Curriculum vitae

PERSONAL INFORMATION

First Name, Surname	Oleg Olikh
Date of Birth	1974-06-05
Citizenship	Ukraine
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EDUCATION

1996-2000	Post-graduate course at the general physics department in Taras Shevchenko National University of Kyiv
1991-1996	Physics faculty of Taras Shevchenko University of Kyiv, master in solid state physics (diploma ЛТ ВЕ №001760, 28.06.1996)

ACADEMIC DEGREE, ACADEMIC RANK

2022	Academic rank of professor at the general physics department
2018	Doctor of Science Degree (Dr. Hab., Physics and Mathematics), solid-state physics specialty, thesis «Acoustically and radiation induced phenomena in surface barrier silicon and gallium arsenide structures»
2004	Academic rank of associate professor at the general physics department
2001	Ph.D. Degree (Physics and Mathematics), solid-state physics specialty, thesis «Investigation of acousto-photo-electric interaction in GaAs and Si semiconductor structures»

WORK EXPERIENCE

2024 - Present	Head of the general physics department, Taras Shevchenko National University of Kyiv, Kyiv (Ukraine)
2021 – 2024	Professor at the general physics department, Taras Shevchenko National University of Kyiv, Kyiv (Ukraine)
2002 - 2021	Associate professor at the general physics department, Taras Shevchenko National University of Kyiv, Kyiv (Ukraine)
1998-2002	Assistant at the general physics department Taras Shevchenko National University of Kyiv, Kyiv (Ukraine)

AWARDS AND HONORS

2021	I. Puluj Prize of the National Academy of Sciences of Ukraine for the implementation of controlled acoustic field influence on processes of defect reordering in semiconductors and surface barrier structures

GRANTS AND PROJECTS

1997-2000	researcher in project of Ministry of Education and Science of Ukraine " Study of physical properties of emission phenomena in heterogeneous materials" (No 97017)
2001-2005	researcher in project of Ministry of Education and Science of Ukraine «Theoretical and experimental study of physical properties of heterogeneous systems based on materials of acousto-optoelectronics and microelectronics» (No 01БФ051–09)
2006-2010	researcher in project of Ministry of Education and Science of Ukraine «Experimental and theoretical study of the structure and physical properties of low-dimensional systems based on semiconductor structures, various modifications of carbon, and composites» (No 0106U006390)
2006-2008	researcher in project of Science & Technology Center in Ukraine "Research

	and development of methods for opto-acoustic monitoring of materials" (№3555)
2011-2015	researcher in project of Ministry of Education and Science of Ukraine «Fundamental research in the field of condensed matter and elementary particles, astronomy, and materials science for the creation of the foundations of advanced technologies» (No 0111U004954)
2016-2018	researcher in project of Ministry of Education and Science of Ukraine «Formation and physical properties of nanoscale composite materials and functional surface layers based on carbon, semiconductor, and dielectric components» (No 0116U004781)
2019-2021	researcher in project of Ministry of Education and Science of Ukraine «Development of physical principles for the functionalization of nanostructured materials based on carbon, semiconductor heterostructures, and porous silicon» (No 0119U100303)
2020-2021	scientific head of the project of National Research Foundation of Ukraine «Development of physical base of both acoustically controlled modification and machine learning-oriented characterization for silicon solar cells» (No 2020.02/0036)
2022-2024	researcher in project of Ministry of Education and Science of Ukraine «Physico-chemical properties of nanostructured carbon-containing and semiconductor thin-film structures for the needs of renewable-hydrogen energy» (No 0122U001953)
2024 – 2026	researcher in project of National Research Foundation of Ukraine «Development of principles for the creation and machine-oriented characterization of porous silicon nanostructures with optimal heat transport properties» (No 023.03/0252)
2024 - 2026	researcher in project of National Research Foundation of Ukraine «Solving modern problems in chemistry, biomedicine, physics and materials science using a high-performance computing and machine learning center» (No 023.05/0024)
LANGUAGES	Ukrainian - C2, English – B2.
SCIENTIFIC ACTIVITY	
Number of Scientific Papers	112
Main Stream of Research	Field of knowledge "Nature Sciences" - the ultrasound effect on materials; - defect engineering in semiconductor structures; - using of ultrasound methods to determine the semiconductor structure parameters; acousto-stimulated dynamic phenomena in semiconductor barrier structures
Papers in Q1 and Q2 Journals (2015–2025)	1. Olikh O., Zavhorodnii O. «Determination the iron concentration in silicon solar cells using photovoltaic parameters and machine learning», Solar Energy, 2025, Vol.300, 113754; https://doi.org/10.1016/j.solener.2025.113754 2. Olikh O., Zavhorodnii O. «Iron's impact on silicon solar cell execution: Comprehensive modeling across diverse scenarios», Materials Science and Engineering B, 2025, Vol.317, 118192; https://doi.org/10.1016/j.mseb.2025.118192 3. Olikh O. «A test of meta-heuristic algorithms for parameter extraction of next-generation solar cells with S-shaped current–voltage curves», Materials Science and Engineering B, 2024, Vol.307, 117506; https://doi.org/10.1016/j.mseb.2024.117506

4. Olikh O., Lytvyn P. «Defect engineering using microwave processing in SiC and GaAs», Semiconductor Science and Technology, 2022, vol.37, is.7, 075006, https://doi.org/10.1088/1361-6641/ac6f17
5. Olikh O., Kostylyov V., Vlasiuk V., Korkishko R., Chupryna R. «Intensification of iron–boron complex association in silicon solar cells under acoustic wave action», Journal of Materials Science: Materials in Electronics, 2022, vol.33, is.13, P. 13133-13142, https://doi.org/10.1007/s10854-022-08252-3
6. Olikh O., Lozitsky O., Zavhorodnii O. «Estimation for iron contamination in Si solar cell by ideality factor: Deep neural network approach», Progress in Photovoltaics: Research and Applications, 2022, vol.30, is.6, p. 648-660; https://doi.org/10.1002/pip.3539
7. Olikh O., Kostylyov V., Vlasiuk V., Korkishko R., Olikh Ya., Chupryna R. «Features of FeB pair light-induced dissociation and repair in silicon *n*+-*p*-*p*+ structures under ultrasound loading», Journal of Applied Physics, 2021, vol.130, is.23, 235703; https://doi.org/10.1063/5.0073135
8. Olikh Ya. M., Tymochko M. D., Olikh O.Ya. «Mechanisms of two-stage conductivity relaxation in CdTe:Cl with ultrasound», Journal of Electronic Materials, 2020, vol.49, is.8, P. 4524-4530; https://doi.org/10.1007/s11664-020-08179-7
9. Gorb A.M., Korotchenkov O.A., Olikh O.Ya., Podolian A.O., Chupryna R.G. «Influence of γ-irradiation and ultrasound treatment on current mechanism in Au-SiO_2-Si structure», Solid State Electronics, 2020, vol.165, 107712; https://doi.org/10.1016/j.sse.2019.107712
10. Olikh O.Ya. «Relationship between the ideality factor and the iron concentration in silicon solar cells», Superlattices and Microstructures, 2019, vol.136, 106309; https://doi.org/10.1016/j.spmi.2019.106309
11. Olikh Ya. M., Tymochko M. D., Olikh O.Ya., Shenderovsky V. A. «Clusters of point defects near dislocations as a tool to control CdZnTe electrical parameters by ultrasound», Journal of Electronic Materials, 2018, vol.47, is.8, P. 4370-4378; https://doi.org/10.1007/s11664-018-6332-4
12. Olikh O.Ya. «Acoustically driven degradation in single crystalline silicon solar cell», Superlattices and Microstructures, 2018, vol.117, p. 173-188; https://doi.org/10.1016/j.spmi.2018.03.027
13. Olikh O.Ya., Gorb A.M., Chupryna R.G., Pristay-Fenenkov O.V. «Acousto-defect interaction in irradiated and non-irradiated silicon n^+–p structures», Journal of Applied Physics, 2018, vol.123, is.16, 161573; https://doi.org/10.1063/1.5001123
14. Olikh O.Ya., Voytenko K.V. «On the mechanism of ultrasonic loading effect in silicon-based Schottky diodes», Ultrasonics, 2016, vol.66, p. 1-3; https://doi.org/10.1016/j.ultras.2015.12.001
15. Olikh O.Ya. «Review and test of methods for determination of the Schottky diode parameters», Journal of Applied Physics, 2015, vol.118, is.2, 024502; https://doi.org/10.1063/1.4926420
16. Olikh O.Ya., Voytenko K.V., Burbelo R.M. «Ultrasound

influence on I–V–T characteristics of silicon Schottky barrier structure», Journal of Applied Physics, 2015, vol.117, is.4, 044505; https://doi.org/10.1063/1.4906844

17. Olikh O.Ya. «Reversible influence of ultrasound on *γ*-irradiated Mo/*n*-Si Schottky barrier structure», Ultrasonics, 2015, vol.56, p. 545-550; https://doi.org/10.1016/j.ultras.2014.10.008