

ANDRIY ZHUGAYEVYCH

Education

Kyiv State University, Ukraine	Physics	M.S., 1995
Institute of Physics, Kyiv, Ukraine	Solid State Physics	Ph.D., 2007

Employment (past 5 years)

9/14-present Assistant Professor, Center for Electrochemical Energy Storage, Skolkovo Institute of Science and Technology, Moscow, Russia
4/11-9/14 Postdoctoral Research Associate at Theoretical Division, Los Alamos National Laboratory, New Mexico, USA

Ph.D. Advisor: Prof. I. Blonsky **Postdoctoral Advisor:** Dr. Sergei Tretiak

Student Supervisions: current Ph.D. students: 1; current M.S. students 1

Honors and Awards

Ukrainian Fellowship for Young Scientists, 2001

Research Interests/Expertise

Computational materials science (molecules and solids, multiscale and high-throughput modeling, charge and energy transport); mathematical and theoretical physics and chemistry (lattice models); energy storage and conversion (batteries, solar cells); organic electronics.

Synergistic Activities

(i) Education and Training. Curriculum development and teaching: Computational Chemistry and Materials Modeling, Survey of Materials, Symmetry Related Topics in Materials Science, Statistical Physics, Quantum Mechanics, Ordinary and Partial Differential Equations, Calculus. Workshops organized: "Organic Solar Cells", Santa Fe, New Mexico, May 2013.

(ii) Innovation. Currently Zhugayevych is Coordinator of educational program in Materials Science at Skolkovo Institute of Science and Technology (Skoltech). Skoltech is a new graduate-level university focused around centers that integrate research, education and innovation (CREI). The Materials Science program have rapidly grown to include 11 unique courses and ca. 25 Master students providing educational background for research at multiple CREIs including Electrochemical Energy Storage, Photonics and Quantum Materials, Design, Manufacturing and Materials.

Selected Publications (out of 27 total, h-index 10, 250 citations)

1. “Lowest-energy crystalline polymorphs of P3HT”, A Zhugayevych, O Mazaleva, A Naumov, S Tretiak, submitted to *J. Phys. Chem. C* **2017**
2. “The role of semi-labile oxygen atoms for intercalation chemistry of the metal-ion battery polyanion cathodes”, I V Tereshchenko, D A Aksonov, O A Drozhzhin, I A Presniakov, A V Sobolev, A Zhugayevych, K Stevenson, E V Antipov, A M Abakumov, under review in *J. Am. Chem. Soc.* **2017**
3. “Vibrational states of nano-confined water molecules in beryl investigated by first principles calculations and optical experiments”, M A Belyanchikov, E S Zhukova, S Tretiak, A Zhugayevych, M Dressel, F Uhlig, J Smiatek, M Fyta, V G Thomas, B P Gorshunov, *Phys. Chem. Chem. Phys.* **2017** 10.1039/C7CP06472A
4. “Single crystal microwires of *p*-DTS(FBTTh₂)₂ and their use in the fabrication of field-effect transistors and photodetectors”, Q Cui, Y Hu, C Zhou, F Teng, J Huang, A Zhugayevych, S Tretiak, T-Q Nguyen, G C Bazan, *Adv. Func. Mater.* **2017** 10.1002/adfm.201702073
5. “Crystal Structure and Li-Ion Transport in Li₂CoPO₄F High-Voltage Cathode Material for Li-Ion Batteries”, S S Fedotov, A Kabanov, N Kabanova, V A Blatov, A Zhugayevych, A M Abakumov, N R Khasanova, E V Antipov, *J. Phys. Chem. C* **2017**, 121, 3194 10.1021/acs.jpcc.6b11027
6. “Charge Delocalization Characteristics of Regioregular High Mobility Polymers”, J. Coughlin, A. Zhugayevych, M. Wang, G. C. Bazan, S. Tretiak, *Chem. Sci.* **2017**, 8, 1146 10.1039/C6SC01599A
7. “Modification of Optoelectronic Properties of Conjugated Oligomers Due to Donor/Acceptor Functionalization: DFT Study”, A. Zhugayevych, O. Postupna, H.-L. Wang, S. Tretiak, *Chem. Phys.* **2016**, 481, 133 10.1016/j.chemphys.2016.09.009
8. “Theoretical Description of Structural and Electronic Properties of Organic Photovoltaic Materials”, A. Zhugayevych, S. Tretiak, *Ann. Rev. Phys. Chem.* **2015**, 66, 305 10.1146/annurev-physchem-040214-121440
9. “Inter-aromatic distances in *Geobacter sulfurreducens* pili relevant to biofilm charge transport”, H. Yan, C. Chuang, A. Zhugayevych, S. Tretiak, F. W. Dahlquist, G. C. Bazan, *Adv. Mater.* **2015**, 27, 1908 10.1002/adma.201404167
10. “A new pH sensitive fluorescent and white light emissive material through controlled intermolecular charge transfer”, Y. I. Park, O. Postupna, A. Zhugayevych, H. Shin, Y. S. Park, B. Kim, H.-J. Yen, P. Cheruku, J. S. Martinez, J. W. Park, S. Tretiak, H.-L. Wang, *Chem. Sci.* **2015**, 6, 789 10.1039/c4sc01911c
11. “Polymorphism of crystalline molecular donors for solution-processed organic photovoltaics”, T. S. van der Poll, A. Zhugayevych, E. Chertkov, R. C. Bakus II, J. E. Coughlin, G. C. Bazan, S. Tretiak, *J. Phys. Chem. Lett.* **2014**, 5, 2700 10.1021/jz5012675
12. “A Combined Experimental and Theoretical Study of Conformational Preferences of Molecular Semiconductors”, J. E. Coughlin, A. Zhugayevych, R. C. Bakus II, T. S. van der Poll, G. C. Welch, S. J. Teat, G. C. Bazan, S. Tretiak, *J. Phys. Chem. C* **2014**, 118, 15610 10.1021/jp506172a