NAME: **Sergey Stolbov**

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Academic Degrees

M. S. (Physics), Rostov State University, Russia, 1975
Ph.D. (Physics), Rostov State University, Russia, 1982

Academic Positions

Associate Professor, Physics Department, University of Central Florida, 2007 – present
Research Associate Professor, Physics Department, University of Central Florida, 2006 – 2007
Research Assistant Professor, Physics Department, Kansas State University, 2004 – 2006
Research Associate, Physics Department, Kansas State University, 2000 – 2004
Postdoctoral Fellow, Carnegie Institution of Washington, DC; 1999 – 2000
Research Associate, Texas Center for Superconductivity at the University of Houston, TX 1998 – 1999
Senior Researcher, Institute of Physics, Rostov State University, Russia, 1983 – 1998
Instructor, Department of Physics, Rostov State University, Russia, 1982 – 1983

Membership

2000 - present – Member of American Physics Society
1994, 1996 - Member of the Materials Research Society

Awards and Recognitions

2005 – Co-author of an article included in "Top Physics Stories for 2005" by American Institute of Physics.
1999 – Included in 16th Edition of "Who is Who in the World".
1995 – Award of International Center for Theoretical Physics (UNESCO-IAEA) (Trieste, Italy).
1995 – Travel Award of Materials Research Society.
1993 - Individual Award of International Science Foundation (Soros' Foundation).
1993 – Travel Award of International Science Foundation.

Professional service

Extensively working as a referee of manuscripts for high-ranking journals: *J. Phys. Chem. Lett.*, *Physical Review B, J. Phys. Chem., Surf. Sci., and J. Phys.: Condensed Matter*.
Co-organizer of Florida Society for Material Simulation 2010 Annual Meeting.
Co-organizer of sessions within the category "Complex Structured Materials" for APS March Meeting 2006, Baltimore, MD.
Chair of sessions in several APS March Meetings.

Departmental Service

2013 –present Chair of Graduate Candidacy committee, member of Graduate Curriculum and Outreach committees.
2009 – 2013: Member of Graduate Candidacy,

Fall 2007 – Spring 2008: Chair of the Computing/IT Committee, member of Networking Committee;
2009 – present: Organizer of the Departmental Condensed Matter Research Seminar.

Teaching

During my tenure term (last five years) I was teaching the following courses:

Spring 2012: PHY4324 – Electricity & Magnetism II, lectures, 3 contact hours (22 students)
PHY2053L – recitations 1 contact hour (30 students)
Fall 2011: PHY6420 – First Principles Computational Methods in Condensed Matter Physics, 3 contact hours (6 students)
PHY2054L – mini-studio recitations 1.5 contact hour (30 students)
Spring 2011: PHY2048C – Physics for Scientists & Engineers I, 3 contact hours (91 students)
PHY2048H – Physics for Scientists & Engineers I, 3 contact hours (13 students)
PHY2048L – recitations 1 contact hour (16 students)
Fall 2010: PHY2049C – Physics for Scientists & Engineers II, 3 contact hours (83 students)
PHY2049H – Physics for Scientists & Engineers II, 3 contact hours (15 students)
Spring 2010: PHY2048H – Physics for Scientists & Engineers I, 3 contact hours (21 students)
PHY2048L – recitations 1 contact hour (32 students)
Fall 2009: PHY6420 – First Principles Computational Methods in Condensed Matter Physics, 3 contact hours (11 students)
PHY2054 – College Physics, recitations, 2 groups 1 contact hour each (30/31 students)
Spring 2009: PHY4324 – Electricity & Magnetism II, lectures, 3 contact hours (26 students)
PHY2053C-0022 – College Physics, recitations, 1 contact hour (30 students)
Fall 2008: PHY3323 – Electricity & Magnetism I, lectures, 3 contact hours (31 students)
Spring 2008: PHY4324 – Electricity & Magnetism II, lectures, 3 contact hours (19 students)
Fall 2007: PHY3323 – Electricity & Magnetism I, lectures, 3 contact hours (19 students).

I have developed the graduate course PHY6420 "First Principles Computational Methods in Condensed Matter". This course consists of two parts: lectures and hands-on sessions. The first part includes theoretical background for modern computational methods, while in the second part of the course, students carry out several computational research projects using one of the state of the art codes and running calculations on a multi-processor computer cluster. In their evaluations, students grade my teaching mostly as "excellent". Some of them widely use the obtained expertise in their research at several research groups at UCF. The upper level undergraduate PHY3323/PHY4324 course is graded by student mostly as "excellent" (55%) and "very good" (35%), while for the introductory physics courses the evaluation grades spread over "excellent", "very good" and "good".

I am supervising dissertation research of a 4th year physics PhD student, Sebastian Zuluaga. Under my supervision, he has already made a great progress in his research: he has two papers published in high-ranking journals, one submitted manuscript and two papers in preparation. He will definitely be able to graduate with PhD degree by May 2013. I have also involved in research in my group an undergraduate student Zachary Williams.

Research

My research focuses on revealing microscopic phenomena responsible for technologically important properties of materials using quantum-mechanical computational

techniques and utilizing this knowledge for rational design of advanced materials. During my tenure track term I have developed two research programs. One is "Computational design of efficient electrocatalysis for oxygen reduction reaction (ORR) on cathodes of hydrogen fuel cells". Within this project, a radically new approach for computational rational design of the catalysts has been developed and several new potentially efficient and cost-effective catalysts have been predicted. These results have been widely featured in dozens of science and technology news web-portals, such as www.hydrogenfuelnews.com, www.sciencedaily.com, www.theengineer.co.uk. For further application of this approach, I have been awarded with the Early-concept Grant for Exploratory Research (EAGER) by NSF. During this term, I was also exploring the selenium-modified ruthenium (Se/Ru) structures known as alternative ORR catalysts, and revealed the key factors controlling their catalytic properties.

My second research program "Exploring new generation of photocatalysts for hydrogen production from water under solar irradiation" is also related to the clean energy problem. Efficiency of the photocatalysts is determined by synergistic effect of multiple macroscopic properties of the materials. I am developing a computational framework for systematic studies of these properties and applying it to understand mechanisms underlying this complex phenomenon and predict new efficient photocatalysts for hydrogen production from water. One paper has been submitted on this subject to *J. Chem. Phys*. During my tenure track term I have published 11 papers in high-ranking journals and submitted one paper. My articles have been cited 430 times. My current h-index is 13.

Grants awarded

1. EAGER: New approach to rational design of efficient electrocatalysts for the oxygen reduction reaction in hydrogen fuel cells. Funding Agency: NSF, Division of Chemical, Bioengineering, Environmental, and Transport Systems (CBET). NSF Program: Catalysis and Bio-catalysis. Award # 1249134. PI- Sergey Stolbov, Began 08/15/2012, Expiration date 07/31/2013. Awarded amount: $89,194.00.
2. . Application of the density functional theory to electrocatalytic processes in fuel cells" PI – Sergey Stolbov; Sponsor: UCF/Office of Research and Commercialization (In-House); May 1, 2009 – Apr. 30, 2010. Awarded amount: $7,500.00;

Pending proposal

"Computational design of efficient electrocatalysts for hydrogen fuel cells", NSF CBET program. Requested funding: $512,961 for three years.

List of publications

Referred journal articles:

1. S. Stolbov and S. Zuluaga, Factors Controlling the Reactivity of Catalytically Active Monolayers on Metal Substrates. ***J. Phys. Chem. Lett.,*** 2013, 4 (9), pp 1537–1540.

2. S. Stolbov and S. Zuluaga. Sulfur doping effects on the electronic and geometric structures of graphitic carbon nitride photocatalyst: insights from first principles. ***J. Phys.: Condens. Matter*** **25,** 085507 (2013).

3. S. Stolbov, M. Alcántara Ortigoza, Rational Design of Competitive Electrocatalysts for

Hydrogen Fuel Cells. ***J. Phys. Chem. Letts.*** **3**, 463 (2012). This work has been featured in dozens of science and technology news web-portals, such as www.hydrogenfuelnews.com, www.sciencedaily.com, www.theengineer.co.uk.

4. S. Stolbov. Nature of Selenium Sub-Monolayer Effect on the Oxygen Electro-Reduction Reaction Activity of Ru(0001). ***J. Phys. Chem.*** C **116**, 17731 (2012).
5. S. Zuluaga and S. Stolbov. First principles study of oxygen adsorption on Se-modified Ru nanoparticles, ***J. Phys. Condens. Matt.*** **24**, 345303 (2012).
6. S. Zuluaga, S. Stolbov, Factors controlling the energetics of the oxygen reduction reaction on the Pd-Co electro-catalysts: Insight from first principles. ***J. Chem. Phys.*** **135**, 134702 (2011).
7. S. Stolbov, First-principles study of formation of Se submonolayer structures on Ru surfaces, ***Phys. Rev***. B **82**, 155463 (2010).
8. S. Stolbov, M. Alcántara Ortigoza, R. Adzic, and T. S. Rahman, High CO tolerance of Pt/Ru nanocatalyst: Insight from first principles calculations. ***J. Chem. Phys***. **130**, 124714 (2009).
9. D. Le, S. Stolbov, T.S. Rahman, Reactivity of the Cu_2O(100) surface: Insights from first principles calculations, ***Surf. Sci.*** **603**, 1637 (2009).
10. S. Stolbov, M. Alcantara Ortigoza and T. S Rahman, Application of density functional theory to CO tolerance in fuel cells: a brief review. ***J. Phys.: Condens. Matter*** **21,** 474226 (2009)
11. M. Alcántara Ortigoza, S. Stolbov, and T. S. Rahman, Formation of Pt islets on facets of Ru nanoparticles: First-principles study. ***Phys. Rev.*** B **78**, 195417 (2008).
12. K. L. Wong, G. Pawin, K.-Y. Kwon, X. Lin, T. Jiao, U. Solanki, R. H. J. Fawcett, L. Bartels, S. Stolbov, and T. S. Rahman, A Molecule Carrier, ***Science*** **315**, 1391 (2007).
13. T. S. Rahman, S. Stolbov, and F. Mehmood, Alkali-induced effects on metal substrates and adsorbed molecules. ***Appl. Phys.*** A. **87**, 367 (2007).
14. B. White, M. Yin, A. Hall, D. Le, S. Stolbov, T. Rahman, N. Turro, ans S. O'Brien, Complete CO oxidation over Cu_2O nanoparticles supported on silica gel. ***Nano Letters*** **6,** 2095 (2006).
15. S. Stolbov and T. S. Rahman, Alkali induced enhancement of surface electronic polarizibility, ***Phys. Rev. Lett.*.** **96**, 186801 (2006).
16. T. J. Stasevich, T. L. Einstein, and S. Stolbov, Extended lattice gas interaction of Cu on Cu(111) and Cu(100): *Ab-initio* evaluation and implication. ***Phys. Rev***. B, **73**, 115426 (2006).
17. F. Mehmood, S. Stolbov, T. S. Rahman, C and S induce changes in the electronic and geometric structure of Pd(533) and Pd(320). ***J. Phys.: Cond. Matt.*** **18**, 8015 (2006).
18. K.-Y. Kwon, K. L. Wong, G. Pawin, L. Bartels, S. Stolbov, and T. S. Rahman, Unidirectional adsorbate motion on a high-symmetry surface: ``Walking" molecules can stay the course. ***Phys. Rev. Lett.,*** **95** 166101 (2005); see also *Physics Today* **58**, No.12, p. 9 (2005), Physics News Update (AIP) No751 #2 (2005). This work has been recognized by the American Institute of Physics as one of the ***Top 25 Physics Stories for 2005***, Physics News Update (AIP) No757 (2005).
19. S. Stolbov, T. S. Rahman, First principles study of some factors controlling the rate of ammonia decomposition on Ni and Pd surfaces. ***J. Chem. Phys.*, 123,** 204716 (2005).
20. S. Stolbov, S. Hong, A. Kara, and T. S. Rahman, Origin of the C induced *p4g* reconstruction of Ni(001), ***Phys. Rev.*** B **72**,155423 (2005);
21. S. Stolbov, F. Mehmood, T. S. Rahman, M. Alatalo, I. Makkonen, P. Salo, Site selectivity in chemisorption of C on Pd(211), ***Phys. Rev.*** B **70**, 155410 (2004);
22. K. L. Wong, X. Lin, K.-Y. Kwon, G. Pawin, B. V. Rao, A. Liu, L. Bartels, S. Stolbov, T. S. Rahman, Halogen-substituted thiophenol molecules on Cu(111), ***Langmuir*** **20**, 10928 (2004);

23. F. Baumberger, Th. Herrmann, A. Kara, S. Stolbov, N. Esser, T. S. Rahman, J. Osterwalder, W. Richter, and T. Greber, Optical recognition of atomic steps on surfaces, ***Phys. Rev. Lett.*** **90**, 177402 (2003);
24. R. Nünthel, T. Gleitsmann, P. Poulopoulos, A. Scherz, J. Lindner, E. Kosubek, Ch. Litwinski, Z. Li, H. Wende, K. Baberschke, S. Stolbov, T. S. Rahman, Epitaxial growth of Ni on Cu(001) with the assistance of O-surfactant and its magnetism compared to Ni/Cu(001), ***Surf. Sci***. **531** (2003) 53;
25. S. Stolbov, T. S. Rahman, Role of Long Range Interaction in Oxygen Superstructure Formation on O/Cu(001) and Ni(001), ***Phys. Rev. Lett.*** **89,** 116101 (2002);
26. S. Stolbov, A. Kara, T. S. Rahman, Electronic Structure of the c(2x2)O/Cu(001) System, ***Phys. Rev.*** B, **66**, 245405 (2002);
27. S. Stolbov, T. S. Rahman, Relationship between Electronic and Geometric Structures of the O/Cu(001) System, *J. Chem. Phys.*, **117,** 8523 (2002);
28. S. V. Stolbov, R. E. Cohen, First-principles Calculation of the Formation Energy in MgO-CaO Solid Solutions, ***Phys. Rev.*** B **65** 092203 (2002);
29. S. Stolbov, H. Fu, R. E. Cohen, L. Bellaiche, and D. Vanderbilt, Comparison of electromechanical properties of $BaTiO_3$ between LAPW and a model Hamiltonian, ***AIP Proceedings*** **535**, 151 (2000);
30. K. Salama, M. Mironova, S. Stolbov and S. Sathyamurthy, Grain boundaries in bulk YBCO. ***Physica C:*** **341-348,** 1401 (2000)
31. S. Stolbov, M. Mironova, K. Salama, Microscopic origins of the grain boundary effect on the critical current in superconducting copper oxides. ***Supercond. Sci. Tech.,*** **12,** 1071 (1999);
32. M. K. Mironova, S. V. Stolbov, G. P. Du, K. Salama, Contribution of grain boundary planes to superconducting coupling in YBCO. ***IEEE Trans. Appl. Supercond.,*** **9,** 1626 (1999).
33. S. V. Stolbov, The effect of doping with Zn and Ni on the $YBa_2Cu_3O_7$ electron subsystem, ***J. Phys.: Condens. Matt.*** **9,** 4691 (1997);
34. S. V. Stolbov, The $YBa_2Cu_3O_7$ electron states upon the Zn- and Ni-doping, ***Czech. J. Phys.*** **46,** 951 (1996);
35. S. V. Stolbov, *Ab initio* study of relation between vacancy disordering and apical oxygen shift in Y-Ba-Cu-O, ***Sol. St. Commun.,*** **94,** 451 (1995);
36. S. V. Stolbov, The role of oxygen vacancies in the formation of physical properties of the $YBa_2Cu_3O_{7-x}$ system, ***Supercond: Phys., Chem., Tech***. **5,** 1382 (1992);
37. S. V. Stolbov, Electron response of the compound $YBa_2Cu_3O_7$ to local excitation, ***Prog. in High Temp. Supercond.*** **32,** 406 (1993) (World Scientific, Singapore);
38. S. V. Stolbov, M. N. Rabinovich, Response of valence electrons in superconducting compound Nb_3Ge to ion displacements, ***Solid State Phys. (Sov. Phys.)*** **30,** 1631 (1988);
39. S. V. Stolbov, M. N. Rabinovich, New approximations in the calculation of the electron structure of clusters, ***Solid State Phys. (Sov. Phys.)*** **29,** 1472 (1987);
40. B. N. Kodess, I. Ya. Nikiforov, S. V. Stolbov, B. So, Electron and spin structures and magnetic properties of the A15 type superconducting alloys on the vanadium basis, In ***Non-homogeneous electron states***, (Novosibirsk, USSR 1984) (in Russian);
41. G. S. Belikova, Yu. I. Grineva, V. V. Korneev, I. Ya. Nikiforov, S. V. Stolbov, *X*-ray diffraction feature of the bi-phthalate single crystals, ***Instruments and Methods of X-ray Analysis,*** **31**, 171 (1983) (in Russian);

42. I. A. Zhitnik, G. S. Belikova, V. V. Korneev, S. V. Stolbov, V. V. Krutov, V. M. Lomakov The problems of development of units for the high-resolving *X*-ray spectrometers, ***Space Scientific Instruments***, **1**, 45 (Metallurgia, Moscow, USSR 1983) (in Russian);
43. B. N. Kodess, I. V. Korkin, S. V. Stolbov, I. Ya. Nikiforov, Investigation of the electronic structure of the A15 structure superconducting compounds V_3Ge and V_3Al and alloys based on them, ***J. Exp. Theor. Phys. (Sov. Phys.),*** **55,** 1107 (1982);
44. B. N. Kodess, I. Ya. Nikiforov, S. V. Stolbov, X-ray spectroscopic studies of electronic structure of the A15 type compounds in the system Nb_3(Sn-Al), ***Sol. St. Commun.***, **31,** 1011 (1979).

Preprints:

1. S. V. Stolbov, M. K. Mironova, K. Salama, Microscopic description of grain boundaries in superconducting copper oxides. I. Electron structure in the vicinity of grain boundaries, Texas Center for Superconductivity at the University of Houston, Houston, TX, *Preprint No*. 98:127 (1998);
2. S. V. Stolbov, M. K. Mironova, K. Salama, Microscopic description of grain boundaries in superconducting copper oxides. II. Method to determine superconducting properties, Texas Center for Superconductivity at the University of Houston, Houston, TX, *Preprint No*. 98:128 (1998);
3. M. K. Mironova, S. V. Stolbov, G. P. Du, K. Salama, Contribution of grain boundary planes to superconducting coupling in YBCO, Texas Center for Superconductivity at the University of Houston, Houston, TX, *Preprint No*. 98:125 (1998);
4. A. N. Iyer, M. K. Mironova, S. V. Stolbov, C. Vipulanandan, K. Salama, V. Balachandran, Current transport and microstructure evolution in BSCCO tapes fabricated by groove rolling, Texas Center for Superconductivity at the University of Houston, Houston, TX, *Preprint No*. 98:087 (1998);
5. S. V. Stolbov, B. So, B.N. Kodess and C.A. Prosandeev, Role of Non-transitional atoms in formation of the electron structure of the superconducting V_3(Si-Ge) alloys. VINITI No 206-85DEP 26 p. 1985. Preprint of the National Institute of Scientific and Technical Information, USSR (In Russian);
6. S. V. Stolbov, B. So, B. N. Kodess Doping effect on electron susceptibility of the vanadium-based superconducting A15 compounds. VINITI No 207-85DEP 14 p. 1985 Preprint of the National Institute of Scientific and Technical Information, USSR (in Russian);
7. S. V. Stolbov, The electronic structure of the A15-type superconducting compounds and ternary alloys based on vanadium and niobium, Abstract of Ph.D. Dissertation, 22 pp., Rostov State University, Rostov-on-Don, USSR, 1982 (In Russian);
8. G. S. Belikova, V. V. Korneev, I. Ya. Nikiforov, T. V. Okhrimenko, S. V. Stolbov, Spectrometric properties of the bi-phthalate ammonium crystals, *Tech. Phys. Lett. (Sov. Phys.),* **7(6)**, 308 (1981);
9. B. N. Kodess, I. Ya. Nikiforov, S. V. Stolbov, Electron structure of the superconducting A15 alloys of V_3(Al-Si), VINITI No 3345-81DEP 26p. 1981. Preprint of the National Institute of Scientific and Technical Information, USSR (In Russian);
10. B. N. Kodess, I. Ya. Nikiforov, S. V. Stolbov, Investigation of the electron structure of the superconducting A15 compounds: V_3Al, V_3Ge and alloys on their base, VINITI No 3346-81DEP 22p. 1981. Preprint of the National Institute of Scientific and Technical Information, USSR (In Russian);

Recent Presentations

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1. S. Stolbov and S. Zuluaga, “On relationship among composition, electronic structure and reactivity of catalytically active monolayers on metal substrates” APS March Meeting 2014 (March 3–7, 2014; Denver, Colorado).
2. M. Alcantara Ortigoza and S. Stolbov, “Origin and application of the ``lattice distortion energy" spent upon chemisorption” APS March Meeting 2014 (March 3–7, 2014; Denver, Colorado).
3. S. Stolbov and M. Alcántara Ortigoza, Rational design of competitive electrocatalysts for the oxygen reduction reaction in hydrogen fuel cells. 2012 March Meeting, American Physical Society (Feb. 27 – March 2, 2012; Boston, MA).
4. S. Zuluaga, S. Stolbov, First principles design of the Pd/Co/Pd sandwich-like structure as a promising electrocatalyst for the oxygen reduction reaction on hydrogen fuel cell cathode. 2012 March Meeting, American Physical Society (Feb. 27 – March 2, 2012; Boston, MA).
5. S. Stolbov, Se effect on the oxygen reduction reaction on the Se/Ru electro-catalysts. Insight from first principles. 2011 March Meeting, American Physical Society (March 21–25, 2011; Dallas, TX).
6. S. Zuluaga, S. Stolbov, First principles studies of the oxygen reduction reaction on Se-Ru nanostructures. 2011 March Meeting, American Physical Society (March 21–25, 2011; Dallas, TX).
7. T. S. Rahman, M. Alcántara Ortigoza, S. Stolbov, Bilayer islands in heteroepitaxy of transition metals: insights from first principles. 2011 March Meeting, American Physical Society (March 21–25, 2011; Dallas, TX).
8. S. Stolbov, First principles studies of stability and reactivity of electro-catalysts for low-temperature fuel cells. 2010 March Meeting, American Physical Society (Portland, OR, March 15 – 19, 2010) – ***Invited talk.***
9. S. Stolbov, First principles approach to the problem of hydrogen economy. Colloquium, Florida Institute of Technology, Melbourne, FL. April 2010 – ***Invited talk.***
10. S. Zuluaga, S. Stolbov, First principles studies of the oxygen reduction reaction on the Pd-Co surfaces. 2010 March Meeting, American Physical Society (Portland, OR, March 15 – 19, 2010).
11. S. Stolbov, “First-principles approach to electrocatalysis. Florida Society for Material Simulation 2010 Annual Meeting, (Orlando, FL August 2 – 3 2010).
12. M. Alcantara Ortigoza, Formation of bilayer islands in heteroepitaxy on transition metals: insights from first principles calculations. NanoFlorida 2010, (Orlando, FL Sept. 24 -25).
13. M. Alcantara Ortigoza, S. Stolbov, and T. S. Rahman: “Formation of Pt islands on Ru nanoclusters Insights from ab initio calculations” 35th International Nathiagali Summer College on Physics and Contemporary Needs (Nathiagali, Pakistan June 28 – July 10, 2010).
14. M. Alcantara Ortigoza, S. Stolbov, and T. S. Rahman “Formation of bilayer islands in heteroepitaxy of transition metals: insights from first principles calculations” 35th International Nathiagali Summer College on Physics and Contemporary Needs (Nathiagali, Pakistan June 28 – July 10, 2010).
15. S. Stolbov, First principle studies of the oxygen reduction reaction on the CrN electrocatalyst. 2009 APS March Meeting (Pittsburg, PA, March 16 – 20, 2009)

16. S. Stolbov and T. S. Rahman, Modeling the effects of the oxide substrate on O_2 dissociative adsorption on Au nanostructures. 2008 APS March Meeting (March 10–14, 2008; New Orleans, LA). (contributed, international)
17. D. Le , S. Stolbov , T. Rahman, O_2 dissociative adsorption on $Cu_2O(100)$ with O vacancies. 2008 APS March Meeting (March 10–14, 2008; New Orleans, LA). (contributed, international)
18. S. Stolbov and T. S. Rahman, Role of the oxide substrate on O_2 dissociative adsorption on Au nanostructures: First principle studies. 55th International Symposium of American Vacuum Society (October 19-24, 2008, in Boston, MA) (contributed, international)
19. S. Stolbov, Searching for the mechanism of unusually high catalytic activity of gold nanostructures. Fourth Annual Meeting Florida Society for Materials Simulation (May 5-7, 2008 Tallahassee, FL) (***invited talk***, regional).
20. S. Stolbov, M. Ancantara Ortigoza, T. S. Rahman, First principles studies of CO adsorption and diffusion over Pt nano-islands on Ru(0001) surface. 2007 APS March Meeting (March 5–9, 2007; Denver, Colorado).
21. T. S. Rahman, M. Ancantara Ortigoza, S. Stolbov, Formation of Pt nano-islands on Ru(0001) surface: insights from ab initio calculations . 2007 APS March Meeting (March 5–9, 2007; Denver, Colorado)
22. S. Stolbov, Why PtRu20 nano-catalyst is so tolerant to CO adsorption: Insight from first principles calculations. Florida Society of Materials Simulators (FSMS) 2007 annual meeting and training workshop, Tampa, Florida, June 6-8, 2007 (***invited talk***, regional).
23. F. Mehmood, S. Stolbov, and T. S. Rahman, Effects of co-adsorbed C and K on energetics of CO oxidation on Pd(111). 2006 APS March Meeting, March 13-17, 2006; Baltimore, MD.
24. S. Stolbov, D. Le, and T. S. Rahman, First principles studies of CO adsorption and oxidation on the $Cu_2O(100)$ surface. 2006 APS March Meeting, March 13-17, 2006; Baltimore, MD.
25. T. J. Stasevich, T. L. Einstein, and S. Stolbov, Ab-initio Evaluation of Extended Lattice Gas Interactions of Cu on Cu(111) and Cu(001). 2006 APS March Meeting, March 13-17, 2006; Baltimore, MD.
26. M. Alcantara Ortigoza, S. Stolbov, T. S. Rahman, First principles studies of the reactivity of Pt islets on Ru(0001). AVS 53rd International Symposium, November 14-16, 2006; San Francisco, CA.