

VOLODYMYR KOROLOVYCH

Date of Birth: 11 March 1985
Marital Status: Single
Gender: Male
Nationality: Ukrainian
Correspondence Address: 3A Chervonopilska Str,
Room 37, Kyiv, Ukraine, 04123
Phone: 404.8201613 (in U.S.A.)
+38093-560-6501 (in Ukraine)
Email: volodymyr.korolovych@mse.gatech.edu
korolovich@gmail.com



PROFESSIONAL EXPERIENCE

2015 – *present* PostDoctoral fellow, School of Materials Science and Engineering, Georgia Institute of Technology, Atlanta, GA, USA.

2012 – *present* Junior Research Scientist, Taras Shevchenko National University of Kyiv, Faculty of Physics, Molecular Physics Department, Ukraine.

2014 – 2015 Senior Research Scientist (part time), Saratov State University, Education and Research Institute of Nanostructures and Biosystems, Nanotechnology department, Remove Controlled Theranostic systems Lab (**Research Grant**).

2010 – 2014 Key Research Scientist, within the framework of Scientific program of Ukraine “Nanotechnology and nanomaterials” [from 28/10/09, № 1231], (**Research Grant**).

2013 – 2013 Junior Research Scientist (part time), National Academy of Sciences of Ukraine, Institute for Safety Problems of Nuclear Power Plants (**Research Grant**).

March 2013 “Structure and thermodynamics properties of water systems with carbon nanotubes” Thesis for scientific degree of **Phylosophy Doctor in physics and mathematics** by speciality 01.04.14 Thermophysics and Molecular Physics - Taras Shevchenko National University of Kyiv (Ukraine).

TEACHING ACTIVITY

2009 – 2014 *Seminars*: “Molecular physics”, “Experimental Design” and laboratory courses of Physics (Taras Shevchenko National University of Kyiv). I also organize and conduct seminars in Nanotechnology for students, PhD students and staff of the Physics Faculty. I help to organize physics Olympiads and take an active part in the work with the first-year students.

2007 – 2008 Lecturer (part time), Bogomolets National Medical University, Medical and Biological Physics Department; Undergraduate Course on Medical and Biological Physics, Informatics with elements of Probability Theory and Mathematical Statistic, Mathematical analysis.

RESEARCH SUPERVISION (BSc and MSc students supervisions):

2008 – 2009 Sergey Nedyak (MSc co-supervision), Taras Shevchenko National Univ. of Kyiv.

2009 – 2010 Sergii Arkhipov (MSc co-supervision), Taras Shevchenko National Univ. of Kyiv.

2012 –2013 Liubov Poshyvailo (BSc supervision), Taras Shevchenko National Univ. of Kyiv.

2013 – 2015 Oleg Grebnev (MSc supervision), Taras Shevchenko National Univ. of Kyiv.

2014 – 2015 Maksim Mokrousov (coursework co-supervision), Saratov State University.

2014 – 2015 Elena Surovtseva (MSc co-supervision), Saratov State University.

2014 – 2015 Alena Chubakina (MSc co-supervision), Saratov State University.

SERTIFICATE

- Certificates of successfully completion for «RTK - Global Harmonized System Training» and «Lab Safety 101», Georgia Institute of Technology, Atlanta, GA, USA, 2015.
- Certificate of completion for Annual School for Young Scientists and Students of Optics, Laser Physics and Biophotonics – Saratov Fall Meeting 2014 (22 – 26 September 2014, Saratov, Russia) and International Symposium on Optics and Biophotonics (23 – 26 September 2014, Saratov, Russia).
- Certificate of Training Program in Nanotechnology (Chair Prof. D.A. Gorin) at the Saratov State University, Faculty of Nano- and Biomedical technologies, Russia, 2014.
- Certificate of completion for 2nd Annual Undergraduate International School in Biomedical Sciences. Chair Prof. J.G. McGeown (UK) and Prof. A.V. Zholos (Ukr). Ukraine. 2013
- Certificate of completion for annual undergraduate international school in biomedical sciences “Ion channels in Health and Disease” (Queen’s University Belfast / Taras Shevchenko National University of Kyiv), Ukraine, 2012.
- Certificate of training on 2nd International school “Nanomaterials and Nanotechnologies in Living System. Safety and Nanomedicine” Russia, 2011.
- Certificate of participation “International Essay Contest for Young People” (The Goi Peace Foundation and UNESCO), Japan, 2009.
- Nomination of the best poster at the 1st Ukrainian-French School-Seminar "Carbon Nanomaterials: Structure and Properties", Ukraine, 2009.
- Certificate of training on 1st International school “Nanomaterials and Nanotechnologies in Biology and Medicine” Russia, 2009.
- Certificate of participation on International summer school of young scientist “Integration and Innovation – 2008”, Russia, 2008.

UNIVERSITY EDUCATION

2007 – 2013 PhD study

2006 – 2007 Taras Shevchenko National University of Kyiv (Ukraine)
MSc with qualification Physicist and Lecturer of Physics

2002 – 2006 Taras Shevchenko National University of Kyiv (Ukraine)
BSc in Physics

LIST OF PUBLICATIONS

I have published (in co-authorship) 1 book, 1 chapter, 2 patent applications, 14 articles and 20 thesis. The most important of them:

- **Book, Chapter and Patent Applications**
- 1. **Book “Equation of state”** (in Ukr lang) / K.O. Moroz, V.F. Korolovych, I.V. Markov // K.:“UAT-box”, 2014. – 20 p.
- 2. **Chapter** “Thermodynamic and optical properties of liquid systems "water - single-walled carbon nanotubes" (in Rus. lang.)” / Book “Nanoscale Systems and Nanomaterials: Research in Ukraine (in Rus. lang.)”, Edited by A. G. Naumovets / Publisher: K.:“Akademperiodika”, 2014, pp. 127-132. ISBN: 978-966-360-261-5
- 3. **Patent application** №2015111328 "Photoacoustic objective lens" (pending approval);
- 4. **Patent application** № 2015123240 “Cell for ultrasound study of microparticles” (pending approval).

- **Articles**

1. **“Impact of High-Frequency Ultrasound on Nanocomposite Microcapsules: *In Silico* and *In Situ* Visualization”** V.F. Korolovych, O.A. Grishina, O.A. Inozemtseva, A.V. Selifonov, D.N. Bratashov, S.G. Suchkov, L.A. Bulavin, O.E. Glukhova, G.B. Sukhorukov, D.A. Gorin // (pending approval).
2. **“Impact of C₆₀ fullerene on the dynamics of force-speed changes in soleus muscle of rat at ischemia-reperfusion injury”** D.M. Nozdrenko, K.I. Bogutska, Yu.I. Prylutskiy, V.F. Korolovych, M.P. Evstigneev, U. Ritter, P. Scharff // *Fiziologicheskii zhurnal*. – 2015, 61(2), pp. 48-59.
3. **“Tumor-Inhibitory Effect of C₆₀ Fullerene Complex with Doxorubicin”** S.V. Prylutska, V.F. Korolovych, Yu.I. Prylutskiy, M.P. Evstigneev, U. Ritter, P. Scharff / *Nanomedicine and Nanobiology*. – 2014. – V. 1(2). – p. 1-5.
4. **“Influence of single-walled carbon nanotubes on thermal expansion of water”** V.F. Korolovych, L.A. Bulavin, Yu.I. Prylutskiy, S.V. Khrapaty, N.G.Tsierkezos. *International Journal of Thermophysics*. – 2014. – V. 35, № 1. – p. 19-31.
5. **“Compressibility of Water Containing Single-Walled Carbon Nanotubes”** V.F. Korolovych, S.P. Nedyak, K.O. Moroz, Yu.I. Prylutskiy, U. Ritter, P. Scharff. *Journal of Fullerenes, nanotubes and carbon nanostructures*. – 2013. – V. 21, № 1. – p. 24-30.
6. **“On the possibility of nanofluids using as a coolant”** L.A. Bulavin, D.A. Gavryshenko, V.I. Kovalchuk, V.F. Korolovych / *Nuclear physics and atomic energy* – 2010. – V. 11, № 4 - p. 405-409.
7. **“Water systems with carbon nanotubes: molecular structure and toxicity (Review)”** / V.F. Korolovych, P. Pour Khosrow, K.O. Moroz, A.G. Derzhypolskyi, D.O. Melenevskyi // *Bulletin of University of Kyiv Series: Physics & Mathematics* – 2011. – № 1. – p. 285-290.
8. **“Molecular structure of water in carbon nanotubes”** / I.I. Adamenko, V.F. Korolovych, S.O. Arhipov, K.O. Moroz // *Bulletin of University of Kyiv Series: Physics & Mathematics* – 2010. – № 3. – p. 241-248.
9. **“Thermophysical properties of carbon nanotubes in toluene under high pressure”** I. Adamenko, L. Bulavin, V. Korolovych, K. Moroz and Yu. Prylutskiy / *Journal of Molecular Liquids* – 2009. – V. 150. – p. 1-3.
10. **“Thermodynamics properties of polydisperse SWCNTs in water”** / I.I. Adamenko, I.S. Ermolenko, V.F. Korolovych, K.O. Moroz // *Bulletin of University of Kyiv Series: Physics & Mathematics*. – 2008. – № 2. – p. 189 - 192.
11. **“Thermodynamic properties of glycerol - water solution”** I. Adamenko, S. Zelinsky, V. Korolovich / *Ukrainian Journal of Physics* – 2007. – V. 52. – p. 855-859

CONFERENCES

- **Lectures**

1. Spectral and thermodynamic properties of water system with single-walled carbon nanotubes / I.I. Adamenko, V.F. Korolovych, A.F. Korolovych, Yu.I. Prylutskiy, U. Ritter, P. Scharff // XI International conference «Hydrogen materials science and chemistry of carbon nanomaterials», 25 – 31 August 2009. – Yalta, Crimea, Ukraine, 2009. – P. 456–457.

2. Thermodynamic properties of water system with functionalized carboxyl groups of single-walled carbon nanotubes / I.I. Adamenko, V.F. Korolovych, S.P. Nedyak, K.O. Moroz // International Conference PLM MP, 21 – 24 May 2010. – Kyiv, 2010.–P. 17.
3. Application of carbon nanotubes in medicine / Korolovych V.F., Pour Khosrow P., Derzhypolskyi A.G., Melenevskiy D.O. // Ukrainian conference with international participation “Modern problems of surface chemistry and physics”, 11 – 13 May 2011 – Kyiv, 2011. – P. 539–540.
4. Water system with carbon nanotubes: thermodynamic properties and methods of characterization / V.F. Korolovych, L.A. Bulavin // 2nd International school “Nanomaterials and nanomedicine in living system. Safety and nanomedicine”, 19 – 24 September 2011. – Boarding house “Zarya”, Moscow region, Russia, 2011. – P. 132–133.
5. Characterization of water system with carbon nanotubes using dynamic light scattering / Volodymyr Korolovych, Andrey Grigoriev, Andry Derzhypolskyi, Yuriy Kuzovkov, Igor Markov, Kostjantin Moroz, Dmytrij Melenevskiy, Volodymyr Kopytkov // 2nd International conference «Chemistry and chemical technology 2011», 24 – 26 November 2011. – Lviv, Ukraine, 2011. – P. 232–233.
6. Alginate platform for odor encapsulation / V.F. Korolovych, D.A. Gorin //Saratov Fall Meeting-2014, Saratov, Russia, 2014.
7. Nanocomposite microcapsules with high-frequency ultrasound sensitivity / V.F. Korolovych, O.A. Grishina, O.A. Inozemtseva, A.V. Selifonov, D.N. Bratashov, S.G. Suchkov, L.A. Bulavin, O.E. Glukhova, G.B. Sukhorukov, D.A. Gorin // 6th International "NANOPARTICLES, NANOSTRUCTURED COATINGS AND MICROCONTAINERS: TECHNOLOGY, PROPERTIES, APPLICATIONS" workshop, Saratov, Russia, 2015.

LANGUAGE SKILLS

Ukrainian (native), Russian (native) and English

COMPUTER SKILLS

- Windows, Linux; Mac OS. Also MS Word, Excel, PowerPoint etc.
- Graphing and data analysis software: Origin, Matlab, CorelDraw.

MEASUREMENT SKILLS

- TEM, SEM, AFM methods;
- CLSM and Optical microscopy;
- Dynamic Light Scattering / Particles sizing by Laser Diffraction;
- UV/VIS and fluorescence spectroscopy, Raman Spectroscopy;
- TGA/DSC methods;
- Different methods of measuring thermodynamics properties (PVT data up to 200 MPa, density, viscosity).

PROFESSIONAL ACTIVITIES

- Session Chair «World of physics» at an Int. conf. «Shevchenkivska Vesna -2009» (Ukraine).
- Member of organizing committee of conferences: a) “Physics of liquid matter: Modern problems” in 2008, 2010 and 2014; b) “Polysolvat-9” in 2011.
- Honorary Member of Young Scientific's Association of Taras Shevchenko National University of Kyiv.