

CURRICULUM VITAE



Surname: Kavetskyy (Kavetsky, Kavetskiy, Kavetskii)

First Name: Taras

Affiliations and Official Address: Drohobych Ivan Franko State
Pedagogical University
24 I. Franko Str., 82100 Drohobych, Ukraine &
The John Paul II Catholic University of Lublin
Al. Raclawickie 14, 20-950 Lublin, Poland

Personal Information

Date of Birth: 26 December 1974
Place of Birth: Drohobych, Lviv Region, Ukraine
Citizenship: Ukraine
Gender (M / F): Male
Children: Yes (daughter Anastasiya, date of birth: 02 June 1998)
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Education

Drohobych Ivan Franko State Pedagogical University, Ukraine
Doctoral Candidate **November 2009 – October 2012**
at the Department of Theoretical Physics and Methods of Teaching of Physics
Institute of Physics, Mathematics and Computer Sciences
Speciality: Physics of Semiconductors and Insulators
Lviv Ivan Franko National University, Ukraine **November 1997 – October 2000**
Post-graduate student at the Department of Radioelectronic Materials Science
Faculty of Physics. Speciality: Physics of Semiconductors and Insulators
Drohobych Ivan Franko State Pedagogical Institute, Ukraine **September 1991 – June 1996**
Faculty of Physics and Mathematics. Speciality: Mathematics and Physics
Secondary School №5, Drohobych, Ukraine **September 1981 – June 1991**
(Ukrainian High School Diploma)

Scientific Degrees

Ph.D. (Physical and Mathematical Sciences) **19 June 2002** (defended), **13 Nov. 2002** (approved)
Thesis: “Compositional Peculiarities of Radiation-Induced Phenomena in Chalcogenide Vitreous Semiconductors of Ge-Sb-S Ternary System”

Honorary Degrees

Laureate of Prize of the President of Ukraine for Young Scientists **01 December 2008**
Scientific Work: “Nanostructural Characterization of Optoelectronic Media Based on Chalcogenide Vitreous Semiconductors: Methodological Approach”

Work Experience

- **The John Paul II Catholic University of Lublin, Poland**
Position: Adiunkt (Assistant Professor) **January 2015 – currently**
- **Drohobych Ivan Franko State Pedagogical University, Ukraine**
Position: Associate Professor, Senior Researcher, Head of Lab. **October 2013 – currently**
- **Drohobych Ivan Franko State Pedagogical University, Ukraine**
Position: Senior Researcher, Principal Researcher **March 2004 – December 2013**

- **Lviv Ivan Franko National University, Ukraine**
Position: Head of Laboratory **December 2003 – February 2004**
- **Scientific Research Company “Carat”, Ukraine**
Position: Junior Researcher, Researcher **July 2001 – December 2010**
- **Joint Ukrainian-Russian Enterprise “Sensor” Ltd., Drohobych, Ukraine**
Position: Researcher **November 2000 – June 2001**
- **Drohobych Ivan Franko State Pedagogical Institute, Ukraine**
Position: Engineer **August 1996 – October 1997**

Research Activities

Main field:

- Materials science; physics and chemistry of glass; polymers; amorphous materials
- Radiation-induced effects in solids
- Structure, defects and properties of amorphous materials

Other fields:

- Radiation physics and chemistry; positron annihilation

Research interests:

- Chalcogenide and chalcohalide glasses, polymers and organic-inorganic hybrid composites
- Application of chalcogenide/chalcohalide glasses in modern optonanoelectronics
- Metal-chalcogenide/chalcohalide glasses for batteries, magnetic and gas sensors
- Rare-earth doped chalcogenide/chalcohalide glasses for photonics
- Radiation-modification of glass structure
- Development of new radiation-modified chalcogenide glasses for electronics
- Nanostructural characterisation of network chalcogenide/chalcohalide glasses
- Nanoscale atomic- and void-species structures; nanovoids topology
- Morphology and surface of glasses and characterization
- Short- and medium-range structural order in network glasses
- First sharp diffraction peak and Boson peak
- Optical properties of chalcogenide/chalcohalide glasses
- Magnetic properties of chalcogenide/chalcohalide glasses
- Indentation size effect (ISE) in network glasses
- X-ray diffraction in respect to the first sharp diffraction peak (FSDP-related XRD)
- Positron annihilation lifetime (PAL) spectroscopy
- Doppler broadening of annihilation line (DBAL) spectroscopy
- Slow positron beam spectroscopy (slow positrons)
- High-energy synchrotron X-ray diffraction (HESXRD)
- Extended X-ray absorption fine structure (EXAFS) spectroscopy
- Raman spectroscopy; low-frequency Raman scattering
- Differential scanning calorimetry (DSC)
- Electron paramagnetic resonance (EPR) spectroscopy
- Defect formation in chalcogenide/chalcohalide glasses; free volume concept
- Synthesis of metal nanoparticles in materials by ion implantation
- Metal nanoparticles in glasses, polymers and organic-inorganic hybrid composites
- Carbon, carbonaceous phases, carbonization in polymers
- Solid State NMR spectroscopy
- Metal-containing luminescent chalcohalide and oxide glasses
- Silver nanowires/nanorods polarizing oxide glasses
- Nonlinear optical properties of glasses and polymers; Z-scan technique
- Scanning electron microscopy (SEM); atomic force microscopy (AFM); nanoindentation
- Nanostructured surfaces of ion-implanted materials
- Nanoporous silicon created by ion implantation
- Nanobiotechnology and nanomedicine, biomaterials (*Juniperus communis*)
- Magnetic nanoparticles in biomaterials
- Nanocomposite membranes; proton conductivity; Nafion/titanium dioxide

- Nanodiagnostic in medicine, nanodiagnostic of cancer
- Development of biosensors, chemo- and bio-immobilization of polymeric materials
- Polymer composites for construction of third-generation amperometric enzyme biosensors

Research Projects:

Leader, Deputy Leader, Participant

- 12 international; 11 national

Job Experience:

- optical spectroscopy measurements in UV-VIS-IR region (Specord M40, Specord 75IR), microhardness measurements (PMT-3); X-ray diffraction measurements with conventional HZG-4a diffractometer; magnetic measurements (*Ukraine*);
- optical spectroscopy measurements in UV-VIS region (Evolution 220 UV-Visible Spectrophotometer) (*Poland*);
- positron annihilation lifetime (PAL) and Doppler broadening (DB) spectroscopy (*Slovakia*);
- load-dependent microhardness measurements (MHT-10), nanoindentation test (*Poland*);
- Raman spectroscopy measurements with SPEX 1403 double monochromator (*Greece*), HORIBA Jobin Yvon Raman spectrometer (*Germany*), Renishaw Raman inVia Reflex (*Poland*);
- BW5 and X1 beamlines user (Hamburger Synchrotronstrahlungslabor HASYLAB at the Deutsches Elektronen-Synchrotron DESY in Hamburg, Germany): high-energy synchrotron X-ray diffraction and extended X-ray absorption fine structure spectroscopy (*Germany*).

Publications: Total number of publications – 310

Number of papers in referred journals – 79

Number of papers in books – 23

Number of papers in reports – 4

Number of patents – 1

Number of theses – 1

Number of scientific works – 1

Number of conference proceedings – 15

Number of conference abstracts – 186

Membership in Professional Bodies/Professional Registration/Public Activities

- Member of Coordinating Committee of International Conference “Topical Problems of Semiconductir Physics” (2016, 2018 Truskavets, Ukraine)
- Member of International Scientific Committee of International Conference on Oxide and Non-Oxide Materials for Optoelectronics and Energy Applications (ICONMO 4) (2017, Borovetz, Bulgaria)
- Member of Local Committee of Scientific and Technical Conference “Laser Technologies. Lasers and Their Application” (2017, Truskavets, Ukraine)
- Co-Director of Joint Ukraine-Azerbaijan International Research and Education Center of Nanobiotechnology and Functional Nanosystems (2016 – currently, Drohobych, Ukraine)
- Member of International Scientific Committee of International Conference on Oxide and Non-Oxide Materials for Optoelectronics and Energy Applications (ICONMO 3) (2015, Borovetz, Bulgaria)
- Member of Expert Committee of Scientific Society of The Ministry of Education and Science of Ukraine, Section “Scientific Problems of Materials Science” (2015 – currently, Kyiv, Ukraine)
- Member of Coordinating Committee of International School-Conference “Semiconductor Physics Urgent Problems” (2005, 2008, 2010, 2013 Drohobych, Ukraine)
- Member of Editorial Board of International Scientific Journal “Advances in Natural Science: Theory & Applications” (2012 – currently, Sofia, Bulgaria)

Teaching Activities

Lecture courses, Practical & Laboratory works

- “Chemistry of high-molecular compounds”
- “Electro-technique and electronics”
- “Elements of mechanics of composite materials”
- “Mechanics of liquids”
- “Mechanics and strength of materials”
- “Methods of analysis of environment objects”
- “Modelling of physico-chemical processes”
- “Optical materials”
- “Physico-chemical methods of research”
- “Physics”
- “Plasma physics and its application”
- “Structure of matter”
- “Structural strength”
- “Technical mechanics and strength of materials”
- “Technical thermodynamics”

Academic Supervision

- **Scientific supervisor of PhD Thesis** “Spectroscopic characterization of phosphor- and chloral-ion-implanted polymethylmethacrylate nanocomposites” (PhD student: Zubrytska K.V., Institute of Physics, Mathematics, Economics and Innovation Technology, Drohobych Ivan Franko State Pedagogical University, 2018-2020);
- **Scientific supervisor of PhD Thesis** “Features of formation of ion-synthesized metal nanoparticles in organic and hybrid organic-inorganic nanocomposite films” (PhD student: Kravtsiv M.M., Institute of Physics, Mathematics, Economics and Innovation Technology, Drohobych Ivan Franko State Pedagogical University, 2016-2020);
- **Scientific supervisor of PhD Thesis** “Magnetic properties of polymers with ion-synthesized silver nanoparticles and biomaterials with self-organized superparamagnetic iron oxide nanoparticles” (PhD student: Beyba T.M., Institute of Physics, Mathematics, Economics and Innovation Technology, Drohobych Ivan Franko State Pedagogical University, 2015-2019);
- **Scientific supervisor of PhD Thesis** “Effect of boron-ion irradiation on mechanical properties of polymethylmethacrylate” (PhD student: Kukhazh Y.Y., Institute of Physics, Mathematics, Economics and Innovation Technology, Drohobych Ivan Franko State Pedagogical University, 2014-2017);
- **Scientific supervisor of Master Thesis** “Chemical aspects of ion implantation in organic polymers and investigation of boron-ion implanted polymethylmethacrylate by Raman spectroscopy method” (Student: Kulynyak I.I., Faculty of Biology, Drohobych Ivan Franko State Pedagogical University, 2014-2015);
- **Scientific supervisor of Bachelor Thesis** “Determination of size of nanovoids in polymeric materials” (Student: Kropyvnytska M.V., Faculty of Biology, Drohobych Ivan Franko State Pedagogical University, 2013-2014).

Awards

**Conference grant for participation in the NATO Advanced Study Institute
“Advanced Technologies for Detection and Defence Against CBRN Agents”**

Sozopol, Bulgaria, 12-20 September, 2017

September 2017

**Conference grant for participation in the NATO Advanced Research Workshop
“Detection of CBRN-Nanostructured Materials”**

Kiev, Ukraine, 14-17 August, 2017

August 2017

**Conference grant for participation in the International Conference on Oxide
and Non-Oxide Materials for Optoelectronics and Energy Applications (ICONMO 3)**

Borovetz, Bulgaria, 1-4 December, 2015	December 2015
Award in nomination “The Best Scientist – Candidate of Sciences (PhD)” Drohobych Ivan Franko State Pedagogical University, Drohobych, Ukraine	October 2015
Conference grant for participation in the NATO Advanced Study Institute “Nanoscience Advances in CBRN Agents Detection, Information and Energy Security” Sozopol, Bulgaria, 29 May - 6 June, 2014	May 2014
Diploma of “Acknowledgement of The Ministry of Education and Science of Ukraine” The Ministry of Education and Science of Ukraine, Kyiv, Ukraine	May 2014
Conference grant for participation in the 10th International Workshop on Positron and Positronium Chemistry (PPC-10) Smolenice Castle, Slovakia, 5-9 September, 2011	September 2011
Diploma of Second Degree for Seminar Talk Presentation of Young Scientists 4 th International Scientific and Technical Conference “Sensor Electronics and Microsystem Technologies (SEMST-4)” Odessa, Ukraine, 28 June - 2 July, 2010	July 2010
Conference grant for participation in the NATO Advanced Study Institute “Nanotechnological Basis for Advanced Sensors” Sozopol, Bulgaria, 31 May - 11 June, 2010	May 2010
Laureate of Prize of the President of Ukraine for Young Scientists Committee of State Prizes of Ukraine in the field of Science and Technology, Kyiv, Ukraine	December 2008
Conference grant for participation in the 6th International Conference “Advanced Optical Materials and Devices” AOMD-6 Riga, Latvia, 24-27 August, 2008	August 2008
Conference grant for participation in the NATO Advanced Study Institute “Nanostructured Materials for Advanced Technological Applications” Sozopol, Bulgaria, 1-13 June, 2008	June 2008
Young Scientist Award of Cabinet of Ministries of Ukraine The Ministry of Education and Science of Ukraine, Kyiv, Ukraine	September 2005
Young Scientist Award of Head of Regional State Administration Lviv Regional State Administration, Lviv, Ukraine	October 2004
Conference grant for participation in the 12th General Conference of the European Physical Society “EPS-12 Trends in Physics” Budapest, Hungary, 26-30 August, 2002	August 2002
Conference grant for participation in the 3rd International Conference “Advanced Optical Materials and Devices” AOMD-3 Riga, Latvia, 19-22 August, 2002	August 2002
Conference grant for participation in the International Conference “Advanced Optical Materials and Devices” ADOM-2 Vilnius, Lithuania, 16-19 August, 2000	August 2000
Honorary Diploma for Excellency in Studies Drohobych Ivan Franko State Pedagogical Institute, Drohobych, Ukraine	June 1996
<u>Fellowships</u>	
NSP Scholarship granted by the SAIA, n.o. (Slovakia) Institute of Physics, Slovak Academy of Sciences, Slovakia	February 2017 – July 2017
Erasmus Fellowship granted by the Erasmus+ Key Action 107 (Belgium) University of Chemical Technology and Metallurgy, Bulgaria	December 2016

Erasmus Fellowship granted by the Erasmus+ Key Action 107 (Belgium)
VIVES University College, Belgium **February 2016 – March 2016**

DAAD Fellowship granted by the DAAD (Germany)
Institute for Complex Materials, IFW Dresden, Germany **July 2014 – August 2014**

UNESCO AGH Fellowship granted by the Polish National Commission for UNESCO (Poland)
AGH University of Science and Technology, Poland **October 2013 – March 2014**

NSP Scholarship granted by the SAIA, n.o. (Slovakia)
Institute of Physics, Slovak Academy of Sciences, Slovakia **November 2012 – April 2013**

NSP Scholarship granted by the SAIA, n.o. (Slovakia)
Institute of Physics, Slovak Academy of Sciences, Slovakia **March 2011 – July 2011**

DAAD Fellowship granted by the DAAD (Germany)
Chemnitz University of Technology, Germany **October 2009 – November 2009**

Visegrad Scholarship granted by the International Visegrad Fund (Slovakia)
Jan Dlugosz University of Czestochowa, Poland **September 2008 – June 2009**

INTAS Young Scientist Fellowship granted by the INTAS (Belgium)
Scientific Research Company “Carat”, Ukraine **March 2006 – February 2008**
Chemnitz University of Technology, Germany **September 2006 – November 2006**
Jan Dlugosz University of Czestochowa, Poland **July 2007 – September 2007**

I.K.Y. Young Scientist Fellowship granted by the Greek State Scholarships Foundation (Greece)
National Technical University of Athens, Greece **October 2005 – February 2006**

Mianowski Young Scientist Fellowship granted by the Kasa im. Józefa Mianowskiego (Poland)
Jan Dlugosz University of Czestochowa, Poland **March 2004 – May 2004**

Languages

Fluent in Ukrainian (native)
Fluent in Russian (reading, speaking and writing – excellent)
Fluent in English (reading, speaking and writing – excellent)
Versed in Polish (reading, speaking and writing – good)
Versed in Slovak (reading, speaking and writing – good)
Versed in Japanese (speaking and writing – good, reading – fair)

Reviewing

Peer-reviewed international scientific journals – impact factor (2017/2018)

Applied Physics Letters – 3.495
Applied Physics A: Materials Science & Processing – 1.604
European Polymer Journal – 3.741
Journal of Alloys and Compounds – 3.779
Journal of Applied Physics – 2.176
Journal of Non-Crystalline Solids – 2.488
Journal of Physics D: Applied Physics – 2.373
Merit Research Journal of Medicine and Medical Sciences – 1.206
Nanoscale Research Letters – 3.125
Nuclear Instruments & Methods in Physics Research Section B – 1.109
Optoelectronics and Advanced Materials-Rapid Communications – 0.386
Philosophical Magazine Letters – 1.194
Philosophical Magazine – 1.632
Phosphorus, Sulfur, and Silicon and the Related Elements – 0.674
RSC Advances – 2.936
Solid State Ionics – 2.751
Spectroscopy Letters – 0.896

Surface and Interface Analysis – 1.263
Toxicology Research – 1.89
Vacuum – 2.067

References Available upon request

Brief Biography:

Dr. Taras Stepanovych KAVETSKYY

Laureate of Prize of the President of Ukraine for Young Scientists

Drohobych Ivan Franko State Pedagogical University &

The John Paul II Catholic University of Lublin

E-mail(s): kavetskyy@yahoo.com; kavetskyy@kul.lublin.pl

Taras S. Kavetskyy received the Physical-Mathematical graduation from the Drohobych Ivan Franko State Pedagogical Institute and PhD degree in Physics from the Lviv Ivan Franko National University, Ukraine, in 1996 and 2002, respectively. Since 2004, T. Kavetskyy is with the Materials of Solid-State Microelectronics Laboratory of Drohobych Ivan Franko State Pedagogical University (DSPU) and where he is Head of the Non-crystalline materials group. In 2004, he was a Visiting Research Fellow at the Jan Dlugosz University of Czestochowa in Poland with support from the Kasa im. Józefa Mianowskiego (Poland). From 2005 to 2006, T. Kavetskyy was a Visiting Research Fellow at the National Technical University of Athens in Greece with support from the Greek State Scholarships Foundation (I.K.Y.). During 2006-2008 he was granted by INTAS (Belgium) to stay in the Chemnitz University of Technology (Germany) and Jan Dlugosz University of Czestochowa (Poland). In 2008, he obtained the honorary degree of Laureate of Prize of the President of Ukraine for Young Scientists for scientific work awarded by Decree of the President of Ukraine on the basis of presentation of Committee of State Prizes of Ukraine in the field of Science and Technology (Kiev, Ukraine). From 2008 to 2009, T. Kavetskyy was a Visiting Research Fellow at the Jan Dlugosz University of Czestochowa with support from the International Visegrad Fund (Slovakia). In 2009, T. Kavetskyy was a Visiting Research Fellow at the Chemnitz University of Technology (Germany) with support from the DAAD. In 2011, 2012-2013, T. Kavetskyy was a Visiting Research Fellow at the Institute of Physics of Slovak Academy of Sciences with support from the SAIA, n.o. in the framework of the National Scholarship Programme of the Slovak Republic. Since 2013, T. Kavetskyy is also with the Faculty of Biology (re-named as Faculty of Biology and Natural Sciences in 2016) of DSPU, Department of Biology and Chemistry as Associate Professor. In 2013-2014, T. Kavetskyy was a Visiting Research Fellow at the AGH University of Science and Technology (Poland) with support from the Polish National Commission for UNESCO. In 2014, T. Kavetskyy was a Visiting Research Fellow at the Institute for Complex Materials, IFW Dresden (Germany) with support from the DAAD. In 2015-2018, T. Kavetskyy was with the Institute of Physics, Mathematics, Economics and Innovation Technology of DSPU, Department of Theoretical and Applied Physics & Computer Modelling and Department of Physics, as Associate Professor. Since 2015, T. Kavetskyy is with The John Paul II Catholic University of Lublin (Poland), Department of Applied Physics, as Adiunkt. Also, in 2015, T. Kavetskyy headed the Materials of Solid-State Microelectronics Laboratory of DSPU. Since 2016, he is Co-Director of Joint Ukraine-Azerbaijan International Research and Education Center of Nanobiotechnology and Functional Nanosystems (Drohobych, Ukraine & Baku, Azerbaijan). In 2016, T. Kavetskyy was a Visiting Research Fellow at the VIVES University College (Belgium) and University of Chemical Technology and Metallurgy (Bulgaria) with support from the Erasmus+ Key Action 107. He is mainly interested in materials science, physics and chemistry of glass, polymers, biomaterials, biosensors, radiation effects, carbon nanostructures, metal nanoparticles, ion implantation and positron annihilation. He has more than 250 publications in periodic journals and conference materials, 23 book chapters and 1 patent. In 2018, he has an "h" index of 10 according to Scopus.

Research Projects

(Leader, Deputy Leader, Participant)

International

1. **Project Leader:** 2017-2018 Bilateral Ukrainian-Chinese Research Project “**Novel metal nanoparticle and metal nanowire containing glassy chalcogenide and oxide materials for non-linear optics and photonics**” (projects #0117U007143 and #0118U000716): Institutions – Drohobych Ivan Franko State Pedagogical University (Drohobych, Ukraine) [*Coordinator of the Project from Ukraine*] and Wuhan University of Technology (Wuhan, China) [*Partner-Coordinator of the Project from P.R. China*]; Sponsoring Body – The Ministry of Education and Science of Ukraine and the Ministry of Science and Technology of the People’s Republic of China.
2. **Project Participant:** 2016-2018 “**Study of urea-silicate composites with chalcogenide, oxide and metal particles**” (project #FNI-DN09/12-2016): Institution – Institute of Electrochemistry and Energy Systems, Bulgarian Academy of Sciences (Sofia, Bulgaria) [*Coordinator of the Project*]; Sponsoring Body – The National Science Fund of the Bulgarian Ministry of Education.
3. **Project Participant:** 2013-2015 “**The scientific environment integration of the Polish-Ukrainian borderland area**” (project #IPBU.03.01.00-18-629/11) within the Cross-border Cooperation Programme Poland-Belarus-Ukraine 2007-2013: Institutions – Drohobych Ivan Franko State Pedagogical University (Drohobych, Ukraine) [*Coordinator of the Project from Ukraine*] and University of Rzeszow [*Partner-Coordinator of the Project from Poland*]; Sponsoring Body – European Union.
4. **Project Leader:** 2013 Bilateral Ukrainian-Japanese Research Project F52.2/003 “**Investigation of defect structure in ion-implanted polymeric materials**” (project #0113U006261): Institutions – Drohobych Ivan Franko State Pedagogical University (Drohobych, Ukraine) [*Coordinator of the Project from Ukraine*] and National Institute of Advanced Industrial Science and Technology (AIST) [*Partner-Coordinator of the Project from Japan*]; Sponsoring Body – The State Fund for Fundamental Researches of Ukraine.
5. **Project Leader:** 2011-2012 Bilateral Ukrainian-German Research Project “**Nanoscale characterization of chalcogenide and chalcogenide glasses with metals and rare-earth elements for advanced technological applications**” (project #0111U004962 and #0112U003689): Institutions – Drohobych Ivan Franko State Pedagogical University (Drohobych, Ukraine) [*Coordinator of the Project from Ukraine*] and Institut für Physikalische Chemie, Westfälische Wilhelms-Universität Münster (Muenster, Germany) [*Partner-Coordinator of the Project from Germany*]; Sponsoring Body – The Ukrainian State Agency for Science, Innovation and Informatization and BMBF-WTZ (Germany).
6. **Project Leader:** 2011-2012 Bilateral Ukrainian-Russian Research Project “**Synthesis of novel photonic composite materials with metal nanoparticles based on chalcogenide vitreous semiconductors**” (project #0111U004961 and #0112U005095): Institutions – Drohobych Ivan Franko State Pedagogical University (Drohobych, Ukraine) [*Coordinator of the Project from Ukraine*] and Kazan Physical-Technical Institute of Russian Academy of Sciences [*Partner-Coordinator of the Project from Russian Federation*]; Sponsoring Body – The State Fund for Fundamental Researches of Ukraine and the Russian Foundation for Basic Research.

7. **Project Leader:** 2009-2010 Bilateral Ukrainian-Hungarian Research Project “**Structural study of environmentally “green” glassy semiconductors for optoelectronic application**” (project #0109U002841): Institutions – Scientific Research Company “Carat” (Lviv, Ukraine) [*Coordinator of the Project from Ukraine*] and Research Institute for Solid State Physics and Optics (Budapest, Hungary [*Partner-Coordinator of the Project from Hungary*]); Sponsoring Body – The Ministry of Education and Science of Ukraine and National Agency of Research and Technology of Hungary.
8. **Project Leader:** 2009-2010 Bilateral Ukrainian-Chinese Research Project “**Nanostructurally-modified chalcogenide glasses for photonic applications**” (project #0109U002840): Institutions – Scientific Research Company “Carat” (Lviv, Ukraine) [*Coordinator of the Project from Ukraine*] and Institute of Inorganic Materials at East China University of Science and Technology (Shanghai, China) [*Partner-Coordinator of the Project from P.R. China*]; Sponsoring Body – The Ministry of Education and Science of Ukraine and the Ministry of Science and Technology of the People’s Republic of China.
9. **Project Leader:** 2009-2010 Bilateral Ukrainian-Bulgarian Research Project “**Investigation of atomic- and void-species nanostructures in silver chalcogenide glasses with potential applications for batteries and magnetic sensors**” (project #0109U002839): Institutions – Drohobych Ivan Franko State Pedagogical University (Drohobych, Ukraine) [*Coordinator of the Project from Ukraine*] and University of Chemical Technology and Metallurgy (Sofia, Bulgaria) [*Partner-Coordinator of the Project from Bulgaria*]; Sponsoring Body – The Ministries of Education and Science of Ukraine and Bulgaria.
10. **Project Participant:** 2007-2010 Research Project “**Post-technological structural modification of chalcogenide vitreous semiconductors for multifunctional device application**” (project STCU #3745): Institutions – Scientific Research Company “Carat” (Lviv, Ukraine) [*Coordinator of the Project from Ukraine*] and Institute of Physics of National Academy of Sciences of Ukraine (Kiev, Ukraine) [*Partner-Coordinator of the Project from Ukraine*] and Center of Optoelectronics of the Institute of Applied Physics of Academy of Sciences of Moldova (Chisinau, Republic of Moldova) [*Partner-Coordinator of the Project from Republic of Moldova*]; Sponsoring Body – Science and Technology Center in Ukraine (Canada).
11. **Project Participant:** 2008 Research Project “**Radiation-sensitive recording media based on chalcogenide glasses**” (project CRDF #UKE2-2816-LV-06): Institutions – Scientific Research Company “Carat” (Lviv, Ukraine) [*Coordinator of the Project*] and Lehigh University (Bethlehem, Pennsylvania, USA) [*Partner-Coordinator of the Project from U.S.*]; Sponsoring Body – U.S. Civilian Research and Development Foundation (USA).
12. **Project Deputy Leader:** 2007-2008 Bilateral Ukrainian-German Research Project “**Nanoscale void-species structure of network chalcogenide glasses for multifunctional device application in optoelectronics**”: Institutions – Scientific Research Company “Carat” (Lviv, Ukraine) [*Coordinator of the Project from Ukraine*] and Institut für Physik, Technische Universität Chemnitz (Chemnitz, Germany) [*Partner-Coordinator of the Project from Germany*]; Sponsoring Body – The Ministry of Education and Science of Ukraine and BMBF-WTZ (Germany).

National

1. **Project Deputy Leader:** 2018-2020 Research Project “**Optimization of the conditions of immobilization of enzymes on the nanoparticles in polymeric matrices for improvement of operational parameters of lactate-selective biosensors**” (project #0118U000297): Institution – Drohobych Ivan Franko State Pedagogical University (Drohobych, Ukraine) [*Coordinator of the Project*]; Sponsoring Body – The Ministry of Education and Science of Ukraine

2. **Project Leader:** 2016-2018 Research Project “**Investigation of new composite materials with ion-synthesized metal nanoparticles for sensorics**” (project #0116U004737): Institution – Drohobych Ivan Franko State Pedagogical University (Drohobych, Ukraine) [*Coordinator of the Project*]; Sponsoring Body – The Ministry of Education and Science of Ukraine.
3. **Project Deputy Leader:** 2014-2016 Research Project “**Investigation of bioactive matters of *Juniperus communis***” (project #0114U002617): Institution – Drohobych Ivan Franko State Pedagogical University (Drohobych, Ukraine) [*Coordinator of the Project*]; Sponsoring Body – The Ministry of Education and Science of Ukraine.
4. **Project Participant:** 2014-2016 Research Project “**Correlations of “structure-properties” in complex metal-containing glassy materials**” (project #0114U002616): Institution – Drohobych Ivan Franko State Pedagogical University (Drohobych, Ukraine) [*Coordinator of the Project*]; Sponsoring Body – The Ministry of Education and Science of Ukraine.
5. **Project Deputy Leader:** 2011-2013 Research Project “**Nanoscale mechanisms of the radiation-structural changes in chalcogenide vitreous semiconductors**” (project #0111U001021): Institution – Drohobych Ivan Franko State Pedagogical University (Drohobych, Ukraine) [*Coordinator of the Project*]; Sponsoring Body – The Ministry of Education and Science of Ukraine.
6. **Project Leader:** 2009-2010 Research Project “**Development of new environmental-green and high-reliable chalcogenide vitreous semiconductors for optical telecommunication, sensing and biomedical diagnostic**” (project #0109U007445): Institution – Drohobych Ivan Franko State Pedagogical University (Drohobych, Ukraine) [*Coordinator of the Project*]; Sponsoring Body – The Ministry of Education and Science of Ukraine.
7. **Project Leader:** 2008-2009 Research Project “**Investigations of atomic and void-species nanostructure in optoelectronic media based on chalcogenide vitreous semiconductors of binary, pseudo-binary and ternary systems**” (project #0108U003869): Institution – Drohobych Ivan Franko State Pedagogical University (Drohobych, Ukraine) [*Coordinator of the Project*]; Sponsoring Body – The State Fund for Fundamental Researches of Ukraine.
8. **Project Leader:** 2008-2009 Research Project “**Development of new complex approach to nanostructural characterization of semiconducting glassy materials for optoelectronics**” (project #0108U003868): Institution – Drohobych Ivan Franko State Pedagogical University (Drohobych, Ukraine) [*Coordinator of the Project*]; Sponsoring Body – The Ministry of Education and Science of Ukraine.
9. **Project Deputy Leader:** 2007 Research Project “**Investigations of atomic and void-species nanostructure in optoelectronic media based on chalcogenide vitreous semiconductors**” (project #0107U008466): Institution – Drohobych Ivan Franko State Pedagogical University (Drohobych, Ukraine) [*Coordinator of the Project*]; Sponsoring Body – The State Fund for Fundamental Researches of Ukraine.
10. **Project Deputy Leader:** 2006-2007 Research Project “**Development of new nanostructured chalcogenide vitreous semiconductors for functional optoelectronics**” (project #0106U007385): Institution – Drohobych Ivan Franko State Pedagogical University (Drohobych, Ukraine) [*Coordinator of the Project*]; Sponsoring Body – The Ministry of Education and Science of Ukraine.
11. **Project Participant:** 2004-2005 Research Project “**Equipment and techniques for testing the technical characteristics of magnetic-induction transducers, magnetometers and investigation of magnetic properties of weak magnetic materials**” (project

List of Publications

Papers in Referred Journals

1. P. Hassanpour, Y. Panahi, A. Ebrahimi-Kalan, A. Akbarzadeh, S. Davaran, R. Khalilov, **T. Kavetskyy**. Biomedical applications of aluminum oxide nanoparticles. *Micro & Nano Letters*, 2018, DOI:10.1049/mnl.2018.5070. (IF = 0.841, Scopus)
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