

PERSONAL INFORMATION **Ivan Ivanov**


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Publications in Scopus: 26

H-index in Scopus: 6

## CURRENT JOB POSITION

Docent of Department of condensed matter nanophysics of High Technologies of Taras Shevchenko National University of Kyiv (KNUTSH),  
 Head of the scientific project (SP) of Ministry of Education and Science of Ukraine (2021),  
 Head of the Center for Collective Use of Scientific Equipment (CCUSE) "Modern Research Technologies in Biology and Medicine" (KNUTSH)

## WORK EXPERIENCE

[Add separate entries for each experience. Start from the most recent.]

- |           |  |
|-----------|--|
| 2020-now  | <p><b>Docent, Head of SP, Head of CCUSE,</b><br/>         Taras Shevchenko National University of Kyiv( 60 Volodymyrska Street, City of Kyiv, Ukraine, 01033; <a href="http://www.knu.ua">www.knu.ua</a>)<br/>         Lecturing, research, administrative work, Project «HORIZON 2020» #101008159<br/> <b>Business or sector:</b> Higher Education and Research</p> |
| 2013-2019 | <p><b>Docent, invited researcher</b><br/>         Taras Shevchenko National University of Kyiv<br/>         Lecturing, research, projects: TEMPUS «Master of Engineering in Microsystems Design», project «HORIZON 2020»<br/> <b>Business or sector:</b> Higher Education and Research</p>   |
| 2009-2013 | <p><b>Assistant professor</b><br/>         Taras Shevchenko National University of Kyiv<br/>         Lecturing, research, project of Ukrainian Ministry of Education and Science «Development of silicon solar cells with high efficiency and radiation resistance»<br/> <b>Business or sector:</b> Higher Education and Research</p>                                |
| 2008-2009 | <p><b>Invited researcher</b><br/>         France, Institut national des sciences appliquées (INSA) de Lyon, <a href="https://www.insa-lyon.fr">https://www.insa-lyon.fr</a><br/>         Project «Development of silicon solar cells with rear SiOx/SiNx reflector»<br/> <b>Business or sector</b> Replace with type of business or sector</p>                       |
| 2007-2009 | <p><b>Assistant professor</b><br/>         Taras Shevchenko National University of Kyiv<br/>         Lecturing, research, project USTC « Research and development of microelectronic gas sensors based on porous nanostructured layers for environment control»<br/> <b>Business or sector:</b> Higher Education and Research</p>                                    |
| 2005-2006 | <p><b>Probationer-researcher. DAAD training allowance.</b><br/>         Germany, Berlin, Hahn-Meitner-Institut<br/>         Research, project «Transport in systems with porous electrods»<br/> <b>Business or sector:</b> Higher Education and Research</p>   |

- 2003-2009 **Assistant professor**  
 Taras Shevchenko National University of Kyiv)  
 Lecturing, research  
**Business or sector:** Higher Education and Research
- 2002-2003 **Postgraduate student**  
 Taras Shevchenko National University of Kyiv  
 Research  
**Business or sector:** Higher Education and Research

## EDUCATION AND TRAINING

[Add separate entries for each course. Start from the most recent.]

- 2002-2010 **PhD in physics and mathematics** Level 8  
 Taras Shevchenko National University of Kyiv, Kyiv (Ukraine)  
 PhD Thesis in physics of semiconductors and dielectrics, “Photoelectric processes in nanodispersed Si and TiO<sub>2</sub> based heterostructures”
- 2000-2002 **Master in Radiophysics and Electronics** Level 7  
 Taras Shevchenko National University of Kyiv, Department of Radiophysics and Electronics Kyiv (Ukraine)  
 Specialization: Electronics and Physics of Semiconductors
- 1996-2000 **Bachelor in Applied Physics** Level 6  
 Taras Shevchenko National University of Kyiv, Department of Radiophysics and Electronics Kyiv (Ukraine)
- 1996-2000 **Bachelor in Electronics with honours** Level 6  
 Kyiv technical college of radioelectronics , Kyiv (Ukraine)  
 Specialization: Radio apparatus engineering and production

## ADDITIONAL INFORMATION

### Projects

1. «HORIZON 2020» #101008159 “Ultra-small Nanohybrides for Advanced Theranostics” 2021-now
2. «Marie Skłodowska-Curie Actions Research and Innovation Staff Exchange (RISE) H2020-MSCA-RISE-2015» #690945 “Carbon-based nano-materials for theranostic application” (CARTHER), 2016-2019.
3. Project MastMST N530785-TEMPUS-1-2012-1-PL-TEMPUS-JPCR “Curricula Development for New Specialization: Master of Engineering in Microsystems Design”, 2012-2016.
4. project USTC « Research and development of microelectronic gas sensors based on porous nanostructured layers for environment control»

**Expérimental skills**  
**Technologies:** Electrochemical etching of semiconductors, metal assisted chemical etching, clean room facilities, nanomaterials characterization, creation of UV, VIS, Raman spectral setups.  
**Characterization:** Optics: Fourier transform infrared spectroscopy, time resolved spectroscopy, photoluminescence, UV/VIS/Raman spectroscopy; photocurrent, development and creation of electronic circuit boards, automation measurements, data processing  
**Information technologies:** Python, Matlab, Comsol multiphysics, LabVIEW, Pascal, Delphi, Origin, Mathematica, MSOffice, 3DMax, MySQL, PHP, Web-design.

## Publications

5. **Ivanov I.I.**, Skryshevsky V.A., Belarouci A., Chemical sensor based on the colorimetric response of porous silicon photonic crystal, *Sensors and Actuators A: Physical* Volume 3331 January 2022 Article number 113309
6. Pylypova, O., Havryliuk, O., Antonin, S., Ivanov, I., Influence of nanostructure geometry on light trapping in solar cells, *Applied Nanoscience (Switzerland)*, 2022, 12(3), pp. 769–774
7. Pylypova O., Havryliuk O., Antonin, S., Ivanov I., Influence of nanostructure geometry on light trapping in solar cells, *Applied Nanoscience (Switzerland)*, 2021, DOI: 10.1007/s13204-021-01699-6
8. Ivanov I.I., Skryshevsky V.A., Belarouci A., Porous Bragg reflector based sensors: Ways to increase sensitivity, *Sensors and Actuators, A: Physical*, 2020, 315, 112234.
9. Havryliuk, O.O., Evtukh, A.A., Pylypova, O.V., Ivanov I. I., Plasmonic enhancement of light to improve the parameters of solar cells, *Applied Nanoscience (Switzerland)*, 2020, 10(12), pp. 4759–4766.
10. Ivanov I.I., Klyui, N.I. Skryshevsky V.A., Colorimetric analysis of optical reflection from thin porous silicon for detection of organic liquids, *Sensors and Actuators, B: Chemical*, 2019, 280, pp. 102–108
11. I. Ivanov, N. I. Klyui, V. A. Skryshevsky, Colorimetric analysis of optical reflection from thin porous silicon for detection of organic liquids, *Sensors and Actuators B* 280 (2018) 102-108.
12. N. I. Klyui , I. I. Ivanov, O. S. Kyslovets, V.A. Skryshevsky, Features of the use of optical reflection from thin porous silicon for detection of organic liquids, *Sensors and Actuators B* 242(2017) 1177-1185.
13. Ivanov, I.I., Lozinskii, V.B., Kasatkin, V.P., Effect of TiO<sub>2</sub> layers thickness inhomogeneity on transport of charge carriers in disperse dye solar cells, *Journal of Nano- and Electronic Physics* 9(6) 2017, 06001
14. Ivanov I., V. A. Skryshevsky, O. S. Kyslovets, T. Nychyporuk, M. Lemiti, Porous silicon Bragg reflectors on multi-crystalline silicon wafer with p-n junction, *Journal of Physics: Conference Series*, Volume 709, 2016.
15. Ivanov I.I., Skryshevsky V.A., Nychyporuk T., Lemiti M., Makarov A.V., Klyui N.I., Tretyak O.V., Porous silicon Bragg mirrors on single- and multi-crystalline silicon for solar cells, *Renewable Energy*, 55, 7, 2013, pp. 79-84
16. Ivanov I. I., Skryshevsky V.A., Serdiuk T., Lysenko V., Kinetics of adsorption–desorption processes of alcohol molecules in porous silicon Bragg mirror, *Sensors and Actuators B: Chemical*, 174, 2012, pp. 521–526.
17. Serdiuk T., Skryshevsky V. A., Ivanov I. I., Lysenko V., Storage of luminescent nanoparticles in porous silicon: Toward a solid state "golden fleece", *Materials Letters*, 65 (15-16), 2011, pp. 2514-2517.
18. Ivanov I. I., Nychyporuk T. V., Skryshevsky V. A., Lemiti M., *Semiconductor Physics, Quantum Electronics and Optoelectronics*. -2009. -12, №4, pp. 406-411.
19. A. Manilov, A. M. Veremenko, I. I. Ivanov, V. A. Skryshevsky, Negative differential conductivity in n+-SnO<sub>2</sub>:F/nano-porous TiO<sub>2</sub>/InOHS/Au heterojunction, *Physica E: Low-dimensional Systems and Nanostructures*. 2008, 41, № 1, pp. 1386-9477.

## Conferences

1. **Ivanov I I.**, Skryshevsky V.A., Porous Silicon Bragg Reflector Sensor: Applying HSV Color Space for Sensor Characterization, Conference: 2021 IEEE 16th International Conference on the Experience of Designing and Application of CAD Systems (CADSM), 2021, pp. 15-19
2. **Ivanov, I.**, Skryshevsky, V., Porous Silicon Optical Distributed Bragg Reflector Sensor: Methods of Characterization, 2020 IEEE 40th International Conference on Electronics and Nanotechnology, ELNANO 2020 - Proceedings, 2020, pp. 327–330, 9088823
3. **Ivanov, I.**, Skryshevsky, V., Reflectivity of Porous Silicon Matrix as Analyte 'Logical' Pattern, 2019 IEEE 39th International Conference on Electronics and Nanotechnology, ELNANO 2019 - Proceedings, 2019, pp. 82–87, 8783422
4. V. Skryshevsky, O. Kostiukvych, **I. Ivanov**, ITO-Nano-Titania Gas Sensors at Adsorption of Ethanol, Acetone and Water Molecules, IEEE 38th International Conference on Electronics and Nanotechnology, ELNANO 2018 - Conference Proceedings, 2918, pp 41 – 45.
5. **Ivanov I.**, V. Skryshevsky, Numerical Simulation of Colorimetric Parameters Response of Single Layer Porous Silicon Sensor Structures, IEEE 38th International Conference on Electronics and Nanotechnology, ELNANO 2018 - Conference Proceedings, 2018, pp. 219-223
6. V. A. Skryshevsky , I. V. Gavrilenko, **I. I. Ivanov**, S. V. Litvinenko, Ethanol and water vapors sensing by MIS-structure with porous intermediate layer, Conference: 2016 IEEE 36th International Conference on Electronics and Nanotechnology (ELNANO), April 2016.
7. Karlash A., **I. Ivanov**, Optical and photoluminescence properties of powdered silica aerogel