

Mita Dasog, PhD, FRSC

Early-Career Izaak Walton Killam Memorial Research Chair
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EDUCATION

- 2014 PhD in Chemistry
University of Alberta, Edmonton, Canada
Advisor: Prof. Jonathan G. C. Veinot
Thesis: Syntheses, optical properties and applications of silicon-based nanomaterials
- 2009 BSc (High Honors) in Chemistry
University of Saskatchewan, Saskatoon, Canada

PROFESSIONAL EXPERIENCE

- Jul 2022 – present Associate Professor
Department of Chemistry
Dalhousie University, Halifax, Canada
- Jan 2023 – present Co-lead
Green Hydrogen Research Cluster
Dalhousie University, Halifax, Canada
- Jul 2016 – Jun 2022 Assistant Professor
Department of Chemistry
Dalhousie University, Halifax, Canada
- Sep 2014 – May 2016 NSERC Postdoctoral Fellow
Chemistry and Chemical Engineering Department
California Institute of Technology, Pasadena, USA
Advisor: Prof. Nathan S. Lewis
- May 2014 – Aug 2014 Green Talents Visiting Scholar
Supramolecular Chemistry Center
Technical University of Munich, Garching, Germany
Advisor: Prof. Bernhard Rieger

ACADEMIC LEAVE AND INTERRUPTIONS

- Apr 2021 – Dec 2021 Maternity and parental leave
- Mar 2020 – Jul 2020 COVID-19 lab shutdown
- Aug 2020 – Jul 2021 The lab operated at 25% capacity during this period

SELECTED ACADEMIC AWARDS & HONORS

- 2023 **Fellow of Royal Society of Chemistry (International)**
Achieving Fellow status in the chemical profession denotes to the wider community a high level of accomplishment as a professional chemist.
- 2023 **Top Ten Canadian Water Heroes (International)**
The Office of the Chief Scientist to the Prime Minister of Canada, the Red Dot Foundation, and the Consulate General of Canada in Mumbai launched a book featuring 10 women scientists in Canada and 10 women scientists in India who work in Climate Action and Water to highlight the leadership and achievements of women.
- 2022 **Negative Emissions Science Scialog Fellow (International)**
Selected as one of fifty early-career faculty members from the USA and Canada to participate as a Fellow in a Negative Emission Science "Scialog" with the aim of advancing fundamental science in the design of novel approaches for rapidly removing and utilizing or sequestering greenhouse gases.
- 2021 – 28 **Member of the College of the Royal Society of Canada (National)**
The College of New Scholars, Artists, and Scientists is Canada's first national system of multidisciplinary recognition for the emerging generation of Canadian intellectual leadership. The members of the College are Canadians and permanent residents who, at an early stage in their career, have demonstrated a high level of achievement.
- 2021 – 26 **Early-Career Izaak Walton Killam Memorial Research Chair (Institutional)**
This is a prestigious research chair at Dalhousie University which recognizes a faculty member at an early career stage who has made outstanding contributions to their field of research.
- 2020 **Nova Scotia Discovery Centre Emerging Professional Award (Regional)**
The award recognizes an individual in Nova Scotia who is early in their career and demonstrates research excellence, knowledge sharing, and potential for ongoing growth and development.
- 2020 – 25 **Member of the Global Young Academy (International)**
The Global Young Academy selects young scientists from around the world based on their scientific excellence and commitment to bring change. Members lead international, interdisciplinary, and inter-generational dialogue with the goal to make global decision-making evidence-based and inclusive.
- 2019 **President's Emerging Investigator Research Excellence Award (Institutional)**
This award recognizes the research achievements of a Dalhousie faculty member at an early stage of their career.
- 2019 **IUPAC Table of Younger Chemists (International)**
In celebration of the International Year of the Periodic Table, this initiative highlighted 118 emerging chemists from around the world working towards IUPAC's core goals. I was chosen to represent the element silicon.
- 2017 **Top 150 Canadian Women in STEM (National)**
hEr VOLUTION is a non-profit organization based in Toronto working towards creating opportunities for the next generation of women in STEM. In 2017, they created a list of 150 Canadian women in STEM, of whom I was one, who are leading and inspiring the next generation of female scientists.
- 2015 **Canadian Council of University Chemistry Chairs' (CCUCC) Doctoral Award (National)**
This award is presented to recognize outstanding achievement and the best thesis by a graduate student in chemistry at a Canadian University.

- 2014 **Award for Graduate Work in Inorganic Chemistry (National)**
This award is presented to a graduate student registered in a Ph.D. program at a Canadian university, for exceptional Ph.D. thesis research in a field of inorganic chemistry.
- 2013 – 14 **Green Talents Award (International)**
This award is presented by the German Federal Ministry of Education and Research (BMBF) to young researchers from around the globe in various scientific disciplines for their outstanding achievements in making our societies more sustainable. The award includes a two-week tour of Germany to meet scientific and political leaders to discuss sustainability and climate change, as well as an all-expense paid research stay at an institution of the award holder's choice.

PUBLICATIONS ([Google scholar link](#))

Peer reviewed publications

*corresponding author(s), Dasog lab trainees underlined

1. M. Yan, S. A. Martell, M. Dasog, S. Brown, and S. Patwardhan,* *J. Power Sources*, 2023, **588**, 233720; "Cost-Competitive Manufacture of Porous-Silicon Anodes via the Magnesiothermic Reduction: A Techno-economic Analysis."
2. R. Changotra, H. Rajput, J. Yang, M. Dasog,* and Q. He,* *RSC Sustainability*, 2023, **1**, 1484 – 1496; "Spent-Coffee Grounds-Derived Biochar-Supported Heterogeneous Photocatalyst: A Performance Evaluation and Mechanistic Approach for the Degradation of Pentachlorophenol." (**Invited contribution**)
3. M. J. Margeson, Y. Esfahani Monfared and M. Dasog,* *ACS Appl. Opt. Mater.*, 2023, **1**, 1004 – 1011; "Synthesis and Photothermal Properties of UV-Plasmonic Group IV Transition Metal Carbide Nanoparticles."
4. S. Putwa, I. S. Curtis and M. Dasog,* *iScience*, 2023, **26**, 106317; "Nanostructured Silicon Photocatalysts for Solar-Driven Fuel Production." (**Invited contribution**)
5. R. A. Karaballi, Y. Esfahani Monfared, I. C. Bicket, R. H. Coridan and M. Dasog,* *J. Chem. Phys.*, 2022, **157**, 154706; "Solid-State Synthesis of UV-Plasmonic Cr₂N Nanoparticles."
 - **Selected as Editor's Pick**
6. Y. Esfahani Monfared,* B. Kurylyk and M. Dasog,* *Plasmonics*, 2022, **17**, 931 – 940; "Highly Sensitive Plasmonic Fiber Optic Sensors using Group IV Transition Metal Nitrides: A Numerical Investigation."
7. E. A. Monyoncho and M. Dasog,* *Adv. Energy Sus. Res.*, 2021, **2**, 2000055; "Plasmon-Enhanced Photocatalytic Nitrogen Reduction to Ammonia." (**Invited contribution**)
8. I. S. Curtis, R. J. Willis and M. Dasog,* *Nanoscale*, 2021, **13**, 2685 – 2692; "Photocatalytic Hydrogen Generation Using Mesoporous Silicon Nanoparticles: The Influence of Magnesiothermic Reduction Conditions and Nanoparticle Aging on the Catalytic Activity."
 - **2021 Nanoscale Emerging Investigators Special Issue**
9. Y. Esfahani Monfared* and M. Dasog,* *Can. J. Chem.* 2021, **99**, 576 – 584; "Computational Investigation of the Plasmonic Properties of TiN, ZrN, and HfN Nanoparticles: The Role of Particle Size, Medium, and Surface Oxidation." (**Invited contribution**)
10. M. Margeson and M. Dasog,* *Environ. Sci.: Water Res. Technol.*, 2020, **6**, 3169 – 3177; "Plasmonic Metal Nitrides for Solar-Driven Water Evaporation." (**Invited contribution**)
11. R. A. Karaballi, Y. Esfahani Monfared, and M. Dasog,* *Langmuir*, 2020, **36**, 5058 – 5064; "Photothermal Transduction Efficiencies of Plasmonic Group 4 Metal Nitride Nanocrystals."
12. E. Traver, R. A. Karaballi, Y. Esfahani Monfared, H. Daurie, G. A. Gagnon, and M. Dasog,* *ACS Appl. Nano Mater.*, 2020, **3**, 2787 – 2794; "TiN, ZrN, and HfN Nanoparticles on Nanoporous Aluminum Oxide Membranes for Solar-Driven Water Evaporation and Desalination."
13. R. A. Karaballi, Y. Esfahani Monfared, and M. Dasog,* *Chem. Eur. J.*, 2020, **26**, 8499 – 8505; "Overview of Synthetic Methods to prepare Plasmonic Metal Nitride Nanoparticles." (**Invited contribution**)

14. S. A. Martell, U. Werner-Zwanziger, and M. Dasog,* *Faraday Discuss.*, 2020, **222**, 176 – 189; “The Influence of Hydrofluoric Acid Etching Process on the Photocatalytic Hydrogen Evolution Reaction Using Mesoporous Silicon Nanoparticles.” **(Invited contribution)**
15. S. A. Martell, Y. Lai, E. Traver, J. MacInnis, D. D. Richards, S. MacQuarrie, and M. Dasog,* *ACS Appl. Nano Mater.* 2019, **2**, 5713 – 5719; “High Surface Area Mesoporous Silicon Nanoparticles Prepared via Two-Step Magnesiothermic Reduction for Stoichiometric CO₂ to CH₃OH Conversion.”
16. R. A. Karaballi, G. Humagain, B. R. A. Fleishman, and M. Dasog,* *Angew. Chem. Int. Ed.*, 2019, **58**, 3147 – 3150; “Synthesis of Plasmonic Group-4 Nitride Nanocrystals via Solid-State Metathesis.”
17. M. J. Kirshenbaum, M. H. Richter, and M. Dasog,* *ChemCatChem*, 2019, **11**, 3877 – 3881; “Electrochemical Oxygen-Evolution in Acidic Solution using Titanium Diboride Catalyst”
 - **Selected as a Highly Important Paper**
18. G. Humagain, K. MacDougal, J. MacInnis, J. M. Lowe, R. H. Coridan, S. MacQuarrie, and M. Dasog,* *Adv. Energy Mater.*, 2018, **8**, 1801461; “Highly-Efficient, Biochar-derived Molybdenum Carbide Hydrogen Evolution Electrocatalyst.”
19. L. Khanna, Y. Lai, and M. Dasog,* *Can. J. Chem.*, 2018, **96**, 965 – 968; “Systematic Evaluation of Inorganic Salts as a Heat Sink for the Magnesiothermic Reduction of Silica”
 - **Won the Canadian Journal of Chemistry Best Paper Award**
20. Y. Lai, J. R. Thompson, and M. Dasog,* *Chem. Eur. J.*, 2018, **24**, 7913 – 7920; “Metallothermic Reduction of Silica Nanoparticles to Porous Silicon for Drug Delivery Using New and Existing Reductants.”
21. M. J. Kirshenbaum, M. G. Boebinger, M. J. Katz, M. T. McDowell, and M. Dasog,* *ChemNanoMat*, 2018, **4**, 423 – 429; “Solid-State Route for Synthesis of Scalable Luminescent Si and Ge Nanocrystals.”
22. M. Dasog,* J. R. Thompson and N. S. Lewis,* *Chem. Mater.*, 2017, **29**, 7002 – 7013; “Oxidant-Activated Reactions of Nucleophiles with Silicon Nanocrystals.”
23. N. T. Plymale, M. Dasog, B. S. Brunshwig, and N. S. Lewis,* *J. Phys. Chem. C*, 2017, **121**, 4270 – 4282; “A Mechanistic Study of the Oxidative Reaction of Hydrogen-Terminated Si(111) Surfaces with Liquid Methanol.”
24. R. Sinelnikov, M. Dasog, J. Beamish, A. Meldrum* and J. G. C. Veinot,* *ACS Photonics*, 2017, **4**, 1920 – 1929; “Revisiting an Ongoing Debate: What Role do Surface Groups Play in Silicon Nanocrystal Photoluminescence?”
25. M. Dasog,* S. Kraus, R. Sinelnikov, J. G. C. Veinot,* and B. Rieger,* *Chem. Commun.*, 2017, **53**, 3114 – 3117; “CO₂ to Methanol Conversion Using Hydride Terminated Porous Silicon Nanoparticles.”
26. M. Dasog, A. I. Carim, S. Yalamanchili, H. A. Atwater and N. S. Lewis,* *Nano Lett.*, 2016, **16**, 5015 – 5021; “Profiling Photoinduced Carrier Generation in Semiconductor Microwire Arrays via Photoelectrochemical Metal Deposition.”
27. A. Ritchie, W. Cao, M. Dasog, T. K. Purkait, C. Senger, Y. F. Hu, Q. F. Xiao, J. G. C. Veinot and S. G. Urquhart,* *J. Chem. Phys.*, 2016, **145**, 154703; “Silicon 1s Near Edge X-ray Absorption Fine Structure Spectroscopy of Functionalized Silicon Nanocrystals.”
28. M. Dasog, J. Kehrle, B. Rieger* and J. G. C. Veinot,* *Angew. Chem. Int.*, 2016, **55**, 2322 – 2339; “Silicon Nanocrystals and Silicon-Polymer Hybrids: Synthesis, Engineering, and Applications”
 - **Listed as highly cited article on Web of Science**
29. G. B. De los Reyes, M. Dasog, M. Na, L. V. Titova, J. G. C. Veinot and F. A. Hegmann,* *Phys. Chem. Chem. Phys.*, 2015, **17**, 30125 – 30133; “Charge Transfer State Emission Dynamics in Blue-Emitting Functionalized Silicon Nanocrystals.”
30. Z. Yang, G. B. De los Reyes, L. V. Titova, I. Sychugov, M. Dasog, J. Linnros, F. A. Hegmann and J. G. C. Veinot,* *ACS Photonics*, 2015, **2**, 595 – 605; “Evolution of the Ultrafast Photoluminescence of Colloidal Silicon Nanocrystals with Changing Surface Chemistry.”

31. M. Dasog,* K. Bader and J. G. C. Veinot,* *Chem. Mater.*, 2015, **27**, 1153 – 1156; "Influence of Halides on the Optical Properties of Silicon Quantum Dots."
32. Y. Zhai, M. Dasog, R. B. Snitynsky, T. K. Purkait, M. Aghajamali, A. H. Hahn, C. B. Sturdy, T. L. Lowary and J. G. C. Veinot,* *J. Mater. Chem. B*, 2014, **2**, 8427 – 8433; "Water-Soluble Photoluminescent D-Mannose and L-Alanine Functionalized Silicon Nanocrystals and Their Application to Cancer Cell Imaging."
33. M. Dasog, G. B. De los Reyes, L. V. Titova, F. A. Hegmann and J. G. C. Veinot,* *ACS Nano*, 2014, **8**, 9636 – 9648; "Size vs. Surface: Tuning the Photoluminescence of Freestanding Silicon Nanocrystals across the Visible Spectrum *via* Surface Groups"
 - **Listed as highly cited article on Web of Science**
34. C. Gonzales, M. Iqbal, M. Dasog, D. Piercey, R. Lockwood, T. Klapötke, and J. G. C. Veinot,* *Nanoscale*, 2014, **6**, 2608 – 2612; "Detection of High-Energy Compounds Using Photoluminescent Silicon Nanocrystal Based Paper Sensors."
35. M. Dasog* and J. G. C. Veinot,* *Phys. Stat. Solidi B*, 2014, **251**, 2216 – 2220; "Tuning Silicon Nanocrystal Luminescence *via* Surface Groups."
36. Z. Yang, M. Dasog, A. R. Dobbie, R. Lockwood, Y. Zhi, A. Meldrum and J. G. C. Veinot,* *Adv. Func. Mater.*, 2014, **24**, 1345 – 1353; "Highly Luminescent Covalently Linked Silicon Nanocrystal/Polystyrene Hybrid Functional Materials: Synthesis, Properties and Processability."
37. J. Fuzell, A. Thibert, T. Atkins, M. Dasog, E. Busby, J. G. C. Veinot, S. M. Kauzlarich and D. Larsen,* *J. Phys. Chem. Lett.*, 2013, **4**, 3806 – 3812; "Red States vs. Blue States: Reconciling Excited-State Politics in Colloidal Silicon Nanocrystals."
38. M. Dasog, L. F. Smith, T. K. Purkait and J. G. C. Veinot,* *Chem. Commun.*, 2013, **49**, 7004 – 7006; "Low Temperature Synthesis of Silicon Carbide Nanomaterials Using a Solid-State Method."
39. O. Wolf, M. Dasog, Z. Yang, I. Balberg, J. G. C. Veinot* and O. Millo,* *Nano Lett.*, 2013, **13**, 2516 – 2521; "Doping and Quantum Confinement Effects in Single Si Nanocrystals Observed by Scanning Tunnelling Spectroscopy."
40. M. Dasog, Z. Yang, S. Regli, T. M. Atkins, A. Faramus, M. P. Singh, E. Muthuswamy, S. M. Kauzlarich, R. D. Tilley and J. G. C. Veinot,* *ACS Nano*, 2013, **7**, 2676 – 2685; "Chemical Insight into the Origin of Red and Blue Photoluminescence Arising from Freestanding Silicon Nanocrystals"
 - **Listed as highly cited article on Web of Science**
41. M. Dasog, Z. Yang and J. G. C. Veinot,* *CrystEngComm.*, 2012, **14**, 7576 – 7578; "Size-Controlled Solid State Synthesis of Luminescent Silicon Nanocrystals using Stöber Silica Particles" (**Invited contribution**).
42. M. Dasog and J. G. C. Veinot,* *Chem. Commun.*, 2012, **48**, 3760 – 3762; "Solid-State Synthesis of Luminescent Silicon Nitride Nanocrystals."
43. M. Dasog and J. G. C. Veinot,* *Phys. Stat. Solidi A*, 2012, **209**, 1844 – 1846; "Size Independent Blue Luminescence in Nitrogen Passivated Silicon Nanocrystals."
44. M. Dasog, C. Rachinsky and J. G. C. Veinot,* *J. Mater. Chem.*, 2011, **21**, 12422 – 12427; "From Si and C Encapsulated SiO₂ to SiC: Exploring the Influence of Sol-Gel Polymer Substitution on Thermally Induced Nanocrystal Formation."
45. M. Dasog, W. Hou and R. W. J. Scott,* *Chem. Commun.*, 2011, **47**, 8569 – 8571; "Controlled Growth and Catalytic Activity of Gold Monolayer Protected Clusters in Presence of Borohydride Salts."
46. Y. Lu, M. Dasog, A. F. G. Leontowich, R. W. J. Scott and M. F. Paige,* *J. Phys. Chem. C*, 2010, **114**, 17446 – 17454; "Fluorescently-Labelled Gold Nanoparticles with Minimal Fluorescence Quenching."
47. A. F. G. Leontowich, C. F. Calver, M. Dasog and R. W. J. Scott,* *Langmuir*, 2010, **26**, 1285 – 1290; "Surface Properties of Water-Soluble Glycine-Cysteamine-Protected Gold Clusters."
48. W. Hou, M. Dasog, and R. W. J. Scott,* *Langmuir*, 2009, **25**, 12954 – 12961; "Probing the Relative Stability of Thiolate and Dithiolate-Protected Au Monolayer-Protected Clusters."

49. M. Dasog, A. Kavianpour, M. F. Paige, H. B. Kraatz and R. W. J. Scott,* *Can. J. Chem.*, 2008, **86**, 368 – 375; “Chemical Functionalization and Modification of Surface-Bound Cystamine-Glycine Monolayers on Gold Nanoparticles.”
50. M. Dasog and R. W. J. Scott,* *Langmuir*, 2007, **23**, 3381 – 3387; “Understanding the Oxidative Stability of Au MPCs in the Presence of Halide Ions under Ambient Conditions.”

Invited editorials/viewpoints

51. R. Buonsanti, J. M. Buriak, L. Cubana, B. M. Cossairt, M. Dasog, S. Dehnen, J. L. Dempsey, A. N. Grace, D. Koziej, L. McElwee-White, C. Thomas and J. Y. Yang, *Chem. Mater.* 2020, **32**, 4859 – 4862; “Checking in with Women Materials Scientists During a Global Pandemic: May 2020.”
 - **Most accessed article in 2020 – 21**
52. M. Dasog, *Can. J. Chem.* 2018, **96**, iii; “Emerging Nanohybrid Materials for Chemical, Biological, and Engineering Applications.”

PATENT

1. *Process of Preparing Porous Silicon*, US Provisional Application No. 63/537,679, Filed: Sep 11, 2023. Inventors: M. Yan, S. A. Martell, J. Weatherby, M. Dasog

PRESENTATIONS

Award and Named Lectures

1. “Refractory Plasmonic Nanomaterials,” 2023 Margaret-Ann Armor Lecturer, Department of Chemistry, University of Alberta, April 2023, Edmonton, Canada.
2. “Emerging UV-Plasmonic Nanomaterials,” Emerging Materials Investigator Symposium, 105th Canadian Chemistry Conference, June 2022, Calgary, Canada.
3. “Mesoporous Silicon for CO₂ Reduction: Going Beyond the Stoichiometric Reactivity,” Canadian Journal of Chemistry Award Lecture, 102nd Canadian Chemistry Conference, May 2019, Quebec City, Canada.
4. “Silicon Nanocrystals: The Rebel Child of Quantum Dot Family,” Best Chemistry Thesis Award Lecture, 98th Canadian Chemistry Conference, May 2015, Ottawa, Canada.
5. “Low-Temperature Synthesis of Silicon Based Nanomaterials and Their Applications,” Best Inorganic Chemistry Doctoral Research Award Lecture, 97th Canadian Chemistry Conference, June 2014, Vancouver, Canada.

Invited Conference Presentations

6. “Waste Derived Materials for Desalination,” Green Chemistry Gordon Research Conference, July 2024, Castelldefels, Spain. (Scheduled)
7. “Engineering Mesoporous Silicon Photocatalysts for Solar Fuel Production,” *Solar Fuels Gordon Research Conference*, February 2024, Ventura, USA. (Scheduled)
8. “Refractory Plasmonic Materials for Photothermal Applications,” *SciX Meeting*, October 2023, Sparks, USA.
9. “Paving the Path to On-Demand Hydrogen Production,” *Clean Technology Research Institute Annual Symposium*, August 2023.
10. “Silicon Photocatalysts for Green Hydrogen Generation,” *MRS Spring Meeting*, April 2023, San Francisco, USA.
11. “Silicon Nanoparticles for Solar-Driven Hydrogen Generation,” *Southeastern Regional Meeting of American Chemical Society*, October 2022, San Juan, Puerto Rico.
12. “Silicon Nanoparticles for Solar-Driven Hydrogen Generation,” 105th Canadian Chemistry Conference, June 2022, Calgary, Canada.

13. "Technoeconomic Analysis of Silicon Photocatalyst Production for Hydrogen Generation," *UK-Canada Hydrogen Week*, October 2021. (Virtual)
14. "Plasmonic Metal Nitrides: What Do We Know So Far," *nanoGe Fall Meeting*, October 2021. (Virtual)
15. "Recipe Matters! Photocatalytic Hydrogen Production with Mesoporous Silicon Nanoparticles," *Clean Technology Research Institute Annual Symposium*, August 2021. (Virtual)
16. "Solar-Driven Hydrogen Production using Silicon Nanoparticles," *51st IUPAC General Assembly /104th Canadian Chemistry Conference and Exhibition*, August 2021. (Virtual)
17. "Photothermal Properties of Plasmonic Metal Nitrides," *Photonics North Meeting*, May 2021. (Virtual)
18. "Recipe Matters! Synthesis and Photocatalytic Activity of Mesoporous Silicon Nanoparticles," *Global Inorganic Discussion Weekday*, November 2020. (Virtual)
19. "Next Generation Nanomaterials to Address Global Challenges," *3rd World Laureates Forum*, October 2020. (Virtual)
20. "Silicon Nanostructures for Solar Fuels Generation," *Luminescent Silicon Nanostructures Faraday Discussion*, February 2020, York, UK.
21. "Metal Nitride Plasmonic Nanostructures," *19th Canadian Semiconductor Science and Technology Conference*, July 2019, Saskatoon, Canada.
22. "Surface Functionalized Copper Oxide Nanowire Arrays for Solar Fuels Generation," *102nd Canadian Chemistry Conference*, May 2019, Quebec City, Canada.
23. "Tuning Optoelectronic Properties of Silicon Quantum Dots via Surface Chemistry," *German Physical Society Spring Meeting*, February 2018, Berlin, Germany.
24. "Engineering Semiconductor Morphology for Solar Light Harvesting," *Japanese-Canadian Frontiers of Science Symposium*, November 2017, Okinawa, Japan.
25. "From Shake and Bake Chemistry to Functional Nanomaterials," *Dalhousie Research Day Symposium*, August 2017, Halifax, Canada.
26. "Introduction to Solar Fuels," *Solar Energy Materials, Devices and Grid Storage Workshop*, July 2017, Halifax, Canada.
27. "Oxidative Addition of Nucleophiles to Hydride Terminated Silicon Surfaces," *100th Canadian Chemistry Conference*, May 2017, Toronto, Canada.
28. "Materials for Solar Fuels, Optoelectronic, and Beyond," *Clean Energy Technologies Research Institute Launch*, May 2017, Halifax, Canada.
29. "Si Surface Chemistry: So Many Ways to Connect but is it Worth it?" *2nd Annual ATUMS Meeting*, November 2016, Burghausen, Germany.
30. "Will Photo-electrochemistry Systems See the Light?" *Workshop on Sustainable Approaches to Materials Research, Including Life Cycle Assessment*, May 2016, Halifax, Canada.
31. "Luminescent Silicon Nanocrystals: The Role of Surface Groups," *7th International Chemical Congress of Pacific Basin*, December 2015, Honolulu, United States.
32. "Influence of Halides on the Optoelectronic Properties of Silicon Nanocrystals," *2nd Nanomaterials Conference*, November 2013, Cancun, Mexico.

Invited Colloquia

33. Department of Chemistry, University of Calgary, February 2024, Calgary, Canada (Scheduled).
34. Department of Chemistry and Biochemistry, Mount Allison University, October 2023, Sackville, Canada.
35. Materials Science Department, University of Bremen, December 2022, Bremen, Germany. (Virtual)
36. Department of Chemistry, University of Ottawa, April 2022, Ottawa, Canada. (Virtual)

37. Department of Chemistry and Biology, Toronto Metropolitan University, March 2022, Toronto, Canada. (Virtual)
38. Department of Chemistry and Physics, University of Montreal, January 2022, Montreal, Canada. (Virtual)
39. Department of Chemistry and Chemical Biology, McMaster University, February 2021, Hamilton, Canada. (Virtual)
40. Department of Chemistry, University of Arkansas, November 2020, Fayetteville, United States. (Virtual)
41. Department of Chemistry, University of Akron, October 2020, Akron, United States. (Virtual)
42. Department of Chemical and Biological Engineering, University of Sheffield, March 2020, Sheffield, United Kingdom. (Virtual)
43. Department of Chemistry, McGill University, December 2019, Montreal, Canada.
44. Department of Chemical Engineering, Polytechnique Montreal & Department of Physics, University of Montreal, December 2019, Montreal, Canada.
45. Department of Chemistry, University of New Brunswick, November 2019, Fredericton, Canada.
46. Department of Chemistry, Simon Fraser University, September 2019, Victoria, Canada.
47. Department of Chemistry, University of Victoria, September 2019, Victoria, Canada.
48. Department of Chemistry, University of Toronto, November 2018, Toronto, Canada.
49. Department of Chemistry, University of Saskatchewan, November 2018, Saskatoon, Canada.
50. Department of Chemistry and Biochemistry, Mount Allison University, October 2017, Sackville, Canada.
51. Department of Chemistry and Physics, Memorial University, October 2017, St. Johns, Canada.
52. Department of Chemistry, Cape Breton University, July 2017, Sydney, Canada.
53. Department of Physics, Dalhousie University, February 2017, Halifax, Canada.
54. Department of Chemistry, Acadia University, January 2017, Wolfville, Canada.
55. Department of Chemistry and Biochemistry, Saint Mary's University, September 2016, Halifax, Canada.

Invited Government and Knowledge-User Presentations

56. "Building the Clean Energy Industries: The Role of Green Hydrogen," *Research Over Coffee Lecture Series*, January 2023. (Virtual)
57. "Green Hydrogen Research Cluster," *Belgian Delegation and ACOA Partners*, January 2023, Halifax, Canada.
58. "Green Hydrogen Research in Atlantic Canada," *Net-Zero Atlantic and Springboard Hydrogen Workshop*, June 2022, Halifax, Canada.
59. "Next-Generation Nanomaterials for Clean Energy Production," *World Energy Cities Partnership Annual Meeting*, November 2017, Halifax, Canada.

Invited Public/Science Outreach Presentations

60. "Green Hydrogen: Sustainable Future or a Bust?" *SHAD Dalhousie*, June 2023, Halifax, Canada.
61. "Role of Atlantic Canada in Green Hydrogen Production," *Dalhousie Philanthropy Event*, December 2022, Halifax, Canada.
62. "The Role of Fundamental Science in Solving Global Challenges," *SHAD Dalhousie*, June 2022, Halifax, Canada.
63. "Tiny Materials for Big Challenges: Designing Next Generation Nanomaterials," *Nova Scotian Institute of Science Public Lecture Series*, February 2022. (Virtual)
64. "The Future and Careers in Nanotechnology," *Stuyvesant High School*, June 2020, New York, USA. (Virtual)

65. "Nanomaterials and Waste Management," *SHAD Dalhousie*, June 2019, Halifax, Canada.
66. "Fueling the Planet with Solar Energy," *Dalhousie Bicentennial Gala*, November 2018, Halifax, Canada.
67. "The Age of Nanotechnology," *SHAD Dalhousie*, June 2018, Halifax, Canada.
68. "Solar Driven Fuel Production," *Soapbox Science Halifax*, June 2018, Halifax, Canada.
69. "How Materials Science Impacts Our Carbon Footprint," *SHAD Dalhousie*, June 2017, Halifax, Canada.
70. "Nanotechnology in Our Everyday Life," *Let's Talk Nanoscience Workshop*, February 2014, Edmonton, Canada.

Invited EDIA Presentations

71. "How to Support Scholars At-Risk," *University of Alberta Working Towards Inclusivity in Chemical Sciences Chapter*, April 2023, Edmonton, Canada.
72. "Managing Isolation," *Building a Better Chemistry Culture Webinar Series organized by Chemistry World and Royal Society of Chemistry*, July 2020. (Virtual)
73. "A Personal Reflection on being a Woman of Color in Academia," *IUPAC Global Women's Breakfast Event, Saint Mary's University*, February 2019, Halifax, Canada (**Keynote Talk**).
74. "Gender Barriers in Pursuing Chemistry Careers," *Women in Chemistry Saskatoon Chapter*, November 2018, Saskatoon, Canada.
75. "Gender Barriers in Pursuing Chemistry Careers," *Women in Chemistry Toronto Chapter*, November 2018, Toronto, Canada.
76. "A Personal Reflection on being a Woman of Color in Academia," *Leaders Overcoming Gender Inequality in Chemistry Meeting*, May 2018, Edmonton, Canada (**Plenary Talk**).
77. "How to Survive Graduate School," *2nd Annual ATUMS Meeting*, November 2016, Burghausen, Germany.
78. "Women in Science: My Journey as a Scientist," *San Diego Science Festival*, March 2015, San Diego, United States.

Invited Panel Discussions

79. "Expert Panel on Sustainable Hydrogen Generation for Transportation," *Movin'On Summit – Sustainable Mobility*, June 2020. (Virtual)
80. "Making the Most of your Undergraduate Program," *Dean's List Student Reception*, February 2019, Halifax, Canada.

EDITORIAL WORK

2023 – present	Editorial Advisory Board Member Nanoscale and Nanoscale Advances Journals (RSC)
2022 – present	Early-Career Editorial Advisory Board Member European Journal of Inorganic Chemistry (Wiley)
2021 – present	Editorial Board Member Nanotechnology Journal (IOP Publishing)
2021 – present	Editorial Advisory Board Member ACS Materials Au Journal (ACS)

2020 – 2023	Editorial Advisory Board Member Advanced Energy and Sustainable Research Journal (Wiley)
2019 – present	Associate Editor
2017 – 18	Guest Editor, Nano/Hybrid Materials Special Issue Canadian Journal of Chemistry (CSP)

COMMITTEE WORK

Search Committees

2023	Department of Chemistry Black Faculty Cohort Search Committee
2022	Clean Energy CERC Candidate Search Committee

Selection Committees

2023	Physics Rutherford Medal Winner, Royal Society of Canada
2023	Royal Society of Canada College Members, At-Risk Scholar Category
2023	Westcott Award Winner, Canadian Chemical Society (Inorganic Division)
2021 – 22	Global Young Academy Members

Review Committees

2021 – 22	NFRF Multidisciplinary Review Panel, Tri-Agency Funding Program
2020	Faculty of Science Associate Research VP Reappointment, Dalhousie University

Science Advisor/Expert Roles

2023	Nova Scotia Green Hydrogen Action Plan
2021 – present	CBC Nova Scotia and Newfoundland
2020 – 22	International Science Council, Committee on the Importance of Fundamental Research
2020 – 21	Creative Destruction Labs

Other Committee/Organization Activities

2023 – present	Co-lead, Green Hydrogen Research Cluster <i>Co-leading the green hydrogen initiative and cluster at Dalhousie University which involves >30 professors in 8 different faculties. The cluster works with industry partners and the provincial government to shape the hydrogen landscape in Atlantic Canada and hydrogen related research goals at Dalhousie University.</i>
2022 – present	Member of At-Risk and Displaced Academics and Artists (ARDAA) Committee, Royal Society of Canada <i>Facilitated by the College of the Royal Society of Canada, ARDAA supports academics and artists from around the world who have been displaced through war, conflicts or threats of violence and who, prior to their displacement, were engaged in innovative and</i>

entrepreneurial activity, demonstrating a commitment to interdisciplinary collaboration, leadership and responsibility to communities. The committee organizes workshops, virtual training and provides one-on-one mentorship to at-risk scholars.

- 2022 – present Member of Techsploration Board of Directors
Techsploration is a not-for-profit organization that delivers hands-on, mentor-led programming to young women in Grades 9 through 12. The goal of Techsploration is to increase the number of women working in science, engineering, trades, and technology-related occupations by assisting young women from diverse backgrounds to explore a wide range of career options in fields where women are significantly underrepresented.
- 2021 – 23 Member, Art in Science Committee, Global Young Academy
The committee connects scientists with artists to facilitate peace and justice, work towards widening the aesthetic and intellectual horizons, and offer new opportunities for interdisciplinary collaboration and communication across the backgrounds.
- 2021 – 22 Member, Dalhousie Harmonized Scholarship Application Evaluation Committee
- 2021 – present Faculty co-advisor, Dalhousie Working for Inclusion in Chemistry Group
- 2020 – 22 Member, Working Group to Address Systemic Discrimination, Global Young Academy
The committee makes recommendations to Global Young Academy and International Science Council on how to change evaluation criteria and incorporate DORA assessment to address systemic discrimination in academia.
- 2019 – 22 Canadian Institute of Chemistry Materials Division Executive Committee Member
- 2018 – present Member, NanoAtlantic Canada
- 2018 Member of the organizing committee, 200th Anniversary Chemistry Alumni Day
- 2017 – present Materials Certificate Program Coordinator, Dalhousie University
- 2017 – 22 Department of Chemistry Communications Person, Dalhousie University
- 2016 – 17 Department of Chemistry Appointment and Nominations Committee Member, Dalhousie University

GOVERNMENT OUTREACH ACTIVITIES

Lab tours

- 2023 Belgian Delegation, Green Hydrogen Technologies
- 2018 Innovation, Science and Economic Development Canada Representatives
- 2017 Members of Emerging Leaders in The Americas Program
- 2017 Nova Scotia Minister of Labour and Advanced Education (Hon. Labi Kousoulis)

2017 Canadian Standing Senate Committee on Energy, Environment, and Natural Resources

Round table discussions

2019 Canada's Climate Change Ambassador (Patricia Fuller) and Atlantic and Quebec Environmental and Climate Change Director General (Geoff Mercer)

2018 The Maritimes Energy Association, A Conversation on Global Affairs with Women Influencers - Laura Dawson (Director of the Canadian Institute at the Wilson Centre in Washington DC) and Karen Oldfield (President and CEO of Halifax Port Authority)

2016 Canada's Science Critic (Hon. Marilyn Gladu)

Talks listed under the presentations section.

EVENT ORGANIZATION

2023 – 24 Round Table and Workshops, Green Hydrogen Cluster
Role: Co-organizer

2022 Water-Energy Nexus Workshop, LES CREATE Program
Role: Organizer

2021 – 22 Plasmonics Symposium, 105th Canadian Chemistry Conference
Role: Co-organizer

2018 – 19 Solar Fuels Symposium, 102nd Canadian Chemistry Conference
Role: Co-organizer

2016 – 17 Nano/Hybrid Materials Symposium, 100th Canadian Chemistry Conference
Role: Co-organizer

MISCELLANEOUS

Podcasts and Web Series

2023 She is Water Sheroes: Stories of Women in the Water Field
<https://www.youtube.com/watch?v=S0gyqVh5O2k>

2022 People Behind the Science Podcast
<https://www.peoplebehindthescience.com/dr-mita-dasog/>

2019 Techsploration, Power in Possibilities Video Series
<https://techsploration.ca/videos/the-power-in-possibilities-episode-2/>

2018 Dalhousie Sciographies
<https://podcasts.apple.com/us/podcast/ep-03-sciographies-mita-dasog/id1410209562?i=1000415936987>

Selected Interviews

- 2023 Ocean Frontier Institute, Plasmonic Desalination
<https://www.ofi.ca/news/new-technology-developed-to-create-freshwater-from-the-ocean-sustainably>
- 2023 Dal Magazine, Seeing the Light
<https://www.dal.ca/news/2023/06/05/seeing-the-light.html>
- 2022 CBC Article on Green Hydrogen Research
<https://www.cbc.ca/news/canada/nova-scotia/nova-scotia-researchers-driving-green-hydrogen-innovation-1.6688804>
- 2019 L'Actualité chimique Canadienne (ACCN) Magazine
<https://www.cheminst.ca/magazine/article/combining-the-central-science-with-ambitious-outreach/>
- 2018 Macleans Magazine, Tips on How to Succeed in Your First Year
<https://education.macleans.ca/campus-life/21-tips-every-first-year-student-should-know/>
- 2018 Dalhousie Research and Innovation, Transforming Sunlight into Fuels
https://www.youtube.com/watch?v=JMYggjIOFhE&t=1s&ab_channel=DalhousieUniversity
- 2017 The Collin's Miller Project
<https://thecollinsmillerprojectalgaebiofuel.wordpress.com/2018/02/05/mita-dasog-the-keen-green-chemistry-queen/>