

Petro Maksymovych

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Education

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| Taras Shevchenko University, Kiev, Ukraine | Physical Chemistry | B.Sc., 2001 |
| University of Pittsburgh, PA | Physical Chemistry | Ph. D., 2007 |

Research experience

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| 2009 – present | Research Staff Member, Center for Nanophase Materials Sciences, ORNL |
| 2007 – 2009 | Eugene P. Wigner Fellow, Oak Ridge National Laboratory |
| 2001 – 2007 | Graduate student at the University of Pittsburgh. |
| 2000 | Visiting student at the University of Pittsburgh |
| 1998-2001 | Undergraduate student, Kiev Taras Shevchenko University |

Professional and Synergistic Activities

Member: American Physical Society

Member: Materials Research Society

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| 2011 | Conference/Symposia Organizer: 2011 International Materials Research Congress, Cancun, Mexico |
| 2012 | Materials Research Society Congress Review board of the Seed Money Fund at Oak Ridge National Laboratory: |
| 2010-2012 | Referee in Journal of the American Chemical Society, Surface Science, Nanotechnology, Physical Chemistry Chemical Physics, Physical Review Letters, Physica Status Solidi, Journal of Physics D |

Honors and Awards

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| 2011 | ORNL Director's Award for Outstanding Accomplishment in Science and Technology |
| 2011 | ORNL Early Career Award for Individual Scientific Accomplishment |
| 2010 | Martin and Beathe Block Prize from the Aspen Center for Physics |
| 2007-2009 | Eugene P. Wigner Fellowship, Oak Ridge National Laboratory |
| 2007 | Wayne B. Nottingham Prize from the Physical Electronics Conference |
| 2006 | Morton M. Traum Award from the American Vacuum Society |
| 2001 | Outstanding performance on entrance exams in four chemistry disciplines, Department of Chemistry, University of Pittsburgh |

Research synopsis

1. *Fundamental properties and complexity in molecular systems*

Emergent chemical and electronic properties in self-assembled complexes and large multifunctional molecules; engineering and control of strong intermolecular interactions; the role of surface relaxation, stress and delocalized electronic states in molecular self-assembly; hot-electron transport on metal surfaces and molecular overlayers.

2. *Energy-focused science of oxide materials*
Thermoelectric energy conversion at the nanoscale; electronic and ionic transport in transition metal oxides; thermodynamics of nanoscale polarization dynamics in ferroelectric oxides; ferroic control of electron transport.
3. Development of ultrahigh vacuum force microscopy
Novel nanoscale thermoelectric probes; non-contact atomic force microscopy and scanning tunneling microscopy; simultaneous measurements of piezoresponse and local conductivity.

Collaborations

A. N. Morozovska (V. Lashkaryov Institute for Semiconductor Physics, Ukraine)
S. Choudhury (Pennsylvania State University)
L.-Q. Chen (Pennsylvania State University)
M. Huijben (University of Twente)
R. Ramesh (UC California Berkeley)
D. C. Sorescu (National Energy Technology Laboratory)
D. B. Dougherty (North Carolina State University)
J. I. Cerda (Instituto de Ciencia de Materiales de Madrid)
Oleksandr Voznyy (National Research Council Canada)
John Mitchell (Argonne National Laboratory)
Chang-Beom Eom (University of Wisconsin-Madison)