SOPHYA GARASHCHUK

Professor
Department of Chemistry and Biochemistry
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**PROFESSIONAL PREPARATION**

Moscow Institute of Physics and Technology, Moscow, Russia
MS Magna Cum Laude, 1992
University of Notre Dame, IN, Ph. D. Physics, 1998
University of Chicago, The James Franck Institute, 1999-2001

**APPOINTMENTS**

Professor of Chemistry, U of South Carolina, Columbia, SC 2019-present
Associate Professor of Chemistry, U of South Carolina, Columbia, SC 2013-2018
Assistant Professor of Chemistry, U of South Carolina, Columbia, SC 2008-2013
Assistant Research Professor, Chemistry, U of South Carolina, Columbia, SC 2002-2004, 2007
Research Associate, Chemistry Dept, Northwestern University, Evanston, IL, 2005-2006

**PUBLICATIONS** ORCID http://orcid.org/0000-0003-2452-7379

**ACCOLADES**

USC Rising Star 2012
Doctoral New Investigator ACS-PRF 2011
NSF:Career 2011
IBM-Lowdin Fellowship, Sanibel symposium 2004

**SYNERGISTIC ACTIVITIES**

Co-organizer of the South Carolina Computational Chemistry Consortium (SC4) enabling access to computational chemistry tools for 9 predominantly undergraduate insitutions (3 HBCU, 2 minority serving)

Developed and implemented the computational chemistry laboratories for undergraduates (general and organic chemistry labs); developed the computational chemistry graduate course for experimental students to facilitate computational chemistry use in the Department

Mentor, reviewer and judge for the Magellan Scholar program (undergraduate research) at USC.

Reviewer for numerous physics and chemistry journals and grant agencies

Departmental research computing (user training and HPC access/facilities), University Senate Information Technology Committee

**RESEARCH INTERESTS**

Theoreical and computational chemistry: theory of quantum, classical and semiclassical reaction dynamics; scattering theory; simulation of quantum effects due to nuclear motion in large systems (reactions coupled to molecular environment and in condensed phase); role of the nuclear quantum effects on properties of materials

**COLLABORATORS & OTHER AFFILIATIONS**

Collaborators: J. Jakowski (NICS/UTK), B. G. Sumpter (ORNL), J. Hong(ORNL), V. A. Rassolov (UofSC), G. C. Schatz (NWU), N. Shustova (UofSC)

D. J. Tannor (The Weizmann Institute of Science, Ph.D. mentor), J. C. Light (U of Chicago, postoctoral mentor)

Thesis advisor: S. Wickramasinghe (current), N. Ekanayake (2018), B. Gu (Ph.D. 2016), J. Mazzuca (Ph. D. 2014, Alma College, MI)
Postdoctoral advisor: D. Dell'Angelo, 2012-2013; S. Ghanta, 01/2012-03/2012; W. Lei, 2013-2015; T. Vazhappilly, 2009-2011; M. Volkov, 2011-06/2012; M. Dutra 2018-current.
Research advisor for 10 undegraduate students and 5 pre-college students

TEACHING
CHEM 142 Honors General Chemistry II
CHEM 112 General Chemistry II
CHEM 542 Physical Chemistry II – Quantum Mechanics and Spectroscopy
CHEM 743 Quantum Chemistry (graduate)
CHEM 749/643 Computational Chemistry (graduate/undergraduate)