

CURRICULUM VITAE

Chongyin Yang, Ph.D.

Associate Professor, Tesla Canada Chair

Associate Graduate Coordinator

Department of Physics & Atmospheric Science, Department of Chemistry

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1.1 EDUCATION

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|-------------|--|
| 2011 – 2014 | Ph.D. in Materials Physics and Chemistry
Shanghai Institute of Ceramics, Chinese Academy of Sciences |
| 2008 – 2011 | Master in Materials Physics and Chemistry
Institute of Semiconductors, Chinese Academy of Sciences |
| 2004 – 2008 | B.S. in Materials Science and Engineering
Nanjing University |

1.2 PROFESSIONAL EXPERIENCE

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|-------------------|--|
| 07/2025 – Present | Associate Professor, Tesla Canada Chair
Department of Physics & Atmospheric Science
Department of Chemistry (cross-appointment)
Dalhousie University, Canada |
| 01/2021 – 07/2025 | Assistant Professor, Tesla Canada Chair
Department of Physics & Atmospheric Science
Department of Chemistry (cross-appointment)
Dalhousie University, Canada |
| 08/2015 – 12/2020 | Assistant Research Scientist |

Department of Chemical and Biomolecular Engineering

University of Maryland at College Park, U.S.

07/2014 – 08/2015

Research Associate

Shanghai Institute of Ceramics

Chinese Academy of Sciences, China

1.3 Selected Honours and Awards

- Dalhousie President's Research Excellence Award – Emerging Investigator
- University of Maryland's 2021 Invention of the Year Award
- Chinese Academy of Sciences President Award
- "Dongsheng Yan" Academic Special Scholarship in SICCAS

1.4 Teaching

I have taught or am teaching the following courses at Dalhousie University:

	Course No.	Title	Term
1	PHYC 3000	Experimental Physics	25/26 Fall
2	CHEM 5312	Advances in Battery, Fuel Cell and Supercapacitor Materials	25/26 Fall
3	PHYC 3540	Optics and Photonics	24/25 Winter
4	PHYC 1290	Introduction to Physics #2	24/25 Winter
5	PHYC 1190	Introduction to Physics #1	24/25 Fall
6	CHEM 5312	Advances in Battery, Fuel Cell and Supercapacitor Materials	23/24 Winter
7	PHYC 3540	Optics and Photonics	23/24 Fall
8	PHYC 2150	Physics Tools: Experiment	23/24 Fall
9	CHEM 5312	Advances in Battery, Fuel Cell and Supercapacitor Materials	22/23 Winter
10	PHYC 3540	Optics and Photonics	22/23 Fall
11	PHYC 3540	Optics and Photonics	21/22 Winter

I am also in the process of developing a new MSc program, the "Battery Technology Master's Program" designed to advance expertise in this critical field and address the growing demand for skilled professionals in battery technology.

1.5 Funding History

Title:	EIP-22-003 - Canadian Battery Innovation Center
Agency:	Natural Resource Canada

Program:	Energy Innovation Program
Years:	2023 - 2028
Amount:	CAD \$8,150,852.65
PI:	Chongyin Yang, Michael Metzger
Title:	Canadian Battery Innovation Center (CBIC) – Critical Infrastructure for Advanced Battery Research in Canada
Agency:	Canada Foundation for Innovation
Program:	Innovation Fund
Years:	2023 – 2028
Amount:	CAD \$4,984,931
PI:	Chongyin Yang, Michael Metzger
Title:	226038 - Canadian Battery Innovation Center
Agency:	Atlantic Canada Opportunities Agency
Program:	REGI - Regional Innovation Ecosystem (RIE)
Years:	2024 – 2028
Amount:	CAD \$2,000,000
PI:	Chongyin Yang, Michael Metzger
Title:	Structure and Properties of Halogen-Graphite Intercalation Electrodes for Low-Cost and High-energy Li-ion Batteries
Agency:	Natural Sciences and Engineering Research Council (NSERC)
Program:	Discovery Grants
Years:	2021 - 2026
Amount:	CAD \$220,000
PI:	Chongyin Yang
Title:	Advanced Batteries for Electric Vehicle and Grid Energy Storage Applications
Agency:	Natural Sciences and Engineering Research Council (NSERC)
Program:	Alliance Grants
Years:	2021 - 2026
Amount:	CAD \$6,000,000
PI:	Jeff Dahn, Chongyin Yang, Michael Metzger
Title:	Sodium-Ion Batteries for Electrification of Society: Cradle to Grave
Agency:	Canada First Research Excellence Fund (CFREF)
Program:	Volt-Age CFREF Impact Fund
Years:	2025 - 2029
Amount:	CAD \$4,000,000
PI:	Lukas Swan, Jeff Dahn, Chongyin Yang, Michael Metzger, etc.

1.6 Research Contributions

1.6.1 Peer-Reviewed Publications

A. Publication Statistics (as of Dec 4, 2025, Source: [Google Scholar](#))

Total publication: 80

Total citation: 20,518

h-index: 52

i10-index: 81

B. After joining Dalhousie University: (corresponding authors are indicated with *)

1. Y. Zhang, L. Zhang, A. Dutta, Z. Ye, M. Johnson, A. George, J.R. Dahn, **C. Yang***, Phosphorus–Hard Carbon Composite Anodes for High-Performance Sodium-Ion Batteries, *Journal of The Electrochemical Society*, 172 120507.
2. L. Zhang, Y. Zhang, S. Omessi, B. Rutherford, J.R. Dahn, **C. Yang**, M. Metzger, Towards a High-Performance Tin Anode for Practical Sodium-Ion Batteries, *Journal of The Electrochemical Society*, 172, 100506.
3. X. Zhang, T. P Pollard, S. Tan, N. Zhang, J. Xu, Y. Liu, A. L Phan, W. Zhang, F. Chen, **C. Yang**, E. Hu, X.-Q. Yang, O. Borodin, C. Wang, Li⁺ (ionophore) nanoclusters engineered aqueous/non-aqueous biphasic electrolyte solutions for high-potential lithium-based batteries, *Nature Nanotechnology* (2025) 20, 798–806.
4. J. Pan, Y. Liu, Y. Sun, O. Seo, R. Kumara, Y. Liu, T. Watanabe, J. Yang, S. Dou, **C. Yang**, Q. Yan*, S. Madhavi*, F. Huang*, Strategy Formulation for Mitigating Capacity Fading of Na-Layered Oxides, *Angewandte Chemie International Edition* (2025) 137, e202503587.
5. P. Bunyanidhi, A. Dutta, T. Bond, J. Zhou, J. Wang, B. Tang, D. Rathore, W. Black, M. Sawangphruk, **C. Yang***, Different Impacts of Dissolved Transition Metals on the Graphite Anode in Lithium-ion Batteries, *Journal of The Electrochemical Society* (2025) 172, 040506.
6. D. Rathore, H.S. Perez, I. Monchesky, F. Vain, P. Xiao, **C. Yang**, J.R. Dahn*, Substituting Na for excess Li in Li_{1+x}(Ni_{0.6}Mn_{0.4})_{1-x}O₂ Materials, *Journal of The Electrochemical Society* (2024) 171, 080503.
7. M. Garayt, L. Zhang, Y. Zhang, M. Obialor, Y. Xing, J. Deshmukh, **C. Yang***, M. Metzger*, J.R. Dahn*, Practical Alloy-Based Negative Electrodes for Na-ion Batteries, *Journal of The Electrochemical Society* (2024) 171, 070523.
8. M. Yue, S. Azam, N. Zhang, J.R. Dahn, **C. Yang***, Residual NMP and Its Impacts on Performance of Lithium-Ion Cells, *Journal of The Electrochemical Society* (2024) 171, 050515.
9. A. Dutta, S. Beniwal, A. Van Der Est, W. Song, S. Yu, M. Johnson, P. Xiao, J.R. Dahn*, and **C. Yang***, Evolution of Spinel LiMn₂O₄ Single Crystal Morphology Induced by the Li₂MnO₃ Phase during Sintering, *ACS Energy Letter* (2024) 9, 888–895.
10. M. Ball, M. Cormier, E. Zsoldos, I. Haman, S. Yu, N. Zhang, N. Phattharasupakun, M.B. Johnson, M. Metzger, **C. Yang**, J.R. Dahn*, Method—AMIDR: A Complete Pulse Method for Measuring Cathode Solid-State Diffusivity, *Journal of The Electrochemical Society* (2024) 171, 020552.
11. M. Yue, C. Aiken, J. Deshmukh, M. Garayt, M. Johnson, J.R. Dahn, **C. Yang***, Improved Elevated Temperature Performance of LiFePO₄/Graphite Cell by Blending NMC640 in Cathode, *Journal of The Electrochemical Society* (2023) 170, 110532.
12. M. Garayt, M. Johnson, L. Laidlaw, M.A. McArthur, S. Trussler, J. Harlow, J.R. Dahn, **C. Yang***, A Guide to Making Highly Reproducible Li-Ion Single-Layer Pouch Cells for Academic Researchers, *Journal of*

The Electrochemical Society (2023) 170, 080516.

13. S. Yu, N. Zhang, M. Garayt, K. Leslie, **C. Yang**, J.R. Dahn*, All dry in one step (ADIOS to water) synthesis of W-coated $\text{Li}_{1+x}(\text{Ni}_{0.7}\text{Mn}_{0.3})_{1-x}\text{O}_2$, **Journal of Power Sources** (2023) 581, 233432.
14. M. Garayt, N. Zhang, S. Yu, J.J. Abraham, A. Murphy, R. Omessi, Z. Ye, S. Azam, M. Johnson, **C. Yang**, J.R. Dahn*, Single Crystal $\text{Li}_{1+x}[\text{Ni}_{0.6}\text{Mn}_{0.4}]_{1-x}\text{O}_2$ Made by All-Dry Synthesis, **Journal of The Electrochemical Society** (2023) 170, 060529.
15. D. Rathore, C. Liang, E. Zsoldos, M. Ball, S. Yu, **C. Yang**, Q. Wang*, J.R. Dahn*, Elucidating the Role of Excess Li in the Electrochemical Performance of $\text{Li}_{1+x}[\text{Ni}_{0.5}\text{Mn}_{0.5}]_{1-x}\text{O}_2$ Layered Oxides, **Journal of The Electrochemical Society** (2023) 170, 020520.
16. **C. Yang**, J. Xia, C. Cui, T.P. Pollard, J. Vatamanu, A. Faraone, J.A. Dura, M. Tyagi, A. Kattan, E. Thimsen, J. Xu, W. Song, E. Hu, X. Ji, S. Hou, X. Zhang, M.S. Ding, S. Hwang, D. Su, Y. Ren, X.-Q. Yang, H. Wang, O. Borodin*, Chunsheng Wang*, All-Temperature Zinc Batteries with High-Entropy Aqueous Electrolyte, **Nature Sustainability** (2023) 6, 325–335.
17. N. Zaker*, C. Geng, D. Rathore, I. Hamam, N. Chen, P. Xiao, **C. Yang**, J.R. Dahn, G.A. Botton*, Probing the Mysterious Behavior of Tungsten as a Dopant Inside Pristine Cobalt-Free Nickel-Rich Cathode Materials, **Advanced Functional Materials** (2023) 2211178.
18. J. Xu, T.P. Pollard, **C. Yang (equally contributed)**, N.K. Dandu, S. Tan, J. Zhou, J. Wang, X. He, X. Zhang, A-M Li, E. Hu, X.-Q. Yang, O. Borodin, C. Wang*, Lithium Halide Cathodes for Li Metal Batteries, **Joule** (2023) 7, 83 - 94.
19. Q. Li, **C. Yang**, J. Zhang, X. Ji, J. Xu, X. He, L. Chen, S. Hou, J. Uddin, D. Addison, D. Sun, C. Wang*, F. Wang, Controlling Intermolecular Interaction and Interphase Chemistry Enabled Sustainable Water-tolerance, **Angewandte Chemie International Edition** (2022) 61, e202214126.
20. J. Xia, Z. Wang, N.D. Rodrig, B. Nan, J. Zhang, W. Zhang, B.L. Lucht, **C. Yang***, C. Wang*, Super-Reversible CuF_2 Cathodes Enabled by Cu^{2+} -Coordinated Alginate, **Advanced Materials** (2022) 34, 2205229.
21. D. Rathore, M. Garayt, Y. Liu, C. Geng, M. Johnson, J.R. Dahn*, **C. Yang***, Preventing Interdiffusion during Synthesis of Ni-rich Core-shell Cathode Materials, **ACS Energy Letter** (2022) 7, 2189–2195.
22. S. Hou, L. Chen, X. Fan, X. Fan, X. Ji, B. Wang, C. Cui, J. Chen, **C. Yang**, W. Wang, C. Li, C. Wang*, High-energy and low-cost membrane-free chlorine flow battery, **Nature Communications** (2022) 13, 1281.
23. J. Xu, X. Ji, J. Zhang, **C. Yang**, P. Wang, S. Liu, K. Ludwig, F. Chen, P. Kofinas, C. Wang*, Aqueous electrolyte design for super-stable 2.5 V LiMn_2O_4 || $\text{Li}_4\text{Ti}_5\text{O}_{12}$ pouch cells, **Nature Energy**, 7, 186–193.
24. Hamam, O. Roee, D. Rathore, C. Geng, R. Cooke, K. Plucknett, D.P. Bishop, N. Zaker, G.A. Botton, **C. Yang**, J.R. Dahn*, Correlating the mechanical strength of positive electrode material particles to their capacity retention, **Cell Reports Physical Science** (2022) 3, 100714.
25. C. Geng, D. Rathore, D. Heino, N. Zhang, I. Hamam, N. Zaker, G.A. Botton, R. Omessi, N. Phattharasupakun, T. Bond, **C. Yang***, J.R. Dahn*, Mechanism of Action of the Tungsten Dopant in LiNiO_2 Positive Electrode Materials, **Advanced Energy Materials** (2022) 2103067.
26. D. Rathore, C. Geng, N. Zaker, I. Hamam, Y. Liu, P. Xiao, G. Botton, J.R. Dahn*, **C. Yang***, Tungsten Infused Grain Boundaries Enabling Universal Performance Enhancement of Co-Free Ni-Rich Cathode Materials, **Journal of The Electrochemical Society** (2021) 168, 120514.
27. L. Cao, D. Li, T. Pollard, T. Deng, B. Zhang, **C. Yang**, L. Chen, J. Vatamanu, E. Hu, M. J Hourwitz, L. Ma, M. Ding, Q. Li, S. Hou, K. Gaskell, J. T Fourkas, X.-Q. Yang, K. Xu, O. Borodin, C. Wang, Fluorinated interphase enables reversible aqueous zinc battery chemistries, **Nature Nanotechnology** (2021).

C. Before joining Dalhousie University: (corresponding authors are indicated with *)

28. **C. Yang**, X. Wang, W. Dong, I-W. Chen, Z. Wang, J. Xu, T. Lin, H. Gu, F. Huang, Nitrogen-doped black titania for high performance supercapacitors, **Science China Materials** (2020) 63, 1227-1234.

29. J. Zhang, C. Cui, P.-F. Wang, Q. Li, L. Chen, F. Han, T. Jin, S. Liu, H. Choudhary, S. R Raghavan, N. Eidson, A. von Cresce, L. Ma, J. Uddin, D. Addison, **C. Yang***, C. Wang, "Water-in-salt" polymer electrolyte for Li-ion batteries, *Energy & Environmental Science* (2020) 13, 2878-2887.
30. A. Cresce, N. Eidson, M. Schroeder, L. Ma, Y. Howarth, **C. Yang**, J. Ho, R. Dillon, M. Ding, A. Bassett, J. Stanzione, R. Tom, T. Soundappan, C. Wang, K. Xu, Gel electrolyte for a 4V flexible aqueous lithium-ion battery, *Journal of Power Sources* (2020) 469, 228378.
31. L. Chen, L. Cao, X. Ji, S. Hou, Q. Li, J. Chen, **C. Yang**, N. Eidson, C. Wang, Enabling safe aqueous lithium ion open batteries by suppressing oxygen reduction reaction, *Nature communications* (2020) 11, 1-8.
32. J. Chen, X. Fan, Q. Li, H. Yang, M R. Khoshi, Y. Xu, S. Hwang, L. Chen, X. Ji, **C. Yang**, H. He, C. Wang, E. Garfunkel, D. Su, O. Borodin, C. Wang, Electrolyte design for LiF-rich solid-electrolyte interfaces to enable high-performance micro-sized alloy anodes for batteries, *Nature Energy* (2020) 5, 386-397.
33. C. Cui, X. Fan, X. Zhou, J. Chen, Q. Wang, L. Ma, **C. Yang**, E. Hu, X. Yang, C. Wang, Structure and Interface Design Enable Stable Li-Rich Cathode, *Journal of the American Chemical Society* (2020) 142, 8918-8927.
34. C. Cui, **C. Yang***, N. Eidson, J. Chen, F. Han, L. Chen, C. Luo, P. Wang, X. Fan, C. Wang, A Highly Reversible, Dendrite-Free Lithium Metal Anode Enabled by a Lithium-Fluoride-Enriched Interphase, *Advanced Materials* (2020) 32, 1906427.
35. L. Chen, J. Zhang, Q. Li, J. Vatamanu, X. Ji, T. P. Pollard, C. Cui, S. Hou, J. Chen, **C. Yang**, L. Ma, M. S. Ding, M. Garaga, S. Greenbaum, H. Lee, O. Borodin, K. Xu, C. Wang, A 63 m Superconcentrated Aqueous Electrolyte for High-Energy Li-Ion Batteries, *ACS Energy Letters* (2020) 5, 968-974.
36. **C. Yang**, J. Chen, X. Ji, T. P. Pollard, X. Lü, C. Sun, S. Hou, Q. Liu, C. Liu, T. Qing, Y. Wang, O. Borodin, Y. Ren, K. Xu, C. Wang, Aqueous Li-ion Battery Enabled by Halogen Conversion-Intercalation Chemistry in Graphite, *Nature* (2019) 69, 245-250.
37. C. Cui, X. Ji, P. Wang, G. Xu, L. Chen, J. Chen, H. Kim, Y. Ren, F. Chen, **C. Yang**, X. Fan, C. Luo, K. Amine, C. Wang, Integrating Multiredox Centers into One Framework for High-Performance Organic Li-Ion Battery Cathodes, *ACS Energy Letters* (2019) 5, 224-231.
38. T. Gao, X. Ji, S. Hou, X. Fan, X. Li, **C. Yang**, F. Han, F. Wang, J. Jiang, K. Xu, C. Wang, Thermodynamics and Kinetics of Sulfur Cathode during Discharge in MgTFSI₂-DME Electrolyte, *Advanced Materials*, (2018) 30, 1704313.
39. L. Suo, O. Borodin, Y. Wang, X. Rong, W. Sun, X. Fan, S. Xu, M. A. Schroeder, A. V. Cresce, F. Wang, **C. Yang**, Y. Hu, K. Xu, C. Wang, "Water-in-Salt" Electrolyte Makes Aqueous Sodium-Ion Battery Safe, Green, and Long-Lasting, *Advanced Energy Materials* (2017) 7, 1701189.
40. **C. Yang**, X. Ji, X. Fan, T. Gao, L. Suo, F. Wang, W. Sun, J. Chen, L. Chen, F. Han, L. Miao, K. Xu, K. Gerasopoulos, C. Wang, Flexible Aqueous Li-ion Battery with High Energy and Power Densities, *Advanced Materials* (2017) 29, 1701972.
41. **C. Yang**, J. Chen, T. Qing, J. Chen, X. Fan, W. Sun, A. v. Cresce, M. S. Ding, M. A. Schroeder, N. Eidson, C. Wang, K. Xu, 4.0 V Aqueous Li-ion Batteries, *Joule* (2017) 1, 122-132.
42. **C. Yang**, L. Suo, O. Borodin, F. Wang, W. Sun, T. Gao, X. Fan, S. Hou, Z. Ma, K. Amine, K. Xu, C. Wang, Unique aqueous Li-ion/sulfur chemistry with high energy density and reversibility, *Proceedings of the National Academy of Sciences* (2017) 114, 6197-6202.
43. F. Wang, X. Fan, T. Gao, W. Sun, Z. Ma, **C. Yang**, F. Han, K. Xu, C. Wang, High-Voltage Aqueous Magnesium Ion Batteries, *ACS Central Science* (2017) 3, 1121-1128.
44. W. Sun, F. Wang, S. Hou, **C. Yang**, X. Fan, Z. Ma, T. Gao, F. Han, R. Hu, M. Zhu, C. Wang, Zn/MnO₂ Battery Chemistry with H⁺ and Zn²⁺ Coinsertion, *Journal of the American Chemical Society* (2017) 139, 9775-9778.
45. H. Tian, T. Gao, X. Li, X. Wang, C. Luo, X. Fan, **C. Yang**, L. Suo, Z. Ma, W. Han, C. Wang, High power rechargeable magnesium/iodine battery chemistry, *Nature Communications* (2017) 8, 14083.

46. F. Wang, L. Suo, Y. Liang, **C. Yang**, F. Han, T. Gao, W. Sun, C. Wang, Spinel $\text{LiNi}_{0.5}\text{Mn}_{1.5}\text{O}_4$ Cathode for High-Energy Aqueous Lithium-Ion Batteries, *Advanced Energy Materials* (2017) 7, 1600922.
47. L. Suo, O. Borodin, W. Sun, X. Fan, **C. Yang**, F. Wang, T. Gao, Z. Ma, M. Schroeder, A. v. Cresce, S. M. Russell, M. Armand, A. Angell, K. Xu, C. Wang, Advanced High-Voltage Aqueous Lithium-Ion Battery Enabled by “Water-in-Bisalt” Electrolyte, *Angewandte Chemie International Edition* (2016) 128, 7252-7257.
48. F. Wang, Y. Lin, L. Suo, X. Fan, T. Gao, **C. Yang**, F. Han, Y. Qi, K. Xu, C. Wang, Stabilizing high voltage LiCoO_2 cathode in aqueous electrolyte with interphase-forming additive, *Energy & Environmental Science* (2016) 9, 3666-3673.
49. Xuyuan Zhang, **Chongyin Yang**, Jianping Zhou, Meirong Huo, Somatostatin Receptor-Mediated Tumor-Targeting Nanocarriers Based on Octreotide-PEG Conjugated Nanographene Oxide for Combined Chemo and Photothermal Therapy, *Small* (2016) 12, 3578–3590.
50. Jian Zhi, **Chongyin Yang**, Tianquan Lin, Houlei Cui, Zhou Wang, Hui Zhang, Fuqiang Huang, Flexible all solid state supercapacitor with high energy density employing black titania nanoparticles as a conductive agent, *Nanoscale* (2016) 8, 4054-4062.
51. Tianquan Lin, I-Wei Chen, Fenxin Liu, **Chongyin Yang**, Hui Bi, Fangfang Xu, Fuqiang Huang, Nitrogen-doped mesoporous carbon of extraordinary capacitance for electrochemical energy storage, *Science* (2015) 350, 1508-1513.
52. Houlei Cui, Guilian Zhu, Xiangye Liu, Fengxin Liu, Yian Xie, **Chongyin Yang**, Tianquan Lin, Hui Gu, Fuqiang Huang, Niobium Nitride Nb_4N_5 as a New High-Performance Electrode Material for Supercapacitors, *Advanced Science* (2015) 2, 1500126.
53. Houlei Cui, Guilian Zhu, Yian Xie, Wei Zhao, **Chongyin Yang**, Tianquan Lin, Hui Gu, Fuqiang Huang, Black nanostructured Nb_2O_5 with improved solar absorption and enhanced photoelectrochemical water splitting, *Journal of Materials Chemistry A* (2015) 3, 11830-11837.
54. Guilian Zhu, Hao Yin, **Chongyin Yang**, Houlei Cui, Zhou Wang, Jijian Xu, Tianquan Lin, Fuqiang Huang, Black titania for superior photocatalytic hydrogen production and photoelectrochemical water splitting, *ChemCatChem* (2015) 7, 2614-2619.
55. T. Lin, **C. Yang (equal contribution)**, Z. Wang, H. Yin, X. Lv, F. Huang, J. Lin, X. Xie, M. Jiang, Effective Nonmetal Incorporation in Black Titania with Enhanced Solar Energy Utilization, *Energy & Environmental Science* (2014) 7, 967-972.
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57. Yian Xie, Yufeng Liu, Houlei Cui, Wei Zhao, **Chongyin Yang**, Fuqiang Huang, Facile solution-based fabrication of ZnIn_2S_4 nanocrystalline thin films and their photoelectrochemical properties, *Journal of Power Sources* (2014) 265, 62-66.
58. **C. Yang**, Z. Wang, T. Lin, H. Yin, X. Lv, D. Wan, T. Xu, C. Zheng, J. Lin, F. Huang, X. Xie, M. Jiang, Core-Shell Nanostructured “Black” Rutile Titania as Excellent Catalyst for Hydrogen Production Enhanced by Sulfur Doping, *Journal of the American Chemical Society* (2013) 135, 17831–17838.
59. Z. Wang, **C. Yang (equal contribution)**, T. Lin, H. Yin, P. Chen, D. Wan, F. Xu, F. Huang, J. Lin, X. Xie, M. Jiang, Visible-light Photocatalytic, Solar Thermal and Photoelectrochemical Properties of Aluminium-Reduced Black Titania, *Energy & Environmental Science* (2013) 6, 3007-3014.
60. Z. Wang, **C. Yang (equal contribution)**, T. Lin, H. Yin, P. Chen, D. Wan, F. Xu, F. Huang, J. Lin, X. Xie, M. Jiang, H-doped Black Titania with Very High Solar Absorption and Excellent Photocatalysis Enhanced by Localized Surface Plasmon Resonance, *Advanced Functional Materials* (2013) 23, 5444–5450.
61. **C. Yang**, M. Qin, Y. Wang, D. Wan, F. Huang, J. Lin, Observation of an Intermediate Band in Sn-doped Chalcopyrites with Wide-spectrum Solar Response, *Scientific Reports* (2013) 3, 1286.

62. **C. Yang**, H. Bi, D. Wan, F. Huang, X. Xie, M. Jiang, Direct PECVD growth of vertically erected graphene walls on dielectric substrates as excellent multifunctional electrodes, *Journal of Materials Chemistry A* (2013) 1, 770-775.
63. Haijie Chen, **Chongyin Yang**, Huili Liu, Ganghua Zhang, Dongyun Wan, and Fuqiang Huang, Thermoelectric properties of CuInTe₂/graphene composites, *CrystEngComm* (2013) 15, 6648-6651.
64. Hao Yin, Tianquan Lin, **Chongyin Yang**, Zhou Wang, Guilian Zhu, Tao Xu, Xiaoming Xie, Fuqiang Huang, and Mianheng Jiang, Gray TiO₂ Nanowires Synthesized by Aluminum-Mediated Reduction and Their Excellent Photocatalytic Activity for Water Cleaning, *Chemistry-A European Journal* (2013) 19, 13313-13316.
65. Ping Chen, Haijie Chen, Mingsheng Qin, **Chongyin Yang**, Wei Zhao, Yufeng Liu, Wenqing Zhang, and Fuqiang Huang, Fe-substituted indium thiospinels: New intermediate band semiconductors with better absorption of solar energy, *Journal of Applied Physics* (2013) 113, 213509.
66. Ping Chen, Mingsheng Qin, Haijie Chen, **Chongyin Yang**, Yaoming Wang, Fuqiang Huang, Cr incorporation in CuGaS₂ chalcopyrite: A new intermediate-band photovoltaic material with wide-spectrum solar absorption, *Physica Status Solidi (a)* (2013) 210, 1098-1102.
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70. Yufeng Liu, Yian Xie, HouLei Cui, Wei Zhao, **Chongyin Yang**, Yaoming Wang, Fuqiang Huang, and Ning Dai, Preparation of Monodispersed CuInS₂ Nanopompons and Nanoflake Films and Applications in Dye-sensitized Solar Cells, *Physical Chemistry Chemical Physics* (2013) 15, 4496.
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78. Fuqiang Huang, Minling Liu, **Chongyin Yang**, Highly enhanced p-type electrical conduction in wide band gap Cu_{1+x}Al_{1-x}S₂ polycrystals, *Solar Energy Materials and Solar Cells* (2011) 95, 2924-2927.

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1.6.2 Filed Patents/Disclosures

1. US20250323309A1 "Alloying anode active materials for sodium-ion energy storage devices, and methods thereof"
2. US12142722B2 "Rechargeable Li-ion battery with halogen intercalated graphite electrode"
3. US20240347767 "Rechargeable battery systems and methods thereof"
4. US20190379040A1 "Electrodes Including a Passivation Layer"
5. WO2019040906A1 "High voltage aqueous electrolyte system for lithium metal or graphite anode"
6. WO2018165585A3 "Aqueous hydrogel electrolyte systems with wide electrochemical stability window"
7. US20160240328A1 "Titanium oxide-based supercapacitor electrode material and method of manufacturing same"
8. CN102583340B "High-conductivity graphene material with low-temperature gas-phase reduction and preparation method thereof"
9. CN103191707B "Method for preparing black titanium dioxide by using dual-temperature area reducing method"
10. CN102250616B "Double-perovskite structured red fluorescent powder as well as preparation method and application thereof"
11. CN103633165B "Chalcopyrite structure with an intermediate layer of the solar cell absorbing material and method"
12. CN103606573B "An intermediate chalcopyrite structure with absorbent material and method"

1.6.3 Conference Presentations

- **The 15th International Conference on Advanced Lithium Batteries for Automotive Applications (ABAA-15)**, Different impacts of dissolved transition metal ions in electrolyte on graphite anode in Li-ion batteries (poster), Oct 2024, Montreal, Canada.
- **2024 The International Battery Materials Association (IBA) annual meeting**, Effect of various facets on LiMn_2O_4 single crystal performance (poster), September 2024, Halifax, NS, Canada.
- **2024 International Meeting on Lithium Batteries (IMLB)**, Different impacts of dissolved transition metal ions in electrolyte on graphite anode in Li-ion batteries (poster), Jun 2024, Hongkong, China.
- **2023 Canadian Chemical Engineering Conference (CSCHE)**, Manganese based positive electrode materials for sustainable Li-ion batteries, October 6, 2023, Calgary, Canada (**invited**).
- **2023 CTRI Research Day**, Canadian Battery Innovation Center – Critical Infrastructure for Advanced Battery Research in Canada, August 22, 2023, Halifax, Canada (**invited**).
- **241st The Electrochemical Society (ECS) Meeting**: High nickel positive electrode materials modified by dry particle fusion, May 30, 2022, Vancouver, BC, Canada.
- **2021 CTRI Research Day**, A new class of positive electrode materials, August 25, 2021, Halifax, Canada
- **2021 The International Battery Materials Association (IBA) annual meeting**: High nickel positive electrode materials modified by dry particle fusion, Oct 25, 2021, Xiamen, China (**invited**).
- **2018 MRS Fall Meeting**: Presentations on Application of Nanoscale Phenomena and Materials to

Practical Electrochemical Energy Storage and Conversion, Nov 28, 2018, Boston, Massachusetts. “Nonflammable Fluorinated Electrolytes for Li-ion Batteries”.

- **232nd The Electrochemical Society (ECS) Meeting:** Presentations on Batteries and Energy Storage, October 3, 2017, National Harbor, Maryland. “Beyond Li-ion Chemistry for High Energy Aqueous Battery”.
- **2014 The Electrochemical Society (ECS) and SMEQ Joint International Meeting:** Invited Presentations on Solar Energy Materials and Photocatalysts, October 5-9, 2014, Cancun, Mexico. “Nano Black Titania and Solar Applications”.
- **IUMRS International Conference on Advanced Materials (IUMRS-ICAM 2013),** 22-28 Sep. 2013, Qingdao, China. “Nano Black Titania and Solar Applications”.
- **3rd USTC-PolyU-SICCAS Joint Workshop on Advanced Materials for Energy Conversion,** 1 Nov 2013, Shanghai, China, “Nano Black Titania: Synthesis and New Energy Applications”.
- **International Conference on Sintering 2011,** 30 Aug 2011, Shilla Jeju, Korea. “Low-temperature Rapid Sintering of Non-oxide Energy Materials”.

1.7 Students Supervised (after joining Dalhousie)

Student	Position	Status
Yuxi Luo	PhD	In progress
Guanwen Chen	PhD	In progress
Yuqing Zhao	PhD	In progress
Abigail Green	Undergraduate summer researcher	Completed in Aug 2024
Yixiang Zhang	PhD	In progress
Panyawee Bunyanidhi	Visiting PhD	Completed in Aug 2024
Jeffin James Abraham	M.Sc.	Graduated in Aug 2024

1.8 Service

1.8.1 Student Defense and Exam Committees

Keegan Adair, PhD student (supervisor: Xueliang Sun, Department of Mechanical and Materials Engineering, University of Western Ontario)

2021/08: External Examiner of Thesis and Defense Committee member

Zilai Yan, PhD student (supervisor: Mark Obrovac)

2021/11: Thesis Defense Committee member

Weihan Li, PhD student (supervisor: Xueliang Sun, Department of Mechanical and Materials Engineering, University of Western Ontario)

2023/08: External Examiner of Thesis and Defense Committee member

Eric Logan, PhD student (supervisor: Jeff Dahn)

2022/05: Chair of PhD Internal Thesis Defense

Brendan Brady, PhD student (supervisor: Tim Bardouille)

2022/08: Departmental Representative of PhD Thesis Defense

Animesh Dutta, PhD student (supervisor: Jeff Dahn)

Jul 2023: PhD Preliminary Exam

Svena Yu, PhD student (supervisor: Jeff Dahn)

Jul 2023: PhD Preliminary Exam

Brendan Brady, PhD student (supervisor: Tim Bardouille)

Aug 2022: Departmental Representative of PhD Thesis Defense

Mitch Ball, M.Sc. student (supervisor: Jeff Dahn)

Oct 2023 Thesis Defense Committee member

Kate Leslie, M.Sc. student (supervisor: Michael Metzger)

Aug 2024 Thesis Defense Committee member

Zach Simunovic, MAsc student (supervisor: Jeff Dahn)

Oct 2023 Thesis Defense Committee member

Jay Deshmukh, MAsc student (supervisor: Michael Metzger)

Aug 2024 Thesis Defense Committee member

Divya Rathore, PhD student (supervisor: Michael Metzger)

Sep 2024 Thesis Defense Committee member

Fitzner, R. Christian, B.Sc. student (supervisor: Jeff Dahn)

Feb 2023 reader for honour's thesis

Thomas Lacroix, B.Sc. student (supervisor: Ted Monchesky)

Reader for honour's thesis

Vanessa Smith, B.Sc. student (supervisor: Ian Hill)

Reader for honour's thesis

Mitch Gregory, PhD student (supervisor: Lukas Swan)

Dec 2024, Thesis Defense Committee member

Eniko Zsoldos, PhD student (supervisor: Jeff Dahn)

Apr 2025, Thesis Defense Committee member

Ziwei Ye, PhD student (supervisor: Michael Metzger)

Dec 2025: PhD Preliminary Exam

1.8.2 Student Supervisory Committees

The members of the Student Supervisory Committees typically also serve on the Student Defense Committees at Dalhousie. As these have already been mentioned above, they will not be repeated here. The students under my primary supervision are also not included here.

Ziyi Zhang, PhD student (supervisor: Penghao Xiao)

Jon Wicklund, PhD student (supervisor: Kimberley Hall)

Animesh Dutta, PhD student (supervisor: Jeff Dahn)

Michael Bauer, PhD student (supervisor: Jeff Dahn)

Jasleen Kaur Jagde, PhD student (supervisor: Kimberley Hall)

Ziwei Ye, PhD student (supervisor: Michael Metzger)

Svena Yu, PhD student (supervisor: Jeff Dahn)

Shivam Beniwal, PhD student (supervisor: Penghao Xiao)

Mahdi Teymoori, PhD student (supervisor: Mita Dasog)

1.8.3 Service to the Department

- Member of Graduate Advisory Committee, 2022 – present
- Associate Graduate Coordinator, 2022 – present
- Department Co-op coordinator, 2023 – 2025
- Member of Search Committee - Three Year Limited Term Appointment (LTA), 2023/06

1.8.4 Service to the Faculty of Science

- Member of Advisory Committee - Chair Search Recommendation for Department of Mathematics and Statistics, 2021/12
- Member of Search Committee - Candidate search for Canada Excellence Research Chair (CERC) in Clean and Sustainable Electrochemical Energy Storage, 2022/01

1.8.5 Service to the Research Community

- Co-organized IBA2024 - International Battery Materials Association annual conference, Halifax, Canada, September 2024.
- Co-organized Symposium for the Materials Division at Canadian Chemistry Conference and Exhibition (CSC 2024), Winnipeg, Canada, June 2024.
- Peer Review Committee Member for Canadian Light Source (2022 - present).

- External reviewer for Natural Sciences and Engineering Research Council of Canada (NSERC) for Discovery grant, Idea to Innovation (I2I) program and Alliance grant.
- Reviewer for scientific journals, including *Nature*, *Nature Materials*, *Nature Energy*, *Joule*, *Nature Sustainability*, *Nature Communications*, *Nature Nanotechnology*, *Advanced Materials*, *Advanced Energy Materials*, *ACS Energy Letter*, *Energy & Environmental Science*, *ACS Applied Energy Materials*, *Advanced Science*, *Journal of The Electrochemical Society*, *Journal of Power Sources*, etc.