.net/profile/Oleh_Yermakov

Publons https://publons.com/researcher/1611687/oleh_yermakov/