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Professional Appointments and Education

Associate Editor of Materials Chemistry Frontiers	2016–present
Assistant Professor of Chemistry, University of South Carolina	2013–present
Postdoctoral Associate, Massachusetts Institute of Technology	2010–2013
Ph.D. in Inorganic Chemistry, Colorado State University	2005–2010
Ph.D. in Physical Chemistry, Moscow State University, Russia	2004–2005
B.S., M.S. in Materials Science, Moscow State University, Russia	1998–2004

Awards and Fellowships

Breakthrough Award	2017
Alfred P. Sloan Research Award	2017
Cottrell Scholar Award	2017
Scialog Fellow, Research Corporation for Science Advancement	2017
NSF Career Award	2016
MIT Infinite Kilometer Postdoctoral Award	2013
MIT/Bruker Symposium Poster Award	2013
Graduate Teaching Assistant Award, Colorado State University	2009
XIX International Symposium on Fluorine Chemistry Poster Award (first prize)	2009
German Academic Exchange Service (DAAD) Scholarship	2009
ECS Poster Award	2009
Herbert H. Uhlig ECS Summer Fellowship	2008
ECS Solid-State Science and Technology Poster Award	2008
AWIS Educational Foundation Citation of Merit	2008
International J. Soros Science Education Program Fellowship	2002, 2005
L. Euler Student Fellowship	2003, 2004
V. F. Luginin Research Award, Moscow State University	2002, 2003
International Student Conference (first prize), Moscow State University	2002–2004

Book Chapters

- Chapter 4:** Perfluoroalkylation of Fullerenes, *Handbook of Carbon Nano Materials* (Editors: D'Souza, F. and Kadish, K. M.), World Scientific, **2011**, pp. 102–135.
- Chapter 68:** High-Yield Synthesis of a Single Asymmetric Isomer of C₇₀(CF₃)₁₀ by High Temperature Radical Trifluoromethylation *Efficient Preparation of Fluorine Compounds*, (Editor: Roesky, H. W.), John Wiley and Sons, Inc., **2013**.

Publications (# from USC)

#**61.** Dolgoplova, E. A.; Brandt, A. J.; Ejegbavwo, O. A.; Duke, A. S.; Maddumapatabandi, T. D.; Galhenage, R. P.; Larson, B. W.; Reid, O. G.; Ammal, S. C.; Heyden, A.; Chandrashekhara, M.; Stavila, V.; Chen, D. A.; **Shustova, N. B.*** "Electronic Properties of Bimetallic Metal-Organic Frameworks (MOFs): Tailoring the Density of Electronic States through MOF Modularity" *J. Am. Chem. Soc.*, **2017**,

139, 5102–5109.

#60. Rice, A. M.; Fellows, W. B.; Dolgoplova, E. A.; Greytak, A. B.; Vannucci, A. K.; Smith, M. D.; Karakalos, S. G.; Krause, J. A.; Avdoshenko, S. M.; Popov, A. A.; **Shustova, N. B.*** “Hierarchical Corannulene-Based Materials: Energy Transfer and Solid-State Photophysics” *Angew. Chem. Int. Ed.* **2017**, DOI: 10.1002/ange.201612199.

#59. Dolgoplova, E. A., **Shustova, N. B.*** “Metal-Organic Framework Photophysics: Optoelectronic Devices, Photoswitches, Sensors, and Photocatalysts” *MRS Bulletin*, **2016**, *41*, 890–896 (**highlighted on the cover**).

#58. Fellows, B. W.; Rice, A. M.; Williams, D. E.; Dolgoplova, E. A.; Vannucci, A. K.; Pellechia, P.J.; Smith, M. D.; Krause, J. A.; **Shustova, N. B.*** “Redox-Active Corannulene Buckybowls in a Crystalline Hybrid Scaffold” *Angew. Chem. Int. Ed.* **2016**, *55*, 2195–2199 (**highlighted on the cover**).

#57. Williams, D. E.; Godfrey, D. C.; Ermolaeva, E. D. Pellechia, P. J.; Greytak, A. B.; Smith, M. D.; Avdoshenko, S. M.; Popov, A. A.; **Shustova, N. B.*** “Fulleretic Well-Defined Scaffolds: Donor-Fullerene Alignment Through Metal Coordination and Its Effect on Photophysics” *Angew. Chem. Int. Ed.* **2016**, *55*, 9070–9074.

#56. Dolgoplova, E. A.; Rice, A. M.; Smith, M. D.; **Shustova, N. B.*** “Photophysics, Dynamics, and Energy Transfer in Rigid Mimics of GFP-based Systems” *Inorg. Chem.* **2016**, *55*, 7257–7264.

#55. Dolgoplova, E. A.; Moore, T. M.; Fellows, W. B.; Smith, M. D.; **Shustova, N. B.*** “Photophysics of GFP-related Chromophores Imposed by a Scaffold Design”, *Dalton Trans. (New Talents: Americas)*, **2016**, *45*, 9884–9891.

#54. Dolgoplova, E. A.; Williams, D. E.; Greytak, A. B.; Rice, A. M.; Smith, M. D.; Krause, J. A.; **Shustova, N. B.*** “A Bio-inspired Approach for Chromophore Communication: Ligand-to-Ligand and Host-to-Guest Energy Transfer in Hybrid Crystalline Scaffolds” *Angew. Chem. Int. Ed.* **2015**, *54*, 13639–13643.

#53. Williams, D. E.; Dolgoplova, E. A.; Pellechia, P.J.; Palukoshka, A.; Wilson, T. J.; Tan, R.; Maier, J. M.; Tan, R.; Greytak, A. B.; Smith, M. D.; Krause, J. A.; **Shustova, N. B.*** “A Mimic of the Green Fluorescent Protein β -barrel: Photophysics and Dynamics of Confined Chromophores Defined by a Rigid Porous Scaffold” *J. Am. Chem. Soc.* **2015**, *137*, 2223–2226.

#52. Duke, A. S.; Dolgoplova, E. A.; Galhenage, R. P.; Ammal, S. C.; Heyden, A.; Smith, M. D.; Chen, D. A.*; **Shustova, N. B.*** “Active Sites in Copper-based Metal-Organic Frameworks: Understanding Substrate Dynamics, Redox Processes, and Valence-Band Structure” *J. Phys. Chem. C* **2015**, *119*, 27457–27466.

#51. Williams, D. E.; **Shustova, N. B.*** “Metal-Organic Frameworks as a Versatile Tool To Study and Model Energy Transfer Processes” *Chem. Eur. J.* **2015**, *21*, 15474–15479.

#50. Gardinier, J. R.*; Hewage, J. S.; Justin Hoffman, Lindeman, S. V.; Williams, D. E.; **Shustova, N. B.*** “Supramolecular Assembly of Metal-Organic Tubes Constructed from the Ditopic Heteroscorpionate Ligand (4-NH₂C₆H₄)CHpz₂ (pz = Pyrazol-1-yl) and Silver(I)” *Eur. J. Inorg. Chem.* **2016**, *26*.

#49. Williams, D. E.; Rietman, J. A., Maier, J. M., Tan, R.; Greytak, A. B.; Smith, M. D.; Krause, J. A.; **Shustova, N. B.*** “Energy Transfer on Demand: Photoswitch-Directed Behavior of Metal-Porphyrin Frameworks” *J. Am. Chem. Soc.* **2014**, *136*, 11886–11889.

48. Boltalina, O. V., Kuvychko, I. V.; Popov A. A.; **Shustova, N. B.**; Strauss, S. H. “Perfluoroalkylfullerenes” *Chem. Rev.* **2015**, *115*, 1051–1105.

47. Whitaker, J. B.; Kuvychko, I. V.; **Shustova, N. B.**; Chen, Y.-S.; Strauss, S. H. Boltalina, O. V. “An elusive fulvene 1,7,11,24-C₆₀(CF₃)₄ and its unusual reactivity” *Chem. Commun.* **2014**, *50*, 1205–1208.

46. **Shustova, N. B.**; Cozzolino, A. F.; Reineke, S.; Baldo, M.; Dincă, M. “ Selective Turn-On Ammonia

Sensing Enabled by High-Temperature Fluorescence in Metal–Organic Frameworks with Open Metal Sites” *J. Am. Chem. Soc.* **2013**, *135*, 13326–13329.

45. Clikeman, T. T.; Kuvychko, I. V.; **Shustova, N. B.**; Chen, Y.-S.; Popov, A. A.; Boltalina, O. V.; Strauss, S. H. “Regioselective Sequential Additions of Nucleophiles and Electrophiles to Perfluoroalkylfullerenes: Which Cage C Atoms Are the Most Reactive and Why?” *Chem. Eur. J.* **2013**, *19*, 5070–5080.

44. Whitaker, J. B.; **Shustova, N. B.**; Strauss, S. H.; Boltalina, O. V. “Structure of 7,9,12,15,18,20,39,24,45,57-C₆₀(CF₃)₁₀(1,2:3,4-O₂) The First Regiospecific Diepoxidation of a Fullerene Derivative” *Acta Chim. Slov.* **2013**, *60*, 577–582 (a special issue in honor of Prof. Žemva).

43. **Shustova, N. B.**; Ong, T.-C.; Cozzolino, A. F.; Michaelis, V. K.; Griffin, R. G.; Dincă, M. “Phenyl Ring Dynamics in a Tetraphenylethylene-Bridged Metal-Organic Framework: Implications for the Mechanism of Aggregation-Induced Emission” *J. Am. Chem. Soc.* **2012**, *134*, 15061–15070.

42. **Shustova, N. B.**; Cozzolino, A. F.; Dincă, M. “High-Energy Conformational Locking and Fluorescence in an Ethynyl-Extended Tetraphenylethylene-Based Metal-Organic Framework” *J. Am. Chem. Soc.* **2012**, *134*, 19596–19599.

41. **Shustova, N. B.**; McCarthy, B. D.; Dincă, M. “Turn-On Fluorescence in Tetraphenylethylene-Based Metal-Organic Frameworks: an Alternative to Aggregation-Induced Emission” *J. Am. Chem. Soc.* **2011**, *133*, 20126–20129.

40. **Shustova, N. B.**; Peryshkov, D. V.; Kuvychko, I. V.; Chen, Y.-S.; Mackey, M. A.; Coumbe, C. E.; Heaps, D. T.; Confait, B. S.; Heine, T.; Phillips, J. P.; Stevenson, S.; Dunsch, L.; Popov, A. A.; Strauss, S. H.; Boltalina, O. V. “Poly(perfluoroalkylation) of Metallic Nitride Fullerenes Reveals Addition-Pattern Guidelines: Synthesis and Characterization of a Family of Sc₃N@C₈₀(CF₃)_n (n = 2–16) and Their Radical Anions” *J. Am. Chem. Soc.* **2011**, *133*, 2672–2690.

39. **Shustova, N. B.**; Kuvychko, I. V.; Popov, A. A.; Delius, M.; Dunsch, L.; Anderson, O. P.; Hirsch, A.; Strauss, S. H.; Boltalina, O. V. “Nitrogen Directs Multiple Radical Additions to 9,9'-Bi-1-aza(C₆₀-I_h)[5,6]fullerene. X-ray Structure of 6,9,12,15,18-C₅₉N(CF₃)₅” *Angew. Chem. Int. Ed.* **2011**, 5537–5540.

38. **Shustova, N. B.**; Kuvychko, I. V.; Peryshkov, D. V.; Whitaker, J. B.; Larson, B. W.; Chen, Y.-S.; Dunsch, L.; Seppelt, K.; Popov, A. A.; Strauss, S. H.; Boltalina, O. V. “Chemical Tailoring of Fullerene Acceptors: Synthesis, Structures and Electrochemical Properties of Perfluoroisopropylfullerenes” *Chem. Commun.* **2011**, *47*, 875–877.

37. Kuvychko, I. V.; Whitaker, J. B.; Larson, B. W.; Folsom, T. C.; **Shustova, N. B.**; Avdoshenko, S. M.; Chen, Y.-S.; Wen, H.; Wang, X. B.; Dunsch, L.; Popov, A. A.; Boltalina, O. V.; Strauss, S. H. “Substituent Effects in a Series of 1,7-C₆₀(R-F)₂ Compounds (R-F = CF₃, C₂F₅, *n*-C₃F₇, *i*-C₃F₇, *n*-C₄F₉, *s*-C₄F₉, *n*-C₈F₁₇): Electron Affinities, Reduction Potentials and E(LUMO) Values Are Not Always Correlated” *Chem. Sci.* **2012**, *3*, 1399–1407.

36. Kuvychko, I. V.; **Shustova, N. B.**; Avdoshenko, S. M.; Popov, A. A.; Strauss, S. H.; Boltalina, O. V. “In Search of Fullerene-Based Superacids: Synthesis, X-ray Structure, and DFT study of C₆₀(C₂F₅)H” *Chem. Eur. J.*, **2011**, *17*, 8799–8802.

35. **Shustova, N. B.**; Mazej, Z.; Chen, Y.-S.; Popov, A. A.; Strauss, S. H.; Boltalina, O. V. “Saturnene Revealed : X-ray Crystal Structure of D_{5d}-C₆₀F₂₀ Formed in Reactions of C₆₀ with A_xMF_y Fluorinating Agents (A = Alkali Metal ; M = 3d Metal)” *Angew. Chem. Int. Ed.* **2010**, *49*, 812–815.

34. **Shustova, N. B.**; Kareev, I. E.; Kuvychko, I. V.; Whitaker, J. B.; Lebedkin, S. F.; Popov, A. A.; Dunsch, L.; Chen, Y.-S.; Seppelt, K.; Strauss, S. H.; Boltalina, O. V. “High-temperature and photochemical syntheses of C₆₀ and C₇₀ fullerene derivatives with linear perfluoroalkyl chains” *J. Fluorine Chem.* **2010**, *131*, 1198–1212.

33. Kuvychko, I. V.; Streletskii, A. V.; **Shustova, N. B.**; Seppelt, K.; Drewello, Popov, A. A.; Strauss, S.

- H.; Boltalina, O. V. "Soluble Chlorofullerenes $C_{60}Cl_{2,4,6,8,10}$. Synthesis, Purification, Compositional Analysis, Stability, and Experimental/Theoretical Structure Elucidation, Including the X-ray Structure of $C_1-C_{60}Cl_{10}$ " *J. Am. Chem. Soc.* **2010**, *132*, 6443–6462.
- 32.** Popov, A. A.; **Shustova, N. B.**; Svitova, A. L.; Mackey, M. A.; Coumbe, C. E.; Phillips, J. P.; Stevenson, S.; Strauss, S. H.; Boltalina, O. V.; Dunsch, L. "Redox-Tuning Endohedral Fullerene Spin States: From the Dication to the Trianion Radical of $Sc_3N@C_{80}(CF_3)_2$ in Five Reversible Single-Electron Steps" *Chem.-Eur. J.* **2010**, *16*, 4721–4724.
- 31.** Popov, A. A.; Kareev, I. E.; **Shustova, N. B.**; Strauss, S. H.; Boltalina, O. V.; Dunsch, L. "Unraveling the Electron Spin Resonance Pattern of Nonsymmetric Radicals with 30 Fluorine Atoms: Electron Spin Resonance and Vis-Near-Infrared Spectroelectrochemistry of the Anion Radicals and Dianions of $C_{60}(CF_3)_{2n}$ ($2n = 2-10$) Derivatives and Density Functional Theory-Assisted Assignment" *J. Am. Chem. Soc.* **2010**, *132*, 1709–11721.
- 30.** **Shustova, N. B.**; Chen, Y.-S.; Mackey, M. A.; Coumbe C. E.; Phillips, J. P.; Stevenson, S.; Popov, A. A.; Boltalina, O. V.; Strauss, S. H. " $Sc_3N@C_{80-I_h(7)}(CF_3)_{14}$ and $Sc_3N@C_{80-I_h(7)}(CF_3)_{16}$. Endohedral Metallofullerene Derivatives with Exohedral Addends on Four and Eight Triple-Hexagon Junctions. Does the Sc_3N Cluster Control the Addition Pattern or Vice Versa?" *J. Am. Chem. Soc.* **2009**, *131*, 17630–17637.
- 29.** Kareev, I. E.; Kuvychko, I. V.; **Shustova, N. B.**; Lebedkin, S. F.; Bubnov, V. P.; Anderson, O. P.; Popov, A. A.; Boltalina, O. V.; Strauss, S. H. " $C_1-(C_{84}-C_2(11))(CF_3)_{12}$: Trifluoromethylation Yields Structural Proof of a Minor C_{84} Cage and Reveals a Principle of Higher Fullerene Reactivity" *Angew. Chem. Int. Ed.* **2008**, *120*, 6204–6207.
- 28.** Kareev, I. E.; Popov, A. A.; Kuvychko, I. V.; **Shustova, N. B.**; Lebedkin, S. F.; Bubnov, V. P.; Anderson, O. P.; Seppelt, K.; Strauss, S. H.; Boltalina, O. V. "Synthesis and X-ray or NMR/DFT structure elucidation of twenty-one new trifluoromethyl derivatives of soluble cage isomers of C_{76} , C_{78} , C_{84} , and C_{90} " *J. Am. Chem. Soc.* **2008**, *130*, 13471–13489.
- 27.** **Shustova, N. B.**; Serov, M.; Troyanov, S. I. "Molecular and crystal structure of the $C_{60}F_{18}$ adducts with bromine and carbon disulfide" *Fullerenes Nanotubes Carbon Nanosrtuct.* **2008**, *16*, 597–602.
- 26.** **Shustova, N. B.**; Kuvychko, I. V.; Boltalina, O. V.; Strauss, S. H. "1,7,16,30,36,47-Hexakis(perfluoroisopropyl)-1,7,16,30,36,47-hexahydro($C_{60}-I_h$)[5,6]fullerene" *Acta Cryst.* **2007**, *E63*, o4575.
- 25.** Popov, A. A.; **Shustova, N. B.**; Boltalina, O. V.; Strauss, S. H.; Dunsch, L. "ESR-Vis-NIR Spectroelectrochemical Study of $C_{70}(CF_3)_2^-$ and $C_{70}(C_2F_5)_2^-$ Radical Anions" *ChemPhysChem* **2008**, *9*, 431–438.
- 24.** Popov, A. A.; Kareev, I. E.; **Shustova, N. B.**; Lebedkin, S. F.; Strauss, S. H.; Boltalina, O. V.; Dunsch, L. "Synthesis, Spectroscopic and Electrochemical Characterization, and DFT Study of Seventeen $C_{70}(CF_3)_n$ Derivatives ($n=2, 4, 6, 8, 10, 12$)" *Chem. Eur. J.* **2008**, *14*, 107–121.
- 23.** **Shustova, N. B.**; Anderson, O. P.; Boltalina, O. V.; Strauss, S. H. "1,3,7,10,14,17,21,28,31,42,52,55-Dodecakis(trifluoromethyl)-1,3,7,10,14,17,21,28,31,42,52,55-dodecahydro($C_{60}-I_h$)[5,6]fullerene" *Acta Cryst.* **2007**, *E64*, o159.
- 22.** **Shustova, N. B.**; Popov, A. A.; Mackay, M. A.; Coumbe, C. E.; Phillips, J. P.; Stevenson, S.; Strauss, S. H.; Boltalina, O. V. "Radical Trifluoromethylation of $Sc_3N@C_{80}$ " *J. Am. Chem. Soc.* **2007**, *129*, 11676–11677.
- 21.** **Shustova, N. B.**; Kuvychko, I. V.; Bolskar, R. D.; Seppelt, K.; Strauss, S. H.; Boltalina, O. V. "Trifluoromethyl Derivatives of Insoluble Small-HOMO-LUMO-Gap Hollow Higher Fullerenes. NMR and DFT Structure Elucidation of $C_2-(C_{74}-D_{3h})(CF_3)_{12}$, $C_5-(C_{76}-T_d)(CF_3)_{12}$, $C_2-(C_{78}-D_{3h}(5))(CF_3)_{12}$, $C_5-(C_{80}-C_{2v}(5))(CF_3)_{12}$, and $C_2-(C_{82}-C_2(5))(CF_3)_{12}$ " *J. Am. Chem. Soc.* **2006**, *128*, 15793–15798.

- 20. Shustova, N. B.;** Newell, B. S.; Miller, S. M.; Anderson, O. P.; Bolskar, R. D.; Seppelt, K.; Popov, A. A.; Boltalina, O. V.; Strauss, S. H. "Discovering and Verifying Fullerene Cage Isomers: Structures of $C_{2-p}^{11}-(C_{74}-D_{3h})(CF_3)_{12}$ and $C_{2-p}^{11}-(C_{78}-D_{3h}(5))(CF_3)_{12}$ " *Angew. Chem. Int. Ed.* **2007**, *46*, 4111–4114.
- 19. Popov, A. A.;** Kareev, I. E.; **Shustova, N. B.;** Stukalin, E. B.; Lebedkin, S. F.; Seppelt, K.; Strauss, S. H.; Boltalina, O. V.; Dunsch, L. "Electrochemical, Spectroscopic, and DFT Study of $C_{60}(CF_3)_n$ Frontier Orbitals ($n = 2-18$): The Link between Double Bonds in Pentagons and Reduction Potentials" *J. Am. Chem. Soc.* **2007**, *129*, 11551–11568.
- 18. Kareev, I. E.;** **Shustova, N. B.;** Kuvychko, I. V.; Lebedkin, S. F.; Miller, S. M.; Anderson, O. P.; Popov, A. A.; Strauss, S. H.; Boltalina, O. V. "Thermally-Stable Perfluoroalkylfullerenes With the Skew-Pentagonal Pyramid Pattern: $C_{60}(C_2F_5)_4O$, $C_{60}(CF_3)_4O$, and $C_{60}(CF_3)_6$ " *J. Am. Chem. Soc.* **2006**, *128*, 12268–12280.
- 17. Shustova, N. B.;** Peryshkov, D. V.; Popov, A. A.; Boltalina, O. V.; Strauss, S. H. "1,6,11,18,24,27,33,51,54,60-Decakis(trifluoromethyl)-1,6,11,18,24,27,33,51,54,60-decahydro($C_{60}-I_h$)[5,6]fullerene" *Acta Cryst.* **2007**, *E63*, o3129.
- 16. Shustova, N. B.;** Peryshkov, D. V.; Kareev, I. E.; Boltalina, O. V.; Strauss, S. H. "1,6,11,18,24,27,33,51,54,60-Octakis(trifluoromethyl)-1,6,11,18,24,27,33,51,54,60-octahydro($C_{60}-I_h$)[5,6]fullerene deuteriochloroform solvate" *Acta Cryst.* **2007**, *E63*, o3398.
- 15. Shustova, N. B.;** Peryshkov, D. V.; Kareev, I. E.; Boltalina, O. V.; Strauss, S. H. "1,4,7,11,18,21,24,31,35,39,51,58,61,64-Tetradecakis(trifluoromethyl)-1,4,7,11,18,21,24,31,35,39,51,58,61,64-tetradecahydro($C_{70}-D_{5h}$)[5,6]fullerene p-xylene trisolvate" *Acta Cryst.* **2007**, *E63*, o3928–o3929.
- 14. Kareev, I. E.;** **Shustova, N. B.;** Peryshkov, D. V.; Lebedkin, S. F.; Miller, S. M.; Anderson, O. P.; Popov, A. A.; Boltalina, O. V.; Strauss, S. H. "X-ray Structure and DFT Study of $C_{1-C_{60}}(CF_3)_{12}$. A High-Energy Kinetically-Stable Isomer Prepared at 500 °C" *Chem. Commun.* **2007**, 1650–1652.
- 13. Shustova, N. B.;** Peryshkov, D. V.; Boltalina, O. V.; Strauss, S. H. "1,4,10,19,25,41,55,60,67,69-Decakis(trifluoromethyl)-1,4,10,19,25,41,55,60,67,69-decahydro($C_{70}-D_{5h}$)[5,6]fullerene" *Acta Cryst.* **2007**, *E63*, o4073.
- 12. Kareev, I. E.;** **Shustova, N. B.;** Newell, B. S.; Miller, S. M.; Anderson, O. P.; Strauss, S. H.; Boltalina, O. V. "1,6,11,18,24,27,52,55-Octakis(trifluoromethyl)-1,6,11,18,24,27,52,55-octahydro($C_{60}-I_h$)[5,6]fullerene" *Acta Cryst.* **2006**, *E62*, o3154–o3156.
- 11. Troyanov, S.;** **Shustova, N.;** Popov, A.; Ioffe, I.; Kemnitz, E. "Structure of Halofullerenes Using Experimental and Theoretical Approaches" *Acta Cryst.* **2005**, *A61*, 19–20.
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- 9. Troyanov, S. I.;** **Shustova, N. B.;** Popov, A. A.; Sidorov, L. N.; Kemnitz, E. "Preparation and Structural Characterization of Two Kinetically Stable Chlorofullerenes, $C_{60}Cl_{28}$ and $C_{60}Cl_{30}$ " *Angew. Chem. Int. Ed.* **2005**, *44*, 432–435.
- 8. Shustova, N. B.;** Popov, A. A.; Sidorov, L. N.; Turnbull, A. P.; Kemnitz, E.; Troyanov, S. I. "Preparation and Crystallographic Characterization of $C_{60}Cl_{24}$ " *Chem. Commun.* **2005**, 1411–1413.
- 7. Troshin, P. A.;** Lyubovskaya, R. N.; Ioffe, I. N.; **Shustova, N. B.;** Kemnitz, E.; Troyanov, S. I. "Synthesis and Structure of the Highly Chlorinated [60]fullerene $C_{60}Cl_{30}$ with a Drum-Shaped Carbon Cage" *Angew. Chem. Int. Ed.* **2005**, *44*, 234–237.
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- 5. Troyanov, S. I.;** **Shustova, N. B.;** Popov, A. A.; Sidorov, L.N. "Synthesis and Structure of C_{60}

Fullerene Chlorides" *Russ. Chem. Bull.* **2005**, 54, 1656–1666.

4. Sidorov, L. N.; Livadaris, V.; **Shustova, N. B.**; Ioffe, I. N.; Kemnitz, E.; Troyanov, S. I. "Electron Affinity and Suppression Effect in Analysis of Chlorofullerenes by MALDI Mass Spectrometry" *Russ. Chem. Bull.* **2005**, 54, 1121–1124.

3. Troyanov, S. I.; **Shustova, N. B.**, Popov, A. A.; Feist, M.; Kemnitz, E. "Synthesis and Properties of Inorganic Compounds Fullerene C₆₀ and C₇₀ Chlorination using Chlorides SbCl₅ and VCl₄" *Russ. J. Inorg. Chem.* **2004**, 49, 1303–1307.

2. Alyoshina V. E., Borshchevsky A. Ya., Dorozhkin E. I., Goryunkov A. A., Astakhov A. V., **Shustova N. B.**, Ovchinnikova N. S. "Negative Ions of Trifluoromethyl Fullerene Derivatives: First Thermodynamic data" *Fullerenes, Nanotubes, and Carbon Nanostruct.* **2004**, 12, 201–207.

1. Aleshina, V. E.; Borschevskii, A. Ya.; Skokan, E. V.; Arhangelskii, I. V.; Astahov, A. V.; **Shustova, N. B.** "Fluorination of the Cubic and Hexagonal C₆₀ Modifications by Crystalline Manganese Trifluoride" *Phys. Solid State* **2002**, 44, 629–630.

Scientific Presentations

71. **Shustova, N. B.** "Mimicking Nature by Metal-Organic Frameworks: Perspective and Applications" *Gordon Conference on Nanoporous Materials and Their Applications*, August 6–11, **2017 (invited talk)**.

70. **Shustova, N. B.** "Metal-Organic Frameworks as Versatile Platforms for Renewable Energy Applications" ACS FAME, Tampa, FL, May 5th, **2017 (invited talk)**.

69. **Shustova N. B.** "A Rigid Mimic of the Green Fluorescent Protein β - barrel: Chromophore Dynamics Defined by a Rigid Metal-Organic System", FNANO 2017, Salt Lake City, Utah, April 12th, **2017 (invited talk)**.

68. **Shustova N. B.** "Mimicking Nature by Metal-Organic Frameworks: Energy Transfer in Photochromic and Fulleretic MOFs" *The University of North Carolina at Charlotte*, NC, March 28th, **2017 (invited talk)**.

67. **Shustova, N. B.** "Mimicking Nature by Metal-Organic Frameworks: Perspective and Applications", *Northwestern University*, Chicago, IL, March 9th, **2017 (invited talk)**.

66. **Shustova N. B.** "Mimicking Nature by Metal-Organic Frameworks: Energy Transfer in Photochromic and Fulleretic MOFs" *The University of North Carolina at Chapel Hill*, NC, February 21st, **2017 (invited talk)**.

65. **Shustova, N. B.** "Mimicking Nature by Metal-Organic Frameworks: Perspective and Applications", *National Pittsburg Conference on Analytical Chemistry and Applied Spectroscopy*, Chicago, IL, March 5–9, **2017 (invited talk)**.

64. **Shustova, N. B.** "Photophysics of Metal-Organic Frameworks" *SERMACS*, Columbia, SC, October 24–26, 2016 **(invited talk)**.

63. **Shustova, N. B.** "Energy Transfer in Fulleretic and Photochromic MOFs" *5th International Conference on Metal Organic-Frameworks and Open Framework Compounds*, Long Beach, September 11–15, **2016 (invited talk)**.

62. **Shustova, N. B.** "Energy Transfer in Metal-Organic Frameworks", *251st ACS National Meeting & Exposition*, San Diego, CA, March 13–17, **2016 (invited talk)**.

61. **Shustova, N. B.** "Fulleretic Materials", *251st ACS National Meeting & Exposition*, San Diego, CA, March 13–17, **2016 (invited talk)**.

60. **Shustova, N. B.** "Metal-Organic Frameworks as a Versatile Platform for Energy Applications",

Marquette University, WI, November 27th, **2015 (invited talk).**

59. Shustova, N. B. “Energy Transfer in Metal-Organic Frameworks” *NC Photochem Symposium*, Charlotte, NC, October 10th, **2015 (invited talk).**

58. Shustova, N. B. “Metal-Organic Frameworks as a Versatile Platform for Renewable Energy Applications”, Marquette University, November 20th, **2015 (invited talk).**

57. Shustova, N. B. “Energy Transfer by Demand in Well-Defined Hybrid Materials”, *249th ACS National Meeting & Exposition*, Denver, March 21–26, 2015.

56. Shustova, N. B.; Williams, D. E.; Dolgoplova, E. A.; Palukoshka, A. “Light-Harvesting and Energy Transfer in Metal-Organic Frameworks ” *The Inter-American Photochemical Society*, Sarasota, Florida, January 1–4, 2015.

55. Shustova, N. B.; Dolgoplova, E. A.; Williams, D. E.; Rice, A. “A Metal-Organic Framework as a Mimic of Green Fluorescent Protein”, *Materials Research Society Symposium*, Clemson University, Clemson, April 15, 2015.

54. Shustova, N. B., Rice, A. M.; Fellows, W. B.; “Metal-Organic Frameworks with Bowl-Shaped Ligands” *71st SWRM/67th SERMACS*, Memphis, TN, November 4–7, 2015.

53. Shustova, N. B.; Dolgoplova, E. A.; Williams, D. E.; Rice, A. M. “Ligand-to-ligand and Host-to-guest Energy Transfer in Hybrid Crystalline Scaffolds” *71st SWRM/67th SERMACS*, Memphis, TN, November 4–7, 2015.

52. Williams, D. E.; Dolgoplova, E. A.; **Shustova, N. B.** “Photoswitch-Directed Photoluminescence of Metal-Porphyrin Frameworks” *71st SWRM/67th SERMACS*, Memphis, TN, November 4–7, 2015.

51. Dolgoplova, E. A.; Williams, E. A.; Rice, A. M.; Farmer, S. E.; **Shustova, N. B.** “Metal-Organic Frameworks as a Versatile Platform for Efficient Energy Transfer” *NC Photochem Symposium*, Charlotte, NC, October 10th, 2015.

50. Rice, A. M.; Fellows, W. B.; **Shustova, N. B.** “Photochemical Properties of Metal-Organic Frameworks with Bowl-Shaped Ligands” *NC Photochem Symposium*, Charlotte, NC, October 10th, 2015.

49. Dolgoplova, E. A.; Williams, D. E.; Rice, A.; **Shustova, N. B.;** “A Metal-Organic Framework as a Mimic of Green Fluorescent Protein” *Wi-Sci 2015*, University of South Carolina, Columbia, April 23rd, 2015.

48. Shustova, N. B. “Metal-Organic Frameworks as a Versatile Platform for Energy Applications”, Davidson College, Davidson, North Carolina, November 6-7, 2014 **(invited talk).**”

47. Shustova, N. B. “Chromophore Photophysics Defined by Metal-Organic Frameworks”, *246th ACS National Meeting & Exposition*, Dallas, March 16–19, **2014 (invited talk).**

46. Shustova, N. B.; McCarthy, B. D.; Cozzolino, A. F.; Dincă, M. “Turn-on Sensors Based On Framework-Trapped Molecular Rotors” *245th ACS National Meeting & Exposition*, New Orleans, April 7–11, **2013.**

45. Dincă, M.; Guillaume, B.; Cozzolino, A. F.; Narayan, Tarun C.; Sun, L.; **Shustova, N. B.** “Electronic properties of metal-organic frameworks”, *245th ACS National Meeting & Exposition*, New Orleans, April 7–11, **2013.**

44. Shustova, N. B., Dincă, M. “Turn-On Fluorescence in Molecular Rotor-Based Metal-Organic Frameworks: An Alternative to Aggregation-Induced Emission” *Gordon Conference in Crystal Engineering*, Waterville Valley, NH, USA, June 9–16, **2012. (invited talk at Gordon Research Seminar).**

43. Shustova, N. B., Dincă, M. “Turn-On Fluorescence in Molecular Rotor-Based Metal-Organic Frameworks: An Alternative to Aggregation-Induced Emission” *Boston Regional Inorganic Colloquium (BRIC-28)*, Boston, MA, USA, **2012 (invited talk).**

- 42. Shustova, N. B.**, McCarthy, B. D., Dincă, M. “Fluorescence from Tetraphenylethylene-Based Molecules: An Alternative to Aggregation-Induced Emission”, *Advancing Materials Research, Massachusetts Institute of Technology*, Boston, USA, October 18, **2011**.
- 41. Popov, A. A.; Shustova, N. B.**; Kuvychko, I. V.; Whitaker, J. B.; Larson, B. W.; Boltalina, O. V.; Strauss, S. H. “Fine-tuning Redox Properties of Perfluoroalkylated Fullerenes: Playing with Perfluoroalkyl Groups and Addition Motifs” *219th Electrochemical meeting, Electrochemical Society*, Montreal, Canada, May 1–6, **2011**.
- 40. Shustova, N. B.**; Kareev, I. E.; Popov, A. A.; Mackey, M. A. Coumbe, C. E.; Bubnov, V. P.; Lebedkin, S. F.; Chen, Y.-S.; Phillips, J. P.; Stevenson, S.; Strauss, S. H.; Boltalina, O. V. “Perfluoroalkylated Endometallofullerenes,” *217th Electrochemical meeting, Electrochemical Society*, Vancouver, Canada, April 25–30, **2010**.
- 39. Popov, A. A.; Shustova, N. B.**; Mackey, M. A. Coumbe, C. E.; Bubnov, V. P.; Lebedkin, S. F.; Chen, Y.-S.; Phillips, J. P.; Stevenson, S.; Strauss, S. H.; Boltalina, O. V.; Dunsch, L “Vis-NIR and ESR Spectroelectrochemical Study of $\text{Sc}_3\text{N@C}_{80}(\text{CF}_3)_2$,” *217th Electrochemical meeting, Electrochemical Society*, Vancouver, Canada, April 25–30, **2010**.
- 38. Boltalina, O. V.; Shustova, N. B.**; Kuvychko, I. V.; Strauss, S. H.; Mazej, Z.; Chen, Y.-S.; Popov, A. A. “Recent advances in fluorination of fullerenes” *217th Electrochemical meeting, Electrochemical Society*, Vancouver, Canada, April 25–30, **2010**.
- 37. Boltalina, O. V.**; Kuvychko, I. V.; **Shustova, N. B.**; Whitaker, J. B.; Strauss, S. H.; Seppelt, K.; Popov, A. A. “In pursuit of fullerene derivatives with new structures: a study of chemical modifications of fluorofullerenes” *217th Electrochemical meeting, Electrochemical Society*, Vancouver, Canada, April 25–30, **2010**.
- 36. Boltalina, O. V.; Shustova, N. B.**; Kuvychko, I. V.; Strauss, S. H.; Popov, A. A.; Chen, Y. S.; Mackey, M. A.; Coumbe, C. E.; Phillips, J. P.; Stevenson S., “Effect of Metal Cluster on Perfluoroalkylation of Metallic Nitride Fullerenes,” *American Chemical Society*, San Francisco, CA, March 21–26, **2010**.
- 35. Shustova, N. B.**; Chen, Y.-S.; Popov, A. A.; Mackey, M. A.; Coumbe, C. E.; Phillips, J. P.; Stevenson, S. A.; Boltalina, O. V.; Strauss, S. H. “Trifluoromethylated Metallic Nitride Endometallofullerenes” *19th International Symposium on Fluorine Chemistry*, Jackson Hole, WY, August 23–28, **2009**.
- 34. Shustova, N. B.**; Mazej, Z.; Strauss, S. H.; Boltalina, O. V. “Advances in the Selective Fluorination of Fullerenes” *19th International Symposium on Fluorine Chemistry*, Jackson Hole, WY, August 23–28, **2009**.
- 33. Popov, A. A.**; Kareev, I. E.; **Shustova, N. B.**; Lebedkin, S. F.; Strauss, S. H.; Boltalina, O. V.; Dunsch, L. “Spectroelectrochemistry of Perfluoroalkylfullerenes: Redox Potentials, ESR Spectra, and DFT Calculations” *19th International Symposium on Fluorine Chemistry*, Jackson Hole, WY, August 23–28, **2009**.
- 32. Kuvychko, I. V.**; Whitaker, J. B.; Larson, B. L.; **Shustova, N. B.**; Boltalina, O. V.; Strauss, S. H. “New Method of High-Temperature Perfluoroalkylation of Fullerenes” *19th International Symposium on Fluorine Chemistry*, Jackson Hole, WY, August 23–28, **2009**.
- 31. Kuvychko, I. V.**; Whitaker, J. B.; Larson, B. L.; **Shustova, N. B.**; Boltalina, O. V.; Strauss, S. H. “Selective and Efficient Low-Temperature Method for the Perfluoroalkylation of Fullerenes” *19th International Symposium on Fluorine Chemistry*, Jackson Hole, WY, August 23–28, **2009**.
- 30. Shustova, N. B.**; Kuvychko, I. V.; Popov, A. A.; Chen, Y.-S.; Strauss, S. H.; Boltalina, O. V. “Synthesis and Characterization of Heptafluoropropylated Fullerene Derivatives,” *215th Electrochemical meeting, Electrochemical Society*, San Francisco, CA, USA, May 24–29, **2009**.

- 29. Shustova, N. B.**; Kareev, I. E.; Kuvychko, I. V.; Popov, A. A.; Mackey, M. A.; Coumbe, C. E.; Bubnov, V. P.; Lebedkin, S. F.; Chen, Y.-S.; Phillips, J. P.; Stevenson, S.; Strauss, S. H.; Boltalina, O. V. "The First X-ray Crystal Structures of Trifluoromethylated Endometallofullerenes" *215th Electrochemical meeting, Electrochemical Society*, San Francisco, CA, USA, May 24–29, **2009**.
- 28. Strauss, S. H.**; **Shustova, N. B.**; Chen, Y.-S.; Mackey M. A.; Coumbe, C. E.; Phillips, J. P.; Popov, A. A.; Stevenson, S.; Boltalina, O. V. "Stable Fullerene Derivatives *Can* and *Do* Have Substituents on Triple-Hexagon Junctions" *215th Electrochemical meeting, Electrochemical Society*, San Francisco, CA, USA, May 24–29, **2009**.
- 27. Kuvychko, I. V.**; **Shustova, N. B.**; Boltalina, O. V.; Strauss, S. H.; "Dynamic HPLC Study of C₆₀ Chlorination Leads to the Elusive Chlorofullerenes C₆₀Cl₂ and C₆₀Cl₄" *215th Electrochemical meeting, Electrochemical Society*, San Francisco, CA, USA, May 24–29, **2009**.
- 26. Popov, A. A.**; **Shustova, N. B.**; Mackey, M. A.; Coumbe, C. E.; Phillips, J. P.; Stevenson, S.; Strauss, S. H.; Boltalina, O. V.; Dunsch, L. "Molecular Structure and Electrochemical Properties of Sc₃N@C₈₀(CF₃)_n Derivatives (*n* = 2, 4, 6, 8, 10, 12, 14)" *215th Electrochemical meeting, Electrochemical Society*, San Francisco, CA, USA, May 24–29, **2009**.
- 25. Boltalina, O. V.**; Kareev, I. E.; **Shustova, N. B.**; Kuvychko, I. V.; Strauss, S. H.; Popov A. A.; Bubnov, V. P.; Lebedkin, S. F. "Polyperfluoroalkylation of Higher Fullerenes with Hollow Cages and with Rare Earth Metal(s) Inside" *215th Electrochemical meeting, Electrochemical Society*, San Francisco, CA, USA, May 24–29, **2009**.
- 24. Strauss, S. H.**; **Shustova, N. B.**; Kuvychko, I. V.; Popov, A. A.; Kareev, I. E.; Anderson, O. P.; Seppelt, K.; Boltalina O. V. "Through-Space ⁷J_{FF} Coupling up to 172 Hz for C(sp³)-F Atoms" *19th Winter Fluorine Conference*, St. Petersburg, FL, USA, January 11–16, **2009**.
- 23. Boltalina, O. V.**; Strauss, S. H.; **Shustova, N. B.**; Stevenson, S.; Mackey, M. A.; Coumbe, C. E.; Phillips, J. P.; "Polyperfluoroalkylation of Endohedral Metallofullerenes" *19th Winter Fluorine Conference*, St. Petersburg, FL, USA, January 11–16, **2009**.
- 22. Shustova, N. B.**; Von Delius, M.; Popov, A. A.; Anderson, O. P.; Hirsch, A.; Strauss, S. H.; Boltalina, O. V. "Polyfluoroalkylated aza[60]Fullerenes: Role of Nitrogen Atom in Addition Pattern Formation. The First X-ray Crystal Structure of Trifluoromethylated C₅₉N," *213th Electrochemical meeting, Electrochemical Society*, Phoenix, AZ, USA, May 18–22, **2008**.
- 21. Shustova, N. B.**; Popov, A. A.; Mackey, M. A.; Coumbe, C.; Phillips, J. P.; Stevenson, S.; Strauss, S. H.; Boltalina, O. V. "Trifluoromethylation of Metallic Nitride Fullerene Sc₃N@C₈₀: Further Exploration of Multiple Radical Additions," *213th Electrochemical meeting, Electrochemical Society*, Phoenix, AZ, USA, May 18–22, **2008**.
- 20. Strauss, S. H.**; **Shustova, N. B.**; Kareev, I. E.; Kuvychko, I. V.; Lebedkin S. F.; Miller, S.; Anderson, O. P.; Seppelt, K.; Dunsch, L.; Popov, A. A.; Boltalina, O. V. "Beyond Trifluoromethylfullerenes," *213th Electrochemical meeting, Electrochemical Society*, Phoenix, AZ, USA, May 18–22, **2008**.
- 19. Popov, A. A.**; **Shustova, N. B.**; Lebedkin, S. F.; Strauss, S. H.; Boltalina, O. V. "ESR-Vis-NIR Spectroelectrochemical Study of C₆₀(CF₃)_n and C₇₀(CF₃)_n Anions," *213th Electrochemical meeting, Electrochemical Society*, Phoenix, AZ, USA, May 18–22, **2008**.
- 18. Boltalina, O. V.**; Kareev, I. E.; Kuvychko, I. V.; **Shustova, N. B.**; Popov, A. A.; Lebedkin, S. F.; Seppelt, K.; Strauss, S. H. "Radical Addition Chemistry of Soluble Higher Fullerenes," *213th Electrochemical meeting, Electrochemical Society*, Phoenix, AZ, USA, May 18–22, **2008**.
- 17. Shustova, N. B.**, Kuvychko, I. V., Strauss, S. H.; Boltalina, O. V.; Stevenson, S.; Phillips, J. P.; Mackey, M. A.; Coumbe, C. E.; Popov, A. A. "Trifluoromethylated TNT Endometallofullerenes: First Synthesis and Characterization," *211th Electrochemical meeting, Electrochemical Society*, Chicago, IL, USA, May 6–10, **2007**.

16. Popov, A. A.; Kareev, I. E.; **Shustova, N. B.**; Stukalin, E. B.; Lebedkin, S. F.; Boltalina, O. V.; Dunsch, L.; Strauss, S. H. "Investigating the Frontier Orbitals of 16 $C_{60}(CF_3)_n$ Derivatives ($n = 2-12$) With CV $E_{1/2}$ Measurements, UV-VIS Spectra, and DFT Calculations," *211th Electrochemical meeting, Electrochemical Society*, Chicago, IL, USA, May 6-10, **2007**.
15. Boltalina, O. V.; Kareev, I. V.; **Shustova, N. B.**; Kuvychko, I. V.; Popov, A. A.; Dunsch, L.; Lebedkin, S. F.; Seppelt, K. "Fullerenic Fluorocarbons: Synthesis, Structure, and Properties" *American Chemical Society*, Boston, MA, August 19-23, **2007**.
14. Boltalina, O. V.; Strauss, S. H.; **Shustova, N. B.**; Kuvychko, I. V.; Mazej, Z.; Zemva, B.; Seppelt, K.; Seidel, S. "Fluorinating Agents for Closo-carbon Clusters: Noble-gas and Transition Metal Fluorides" *American Chemical Society*, Boston, MA, August 19-23, **2007**.
13. Boltalina, O. V.; **Shustova, N. B.**; Kuvychko, I. V.; Strauss, S. H.; Bolskar, R. D.; Popov, A. A.; Seppelt, K. "Recent adventures in fullerenic fluorocarbon chemistry," *211th Electrochemical meeting, Electrochemical Society*, Chicago, IL, USA, May 6-10, **2007**.
12. Boltalina, O. V.; **Shustova, N. B.**; Kuvychko, I. V.; Strauss, S. H.; Dick, D. D.; Bolskar, R. D.; Streletskiy, A. V.; Drewello, T.; Popov, A. A. "New Challenges in Development of Soft-Ionization Mass Spectrometric Techniques for Fullerene Derivatives," *211th Electrochemical meeting, Electrochemical Society*, Chicago, IL, USA, May 6-10, **2007**.
11. **Shustova, N. B.**; Kuvychko, I. V.; Popov, A. A.; Strauss, S. H.; Boltalina, O. V.; Stevenson, S.; Phillips, J. P.; Mackey, M. A.; Coumbe, C. E.; "New adventures in exohedral derivatization of fullerenes and metallofullerenes," *8th Biennial International Workshop, Fullerenes and Atomic Clusters IWFAC'2007*, St. Petersburg, Russia, July 2-6, **2007**.
10. Strauss, S. H.; Boltalina, O. V.; Popov, A. A.; Kareev, I. E.; **Shustova, N. B.**; Kuvychko, I. V.; Lebedkin, S. F.; Miller, S. M.; Bolskar, R. D.; Anderson, O. P.; Seppelt, K.; Dunsch, L. "Fundamental and applied chemistry of fullerene(CF_3) n compounds," *8th Biennial International Workshop, Fullerenes and Atomic Clusters IWFAC'2007*, St. Petersburg, Russia, July 2-6, **2007**.
9. **Shustova, N. B.**; Pimenova, A.; Goryunkov, A. A.; Kuvychko, I. V.; Mazej, Z.; Zemva, B.; Strauss, S. H.; Seppelt, K.; Markov, V. Yu.; Boltalina, O. V. "New Developments in Fluorination of C_{70} ," *209th Electrochemical meeting, Electrochemical Society*, Denver, CO, USA, May 7-11, **2006**.
8. **Shustova, N. B.**; Seppelt, K.; Goryunkov, A. A.; Pimenova, A.; Markov, V. Yu.; Strauss, S. H.; Bolskar, R. D.; Diener, M. D.; Popov, A. A.; Boltalina, O. V. "Fluoromodifications of small band gap fullerenes: C_{74} case," *209th Electrochemical meeting, Electrochemical Society*, Denver, CO, USA, May 7-11, **2006**.
7. Boltalina, O. V.; **Shustova, N. B.**; Seppelt, K.; Strauss, S. H. "Fullerene Perfluoroalkylation: Beyond CF_3 Chemistry," *209th Electrochemical meeting, Electrochemical Society*, Denver, CO, USA, May 7-11, **2006**.
6. **Shustova, N. B.**; Serov, M. G.; Troyanov, S. I. "Molecular And Crystal Structure of the $C_{60}F_{18}$ Adducts With Bromine and Carbon Disulfide", *7th Biennial International Workshop, Fullerenes and Atomic Clusters IWFAC'2007*, St. Petersburg, Russia, June 27-July 1, **2005**.
5. Ovchinnikova, N. S.; **Shustova, N. B.**; Yurovskaya, M. A. "Study of nucleophylic substitution in $C_{60}Br_8$ by aromatic amines," *209th Electrochemical meeting, Electrochemical Society*, San-Antonio, TX, USA, May 9-13, **2004**.
4. Feist, M.; **Shustova, N. B.**; Troyanov, S. I.; Kemnitz, E. "Thermische Untersuchungen von Fulleren-Chloriden," *Thermische Analyse und Kalorimetrie-30 Jahre GEFTA*, Braunschweig, October 4-6, **2004**.
3. Alyoshina, V. E.; Borschevskij, A. Ya.; Goryunkov, A. A.; Astakhov, A. V. **Shustova, N. B.** "Thermal Negative Ions of Fluorinated and Trifluoromethylated Fullerene C_{60} ," *II International Symposium on high temperature mass spectrometry*, Ivanovo, Russia, July 7-10, **2003**.

2. Aleshina, V. E.; Ponomarev, D. B.; Borshchevsky, A. Ya.; Sidorov, L. N.; Goryunkov, A. A.; Astakhov, A. V.; **Shustova, N. B.** “Solid-phase reactions of C₆₀ as a method for generation of gaseous thermal anions of fullerene derivatives” *6th Biennial International Workshop, Fullerenes and Atomic Clusters IWFAC’2007*, St. Petersburg, Russia, June 30–July 4, **2003**.

1. Borshchevsky, A. Ya.; Alyoshina, V. E.; Boltalina, O. V.; Sidorov, L. N.; Astakhov, A. A.; **Shustova, N. B.** “Full Scale Mass Spectrometric Study of C₆₀ Fluorination With Some Binary and Complex Metal Fluorides: Stationary Kinetics and a Model For Solid state Reactions” *5th Biennial International Workshop, Fullerenes and Atomic Clusters IWFAC’2007*, St. Petersburg, Russia, July2–July 6, **2001**.

Synergetic Professional Activities

Teaching	Development of the new multidisciplinary course “Materials for Renewable Energy”; a member of the Safety, Admission, NMR Center, and Solvent Committees; an instructor of General Chemistry; an academic adviser of 20 first- and second-year undergraduate students.
Peer Reviewer	Journal of American Chemical Society, Angewandte Chemie International Edition, Chemical Science, Chemical Communications, ACS Nano, Inorganic Chemistry Frontiers, Materials Horizons, Applied Materials and Interfaces, Inorganic Chemistry, Chemistry–A European Journal, RSC Advances, Crystal Growth & Design, CrystEngComm, RSC Advances, Dalton Transaction, Journal of Materials Chemistry C, NSF, Research Corporation for Science Advancement, Army Research Office, China and Germany Research Grants.
Outreach	The director of the Carolinian Women-in-Science (Wi-Sci) Support Network, which was created by the PI to increase the number of female scientists in STEM disciplines; Science and Engineering Fair judge; a participant of Sustainability Research and Practice Showcase; mentor of the female high-school students

Previous Collaborators

Prof. Mark Baldo (Massachusetts Institute of Technology), Prof. Paige Buchanan (University of Southern Mississippi), Prof. Donna Chen (University of South Carolina), Dr. Yu.-Sheng. Chen (Argonne National Laboratory), Prof. Andrew Greytak (University of South Carolina), Prof Robert Griffin (Massachusetts Institute of Technology), Dr. Jeanette Krause (University of Cincinnati), Dr. Alexey Popov (Leibniz Institute for Solid State Materials Research, Germany), Prof. Konrad Seppelt (Free University, Germany), Prof. Steven Stevenson (Indiana-Purdue University at Fort Wayne).