**Curriculum Vitae**

**Pavle V. Radovanovic**

Associate Professor, Department of Chemistry, University of Waterloo

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**AFFILIATIONS**

Department of Chemistry, University of Waterloo

Waterloo Institute for Nanotechnology (WIN)

Waterloo Institute for Sustainable Energy (WISE)

**EDUCATION**

Ph.D., Dual Degree in Chemistry and Nanotechnology, University of Washington, Seattle, 2004

Technology Entrepreneurship Certificate, School of Business, University of Washington, 2003

M.S., Chemistry, Georgetown University, 1999

Dipl. Chem., University of Novi Sad, Serbia, 1996

**EMPLOYMENT**

2012-date: Associate Professor, Department of Chemistry, University of Waterloo

2006-2012: Assistant Professor, Department of Chemistry, University of Waterloo

2004-2006: Postdoctoral Fellow, Department of Chemistry and Chemical Biology, Harvard University

**AWARDS AND HONORS:**

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| 2015 | *Chemistry of Materials* Reviewer Award, Chemistry of Materials Editorial Board, American Chemical Society |
| 2014 | Canadian National Committee for the International Union of Pure and Applied  Chemistry (CNC-IUPAC) Award |
| 2013 | Invited Article for the Journal of Materials Chemistry 2014 Emerging  Investigators Themed Issue (selected young investigators “with potential to influence future directions in materials chemistry”) |
| 2013-2017 | Canada Research Chair, Natural Sciences and Engineering Research  Council of Canada (renewed) |
| 2012 | Mobility Award, Office of Science and Technology, French Ministry of Foreign  Affairs and Embassy of France in Canada |
| 2012 | Idea to Innovation Award, Natural Sciences and Engineering Research  Council of Canada |
| 2011-2016 | Early Researcher Award, Ontario Ministry of Research and Innovation |
| 2008-2012 | Canada Research Chair, Natural Sciences and Engineering Research  Council of Canada |
| 2003-2004 | David M. Ritter Fellowship for Excellence in Graduate Research,  Department of Chemistry, University of Washington |
| 2003 | Silver Award, Materials Research Society |
| 2003 | Sigma Xi Scientific Society Graduate Research Award |
| 2000-2003 | NSF-IGERT Fellowship, National Science Foundation and  Center for Nanotechnology at the University of Washington |
| 1996 | Annual Award for Exceptional Academic Achievements,  Faculty of Natural Sciences and Mathematics, University of Novi Sad |
| 1995 | Presidential Award for Outstanding Academic Achievements,  Office of the President, University of Novi Sad |

**Research and Scholarship**

**Research Topics**

My group uses interdisciplinary approach to investigate multifunctionality at the nanoscale, and the application of multifunctional nanostructures for energy efficient and sustainable technologies:

Fundamental science:

* Growth and phase transformation of complex oxide nanostructures and their phase-dependent properties
* Defect formation and interactions in reduced dimensions: manipulating optical, electrical, and catalytic properties of nanomaterials
* Unconventional plasmonic nanostructures: new approaches to photocatalysis and sensing
* Expanding electrical and magnetic properties of nanostructures: spintronics and multiferroics
* Hybrid nanostructures as an alternative route to multifunctionality and property modification

Applications and devices:

* Energy efficient solid-state lighting and light emitting devices
* Solar fuel production and environmental remediation
* Thermal and chemical sensors

**List of Publications**

1. Fernandes, B.; Stanish, P. C.; Miskovic, Z. L.; Radovanovic, P. V. “Photoluminescence Decay Dynamics in γ-Ga2O3 Nanocrystals: the Role of Exclusion Distance at Short Time Scales”, submitted.
2. Ghodsi, V; Jin, S.; Byers, J. C.; Pan, Y.; Radovanovic, P. V. “Anomalous Photocatalytic Activity of γ-Phase Ga2O3 Enabled by the Long-Lived Defect Trap States”, submitted.
3. Garnet, N. S.; Ghodsi, V.; Hutfluss, L. N.; Yin, P.; Hegde, M.; Radovanovic, Pavle V. “[Probing the Role of Dopant Oxidation State in the Magnetism of Diluted Magnetic Oxides Using Fe-​Doped In2O3 and SnO2 Nanocrystals](https://scifinder.cas.org/scifinder/references/answers/998F61D0X86F350AFX36A90AED44DA5BDD52:99C37883X86F350AFX69D21B6911DB264DEB/1.html?nav=eNpb85aBtYSBMbGEQcXS0tnY3MLCOMLCzM3Y1MDRLcLM0sXI0MnM0tDQxcnIzMTF1QmoNKm4iEEwK7EsUS8nMS9dzzOvJDU9tUjo0YIl3xvbLZgYGD0ZWMsSc0pTK4oYBBDq_Epzk1KL2tZMleWe8qCbiYGhooCBgYELaGBGCYO0Y2iIh39QvKdfmKtfCJDh5x_vHuQfGuDp517CwJmZW5BfVAI0obiQoY6BGaiPASianVsQlFqIIgoATG47bQ&key=caplus_2017:22402&title=UHJvYmluZyB0aGUgUm9sZSBvZiBEb3BhbnQgT3hpZGF0aW9uIFN0YXRlIGluIHRoZSBNYWduZXRpc20gb2YgRGlsdXRlZCBNYWduZXRpYyBPeGlkZXMgVXNpbmcgRmUtRG9wZWQgSW4yTzMgYW5kIFNuTzIgTmFub2NyeXN0YWxz&launchSrc=reflist&pageNum=1&sortKey=ACCESSION_NUMBER&sortOrder=DESCENDING)” *J. Phys. Chem. C*, **2017**, 121, 1918-1927.
4. Stanish, P. C.; Radovanovic, P. V. “[Surface-​Enabled Energy Transfer in Ga2O3-​CdSe​/CdS Nanocrystal Composite Films: Tunable All-​Inorganic Rare Earth Element-​Free White-​Emitting Phosphor](https://scifinder.cas.org/scifinder/references/answers/998F61D0X86F350AFX36A90AED44DA5BDD52:99C37883X86F350AFX69D21B6911DB264DEB/4.html?nav=eNpb85aBtYSBMbGEQcXS0tnY3MLCOMLCzM3Y1MDRLcLM0sXI0MnM0tDQxcnIzMTF1QmoNKm4iEEwK7EsUS8nMS9dzzOvJDU9tUjo0YIl3xvbLZgYGD0ZWMsSc0pTK4oYBBDq_Epzk1KL2tZMleWe8qCbiYGhooCBgYELaGBGCYO0Y2iIh39QvKdfmKtfCJDh5x_vHuQfGuDp517CwJmZW5BfVAI0obiQoY6BGaiPASianVsQlFqIIgoATG47bQ&key=caplus_2016:1364936&title=U3VyZmFjZS1FbmFibGVkIEVuZXJneSBUcmFuc2ZlciBpbiBHYTJPMy1DZFNlL0NkUyBOYW5vY3J5c3RhbCBDb21wb3NpdGUgRmlsbXM6IFR1bmFibGUgQWxsLUlub3JnYW5pYyBSYXJlIEVhcnRoIEVsZW1lbnQtRnJlZSBXaGl0ZS1FbWl0dGluZyBQaG9zcGhvcg&launchSrc=reflist&pageNum=1&sortKey=ACCESSION_NUMBER&sortOrder=DESCENDING)” *J. Phys. Chem. C*, **2016,** *120*, 19566-19573.
5. Ghodsi, V.; Layek, A.; Yildirim, B.; Hegde, M.; Radovanovic, P. V. “Native Defects Determine Phase-Dependent Photoluminescence Behavior of Eu2+ and Eu3+ in In2O3 Nanocrystals” *Chem. Commun.*, **2016**, *52*, 4353-4356.
6. Stanish, P. C.; Radovanovic, P. V. “Energy Transfer between Conjugated Colloidal Ga2O3 and CdSe/CdS Core/Shell Nanocrystals for White Light Emitting Applications” *Nanomaterials*, **2016**, *6*, 32. **Invited feature article**.
7. Layek, A.; Yildirim, B.; Ghodsi, V.; Hutfluss, L. N.; Hegde, M.; Wang, T.; Radovanovic, P. V. “[Dual Europium Luminescence Centers in Colloidal Ga2O3 Nanocrystals: Controlled in Situ Reduction of Eu(III) and Stabilization of Eu(II)](https://scifinder.cas.org/scifinder/references/answers/D7F3CA1CX86F35012X6E3949711A1954FBF1:D7F3FE26X86F35012X20A4B3CE1EB391B6FC/1.html?nav=eNpb85aBtYSBMbGEQcXF3M3YzdXILMLCzM3Y1MDQKMLIwNHEydjZ1dDVydjS0MnMzRmoNKm4iEEwK7EsUS8nMS9dzzOvJDU9tUjo0YIl3xvbLZgYGD0ZWMsSc0pTK4oYBBDq_Epzk1KL2tZMleWe8qCbiYGhooCBgYEZaGBGCYO0Y2iIh39QvKdfmKtfCJDh5x_vHuQfGuDp517CwJmZW5BfVAI0obiQoY6BGaiPASianVsQlFqIIgoAWec7ew&key=caplus_2015:1378245&title=RHVhbCBFdXJvcGl1bSBMdW1pbmVzY2VuY2UgQ2VudGVycyBpbiBDb2xsb2lkYWwgR2EyTzMgTmFub2NyeXN0YWxzOiBDb250cm9sbGVkIGluIFNpdHUgUmVkdWN0aW9uIG9mIEV1KElJSSkgYW5kIFN0YWJpbGl6YXRpb24gb2YgRXUoSUkp&launchSrc=reflist&pageNum=1&sortKey=ACCESSION_NUMBER&sortOrder=DESCENDING)” *Chem. Mater.*, **2015**, *27*, 6030-6037.
8. Hegde, M.; Hosein, I. D.; Radovanovic, P. V. “[Molecular Origin of Valence Band Anisotropy in Single β-​Ga2O3 Nanowires Investigated by Polarized X-​ray Absorption Imaging](https://scifinder.cas.org/scifinder/references/answers/D75F9613X86F35012X7C83109C19B1B641F1:D75FD542X86F35012X1BD4DE862DA4B6E319/2.html?nav=eNpb85aBtYSBMbGEQcXF3NTNxdTEKMLCzM3Y1MDQKMLQycXExdXCzMjF0cTJzNXY0BKoNKm4iEEwK7EsUS8nMS9dzzOvJDU9tUjo0YIl3xvbLZgYGD0ZWMsSc0pTK4oYBBDq_Epzk1KL2tZMleWe8qCbiYGhooCBgYEZaGBGCYO0Y2iIh39QvKdfmKtfCJDh5x_vHuQfGuDp517CwJmZW5BfVAI0obiQoY6BGaiPASianVsQlFqIIgoAS_A7Zg&key=caplus_2015:1203102&title=TW9sZWN1bGFyIE9yaWdpbiBvZiBWYWxlbmNlIEJhbmQgQW5pc290cm9weSBpbiBTaW5nbGUgzrItR2EyTzMgTmFub3dpcmVzIEludmVzdGlnYXRlZCBieSBQb2xhcml6ZWQgWC1yYXkgQWJzb3JwdGlvbiBJbWFnaW5n&launchSrc=reflist&pageNum=1&sortKey=ACCESSION_NUMBER&sortOrder=DESCENDING)” *J. Phys. Chem. C*, **2015**, *119*, 17450-17457.

1. Layek, A.; Stanish, P. C.; Chirmanov, V.; Radovanovic, P. V. “Hybrid ZnO-Based Nanoconjugate for Efficient and Sustainable White Light Generation” *Chem. Mater.*, **2015**, *27*, 1021-1030.
2. Chirmanov, V.; Stanish, P. C.; Layek, A.; Radovanovic, P. V. “Distance-Dependent Energy Transfer between Ga2O3 Nanocrystal Defect States and Conjugated Organic Fluorophores in Hybrid White Light-Emitting Nanophosphors” *J. Phys. Chem. C*, **2015**, *119*, 5687-5696.
3. Hutfluss, L. N.; Radovanovic, P. V. “Controlling the Mechanism of Phase Transformation of Colloidal In2O3 Nanocrystals” *J. Am. Chem. Soc.*, **2015**, *137*, 1101-1108.
4. Sun, X.; Radovanovic, P. V.; Cui, B. “Advances in Spinel Li4Ti5O12 Anode Material for Lithium-Ion Batteries” *New J. Chem.*, **2015**, *39*, 38-63.
5. Farvid, S. S.; Sabergharesou, T.; Hutfluss, L. N.; Hegde, M.; Prouzet, E.; Radovanovic, P. V. “Evidence of Charge-Transfer Ferromagnetism in Transparent Diluted Magnetic Oxide Nanocrystals: Switching the Mechanism of Magnetic Interactions” *J. Am. Chem. Soc.*, **2014**, *136*, 7669−7679.

1. Sun, X.; Hedge, M.; Wang, J.; Zhang, Y.; Liao, J.; Radovanovic, P. V.; Cui, B. “Structural Analysis and Electrochemical Studies of Carbon Coated Li4Ti5O12 Particles Used as Anode for Lithium Ion Battery” *ESC Transactions*, **2014**, *58*, 79-88.

1. Hosein, I. D.; Hegde, M.; Radovanovic, P. V. “Morphology and Faceting of One-Dimensional Gallium Oxide Nanostructures” *J. Cryst. Growth*, **2014**, *396*, 24-32.
2. Sun, X.; Hegde, M.; Wang, J.; Zhang, Y.; Radovanovic, P. V.; Cui, B. “Structure and Electrochemical Properties of Spinel Li4Ti5O12 Nanocomposites as Anode for Lithium-Ion Battery” *Int. J. Electrochem. Sci.,* **2014**, *9*,1583-1596.
3. Wang, T.; Layek, A.; Radovanovic, P. V. “The Correlation between Native Defects and Dopants in Colloidal Lanthanide-Doped Ga2O3 Nanocrystals: A Path to Enhancing Functionality and Controlling Optical Properties” *J. Mater. Chem. C*, **2014**, *2*, 3212-3222. Invited paper for **2014 Emerging Investigators Themed Issue**.
4. Wang, T.; Chirmanov, V.; Chiu, W. H. M; Radovanovic, P. V. “Generating Tunable White Light by Resonance Energy Transfer in Transparent Dye-Conjugated Metal Oxide Nanocrystals” *J. Am. Chem. Soc.*, **2013**, *135*, 14520-14523.

1. Hegde, M., Hosein, I. D., Radovanovic, P. V. “Introducing and Manipulating Magnetic Dopant Exchange Interactions in III-V Semiconductor Nanowires” *SPIE Int. Soc. Opt. Eng.*, **2013**, *8813*, 8813-97. **Invited paper**.
2. Sabergharesou, T.; Wang, T.; Radovanovic, P. V. "Electronic Structure and Magnetic Properties of sub-3 nm Diameter Mn-Doped SnO2 Nanocrystals and Nanowires" *Appl. Phys. Lett.* **2013**, *103*, 012401/1-5.
3. Sun, X.; Bai, X.; Wang, Y.; Hegde, M.; Hosein, I. D.; Radovanovic, P. V.; Guo, Y. G.; Cui, B. “[Comparison of structural analysis and electrochemical studies of C-Li4Ti5O12 and CNT-Li4Ti5O12 nanocomposites particles used as anode for lithium ion battery](https://scifinder.cas.org/scifinder/references/answers/74E1554CX86F350ACX51B7F7B04B165FDB24:74E89468X86F350ACX2E6D23384EE9E29689/1.html?nav=eNpVkLEvQ0Ecx399iAhDWUSEGAxCck_aqteQUPpo4-VVFBGLnPZSj_fePXfXahdhwGAxKIuhg42d-BMkRmGRiJ1VYnKvJeKmS36f-9z3971-hyYBASygfzSia7FIVFvRojPhkeH49EpIjyZC4bAW0fWYHopFtZhE1zmD9k1cxMjGbh6lXEHyhHW8VS8_9480BQIpaCpiu0BKDIJ_nFlw1gk7vK70tJ6-HisAJQ8AGqVwQ0B3fGkxmV5YS5nLurkoL2Z6bXYhvTSfMmcFtFiOR5mQBr4Nu9Ag34EAhdH_SaYotQl2H_rY3uPF14dMsvqbxPN5ziU_RFkeZTFHlGcxQ5ywImEoRx1suShLHYe6KCM_y3gkO35yVe05f71XQDGgzSmnWc5ysT1HygIGDClSpUitidS6SK2L1LpIleSYAc1O2TdyAV2Gn1YtCMtWDcvdIrkk5hsZIsZKnifDddaW8cfo3_jZflqtvAz2-q39rlyjfuZ3iYPK2e1NpMFvdadN1hOcmITaKX0DLMGd6g&key=caplus_2013:1238136&title=Q29tcGFyaXNvbiBvZiBzdHJ1Y3R1cmFsIGFuYWx5c2lzIGFuZCBlbGVjdHJvY2hlbWljYWwgc3R1ZGllcyBvZiBDLUxpNFRpNU8xMiBhbmQgQ05ULUxpNFRpNU8xMiBuYW5vY29tcG9zaXRlcyBwYXJ0aWNsZXMgdXNlZCBhcyBhbm9kZSBmb3IgbGl0aGl1bSBpb24gYmF0dGVyeQ&launchSrc=reflist&p=1)” *Mater. Res. Soc. Symp. Proc.*, **2013**, *1541*, mrss13-1541-f09-01.
4. Farvid, S. S.; Hegde, M.; Radovanovic, P. V. “ Influence of the Host Lattice Electronic Structure on Dilute Magnetic Interactions in Polymorphic Cr(III)-Doped In2O3 Nanocrystals” *Chem. Mater.*, **2013**, *25*, 233-244.
5. Sun, X.; Iqbal, A.; Hosein, I. D.; Yacaman, M. J.; Tang, Z. Y.; Radovanovic, P. V.; Cui, B. "Structure Characterization and Electrochemical Characteristics of Carbon Nanotube-Spinel Li4Ti5O12 Nanoparticles" *Mater. Res. Soc. Symp. Proc.*, **2012**, *1440*, mrss12-1440-o09-34.
6. Hegde, M.; Wang, T.; Miskovic, Z. L.; Radovanovic, P. V. “Origin of Size-Dependent Photoluminescence Decay Dynamics in Colloidal γ-Ga2O3 Nanocrystals” *Appl. Phys. Lett.*, **2012**, *100*, 141903.
7. Farvid, S. S.; Radovanovic, P. V. “Phase Transformation of Colloidal In2O3 Nanocrystals Driven by the Interface Nucleation Mechanism: A Kinetic Study” *J. Am. Chem. Soc.*, **2012**, *134*, 7015-7024.
8. Ju, L.; Sabergharesou, T.; Stamplecoskie, K. G.; Hegde, M.; Wang, T.; Combe, N.; Wu H.; Radovanovic, P. V. “Interplay between Size, Composition and Phase Transition of Nanocrystalline Cr3+-Doped BaTiO3 as a Path to Multiferroism in Perovskite-Type Oxides” *J. Am. Chem. Soc.*, **2012,** *134*, 1136-1146.
9. Hegde, M.; Farvid, S. S.; Radovanovic, P. V. “Electronic Structure and Magnetism of Mn Dopants in GaN Nanowires: Ensemble vs Single Nanowire Measurements” *Appl. Phys. Lett.*, **2011**, *99*, 222504.
10. Wang, T.; Radovanovic, P. V. “Size-Dependent Electron Transfer and Trapping in Strongly Luminescent Colloidal Gallium Oxide Nanocrystals” *J. Phys. Chem. C*, **2011**, *115*, 18473-18478.
11. Hegde, M.; Farvid, S. S.; Hosein, I. D.; Radovanovic, P. V. "Tuning Manganese Dopant Spin Interactions in Single GaN Nanowires at Room Temperature" *ACS Nano*, **2011**, *5*, 6365-6373.
12. Wang, T.; Radovanovic, P. V. "*In situ* Enhancement of the Blue Photoluminescence of Colloidal Ga2O3 Nanocrystals by Promotion of Defect Formation in Reducing Conditions" *Chem. Commun.*, **2011**, *47*, 7161-7163.
13. Farvid, S. S.; Wang, T.; Radovanovic, P. V. "Colloidal Gallium Indium Oxide Nanocrystals: A Multifunctional Light Emitting Phosphor Broadly Tunable by Alloy Composition" *J. Am. Chem. Soc.*, **2011**, *133*, 6711-6719.
14. Wang, T.; Radovanovic, P. V. "Free Electron Concentration in Colloidal Indium Tin Oxide Nanocrystals Determined by Their Size and Structure" *J. Phys. Chem. C*, **2011**, *115*, 406-413.
15. Farvid, S. S.; Wang, T.; Radovanovic, P. V. "Spectroscopic and Magnetic Properties of Colloidal Transition Metal-Doped Transparent Conducting Oxide Nanocrystals as Building Blocks for Spintronic Materials" *SPIE Int. Soc. Opt. Eng.*, **2010**, *7760*, 77600B. **Invited paper**.
16. Wang, T.; Farvid, S. S.; Abulikemu, M.; Radovanovic, P. V. "Size-Tunable Phosphorescence in Colloidal Metastable γ-Ga2O3 Nanocrystals" *J. Am. Chem. Soc.*, **2010**, *132*, 9250-9252.

1. Dave, N.; Pautler, B. G.; Farvid, S. S.; Radovanovic, P. V. "Synthesis and Surface Control of Colloidal Cr3+-Doped SnO2 Transparent Magnetic Semiconductor Nanocrystals" *Nanotechnology*, **2010**, *21*, 134023.
2. Farvid, S. S.; Dave, N.; Radovanovic, P. V. “Phase-Controlled Synthesis of Colloidal In2O3 Nanocrystals via Size-Structure Correlation” *Chem. Mater.*, **2010**, *22*, 9-11.
3. Radovanovic, P. V.“Keeping Track of Dopants” *Nature Nanotech.* **2009**, *4*, 282-283.
4. Farvid, S. S.; Dave, N.; Wang, T.; Radovanovic, P. V. “Dopant-Induced Manipulation of the Growth and Structural Metastability of Colloidal Indium Oxide Nanocrystals**”** *J. Phys. Chem. C*, **2009**, *113*, 15928-15933
5. Farvid, S. S.; Ju, L.; Worden, M.; Radovanovic, P. V. “Colloidal Chromium-Doped In­2O3 Nanocrystals as Building Blocks for High-*T*C Ferromagnetic Transparent Conducting Oxide Structures” *J. Phys. Chem. C*, **2008**, *112*, 17755-17759.
6. Stamplecoskie, K. G.; Ju, L.; Farvid, S. S.; Radovanovic, P. V. **“**General Control of Transition-Metal-Doped GaN Nanowire Growth: Toward Understanding the Mechanism of Dopant Incorporation” *Nano Lett.*, **2008**, *8*, 2674-2681.
7. Radovanovic, P. V.; Stamplecoskie, K. G.; Pautler, B. G. “Dopant Ion Concentration Dependence of Growth and Faceting of Manganese-Doped GaN Nanowires” *J. Am. Chem Soc.*, **2007**, *129*, 10980-10981.
8. Radovanovic, P. V.; Barrelet, C. J.; Gradecak, S.; Qian, F.; Lieber, C. M. “General Synthesis of Manganese-Doped II-VI and III-V Semiconductor Nanowires” *Nano Lett.*, **2005**, *5*, 1407-1411.
9. Archer, P. I.; Radovanovic, P. V.; Heald, S. M.; Gamelin, D. R. “Low-Temperature Activation and Deactivation of High-Curie-Temperature Ferromagnetism in a New Diluted Magnetic Semiconductor: Ni2+-Doped SnO2” *J. Am. Chem. Soc.*, **2005**, *127*, 14479-14487.
10. Radovanovic, P. V.; Gamelin, D. R. “High Temperature Ferromagnetism in Nanocrystalline Ni2+-Doped ZnO” *Phys. Rev. Lett.*, **2003**, *91*, 157202.
11. Radovanovic, P. V.; Norberg, N. S.; McNally, K. E.; Gamelin, D. R. “Colloidal Transition-Metal-Doped ZnO Quantum Dots” *J. Am. Chem. Soc*. **2002**, *124*, 15192-15193.
12. Radovanovic, P. V.; Gamelin, D. R. “Magnetic Circular Dichroism Spectroscopy of Co2+:CdS Diluted Magnetic Semiconductor Quantum Dots ” *SPIE Int. Soc. Opt. Eng.*, **2002**, *4809*, 51-61.
13. Radovanovic, P. V.; Gamelin, D. R. “Isocrystalline Core/Shell Synthesis of High Quality Diluted Magnetic Semiconductor Quantum Dots: Ligand-Field Spectroscopic Studies” *SPIE Int. Soc. Opt. Eng.*, **2002**, *4807*, 223-231.
14. Radovanovic, P. V.; Gamelin, D. R. “Electronic Absorption Spectroscopy of Cobalt Ions in Diluted Magnetic Semiconductor Quantum Dots: Demonstration of an Isocrystalline Core/Shell Synthetic Method” *J. Am. Chem. Soc*. **2001**, *123*, 12207-12214.

***Chapters in Books***

1. Radovanovic, P. V. Defect-Induced Optical and Magnetic Properties in Transparent Conducting Oxide Nanostructures. In *Functional Metal Oxides: New Science and Novel Applications*. Ogale, S. B.; Venkatesan, T. V.; Blamire, M. (Editors); Wiley-VCH: Weinheim, **2013**, *Chapter 5*, pp. 163-194. **Invited book chapter**.

***Books/Patents***

1. Radovanovic, Pavle “Light Emitting Materials and Systems and Method for Production Thereof” *U.S. Patent Application* (Publication No. US 20160102841); published on April 14, 2016.
2. Radovanovic, Pavle; Wang, Ting “Light Emitting Material and Method for Production Thereof” *U.S. Patent Application* (Publication No.201501084060)**;** published on April 23, 2015.

***Other Publications***

1. Radovanovic, P. V. “[Defect-Mediated Manipulation of Excited-State Reactions at the Metal Oxide Surfaces in Solution](https://scholar.google.ca/citations?view_op=view_citation&hl=en&user=QIVsKg4AAAAJ&cstart=40&citation_for_view=QIVsKg4AAAAJ:mB3voiENLucC)”, **2016**, 60th Annual Report on Research Under Sponsorship of The American Chemical Society, 53856-ND4.
2. Sabergharesou, T.; Wang, T.; Ling, J.; Radovanovic, P. V. “Electronic Structure and Magnetic Properties of sub-3 nm Diameter Mn-Doped SnO2 Nanocrystals and Nanowires” *Canadian Light Source Research Report*, **2013**, pp. 8-10.

**Invited Addresses**

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| 2017 | McMaster University, Department of Chemistry |
| 2017 | University of Guelph, Department of Chemistry |
| 2017 | Dalhousie University, Department of Chemistry |
| 2016 | Georgia Institute of Technology, Department of Chemistry |
| 2016 | 6th International Conference and Exhibition on Materials Science and Engineering,  Atlanta, GA |
| 2016 | 9th Nano Congress for Next Generation, Conference Series, Manchester, UK (plenarylecture) |
| 2016 | Emerging Technologies Meeting: Communications, Microsystems, Optoelectronics,  Sensors (ETCMOS), Montreal, QC |
| 2016 | Energy, Materials, Nanotechnology (EMN) Meeting on Nanowires, Amsterdam,  Netherlands |
| 2015 | YoungChem 2015, International Congress organized by Chemical Scientific Society  Flogiston, the largest chemistry student organization in Europe, Krakow, Poland  (keynote lecture). |
| 2015 | American Chemical Society Meeting, Boston, MA (August 16-20, 2015) |
| 2015 | Canada-Taiwan Nanotechnology Workshop, Waterloo, ON |
| 2014 | Beijing Normal University, Department of Chemistry |
| 2014 | Beijing University of Science and Technology, School of Mathematics and Physics |
| 2014 | Beijing Institute of Technology (BIT), Department of Materials Science and Engineering |
| 2014 | 4th Annual World Congress of Nanoscience & Technology (NanoS&T-2014),  Qingdao, China |
| 2014 | Collaborative Conference on 3D and Materials Research (CC3DMR), Incheon/Seoul,  South Korea |
| 2014 | Canadian Chemistry Conference (Canadian Society for Chemistry), Symposium on  Surface Chemistry of Soft Materials and Photonics, Vancouver, BC |
| 2014 | Canadian Chemistry Conference (Canadian Society for Chemistry), Symposium on  Nanomaterials and Nanostructured Surfaces, Vancouver, BC |
| 2014 | Canadian Chemistry Conference (Canadian Society for Chemistry), Symposium on  Nanomaterials for Stretchable, Flexible and Printable Electronics, Vancouver, BC |
| 2014 | IUPAC International Conference on Applied Chemistry, Suva, Fiji |
| 2013 | 3rd International Conference on Advanced Nanoscience and Nanotechnology (ICANN  2013), Guwahati-Assam, India |
| 2013 | SPIE Optics & Photonics (NanoScience and Engineering Conference) Spintronics VI  Symposium, San Diego, CA |
| 2013 | 16th Canadian Semiconductor Science and Technology Conference, Thunder Bay, ON |
| 2012 | Institut Polytechnique de Grenoble (INP-Grenoble), Laboratoire des Materiaux et du  Genie Physique, Grenoble, France |
| 2012 | Universite de Bordeaux 1, Department of Chemistry |
| 2012 | College de France, Laboratoire de Chimie de la Matière Condensée de Paris, Paris,  France |
| 2012 | American Chemical Society Meeting, Philadelphia, PA (August 19-23, 2012) |
| 2012 | CMOS Emerging Technologies Meeting, Vancouver, BC |
| 2012 | Canadian Chemistry Conference (Canadian Society for Chemistry), Surface Science  Division Symposium, Calgary, AB |
| 2012 | Institute of Advanced Functional Materials, University of Bordeaux, France |
| 2012 | Emerging Technology Workshop, Suzhou Industrial Park, Suzhou, China |
| 2012 | Institute of Functional Nano & Soft Materials, Soochow University, Suzhou, China |
| 2012 | Max-Planck Insitut für Intelligente Systeme, Stuttgart, Germany |
| 2011 | XEROX Corporation, Research Centre of Canada |
| 2011 | WIN-Soochow Nanotechnology Workshop, Waterloo, ON |
| 2011 | WIN-Bordeaux/Aquitaine Workshop, Waterloo, ON |
| 2011 | University at Buffalo (The State University of New York), Department of Physics |
| 2011 | University of Western Ontario, Department of Chemistry |
| 2010 | University of Washington, Department of Chemistry |
| 2010 | Simon Fraser University, Department of Chemistry |
| 2010 | NW 2010 (International Workshop on Growth and Physics of Nanowires), Crete,  Greece |
| 2010 | University of Guelph, Department of Physics |
| 2010 | SPIE Optics & Photonics (NanoScience and Engineering Conference), Spintronics III  Symposium, San Diego, CA |
| 2010 | Canadian Light Source (CLS), University of Saskatchewan |
| 2010 | University of Guelph, Department of Chemistry |
| 2009 | Wilfrid Laurier University, Department of Chemistry |
| 2009 | Joint “Nano and Giga Challenges in Electronics, Photonics and Renewable Energy  2009” and “14th Canadian Semiconductor Technology Conference”, Hamilton, ON |
| 2009 | 92nd Canadian Chemistry Conference (Canadian Society for Chemistry), Symposium  on Nanostructured Surfaces and the Surfaces of Nanostructures, Hamilton, ON |
| 2007 | Emerging Materials Knowledge Nanotechnology Workshop |

**Research Funding Record**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Investigators** | | **Funding Agency and Program** | **Amount**  **(per annum)** | **Project**  **Period** |
| Pavle  Radovanovic | | NSERC, Research Tools and Instruments | 150,000 | 2016/2017 |
| Pavle  Radovanovic | | NSERC, Engage Grant | 25,000 | 2016 |
| Pavle  Radovanovic | | NSERC, Discovery Grant | 59,000 | 2015-2020 |
| Pavle Radovanovic | | Collaborative Waterloo-Bordeaux  Research Grants | 50,000 | 2015-2017 |
| Pavle Radovanovic | | NSERC, Idea-to-Innovation Market  Assessment Grant | 14,990 | 2015/2016 |
| Pavle  Radovanovic | | ACS-Petroleum Research Fund, New  Directions Grant | 50,000 | 2015-2016 |
| Pavle  Radovanovic | | Ontario Centers of Excellence, Market  Readiness, Phase I | 50,000 | 2014/2015 |
| Pavle  Radovanovic | | NSERC, Research Tools and  Instruments | 117,370 | 2013/2014 |
| Pavle  Radovanovic | | NSERC, Canada Research Chair  Program (renewed) | 100,000 | 2013-2017 |
| Pavle  Radovanovic | Canadian Light Source, User  Operational Grant | 26,000 | 2013-2014 |
| Pavle  Radovanovic | C4 Consortium, Proof-of-Principle  Grant | 35,000 | 2013/2014 |
| Pavle  Radovanovic | NSERC, Idea to Innovation Award | 122,250 | 2012/2013 |
| Pavle  Radovanovic | Ontario Ministry of Research and  Innovation, Early Researcher Award | 30,000 | 2011-2016 |
| Pavle  Radovanovic | NSERC, Discovery Grant | 40,000 | 2010-2015 |
| Pavle  Radovanovic | Canadian Light Source, User  Operational Grant | 72,000 | 2010-2011 |
| Pavle  Radovanovic | NSERC, Canada Research Chair  Program | 100,000 | 2008-2012 |
| Pavle  Radovanovic | Canada Foundation for Innovation,  Leaders Opportunity Fund | 68,333 | 2008-2010 |
| Pavle  Radovanovic | Ontario Research Fund, Research  Infrastructure | 68,333 | 2008-2010 |
| Pavle  Radovanovic | NSERC, Discovery Grant | 36,500 | 2007-2010 |
| Pavle  Radovanovic | NSERC, Research Tools and  Instruments | 148,900 | 2007/2008 |

**Teaching Activities**

**Record of Courses Taught**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Term** | **Course** | **Title** | **Grad/Undergrad** | **Load** |
| Winter 2007 | CHEM 452 | Special Topics in Physical Chemistry (Electronic Structure of Bulk and Nanoscale Materials) | Undergraduate | 100 % |
| Fall 2007 | CHEM 356 | Introduction to Quantum Mechanics | Undergraduate | 100 % |
| Fall 2007 | NE 101 | Class Professor Seminar | Undergraduate | N/A |
| Winter 2008 | NE 102 | Class Professor Seminar | Undergraduate | N/A |
| Fall 2008 | NE 352 | Surfaces and Interfaces | Undergraduate | 100 % |
| Fall 2008 | NE 201 | Class Professor Seminar | Undergraduate | N/A |
| Spring 2009 | NE 202 | Class Professor Seminar | Undergraduate | N/A |
| Fall 2009 | CHEM 356 | Introduction to Quantum Mechanics | Undergraduate | 100 % |
| Spring 2010 | NE 301 | Class Professor Seminar | Undergraduate | N/A |
| Fall 2010 | NE 302 | Class Professor Seminar | Undergraduate | N/A |
| Winter 2011 | NANO 701 | Fundamentals of Nanotechnology: Nanoscale Surfaces and Interfaces | Graduate | 100 % |
| Winter 2011 | NANO 702 | Nanotechnology Tools: Spectromicroscopy | Graduate | 100 % |
| Fall 2011 | CHEM 356 | Introduction to Quantum Mechanics | Undergraduate | 100 % |
| Fall 2011 | NE 401 | Class Professor Seminar | Undergraduate | N/A |
| Winter 2012 | NANO 701 | Fundamentals of Nanotechnology: Nanoscale Surfaces and Interfaces | Graduate | 100 % |
| Winter 2012 | NANO 702 | Nanotechnology Tools: Spectromicroscopy | Graduate | 100 % |
| Winter 2012 | NE 402 | Class Professor Seminar | Undergraduate | N/A |
| Winter 2013 | NANO 701 | Fundamentals of Nanotechnology: Nanoscale Surfaces and Interfaces | Graduate | 100 % |
| Winter 2013 | NANO 702 | Nanotechnology Tools: Spectromicroscopy | Graduate | 100 % |
| Fall 2013 | NE 352 | Surfaces and Interfaces | Undergraduate | 100 % |
| Winter 2014 | NANO 701 | Fundamentals of Nanotechnology: Nanoscale Surfaces and Interfaces | Graduate | 100 % |
| Winter 2014 | NANO 702 | Nanotechnology Tools: Spectromicroscopy | Graduate | 100 % |
| Winter 2015 | NANO 701 | Fundamentals of Nanotechnology: Nanoscale Surfaces and Interfaces | Graduate | 100 % |
| Winter 2015 | NANO 702 | Nanotechnology Tools: Spectromicroscopy | Graduate | 100 % |
| Fall 2015 | NE 232 | Quantum Mechanics | Undergraduate | 100 % |
| Winter 2016 | NANO 701 | Fundamentals of Nanotechnology: Nanoscale Surfaces and Interfaces | Graduate | 100 % |
| Winter 2016 | NANO 702 | Nanotechnology Tools: Spectromicroscopy | Graduate | 100 % |

**Graduate Student Supervision**

***Ph.D***

|  |  |  |
| --- | --- | --- |
| **Name** | **Period** | **Title of Research Project** |
| Shokouh Farvid | 09/2007-08/2012 | Manipulating Structure and Properties of Colloidal In2O3 Nanocrystals |
| Ting Wang | 09/2008-08/2013 | Investigation of Optical Properties of Nanostructured Transparent Conducting Oxides |
| Hongyu Wu (visiting student from Beijing Institute of Technology, China) | 08/2009-09/2010 | Synthesis and Characterization of Dual Doping Sites in Co2+-Doped Ga2O3 Nanocrystals and Nanowires |
| Manu Hegde | 05/2010-12/2015 | Probing the Electronic and Magnetic Properties of Transparent Semiconductor Nanowires Using X-ray Absorption Spectroscopic Methods |
| Paul Stanish | 05/2013- date | Design and Fabrication of All-Inorganic White Light Emitting Structures and Devices |
| Vahid Ghodsi | 05/2013- date | Optical and Photocatalytic Properties of Pure and Doped Transparent Metal Oxide Nanocrystals |
| Natalie Sisombath | 09/2014- date | Hybrid Organic-Inorganic Approach to Multifunctionality at the Nanoscale |
| Penghui Yin | 01/2016-date | Manipulating the Properties of Multiferroic Nanomaterials |

***M.Sc.***

|  |  |  |
| --- | --- | --- |
| **Name** | **Period** | **Title of Research Project** |
| Ling Ju | 09/2007-08/2009 | Synthesis and Investigation of Phase Transition of BaTiO3 and Cr3+-Doped BaTiO3 Nanocrystals |
| Wan Hang Melanie Chiu | 09/2010-09/2012 | Förster Resonance Energy Transfer Mediated White-Light-Emitting Rhodamine Fluorophore Derivatives-γ Gallium Oxide Nanostructures |
| Tahereh Sabergharesou | 09/2010- 08/2013 | Magnetic and Structural Investigation of Manganese Doped SnO2 and In2O3 Nanocrystals |
| Vadim Chirmanov | 09/2011- 09/2014 | Single White-Light-Emitting Nanostructures Based on Förster Resonance Energy Transfer: Development, Characterization and Applications |
| Lisa Hutfluss | 09/2012- 02/2015 | Studies in Pure and Transition Metal Doped Indium Oxide Nanocrystals |
| Penghui Yin | 10/2013- 12/2015 | Exploring the Design of Multiferroic  Materials by Nanocrystal Building Block Approach |
| Brian Fernandes (co-advised with Prof. Zoran Miskovic, Department of Applied Mathematics) | 09/2014-08/2016 | Modelling Photoluminescence Decay Dynamics in Nanocrystals |
| Hanbing Fang | 09/2014- 12/2016 | Transparent Metal Oxide Nanocrystals as Unconventional Plasmonic Building Blocks |
| Susi Jin | 09/2015- date | Gallium Oxide Nanocrystal Phase-Dependent Photocatalysis |
| Enas Howsawi | 09/2015- date | Perovskite Oxide Nanostructures for Energy Storage Applications |
| Yunyan Wang | 09/2015- date | High Surface Area Materials for Gas Storage and Environmental Remediation |
| Johnathan Altenbeck | 07/2016-date | Processing and Fabrication of Light Emitting Devices From Transparent Metal Oxide Nanocrystals |
| Yi Tan | 09/2016-date | Magneto-Electric Interactions in Perovskite-Based Multiferroic Nanowires. |
| Shuoyuan Chen | 09/2016-date | Magneto-Optical and Magneto-Electrical Studies of Magnetic Semiconductor Nanowires |

***B.Sc. Honors Thesis***

|  |  |
| --- | --- |
| **Name** | **Year** |
| Kevin Stamplecoskie | 2008 |
| Matthew Worden | 2008 |
| Stefan Gomez | 2009 |
| Nikolina Ilic | 2010 |
| Peter Jones | 2011 |
| Nicole Combe | 2013 |
| Viktor Malkov | 2013 |
| Yi Pan | 2016 |
| Yi Tan | 2016 |

**Other**

|  |  |  |
| --- | --- | --- |
| **Name** | **Period** | **Position** |
| Vladimir Blagojevic | 2008-2009 | Postdoctoral Fellow |
| Ian Hosein | 2010-2012 | Postdoctoral Fellow |
| Arunasish Layek | 2012-2014 | Postdoctoral Fellow |
| Baran Yildirim | 2014-2015 | Postdoctoral Fellow |
| Josh Byers | 2015-2016 | Postdoctoral Fellow |
| Shrey Sindhwani | 2007 | Undergraduate Research Assistant |
| Brent Pautler | 2007-2008 | Undergraduate Research Assistant |
| Adrian Adamescu | 2007-2008 | Undergraduate Research Assistant |
| Carl Haugen | 2007-2008 | Undergraduate Research Assistant |
| Matthew Robinson | 2009-2010 | Undergraduate Research Assistant |
| Tal Bratkov | 2016-date | Undergraduate Research Assistant |
| Motasser Hossain | 2009-2010 | Technician |
| Randy Fagan | 2008-2010 | Technician |

**NSERC Summer Fellowships for Undergraduates:** Supervised 4 NSERC students (Shrey Sindhwani, Kevin Stamplecoskie, Brent Pautler, and Nicole Combe)

**Alumni Employment**

|  |  |
| --- | --- |
| **Name** | **Year** |
| Shokouh S. Farvid | Senior Scientist, Advanced Sterilization Products (Johnson and Johnson), Irvine, CA |
| Ting Wang | Associate Professor, National Engineering Research Center for ColloidalMaterials,Shandong University (China) |
| Hongyu Wu | Senior Patent Agent, Patent Office of the People’s Republic of China |
| Manu Hegde | Postdoctoral Associate, Department of Chemistry, University of Waterloo |
| Ling Ju | Ph.D. Candidate in Materials Science and Engineering, Lehigh University |
| Wan Hang Melanie Chiu | Analytical Chemist, Toronto Research Chemicals, Toronto, ON |
| Lisa Hutfluss | Georgia-Pacific, Atlanta, GA |
| Vadim Chirmanov | N/A |
| Vladimir Blagojevic | Research Scientist, Institute of Technical Sciences of the Serbian Academy of Arts and Sciences |
| Ian Hosein | Assistant Professor, Department of Biomedical and Chemical Engineering, Syracuse University |
| Arunasish Layek | Postdoctoral Fellow, Center for Surface Chemistry and Catalysis, University of Leuven (Belgium) |
| Baran Yildirim | Visiting Researcher, University of New South Wales, Canberra, Australia |
| Joshua Byers | Assistant Professor, Department of Chemistry, University of Quebec at Montreal (UQAM) |

**Involvement in Curriculum Development**

I have developed four new courses in the Department of Chemistry and Nanotechnology Engineering program and taught them for the first time: Electronic Structure and Properties of Bulk and Nanoscale Materials (CHEM 452), Surfaces and Interfaces (NE 352) and Fundamentals of Nanotechnology: Nanoscale Surfaces and Interfaces (NANO 701) and Spectromicroscopy (NANO 702).

**Service**

**Committees**

***University/Faculty***

2014-date Collaborative Graduate Nanotechnology Program Steering Committee, representative for the Department of Chemistry

2007-2012 Class Professor the Nanotechnology Engineering undergraduate program, Coordinator/Liaison for class NE 2012.

2012-2013 Search and Hiring Committee for Distinguished Endowed Professor of Physics, invited by the Chair of the Department of Physics as an external University representative

***Department***

2016-date Search and Hiring Committee for Nanotechnology position, committee member

2016-date Health and Safety Committee

2012-2014 Search and Hiring Committee for Chemistry-Institute for Quantum Computing position, committee member

2011-2013 Department of Chemistry Executive Committee, committee member

2007-2010 Search and Hiring Committee for Nanotechnology position, committee member

***Other***

2011-2012 Proposal Study Panel (PSP) at the Molecular Foundry (Lawrence Berkeley National Laboratory, University of California, Berkeley), panel member

***Related Community Service***

Scientific Committee for the 2nd International Conference on Nanotechnology Modeling and Simulation (ICNMS’17), Barcelona, Spain (April 4-6, 2017)

Organizing Committee for 10th International Conference on Emerging Materials and Nanotechnology, Emerging Materials Conference Series, Vancouver, BC (July 27-29, 2017)

Organizing Committee for the International Conference on Nanotechnology Research 2016 (Gavin Conference Series), San Antonio, TX (November 28-30, 2016)

International Organizing Committee for the Energy, Materials & Nanotechnology Meeting (EMN 2015), Bangkok, Thailand (November 10-13, 2015)

Award Selection Committee at the YoungChem 2015, Krakow, Poland (October 7-11, 2015)

Session Chair at the 4th Annual World Congress of Nanoscience & Technology (NanoS&T 2014), Qingdao, China (October 29-31, 2014)

Session Chair at the Collaborative Conference on 3D & Materials Research, Incheon/Seoul, South Korea (June 23-27, 2014)

Judge for the Poster Award at the Canadian Society for Chemistry, Vancouver (June 1-5, 2014)

Program Committee for the 39th International Symposium on Compound Semiconductors (ISCS 2012), University of California Santa Barbara (August 27-30, 2012)

Invited Discussion Leader at the Gordon Research Conference on Defects in Semiconductors, Biddeford, ME (August 12-17, 2012)

Chair of the Symposium “*Nanostructures: Nanowires, Nanotubes, Inorganic Semiconductors, Catalysis*” at the WIN-Soochow Nanotechnology Workshop (July 19-27, 2011)

Chair of the Session *IN 8* (*General Inorganic Chemistry*) of the Inorganic Chemistry Symposium at the Canadian Society for Chemistry Meeting in Montreal (June 5-9, 2011)

Chair of the Symposium “*Energy Materials and Metamaterials*” at the WIN-Bordeaux/Aquitaine Workshop (May 16-18, 2011)

Judge for the Best Poster Award at the Nano and Giga Challenges in Electronics, Photonics and Renewable Energy 2009/14th Canadian Semiconductor Technology Conference in Hamilton (August 10-14, 2009)

Co-organizer of the Symposium *JJ* (*Nanowires: Novel Assembly Concepts and Device Integration*) at the Materials Research Society Meeting in Boston (Fall 2007)

**Outreach**

***Public Service***

Invited expert panelist for LightSavers Canada Initiative by the Canadian Urban Institute. This national initiative is established to promote the adoption of LED and smart controlled lighting systems across Canada. The panel consisted of selected Canadian leaders in lighting innovation and urban planning.

Mentoring and preparing a group of grade 12 high school students attending the Port Credit

SciTech program for the 2014 National Science Fair competition.

Mentor for the Engineering Science Quest (ESQ) camp (August 2011); ESQ is a not-for-profit engineering and science education program with a mission to increase the interest in science, engineering and technology amongst Canadian youth.

Participated and presented at the recruiting session at Port Credit High School in Mississauga, ON, organized and administered by the Dean of Science (April 24, 2008).

***Media Coverage***

Over 35 appearances

• Radio interviews:

CBC Radio “*The Morning Edition with Craig Norris*”

610 CKTB (Bell Media) “*One on one with Kevin Jack*”

• TV network interviews and reports:

Weather Network Channel (Science and Technology Program with Nicole Karkic) CHEX TV 12 Durham (Technology News)

• Print and online media outlets:

CBC News “*Waterloo chemist develops 'holy grail' LED lightbulb*”

Huffington Post “[*Canadian's 'Holy Grail' Invention Could Revolutionize Lighting*](http://www.huffingtonpost.ca/2014/05/20/led-lightbulb-waterloo-radovanovic_n_5359012.html?utm_hp_ref=canada-business)”

Also featured in: Vancouver Star, yahoo Canada, msn Canada, Canada Online News, World’s Daily News, World News, News British Columbia, News Maritimes, paNOW, NationsRoot, Airing News

• Science and technology news:

University of Waterloo Stories "How Many Scientists Does it Take to Change the Lightbulb”

DesignEngineering “*Waterloo-developed nanotech to make LED light bulbs affordable”*

Also featured in: LEDinside, Reddit.com, e! Science News, Keep.ca, geekexchange.com, Tech News Daily, topix.com-Chemistry News, Genesis NanoTechnology, nanotechnology.newsonly.org, inkblot.ca

• Commercial news:

Lights Fantastic Pro, LED High Bay Light Wholesale, Warta Gadgets, etc.

**Professional Activities**

**Society Memberships and Positions Held**

American Chemical Society

Materials Research Society

Faculty Association of the University of Waterloo

**Refereeing**

***Journals***

Nature Series (Nanotechnology, Chemistry, and Materials), Journal of the American Chemical Society; Nano Letters; ACS Nano; Chemistry of Materials, Journal of Physical Chemistry Letters, Journal of Physical Chemistry; Langmuir; Applied Materials and Interfaces; Angewante Chemie; Advanced Materials; Advanced Functional Materials; Chemical Communications; Journal of Materials Chemistry; Nanoscale; ChemPhysChem; CrystEngComm; Applied Physics Letters; APL Materials; Chemical Physics Letters; Nanotechnology; Dalton Transactions; Materials Today; Physica Status Solidi; Journal of Alloys and Compounds; Journal of Crystal Growth; Coordination Chemistry Reviews; and others.

***Book Review***

Nanoscale Semiconductor Memories: Technology and Applications, Kurinec, S. K. and Iniewski, K. (Editors); CRC Press/Taylor&Francis: Boca Raton, FL

***Grant Applications***

NSERC (Discovery, Strategic, and CRC Programs); Canada Foundation for Innovation; U.S. National Science Foundation; U.S. Department of Energy; European Research Council; American Chemical Society-Petroleum Research Fund; Lawrence Berkeley National Laboratory (Molecular Foundry Facility); WorkSafeBC, Innovation, and others.

**External Thesis Examiner**

***Ph.D***.

2007, Michael E. Earle, Department of Chemistry, University of Waterloo, Waterloo, Canada

2009, Jun Zhu, Department of Chemistry, University of Western Ontario, London, Canada

2010, Kamal H. Mroue, Department of Chemistry, University of Waterloo, Waterloo, Canada

2012, Bryan Kuropatwa, Department of Chemistry, University of Waterloo, Waterloo, Canada

2012, Guang He, Department of Chemistry, University of Waterloo, Canada

2013, Rajesh Tripathy, Department of Chemistry, University of Waterloo, Canada

2014, Natacha Kindjan, Department of Chemistry, Universite de Liege, Belgium

2014, Kristen Snell, Department of Chemistry, Universite de Nantes, France

2015, Andrew Achkar, Department of Physics, University of Waterloo, Canada

2015, Quansheng Guo, Department of Chemistry, University of Waterloo, Canada

2015, Dan Padmos, Department of Chemistry, Dalhousie University, Canada

2016, Nader Farahi, Department of Chemistry, University of Waterloo, Canada

2016, Nagaraj Nandihalli, Department of Chemistry, University of Waterloo, Canada

2016, Robert Black, Department of Chemical Engineering, University of Waterloo

2016, Yingjie Zhang, Department of Electrical and Computer Engineering, University of Waterloo, Canada

2016, Aula al Muslim, Department of Chemistry, University of Waterloo, Canada

2016, Greg Holloway, Department of Physics, University of Waterloo, Canada

2016, Jong Bum Park, Department of Chemistry, University Guelph, Canada

***External Ph.D. Committees***

2007-2009, Kallum Koczkur, Department of Chemistry, University of Guelph, Canada

2007-2011, Si-Hyoung Oh, Department of Chemistry, University of Waterloo, Canada

2007-2008, Brian Ellis, Department of Chemistry, University of Waterloo, Canada

2008-2010, Kamal H. Mroue, Department of Chemistry, University of Waterloo, Waterloo, Canada

2008-2012, Guang He, Department of Chemistry, University of Waterloo, Canada

2008-2012, Bryan Kuropatwa, Department of Chemistry, University of Waterloo, Canada

2008-2013, Savitree Bangarigadu-Sansy, Department of Chemistry, University of Waterloo, Canada

2008-2013, Rajesh Tripathy, Department of Chemistry, University of Waterloo, Canada

2009-2010, Serife Kaymaksiz, Department of Chemistry, University of Waterloo, Canada

2009-date, Jong Park, Department of Chemistry, University of Guelph, Canada

2010-2011, Amirjalal Jalali, Department of Chemistry, University of Waterloo, Canada

2010-2012, Manal Hessein, Department of Chemistry, University of Waterloo, Canada

2011-2014, Natacha Kindjan, Department of Chemical Engineering, University of Bordeaux, France

2011-2013, Abdulrahman Alhadhrami, Department of Chemistry, University of Waterloo, Canada

2011-2015, Quansheng Guo, Department of Chemistry, University of Waterloo, Canada

2011-2016, Nader Farahi, Department of Chemistry, University of Waterloo, Canada

2011-2016, Nagaraj Nandihalli, Department of Chemistry, University of Waterloo, Canada

2012-2013, Prakash Venkatesan, Department of Chemistry, University of Waterloo, Canada

2012-2016, Robert Black, Department of Chemical Engineering, University of Waterloo, Canada

2012-date, Aula al Muslim, Department of Chemistry, University of Waterloo, Canada

2012-date, Xiaoqi Sun, Department of Chemistry, University of Waterloo, Canada

2013-date, Gregory Holloway, Department of Physics, University of Waterloo, Canada

2013-date, Goli Pourmand, Department of Chemistry, University of Guelph, Canada

2013-date, Aklilu Worku, Department of Chemistry, University of Waterloo, Canada

2015-date, Quanquan Pang, Department of Chemistry, University of Waterloo, Canada

2015-date, Erica Ramos Guzman, Department of Chemistry, University of Waterloo, Canada

2016-date, Yixuan Shi, Department of Chemistry, University of Waterloo, Canada

2016-date, Valentin Gougeon, Department of Chemistry, University of Waterloo, Canada

2016-date Rohit Saraf, Department of Chemistry, University of Waterloo, Canada

***M.Sc.***

2011, Nicole Cathcart, Department of Chemistry, Wilfrid Laurier University, Waterloo, Canada

2011, Andrew Frank, Department of Chemistry, Wilfrid Laurier University, Waterloo, Canada.

2010-2012, Haleema Alamri, Department of Chemistry, University of Waterloo, Canada

2013-2015, Quanquan Pang, Department of Chemistry, University of Waterloo, Canada

2013-2015, Mohamed Oudah, Department of Chemistry, University of Waterloo, Canada

2014-2015, Yixuan Shi, Department of Chemistry, University of Waterloo, Canada

2016, Mathew VanZant, Department of Chemistry, University of Waterloo, Canada

2016-date, Xiaoyu Cheng, Department of Chemistry, University of Waterloo, Canada

2016-date, Ivan Kochetkov Department of Chemistry, University of Waterloo, Canada

For all M.Sc. candidates above, I was also theses examiner and defense committee member.