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EDUCATION

- 1992 – 1995 *Ph.D. in Chemical Engineering, University of Waterloo, Waterloo, ON.
Supervisors: Prof. Alfred Rudin and Dr. Tom A. Kavassalis.
Thesis: *Three-dimensional Solubility and Interaction Parameters: Inverse Gas Chromatography and Molecular Dynamics Studies.**
- 1990 – 1992 *M.A.Sc. in Chemical Engineering, University of Waterloo, Waterloo, ON.
Supervisors: Prof. Alfred Rudin and Dr. Tom A. Kavassalis.
Thesis: *Design of Non-ionic Surfactants Using Molecular Dynamics.**
- 1984 – 1988 *B.A.Sc. in Chemical Engineering, The University of British Columbia,
Vancouver, B.C.
Supervisor: Prof. Bruce Bowen.
Thesis: *The Effect of Connecting Fins on the Efficiency of a Plate Heat Exchanger.**

FELLOWSHIPS AND PROFESSIONAL LICENCES

- 2022 – *Fellow, The Royal Society of Chemistry (United Kingdom).*
- 2019 – *Fellow, Engineering Institute of Canada.*
- 2017 – *Fellow, Chemical Institute of Canada.*
- 2017 – *Federal Court Expert Witness in Patent Litigation.*
- 2022 – *Professional Engineer, APEGS.*
- 1997 – *Professional Engineer, APEGA.*
- 1993 – 1997 *Professional Engineer, PEO.*

PROFESSIONAL EXPERIENCE

- 2022 – *Dean and Professor, Faculty of Engineering and Applied Science,
University of Regina, Regina, SK.*
- 2022 – *Professor Emeritus, Department of Chemical and Materials Engineering,
University of Alberta, Edmonton, AB.*

2006 – 2022	<i>Professor</i> , Department of Chemical and Materials Engineering, University of Alberta, Edmonton, AB.
2012 – 2015	<i>Associate Chair (Research)</i> , Department of Chemical and Materials Engineering, University of Alberta, Edmonton, AB.
2012 (09 – 12)	<i>Acting Chair</i> , Department of Chemical and Materials Engineering, University of Alberta, Edmonton, AB.
2008 – 2012	<i>Associate Chair (Undergraduate)</i> , Department of Chemical and Materials Engineering, University of Alberta, Edmonton, AB.
2001 – 2006	<i>Associate Professor</i> , Department of Chemical and Materials Engineering, University of Alberta, Edmonton, AB.
1997 – 2001	<i>Assistant Professor</i> , Department of Chemical and Materials Engineering, University of Alberta, Edmonton, AB.
1996 – 1997	<i>Sessional Lecturer and Postdoctoral Fellow</i> , Department of Chemical and Materials Engineering, University of Alberta, Edmonton, AB.
1995 – 1996	<i>Development Chemist</i> , Sternson Construction Limited, Brantford, ON.
1990 – 1995	<i>Visiting Scientist</i> , Xerox Research Centre of Canada, Mississauga, ON.
1989 – 1990	<i>Research Assistant</i> , Department of Chemistry, University of Waterloo, Waterloo, ON.

SABBATICAL APPOINTMENTS

2022	Hosted Professor S. J. Wong, Department of Mechanical Engineering, The University of Akron, Akron OH.
2013 – 2014	<i>Visiting Professor</i> hosted by Dr. E. Vignola, Leader of Polyethylene Product R&D, NOVA Chemicals Corporation, Calgary, AB.
2003 – 2004	<i>Visiting Professor</i> hosted by Prof. W. L. Mattice, The Maurice Morton Institute of Polymer Science, The University of Akron, Akron, OH.

PUBLICATIONS

Invited Textbooks

1. A. Rudin and P. Choi, “The Elements of Polymer Science and Engineering,” 4th Edition, Elsevier, Amsterdam, In Preparation (2022).
2. A. Rudin and P. Choi, “The Elements of Polymer Science and Engineering,” 3rd Edition, Elsevier, Amsterdam (2013).
3. The Portuguese version of the above textbook (translators: R. Cientifica and Traducaoc), Elsevier, Amsterdam (2015).

Invited Book Chapters

1. L. Zhao and P. Choi, “Molecular Modelling of Polymer Surfaces and Interfaces” in “Molecular Interfacial Phenomena of Polymers and Biopolymers,” P. Chen (Editor), Woodhead Publishing Ltd., Cambridge, 48 – 71 (2005).
2. J. E. I. Wright, L. Zhao, P. Choi and H. Uludag, “Simulating Hydroxyapatite Binding of Bone-Seeking Bisphosphonates” in “Biomaterials: From Molecules to Engineered Tissues,” N.

Hasirci and V. Hasirci (Editors), Kluwer Academic/Plenum Publishers, New York, 139 – 148 (2004).

3. T. A. Kavassalis, P. Choi and A. Rudin, “Molecular Models and Three-Dimensional Solubility Parameters of Non-ionic Surfactants” in “Molecular Simulation and Industrial Applications: Methods, Examples and Prospects,” K. E. Gubbins and N. Quirke (Editors), Gordon and Breach Science Publishers, Amsterdam, 315 – 329 (1996).

Refereed Journal Publications

1. C.-P. J. Wong and P. Choi, “Polymer Free Volume and Its Connection to the Shear Relaxation Modulus,” In Preparation (2022).
2. D. Barker-Rothschild, S. R. Stoyanov, R. Gieleciak, M. Cruickshank, C. N. Filipescu, M. Kusinski, D. Dunn, P. Choi “Assessing the Impact of Drought-Induced Abiotic Stress on the Composition of Douglas-Fir Lignin for Valorization,” Submitted (2022).
3. C.-P. J. Wong and P. Choi, “Estimation of the Zero Shear Viscosity of 1,3-Bis(1-Naphthyl)-5-(2-Naphthyl) Benzene Using Integral Equation and Free Volume Theories,” Submitted (2022).
4. S. Kavyani and P. Choi, “Molecular Dynamics Study of the Environmental Stress Cracking Agent Assisted Cavitation in Linear and Branched Polyethylene,” Submitted (2022).
5. S. Beth, P. Choi and S. Mushrif, “Physiochemical Interactions within Lignocellulose Biomass and their Importance in Developing Solvent Based Deconstruction Methods,” Submitted (2022).
6. D. Barker-Rothschild, S. R. Stoyanov, R. Gieleciak, M. Cruickshank, Cosmin Filipescu, D. Dunn and P. Choi, “Chemometrics and Lignocellulosic Biomass – Advanced Strategies for the Accelerated Analysis and Valorization of Lignin,” Submitted (2022).
7. R.E. Hayes and P. Choi, “Preface to the Special Issue Honoring Professor Michael Williams,” **Canadian Journal of Chemical Engineering**, doi.org/10.1002/cjce.24584 (2022).
8. S. Beth, P. Choi and S. Mushrif, “Origins of Covalent Linkages within the Lignin-Carbohydrate Network of Biomass,” **Physical Chemistry Chemical Physics** 24, 20480 (2022).
9. R. Khalkhali, A. Peyravi, Z. Hashisho and P. Choi, “Microwave-Assisted Removal of Cyclohexane from Gangue,” **Industrial & Engineering Chemistry Research**, 61, 6611 – 6617 (2022).
10. S. Saadati, U. Eduok, H. Westphalen, A. Abdelrasoul, A. Shoker, P. Choi, H. Doan, F. Ein-Mozaffari and N. Zhu, “Assessment of Polyaryl Ether Sulfone (PES) and Polyacrylonitrile (PAN) Hemodialysis Clinical Membranes: in situ Synchrotron-based Imaging of Human Serum Proteins Adsorption, Interaction Analyses, Molecular Docking and Clinical Inflammatory Biomarkers Investigations,” **Materials Today Communications**, 29, 102928 (2021).
11. S. Saadati, U. Eduok, H. Westphalen, A. Abdelrasoul, A. Shoker, P. Choi, H. Doan, F. Ein-Mozaffari and N. Zhu, “In situ Synchrotron Imaging of Human Serum Proteins Interactions, Molecular Docking and Inflammatory Biomarkers of Hemocompatible Synthesized Zwitterionic Polymer Coated-Polyvinylidene Fluoride (PVDF) Dialysis Membranes,” **Surfaces and Interfaces** 27, 101505 (2021).

12. P. Choi, "On the Applicability of Regular Solution and Flory-Huggins Theories to Asphaltene Solutions," a special issue dedicated to Prof. Hisham Nasr-el-din in the **Canadian Journal of Chemical Engineering**, doi.org/10.1002/cjce.24247 (2021).
13. C.-P. J. Wong and P. Choi, "Estimation of Linear, Ring and Star Polyethylene Viscosity via Proper Orthogonal Decomposition and Voronoi Tessellation Analysis of Molecular Dynamics," Accepted to a special issue dedicated to Prof. Michael Williams in the **Canadian Journal of Chemical Engineering** DOI: 10.1002/cjce.24155 (2021).
14. M. H. Anvari, P. Choi and Q. Liu, "A Molecular Dynamics Study on the Interfacial Properties of Millerite," **Journal of Molecular Liquids** 334, 116031 (2021).
15. Y. Xiong, S. R. Stoyanov, A. Alvarez-Majmutov, R. Gieleciak, T. Cao, C. Wang, H. Song, N. Xie, L. Qi, S. Xu, W. Lin, P. Choi and Z. Xu, "Corrigendum to Self-assembly and Solubility Properties of Polyaromatic Compounds Studied by Molecular Dynamics Simulation [**Fuel**, 277, 118060 (2020)]," **Fuel** 291, 119944 (2021).
16. R. Khalkhali and P. Choi, "Role of the Composition of Cyclohexane Extracted Gangue on its Drying at Ambient Conditions" **Canadian Journal of Chemical Engineering** DOI: 10.1002/cjce.23964 (2021).
17. V. Kislitsin and P. Choi, "Comparison between the Kinetics of Cyclohexane Absorption and Desorption for Heterogeneous Bitumen Nanofilms," **Fuel**, 283, 11836 (2021).
18. C.-P. J. Wong and P. Choi, "A Review on the Relaxation Dynamics Analysis of Unentangled Polymers with Different Structures," *Invited for a special issue on Recent Developments on Molecular Simulation*, **Molecular Simulation**, 47, 888 – 899 (2021).
19. H. Westphalen, S. Saadati, U. Eduok, A. Abdelrasoul, A. Shoker, P. Choi, H. Doan and F. Ein-Mozaffari, "Case Studies of Clinical Hemodialysis Membranes: Influences of Membranes Morphology and Biocompatibility on Uremic Blood Interactions and Inflammatory Biomarkers," **Scientific Reports**, 10 (1), 1 – 18 (2020).
20. T. Shui, V. Khatri, M. Chae, S. Sokhansanj, P. Choi and D. C. Bressler, "Development of a Torrefied Wood Pellet Binder from the Cross-linking between Specified Risk Materials-Derived Peptides and Epoxidized Poly (vinyl alcohol)," **Renewable Energy**, 162, 71 – 80 (2020).
21. S. Saadati, H. Westphalen, U. Eduok, A. Abdelrasoul, A. Shoker, P. Choi, H. Doan, F. Ein-Mozaffari and N. Zhu, "Biocompatibility Enhancement of Hemodialysis Membranes Using Novel Zwitterionic Copolymer: Experimental, *in situ* Synchrotron Imaging, Molecular Docking, and Clinical Inflammatory Biomarkers Investigations," **Materials Science & Engineering C**, 117, 111301 (2020).
22. C.-P. J. Wong and P. Choi, "Prediction of Crossover in the Molecular Weight Dependence of Polyethylene Viscosity Using a Polymer Free Volume Theory," *Highlighted on the outside back cover of the journal*, **Soft Matter**, 16, 7458 – 7469 (2020).
23. C.-P. J. Wong and P. Choi, "A Theory on the Effect of Temperature on the Chain Length Dependence of the Diffusivity of Oligomers," **Soft Matter**, 16, 4283 – 4289 (2020).
24. V. Kislitsin and P. Choi, "Initial Mass Uptake Dynamics and Diffusivity of Cyclohexane Vapor in Nano-Scale Bitumen Films Coated on Substrates with Different Degrees of Hydrophobicity," **Fuel** 271, 117507 (2020).
25. C.-P.J. Wong and P. Choi, "On the Diffusivity of Ring Polymers," **Soft Matter** 16, 2350 – 2362 (2020).
26. V. Kislitsin and P. Choi, "Thickness Dependence of the Diffusivity and Solubility of Cyclohexane in Nanoscale Bitumen Films," **ACS Omega** 4 (25), 21578 – 21586 (2019).

27. M. Khalkhali, X. Zhu, Y. Shi, Q. Liu, P. Choi and H. Zhang, "Structure and CO₂ Physisorption Capacity of Hydrotalcite-derived Oxide," **Journal of CO₂ Utilization** *36*, 64 – 75 (2019).
28. C.-P. J. Wong and P. Choi, "A Free Volume Theory on the Chain Length Dependence of the Diffusivity of Linear Polymers," **Soft Matter**, *15*, 9300 – 9309 (2019).
29. H. Tao, M. Liu, S. Liu, J. Luo, P. Choi, Q. Liu and Z. Xu, "Revelation of the Nature of Ligand-PbS Bond and its Implication on Chemical Functionalization of PbS," **Journal of Physical Chemistry C**, *123* (37), 22981 – 22988 (2019).
30. M. H. Anvari and P. Choi, "Effect of Confinement on the Adsorption Behavior of Inorganic and Organic Ions at Aqueous-Cyclohexane Interfaces: A Molecular Dynamics Study," **Physical Chemistry Chemical Physics**, *21* (37), 20770 – 20781 (2019).
31. B. B. Adhikari, M. Chae, C. Zhu, A. Khan, D. Harfield, P. Choi and D. C. Bressler, "Pelletization of Torrefied Wood Using a Proteinaceous Binder Developed from Hydrolyzed Specified Risk Materials," **Processes**, *7* (4), 229 (2019).
32. C.-P. J. Wong and P. Choi, "Analysis of Brownian Dynamics and Molecular Dynamics Data of Unentangled Polymers Using Proper Orthogonal Decomposition," **Macromolecular Theory and Simulations**, *28*, 1800072 (2019).
33. H. Tao, P. Choi, Q. Liu and Z. Xu, "Chemical Functionalization of ZnS: A Perspective from the Ligand-ZnS Bond Character," **Journal of Physical Chemistry C**, *123* (10), 6054 – 6061 (2019).
34. Y. Tang, X. Zhang, P. Choi, Q. Liu and Z. Xu, "Contributions of van der Waals Interaction and Hydrophobic Attraction to Molecular Adhesions on a Hydrophobic Surface in Water," **Langmuir**, *34* (47), 14196 – 14203 (2018).
35. M. H. Anvari and P. Choi, "Salt-Induced Phase-Separation of Water and Cyclohexane within a Kaolinite Nanopore: A Molecular Dynamics Study," **Journal of Physical Chemistry C**, *122* (42), 24215 – 24225 (2018).
36. M. Gao, M. Khalkhali, S. Beck, P. Choi and H. Zhang, "Study of the Thermal Stability of Hydrotalcite and Carbon Dioxide Adsorption Behavior on Hydrotalcite-Derived Mixed Oxides by Atomistic Simulations," **ACS Omega**, *3* (9), 12041 – 12051 (2018).
37. C.-P.J. Wong and P. Choi, "Velocity Time Correlation Function of a Rouse Chain," **Computational Materials Science**, *155*, 320 – 324 (2018).
38. H. Tao, S. Liu, J. Luo, P. Choi, Q. Liu and Z. Xu, "Descriptor of Catalytic Activity of Metal Sulfides for Oxygen Reduction Reaction: A Potential Indicator for Mineral Flotation," **Journal of Materials Chemistry A**, *6* (20), 9650 – 9656 (2018).
39. Z. N. Khorshidi, M. Khalkhali, H. Zhang and P. Choi, "Molecular Dynamics Study of the Role of Water in the Carbon Dioxide Intercalation in Chloride Ions Bearing Hydrotalcite," **Journal of Physical Chemistry C**, *122* (17), 9507 – 9514 (2018).
40. Y. Tang, X. Zhang, P. Choi, R. Manica, Q. Liu, Z. Xu, "Noncovalent Functionalization of MoS₂: Single-Molecule MoS₂-Polymer Interaction and Efficient Aqueous Exfoliation of MoS₂ Into Single-Layer," **Journal of Physical Chemistry C**, *122* (15), 8262 – 8269 (2018).
41. Y. Tang, X. Zhang, P. Choi, Q. Liu, and Z. Xu, "Underwater Adhesion of a Stimuli-Responsive Polymer on Highly Ordered Pyrolyzed Graphene Surface: A Single-Molecule Force Study," **Journal of Physical Chemistry C**, *122* (12), 6721 – 6729 (2018).
42. M. H. Anvari, Q. Liu, Z. Xu and P. Choi, "Molecular Dynamics Study of Hydrophilic Sphalerite (110) Surface as Modified by Normal and Branched Butylthiols," **Langmuir**, *34* (10), 3363 – 3373 (2018).

43. Z. N. Khorshidi, X. Tan, Q. Liu and P. Choi, "Effect of Aqueous Medium Impurities ($MgCl_2$ and $CaCl_2$) on the Dissolution of Kaolinite's Basal Surfaces in Alkali Media: A Molecular Dynamics Study," **Journal of Physical Chemistry C**, *122* (9), 4937 – 4944 (2018).
44. B. B. Adhikari, V. Kislitsin, P. Appadu, M. Chae, P. Choi and D. C. Bressler, "Development of Hydrolyzed Protein-Based Plywood Adhesive from Slaughterhouse Waste: Effect of Chemical Modification of Hydrolyzed Protein on Moisture Resistance of Formulated Adhesives," **RSC Advances**, *8* (8), 2996 – 3008 (2018).
45. Z. Naderi Khorshidi, X. Tan, Q. Liu and P. Choi, "Molecular Dynamics Study of the Dissolution Mechanism of the Basal Surfaces of Kaolinite in Alkaline Media," **Applied Clay Science** *152*, 29 – 37 (2018).
46. M. H. Anvari, Q. Liu, Z. Xu and P. Choi, "Line Tensions of Hydrophobic Galena (001) and Hydrophilic Sphalerite (110) Surfaces: A Molecular Dynamics Study," **Journal of Molecular Liquids**, *248*, 634 – 642 (2017).
47. Y. Tang, X. Zhang, P. Choi, Z. Xu, Q. Liu, "Probing Single-Molecule Adhesion of a Stimuli Responsive Oligo (ethylene glycol) Copolymer on a Molecularly-Smooth Hydrophobic MoS_2 Basal Plane," **Langmuir**, *33* (40), 10429 – 10438 (2017).
48. Z. Naderi Khorshidi, X. Tan, Q. Liu and P. Choi, "Influence of Structural Al and Si Vacancies on the Dissolution of Kaolinite Basal Surfaces with Alkali Cations: A Molecular Dynamics Study," **Computational Materials Science**, *140*, 267 – 274 (2017).
49. S. Panda, K. Pal, S. Merzara, M. R. Gray, Q. Liu and P. Choi, "Transport and Removal of a Solvent in Porous Media in the Presence of Bitumen, a Highly Viscous Solute," **Chemical Engineering Science**, *165*, 229 – 239 (2017).
50. R. Renaud, K. Pal, T. Weiss, P. Choi, Q. Liu and M. R. Gray, "Vacuum Drying of Cyclohexane from Solvent-Extracted Oilsands Gangue," **Canadian Journal of Chemical Engineering**, *95*, 459 – 466 (2017).
51. Y. Zhou and P. Choi, "Molecular Dynamics Study of Water Diffusion in an Amphiphilic Block Copolymer with Large Difference in the Blocks' Glass Transition Temperatures," (*invited for a special issue on Environment and Sustainable Development*) **Frontiers in Chemical Science and Engineering**, *11* (3), 440 – 447 (2017).
52. R. B. Teklebrhan, C. Jiang, P. Choi, Z. Xu, and J. Sjöblom, "Competitive Adsorption of Naphthenic Acids against Polyaromatic Molecules at the Oil-Water Interface," **Journal of Physical Chemistry B**, *120* (50), 12901 – 12910 (2016).
53. X. Tong, P. Choi, S. Li, Y. Shi, H. Zhang, "Molecular Dynamics Study on Structure Evolution of Organically Intercalated Layered Double Hydroxide," **RSC Advances**, *6*, 98804 – 98811 (2016).
54. B. B. Adhikari, P. Appadu, V. Kislitsin, M. Chae, P. Choi and D. C. Bressler, "Enhancing the Adhesive Strength of a Plywood Adhesive Developed from Hydrolyzed Specified Risk Materials," (*invited for a special issue on Adhesives*) **Polymers** *8* (8), 285 – 297 (2016).
55. S. Nusri, X. Tan, P. Choi and Q. Liu, "Using Surface Geopolymerization Reactions to Strengthen Athabasca Oil Sands Mature Fine Tailings," **Canadian Journal of Chemical Engineering** *94* (9), 1640 – 1647 (2016).
56. F. Bayati, Y. Boluk and P. Choi, "A Short Review of Using Wood Fibres in Food Packaging," (*invited for a special issue in honour of Prof. Theo van de Ven*) **The Journal of Science and Technology for Forest Products and Processes**, *5* (4), 45 – 53 (2016).

57. F. Bayati, Y. Boluk and P. Choi, "Effect of Humidity on the Permeability of Alcohols in Hydroxypropyl Xylan Films," **ACS Sustainable Chemistry & Engineering** 4 (5), 2578 – 2583 (2016).
58. R. B. Teklebrhan, C. Jiang, P. Choi, Z. Xu and J. Sjöblom, "Role of Naphthenic Acids on Controlling the Self-Aggregation a Polyaromatic Compound in Toluene," **Journal of Physical Chemistry B** 120 (14), 3516 – 3526 (2016).
59. N. Razavilar and P. Choi, "Diffusivity of Cucurbitacin B in Water Swollen PEO-*b*-PCL Matrices with Different PCL/PEO Weight Ratios," **Computational Materials Science** 118, 97 – 102 (2016).
60. A. Telmadarreir, A. Doda, J. J. Trivedi, E. Kuru, P. Choi, "CO₂ Microbubbles - a Potential Fluid for Enhanced Oil Recovery: Microscopic and Porous Media Studies," **Journal of Petroleum Science and Engineering** 138, 160 – 173 (2016).
61. X. Tan, L. Vagi, Q. Liu, P. Choi, and M. R. Gray, "Sorption Equilibrium and Kinetics for Cyclohexane, Toluene and Water on Athabasca Oilsands Solids," **Canadian Journal of Chemical Engineering** 94 (2), 220 – 230 (2016).
62. H. Nikakhtari, K. Pal, S. Wolf, P. Choi, Q. Liu and M. R. Gray, "Solvent Removal from Cyclohexane-Extracted Oilsands Gangue," **Canadian Journal of Chemical Engineering**, 94 (3), 408 – 414 (2016).
63. F. Bayati, Y. Boluk and P. Choi, "Inverse Gas Chromatography Study of the Permeability of Aroma through Hydroxypropyl Xylan Films," **ACS Sustainable Chemistry & Engineering** 3 (12), 3114 – 3122 (2015).
64. H. S. Abyaneh, M. R. Vakili, S. Zhan, P. Choi, A. Lavasanifar, "Rationale Design of Block Copolymer Micelles to Control Burst Drug Release at a Nanoscale Dimension," **Acta Biomaterialia**, 24, 127 – 139 (2015).
65. K. Pal, L.N. Branco, A. Heintz, P. Choi, Q. Liu, P. R. Seidl and M. R. Gray, "Performance of Solvent Mixtures for Non-aqueous Extraction of Alberta Oil Sands," **Energy & Fuels** 29 (4), 2261 – 2267 (2015).
66. A. Noorjahan and P. Choi, "Prediction of Self Diffusion Coefficients of Selected Solvents in Poly(vinyl alcohol) Using Lattice Free Volume Theory," **Polymer**, 58, 53 – 59 (2015).
67. A. Noorjahan and P. Choi, "Effect of Partial Atomic Charges on the Calculated Free Energy of Solvation of Poly(vinyl alcohol) in Selected Solvents," **Journal of Molecular Modeling**, 21 (3), Article 58, 1 – 10 (2015).
68. A. Noorjahan and P. Choi, "Effect of Free Volume Redistribution on the Diffusivity of Water and Benzene in Poly(vinyl alcohol)," *invited for a special issue for showcasing molecular simulation work done in the field of chemical engineering*, **Chemical Engineering Science** 121, 258 – 267 (2015).
69. T. H. Mekonnen, P. G. Mussone, P. Choi and D. C. Bressler, "Development of Proteinacious Plywood Adhesive and Optimization of its Lap Shear Strength," **Macromolecular Materials and Engineering**, 300 (2), 198 – 209 (2015).
70. T. Mekonnen, P. Mussone, N. El-Thaher, P. Choi and D. Bressler, "Subcritical Hydrolysis, Biorefining, and Characterization of Waste Proteinacious Biomass for Value Added Applications," **Journal of Chemical Technology & Biotechnology**, 90 (3), 476 – 483 (2015).
71. P. Choi, Q. Wang and E. Vignola, "Molecular Dynamics Study of the Conformation and Dynamics of Precisely Branched Polyethylene," **Polymer** 55 (22), 5734 – 5738 (2014).

72. N. Razavilar and P. Choi, "Molecular Dynamics Study of the Diffusivity of a Hydrophobic Drug Cucurbitacin B in Pseudo Poly(ethylene oxide-*b*-caprolactone) Micelle Environments," **Langmuir**, *30* (26), 7798 – 7803 (2014).
73. H. Nikakhtari, S. Wolf, P. Choi, Q. Liu, and M. R. Gray, "Migration of Fine Solids into Product Bitumen from Solvent Extraction of Alberta Oilsands," **Energy & Fuels**, *28* (5), 2925 – 2932 (2014).
74. F. Bayati, Y. Boluk and P. Choi, "Diffusion behavior of water at infinite dilution in hydroxypropyl xylan films with sorbitol and cellulose nanocrystals," **ACS Sustainable Chemistry & Engineering**, *2* (5), 1305 – 1311 (2014).
75. A. Noorjahan, X. Tan, Q. Liu, M. R. Gray and P. Choi, "Study of Cyclohexane Diffusion in Athasca Asphaltenes," **Energy & Fuels**, *28* (2), 1004 – 1011 (2014).
76. T. Mekonnen, P. Mussone, P. Choi and D. Bressler, "Adhesives from Waste Protein Biomass for Oriented Strand Board Composites: Development and Performance" **Macromolecular Materials and Engineering**, *299* (8), 1003 – 1012 (2014).
77. N. El-Thaher, P. Mussone, D. Bressler and P. Choi, "Kinetics Study of Curing Epoxy Resins with Hydrolyzed Proteins and the Effect of Denaturants Urea and Sodium Dodecyl Sulfate," **ACS Sustainable Chemistry & Engineering**, *2* (2), 282 – 287 (2014).
78. T. Piniymontree, P. Choi and V. Vao-soongnern, "Effect of Stereochemical Sequence on the Dynamics of *Atactic* Polypropylene Melt," **Macromolecular Research**, *22* (2), 187 – 193 (2014).
79. N. Razavilar and P. Choi, "In-vitro Modeling of the Release Kinetics of Micron and Nano-Sized Polymer Drug Carriers," **International Journal of Drug Delivery**, *5*, 362 – 378 (2013).
80. T. Mekonnen, P. Mussone, N. El-Thaher, P. Choi and D. Bressler, "Thermosetting Proteinacious Bioplastics from Hydrolyzed Specified Risk Material," **Macromolecular Materials and Engineering**, *298* (12), 1294 – 1303 (2013).
81. T. Mekonnen, P. Mussone, K. Alemaskin, L. Sopkow, J. Wolodko, P. Choi and D. Bressler, "Biocomposites from Hydrolyzed Waste Proteinaceous Biomass: Mechanical, Thermal and Moisture Absorption Performances," **Journal of Materials Chemistry A**, *1*, 13186 – 13196 (2013).
82. D. Zhou, F. Bayati and P. Choi, "On the Weak Dependence of Water Diffusivity on the Degree of Hydrophobicity of Acetylated Hydroxypropyl Xylan," **Carbohydrate Polymers**, *98*, 644 – 649 (2013).
83. A. Noorjahan and P. Choi, "Thermodynamic Properties of Poly(vinyl alcohol) with Different Tacticities Estimated from Molecular Dynamics Simulation," **Polymer**, *54*, 4212 – 4219 (2013).
84. G. Liu, J. Xiao, D. Zhou, H. Zhong, P. Choi and Z. Xu, "A DFT Study on the Structure-Reactivity Relationship of Thiophosphorus Acids as Flotation Collectors with Sulfide Minerals: Implication of Surface Adsorption," **Colloids and Surfaces A: Physicochemical and Engineering Aspects**, *434*, 243 – 252 (2013).
85. N. El-Thaher, T. Mekonnen, P. Mussone, D. Bressler and P. Choi, "Non-isothermal DSC Study of Epoxy Resins Cured with Hydrolyzed Specified Risk Materials," **Industrial & Engineering Chemistry Research**, *52*, 8189 – 8199 (2013).
86. A. A. Khajeh, K. Shankar and P. Choi, "Prediction of the Active Layer Nanomorphology in Polymer Solar Cells Using Molecular Dynamics Simulation," **Applied Materials and Interfaces**, *5*, 4617 – 4624 (2013).

87. T. Mekonnen, P. Mussone, N. El-Thaher, P. Choi and D. Bressler, "Recovery and Characterization of Proteinacious Material Recovered from Thermal and Alkaline Hydrolyzed Specified Risk Materials," **Process Biochemistry**, *48*, 885 – 892 (2013).
88. N. El-Thaher, T. Mekonnen, P. Mussone, D. Bressler and P. Choi, "Effect of Electrolytes, Water, and Temperature on Crosslinking of Glutaraldehyde and Hydrolyzed Specified Risk Materials," **Industrial & Engineering Chemistry Research**, *52*, 4987 – 7993 (2013).
89. H. Nikakhtari, L. Vagi, P. Choi, Q. Liu and M. R. Gray, "Solvent Screening for Non-Aqueous Extraction of Alberta Oil Sands," **Canadian Journal of Chemical Engineering**, *91*, 1153 – 1160 (2013).
90. X. Ni and P. Choi, "Wetting Behavior of Nano-Scale Thin Films of Selected Organic Compounds and Water on Model Basal Surfaces of Kaolinite," **Journal of Physical Chemistry C**, *116*, 26275 – 26283 (2012).
91. G. Liu, H. Zeng, Q. Liu, H. Zhong, P. Choi and Z. Xu, "Adsorption of Mercaptobenzoheterocyclic Compounds on Sulfide Mineral Surfaces: A Density Functional Theory Study of Structure-Reactivity Relations," **Colloids and Surfaces A: Physicochemical and Engineering Aspects**, *409*, 1 – 9 (2012).
92. N. El-Thaher and P. Choi, "Effect of Pre-Heating Treatment on the Measured Heats of Adsorption of Organic Solvents on Clays with Different Surface Compositions," **Industrial & Engineering Chemistry Research**, *51*, 7022 – 7027 (2012).
93. D. Zhou and P. Choi, "Molecular dynamics study of water diffusivity at low concentrations in non-swollen and swollen polyurethanes," **Polymer**, *53*, 3253 – 3260 (2012).
94. C. Huang, P. Choi and L. W. Kostiuk, "A Method for Creating a Non-Equilibrium NT(P₁-P₂) Ensemble in Molecular Dynamics Simulations," **Physical Chemistry Chemical Physics**, *13*, 20750 – 20759 (2011).
95. C. Huang, C. Li, P. Choi, K. Nandakumar and L. W. Kostiuk, "A Novel Method for Molecular Dynamics Simulation in the Isothermal-Isobaric Ensemble," **Molecular Physics**, *109*, 191 – 202 (2011).
96. C. Huang, P. Choi, K. Nandakumar and L. W. Kostiuk, "Effect of Cutoff Distance Used in Molecular Dynamics Simulations on Fluid Properties," **Molecular Simulation** *36*, 856 – 864 (2010).
97. C. Li, P. Choi and P. R. Sundararajan, "Simulation of Chain Folding in Polyethylene: a Comparison of United Atom and Explicit Hydrogen Atom Models," **Polymer**, *51*, 2803 – 2808 (2010).
98. C. Li, P. Choi and M. C. Williams, "Molecular Dynamics Study of the Melt Morphology of Polyethylene Chains with Different Branching Characteristics Adjacent to a Clay Surface," **Langmuir**, *26*, 4303 – 4310 (2010).
99. M. Wang, N. Li, Y. Zhang and P. Choi, "Study of the Intermolecular Branch Frequency Dependence of Tie-Chain Concentration in Single-Site Linear Low-Density Polyethylene Blown Films by a New FTIR Method," (*invited for a special issue in honour of Prof. Mitchell A. Winnik*) **Canadian Journal of Chemistry**, *88*, 260 – 266 (2010).
100. S. Patel, A. Lavasanifar and P. Choi, "Molecular Dynamics Study of the Encapsulation Capability of a PCL-PEO Based Block Copolymer for Hydrophobic Drugs with Different Spatial Distributions of Hydrogen Bond Donors and Acceptors," **Biomaterials**, *31*, 1780 – 1786 (2010).
101. S. Patel, A. Lavasanifar and P. Choi, "Prediction of the Solubility of Cucurbitacin Drugs in Self Associating Poly(ethylene oxide)-*b*-poly(α -benzyl carboxylate ϵ -caprolactone) Block

- Copolymer with Different Tacticities Using Molecular Dynamics Simulation,” **Biomaterials**, *31*, 345 – 357 (2010).
102. S. Patel, A. Lavasanifar and P. Choi, “Roles of Non-polar and Polar Intermolecular Interactions in the Improvement of the Drug Loading Capacity of PEO-*b*-PCL with Increasing PCL Content for two Hydrophobic Cucurbitacin Drugs,” **Biomacromolecules**, *10*, 2584 – 2591 (2009).
 103. A. Mahmud, S. Patel, O. Molavi, P. Choi, J. Samuel and A. Lavasanifar, “Self Associating Poly(ethylene oxide)-*b*-poly(α -cholesterylcarboxylate- ϵ -caprolactone) Block Copolymers for the Solubilization of STAT-3 Inhibitor Cucurbitacin I,” **Biomacromolecules**, *10*, 471 – 478 (2009).
 104. C. Huang, P. Choi, K. Nandakumar and L. W. Kostiuk, “Study of Solid-Liquid Interaction on Pressure-Driven Liquid Transport through a Nanopore in a Membrane,” **Journal of Nanoscience and Nanotechnology**, *9*, 793 – 798 (2009).
 105. A. Kapoor and P. Choi, “Asymptotic flow profiles for incompressible flows with a periodic pressure gradient,” **Journal of Applied Physics**, *104*, 084701 (2008).
 106. S. Patel, A. Lavasanifar and P. Choi, “Application of Molecular Dynamics Simulation to Predict the Compatibility between Water Insoluble Drugs and Self Associating Poly(ethylene oxide)-*b*-Poly(ϵ -caprolactone) Block Copolymer,” **Biomacromolecules**, *9*, 3014 – 3023 (2008).
 107. C. Li and P. Choi, “Molecular Dynamics Study of Solid-State Structures of Linear Low-Density Polyethylenes with Blocky Branches,” **Macromolecules**, *41*, 7109 – 7114 (2008).
 108. Y. Zhang, S. Y. Zhang and P. Choi, “Effects of Wood Fiber Content and Coupling Agent Content on Mechanical Properties of Wood Fiber Polyethylene Composites,” **European Journal of Wood and Wood Products**, *66*, 267 – 274 (2008).
 109. C. Li and P. Choi, “Molecular Dynamics Simulation Study of the Effect of Solvent Adsorption on Glycothermally Produced α -Alumina Particle Morphology,” **Journal of Physical Chemistry C**, *112*, 10145 – 10152 (2008).
 110. C. Huang, P. Choi, K. Nandakumar and L. W. Kostiuk, “Investigation of entrance and exit effects on liquid transport through a cylindrical nanopore,” **Physical Chemistry Chemical Physics**, *10*, 186 – 192 (2007).
 111. Q. F. An, J. W. Qian, M. Wang, Y. Lu and P. Choi, “Relation between the Permeability and the Degree of Coil Overlap of Polymer in the Bulk State,” **Chinese Chemical Letters**, *18*, 1423 – 1426 (2007).
 112. X. Chen, R. Ozisik, S. K. Kumar and P. Choi “Influence of Stereoerrors on the Formation of Helices during Early Stage Crystallization of Isotactic Polypropylene,” **Journal of Polymer Science: Part B Polymer Physics**, *45*, 3349 – 3360 (2007).
 113. C. Li, Z. Li and P. Choi, “Stability of Water/Toluene Interfaces Saturated with Adsorbed Naphthenic Acids – A Molecular Dynamics Study,” **Chemical Engineering Science**, *62*, 6709 – 6715 (2007).
 114. S. Y. Zhang, Y. Zhang, M. Bousmina, M. Sain and P. Choi, “Effects of Raw Fiber Materials, Fiber Content and Coupling Agent Content on Selected Properties of Polyethylene/Wood Fiber Composites,” **Polymer Engineering and Science**, *47*, 1678 – 1687 (2007).
 115. M. Wang, G. M. Bernard, R. E. Wasylishen and P. Choi, “A Solid-State ^{13}C NMR Investigation of the Morphology of Single-Site and Ziegler-Natta Linear Low-Density Polyethylenes with Varying Branch Contents,” **Macromolecules**, *40*, 6594 – 6599 (2007).

116. C. Huang, P. Choi, K. Nandakumar and L. W. Kostiuk, "Comparative Study between Continuum and Atomistic Approaches of Liquid Flow through a Finite Length Cylindrical Nanopore," **Journal of Chemical Physics**, *126*, 224702 – 224713 (2007).
117. C. Li and P. Choi, "A Molecular Dynamics Study of the Adsorption Behavior of Normal Alkanes on a Relaxed α - Al_2O_3 (0001) Surface," **Journal of Physical Chemistry C**, *111*, 1747 – 1753 (2007).
118. M. Zhang, F. Yuen and P. Choi, "Differences in the Solid-State Structures of Single-Site and Ziegler-Natta Linear Low-Density Polyethylenes as Revealed by Molecular Dynamics Simulation," **Macromolecules**, *39*, 8517 – 8525 (2006).
119. P. Choi, "Molecular Modelling – An Enabling Technology for Chemical Engineers," **Canadian Journal of Chemical Engineering**, *84*, 265 – 268 (2006).
120. C. Huang, K. Nandakumar, P. Choi and L. W. Kostiuk, "Molecular Dynamics Simulation of a Pressure-Driven Liquid Transport Process in a Cylindrical Nanopore Using Two Self-Adjusting Plates," **Journal of Chemical Physics**, *124*, 1 – 8 (2006).
121. P. Choi, S. S. Rane and W. L. Mattice, "Effect of Pressure on the Miscibility of Polyethylene/Ethylene Propylene Copolymer Blends," **Macromolecular Theory and Simulations**, *15*, 563 – 572 (2006).
122. C. Li and P. Choi, "Application of a Novel Molecular Dynamics Simulation Approach for the Estimation of Surface Tensions of Normal Alkanes and Methyl Methacrylate Oligomers," **Journal of Physical Chemistry B**, *110*, 6864 – 6870 (2005).
123. Z. Li, B. Cranston, L. Zhao and P. Choi, "Molecular Dynamics Studies of the Stability of Water/n-Heptane Interfaces with Adsorbed Naphthenic Acids," **Journal of Physical Chemistry B**, *109*, 20929 – 20937 (2005).
124. L. Zhao and P. Choi, "A Review on the Miscibility of Polyethylene Blends," (*invited for a special issue of polymer blends and composites*) **Materials and Manufacturing Process**, *21*, 135 – 142 (2005).
125. Z. Liu, M. Zhang, L. Zhao and P. Choi, "Molecular Origin of the Anomalous Thermodynamic Behaviour of Single Site Linear Low-Density Polyethylene Liquids with Different Branch Contents," **Macromolecules**, *38*, 4512 – 4520 (2005).
126. S. S. Rane and P. Choi, "Thermodynamic Analysis of the Inequality of the Cohesive Energy Density and Internal Pressure of Polymers," **Polymer Engineering and Science**, *45*, 798 – 800 (2005).
127. S. S. Rane and P. Choi, "Polydispersity Index: How Accurately Does it Measure the Breadth of the Molecular Weight Distribution?" **Chemistry of Materials**, *17*, 926 (2005).
128. S. S. Rane, W. L. Mattice and P. Choi, "Calculation of the Pressure Using the Virtual-Volume-Variation Method and the Virial Method from Chain Conformations Obtained by Monte Carlo Simulations on the Second Nearest Neighbor Diamond Lattice," **Journal of Chemical Physics**, *121*, 10674 – 10679 (2004); selected for **Virtual Journal of Biological Physics Research**, *8* (10) (2004).
129. P. Choi and W. L. Mattice, "Molecular Origin of Demixing, Prior to Crystallization, of Atactic Polypropylene/Isotactic Polypropylene Blends upon Cooling from the Melt," **Journal of Chemical Physics**, *121*, 8647 – 8651 (2004).
130. L. Zhao, L. Capt, M. Kamal and P. Choi, "On the Use of Pressure-Volume-Temperature Data of Polyethylene Liquids for the Determination of their Solubility and Interaction Parameters," **Polymer Engineering and Science**, *44*, 853 – 860 (2004).

131. L. Zhao and P. Choi, "Molecular Dynamics Simulation of the Coalescence of Nanometer-Sized Water Droplets in n-Heptane," **Journal of Chemical Physics**, *120*, 1935 – 1942 (2004); selected for *Virtual Journal of Nanoscale Science & Technology*, *9* (5) (2004).
132. L. Zhao and P. Choi, "Study of the Effect of Branch Content of Octene-based LLDPE on its Miscibility with HDPE by Inverse Gas Chromatography," **Journal of Applied Polymer Science**, *91*, 1927 – 1931 (2004).
133. L. Zhao and P. Choi, "Differences between Ziegler-Natta and Single Site Linear Low-Density Polyethylenes as Characterized by Inverse Gas Chromatography," (*Feature Article*) **Macromolecular Rapid Communications**, *25*, 535 – 541 (2004).
134. L. Zhao and P. Choi, "Study of the Correctness of the Solubility Parameters Obtained from Indirect Methods by Molecular Dynamics Simulation," (*invited for a special issue of molecular modelling of polymers*) **Polymer**, *45*, 1349 – 1356, (2004).
135. M. Zhang, P. Choi and U. Sundararaj, "Molecular Dynamics and Thermal Analysis Study of Anomalous Thermodynamic Behavior of Poly(ether imide)/Polycarbonate Blends," **Polymer**, *44*, 1979 – 1986 (2003).
136. L. Zhao and P. Choi, "Measurement of Solvent Independent Polymer-Polymer Flory-Huggins Interaction Parameters with the Use of Non-random Partitioning Solvents in Inverse Gas Chromatography," **Polymer**, *43*, 6677 – 6681 (2002).
137. X. Kong, M. Silveira, L. Zhao and P. Choi, "A Pseudo Equation-of-State Approach for the Estimation of Solubility Parameters of Polyethylene by Inverse Gas Chromatography," **Macromolecules**, *35*, 8586 – 8590 (2002).
138. P. Choi, "A Re-examination of the Concept of Hildebrand Solubility Parameter for Polymers," **Macromolecular Rapid Communications**, *23*, 484 – 487 (2002).
139. J. Z. Fan, M. C. Williams, and P. Choi, "A Molecular Dynamics Study of Branching Characteristics of LDPE on its Miscibility with HDPE," **Polymer**, *43*, 1497 – 1502 (2002).
140. M. Doran and P. Choi, "Molecular Dynamics Studies of the Branching Characteristics on Crystalline Structure of Polyethylene," **Journal of Chemical Physics**, *115*, 2827 – 2830 (2001).
141. L. Zhao and P. Choi, "Determination of Solvent Independent Polymer-Polymer Interaction Parameter by an Improved Inverse Gas Chromatographic Approach," **Polymer**, *42*, 1075 – 1081 (2001).
142. P. Choi, "Molecular Dynamics Studies of the Effects of Branch Content of LLDPE on the Thermodynamics of HDPE/Butene-Based LLDPE Blends," **Polymer**, *41*, 8741 – 8747 (2000).
143. P. Choi, T. A. Kavassalis, and A. Rudin, "Measurement of Three-Dimensional Solubility Parameters of Nonyl Phenol Ethoxylates Using Inverse Gas Chromatography," **Journal of Colloid & Interface Science**, *180*, 1 – 8 (1996).
144. P. Choi, H. Blom, T. A. Kavassalis, and A. Rudin, "The Immiscibility of Polyethylene and Polypropylene: A Molecular Dynamics Study," **Macromolecules**, *28*, 8247 – 8250 (1995).
145. G. T. D. Shouldice, P. Choi, B. E. Koene, L. F. Nazar and A. Rudin, "A Novel Way to Study the Initial Stages of Soap-Free Emulsion Polymerizations: The Intercalation of Polystyrene Oligomers into Hydrotalcite," **Journal of Polymer Science Part A: Polymer Chemistry**, *33*, 1409 – 1417 (1995).
146. P. Choi, T. A. Kavassalis and A. Rudin, "Estimation of Hansen Solubility Parameters for Hydroxyethyl and Hydroxypropyl Cellulose through Molecular Simulation," **Industrial & Engineering Chemistry Research**, *33*, 3154 – 3159 (1994).

147. T. A. Kavassalis, P. Choi and A. Rudin, "The Calculation of 3D Solubility Parameters Using Molecular Models," **Molecular Simulation**, *11*, 229 – 241 (1993).
148. P. Choi, T. A. Kavassalis and A. Rudin, "Estimation of Three Dimensional Solubility Parameters of Alkyl Phenol Ethoxylates Using Molecular Dynamics Simulations," **Journal of Colloid & Interface Science**, *150*, 386 – 393 (1992).
149. P. Choi, M. Lynch, A. Rudin, J. W. Teh and J. Batiste, "DSC Analysis of Fusion Level of Rigid PVC Revisited: Filler Effects on Thermal Analysis Data," **Journal of Vinyl Technology**, *14*, 156 – 160 (1992).
150. J. Batiste, P. Choi, M. Lynch, A. Rudin and L. H. De Carvalho, "Effects of Compounding and Extrusion Variables on Degree of Fusion and Impact Strength of PVC Window Profile," **Journal of Vinyl Technology**, *14*, 43 – 46 (1992).

Patents

1. P. Choi, Z. Hashisho, R. Khalkhali, and A. Peyravi, "Microwave Assisted Removal of Volatile Organic Compounds (VOCs) from Oilsands Gangue," US Patent Application Number 63/310,442 (2022).
2. J. Schneider, C. Monreal, M. DeRosa, P. Choi, E. Manstronardi, T. Phepafatso, F. Matus "Root Exudate-Activated System for Agrochemical Delivery," US Patent Application Number 17/276,302 (2022).
3. D. Bressler and P. Choi, "Polymers and Plastics Derived from Animal Proteins," US Patent Number 9,120,845 (2015).

Referred Conference Proceedings and Presentations [Speaker is underlined]

1. N. Najm, C.-P.J. Wong, S. Kavyani, S. G. Hatzikiriakos and P. Choi "Temperature Dependence of the Molecular Weight Scaling of Polyethylene Viscosity," IUPAC Macro Conference (2022).
2. P. Choi, "A Free Volume Theory of Polymer Dynamics," IUPAC Macro Conference (2022).
3. S. Stoyanov, D. Barker-Rothschild, R. Gieleciak, M. Cruickshank, P. Choi, M. Kusinski, C. Filipescu, D. Dunn, "Combining Analytical Chemistry and Chemometrics to Study the Effect of Drought on the Composition of Douglas-Fir Lignin and Its Value as a Renewable Resource," 71st CSChE Conference - Virtual (2021).
4. D. Barker-Rothschild, S. Stoyanov and P. Choi, "Evaluation of the Molecular Scale Response of Douglas Fir Siblings to Abiotic Stress for Lignin Valorization," 20th Commonwealth Forestry Conference – Virtual (2021).
5. C. -P. J. Wong and P. Choi, "Prediction of Self-Diffusion Coefficients of Polymer Melts Using Modified Free Volume Theory and MD Simulation," AIChE Annual Meeting (2019).
6. C. -P. J. Wong and P. Choi, "Analysis of Brownian Dynamics and Molecular Dynamics Data of Unentangled Polymer Melts Using Proper Orthogonal Decomposition," Poster Presentation, AIChE Annual Meeting (2019).
7. R. Khalkhali and P. Choi, "Limitations on the Residual Solvent Recovery Imposed By the Gangue Characteristics," AIChE Annual Meeting (2019).
8. M. H. Anvari and P. Choi, "Interface of Ion-Containing Aqueous and Organic Phases within and out of Confinement," Poster Presentation, AIChE Annual Meeting (2019).

9. R. Khalkhali and P. Choi, "Solvent Recovery from NAE Gangue," 2019 Future Energy Systems Student & Postdoctoral Fellow Colloquium (2019).
10. M. H. Anvari and P. Choi, "Affinity of Inorganic and Organic Ions to the Aqueous-Cyclohexane Interface in and out of a Confined Environment," 102nd CSC Conference (2019).
11. C. -P. J. Wong and P. Choi, "Analysis of Brownian Dynamics and Molecular Dynamics Data of Unentangled Polymer Melts Using Proper Orthogonal Decomposition," 102nd CSC Conference (2019).
12. G. N. Okpala, L. Gjini, A. Kuznetsova, A. Ulrich, P. Choi and T. Siddique, (2019) "Microbial Degradation of Residual Recalcitrant Hydrocarbon in Mined Tailings under Different Redox Conditions," 7th International Symposium on Applied Microbiology and Molecular Biology in Oil Systems (2019).
13. G. N. Okpala, L. Gjini, A. Kuznetsova, A. Ulrich, P. Choi, and T. Siddique, "Biodegradation of Cyclohexane under Different Reclamation Scenarios," International Symposium on Bioremediation and Sustainable Environmental Technologies (2019).
14. C. -P. J. Wong and P. Choi, "Relaxation of Unentangled Polyethylene with Different Structures Analyzed Using Proper Orthogonal Decomposition," 38th Canadian High Polymer Forum (2018).
15. V. Kislitsin, Y. Boluk and P. Choi, "Structure-Properties Relationship in Nanofibrillated Cellulose Films for Intelligent Food Packaging Applications," 101st CSC Conference (2018).
16. M. H. Anvari and P. Choi, "A Molecular Dynamics Study on the Wettability of Kaolinite Surfaces in Contact with Water-Cyclohexane Mixture," 101st CSC Conference (2018).
17. F. Bayati, Y. Boluk and P. Choi, "Permeability of Low Molecular Weight Alcohols in Hydroxylpropyl Xylan Films," 101st CSC Conference (2018).
18. M. H. Anvari and P. Choi, "A Molecular Dynamics Study on the Wettability of Kaolinite Surfaces in Contact with Water-Cyclohexane Mixture," 16th Conference of the International Association of Colloid and Interface Scientists (2018).
19. M. H. Anvari, Q. Liu, Z. Xu, and P. Choi, "Wettability of the Hydrophilic Sphalerite Modified by Normal and Branched Butylthiols: A Molecular Dynamics Study," 16th Conference of the International Association of Colloid and Interface Scientists (2018).
20. M. H. Anvari, Q. Liu, Z. Xu and P. Choi, "A Molecular Dynamics Study on Contact Angle and Line Tension of Galena and Sphalerite," 67th CSChE Conference (2017).
21. Z. N. Khorsidi, X. Tan, Q. Liu and P. Choi, "A Molecular Dynamics Study on Dissolution of Kaolinite in Alkali Media: Effect of Aqueous Medium Impurity," 67th CSChE Conference (2017).
22. H. Tao, S. Liu, J. Luo, P. Choi, Q. Liu and Z. Xu, "Descriptor of Oxygen Reduction Reaction (ORR) Catalytic Activity of Metal Chalcogenides: A Potential Indicator for Mineral Flotation and ORR Catalyst Design," COM 2017 Conference of Metallurgists, Vancouver, BC (2017).
23. F. Bayati, Y. Boluk and P. Choi, "Effect of Humidity on the Permeability of Alcohols in Hydroxylpropyl Xylan Films," 4th International Conference of Fluid Flow, Heat and Mass Transfer, Toronto, ON (2017).
24. Z. N. Khorsidi, X. Tan, Q. Liu and P. Choi, "Molecular Dynamics Study of the Influence of Vacancies on the Dissolution of Kaolinite in Alkali Media," 54th Clay Minerals Society Conference, Edmonton, AB (2017).
25. F. Bayati, Y. Boluk and P. Choi, "Effect of Humidity on the Permeability of Alcohols in Hydroxylpropyl Xylan Films," International Conference on Nanotechnology for Renewable Materials (2016).

26. L. Ejike, K. Pal, M. R. Gray, Q. Liu and P. Choi, "Role of Fine Solids in Solvent Retention from Reconstituted Gangue of Alberta Oilsands," PetroPhase Conference (2016).
27. A. Noorjahan, Y. Zhou and P. Choi, "Diffusion of Selected Solvents in Poly(vinyl alcohol): A Molecular Dynamics Study," ACS Spring Meeting (2016).
28. A. Noorjahan Y. Zhou and P. Choi, "On the Conformational Changes of Isolated Alkane Chains in Water," ACS Spring Meeting (2016).
29. P. Choi, "Kinetics of Solvent Recovery from Oil Sands Tailings," *Invited Lecture*, Oil Sands Tailing Workshop (2015).
30. M. Chowdhry, P. Choi, Q. Liu and Z. Xu, "DFT Study on Reactivity of Different Neutral Flotation Collectors with Cu, Zn and Pb Metal Ions in Solution," COM 2015 – 54th Annual Conference of Metallurgists.
31. S. Panda, K. Pal, M. R. Gray, Q. Liu and P. Choi, "Role of Bitumen Migration in Solvent Recovery from Reconstituted Gangue of Alberta Oil Sands," PetroPhase Conference (2015).
32. S. Dew, R. Driver, G. Thomas, M. Mandal and P. Choi, "Scalability of Graduate Attributes Assessment and Continuous Improvement Process," Proceedings of the Canadian Engineering Education Association (2015).
33. A. Noorjahan and P. Choi, "Molecular Dynamics Study of the Miscibility of Water and Poly(vinyl alcohol) with Different Tacticities," 26th Canadian Materials Science Conference (2014).
34. F. Bayati, Y. Boluk and P. Choi, "Characterization of the Sorption of Alcohols and Aldehydes in Hydroxypropyl Xylan Films Using Inverse Gas Chromatography," 2nd FIBRE Conference (2014).
35. D. C. Bressler, T. Mekonnen, P. Mussone, and P. Choi, "Development of Bioplastics, Biocomposites and Adhesives from Specified Risk Material," 13th International Symposium on Bioplastics, Biocomposites & Biorefining: Moving towards a Sustainable Bioeconomy (2014).
36. F. Bayati, Y. Boluk and P. Choi, "Design of Xylan-Based Packaging Films Using Inverse Gas Chromatography and Molecular Simulation," *Invited Lecture*, FIBRE Day Hosted by Pulp and Paper Technical Association of Canada (2014).
37. T. H. Mekonnen, P. G. Mussone, P. Choi, and D. C. Bressler, "Valorization of Waste Protein Biomass for Bioplastics, Biocomposites and Adhesives Development," Biorefining Conversion Network 4th Annual Strategic Retreat (2013).
38. D. Zhou and P. Choi, "Molecular Dynamics Study of the Diffusivity of Water in Polyurethane with and without an Aptamer," *Invited Lecture*, 3rd Annual World Congress of Nano Science and Technology (2013).
39. Q. Liu, P. Choi and X. Tan, "Geopolymerization and Mineral Hydration to Strengthen Oil Sands Tailings Sludge," *Invited Lecture*, Oil Sands Tailing Workshop (2013).
40. J. U. M. Garcia and P. Choi, "Block Copolymers for Cheaper, Flexible and Lightweight Solar Cells," 63rd CSChE Conference (2013).
41. N. El-Thaher, T. Mekonnen, P. Mussone, D. Bressler and P. Choi, "Conversion of Bio-waste Materials into Industrial Products," 63rd CSChE Conference (2013).
42. F. Bayati, Y. Boluk and P. Choi, "Diffusion Coefficients of Water in Hydroxypropyl Xylan Films," 63rd CSChE Conference (2013).
43. F. Bayati, D. Zhou and P. Choi, "Water diffusivity in acetylated hydroxypropyl xylans with different degrees of hydrophobicity," Polymers Gordon Conference (2013).

44. A. Ashrafi Khajeh, K. Shankar and P. Choi, "Prediction of Active Layer Nanomorphology in Polymer Solar Cells Using Molecular Dynamics Simulation," 25th Canadian Materials Science Conference (2013).
45. T. H. Mekonnen, P. G. Mussone, P. Choi and D. C. Bressler, "Plastics, Composites and Adhesives from Waste Proteinaceous Biomass," International Conference of Bio-based Plastics and Composites (2013).
46. D. C. Bressler, P. Choi, T. Mekonnen and P. Mussone, "Development of Value-Added Applications Derived from Rendering By-Product Streams, Including Specified Risk Materials," PRIONET/APRI Networking & Collaboration Meeting (2012).
47. J. Trivedi, E. Kuru, P. Choi, M. Doda and M. Ghosh, "Design and Development of CO₂ Based Colloidal Gas Aphrons for Improved CO₂ Sequestration and Enhanced Oil Recovery," 2nd Annual Carbon Management Conference (2012).
48. N. Razavilar, D. Zhou and P. Choi, "Molecular Dynamics Study of the Diffusivity of Water Insoluble Drug Molecules in Block Copolymer Matrices," 62nd CSChE Conference (2012).
49. A. Noorjahan and P. Choi, "Molecular Dynamics Study of the Diffusivity of Water in Atactic Poly(vinyl alcohol)," 62nd CSChE Conference (2012).
50. H. Nikakhtari, L. Meyer, L. Vagi, S. Wolf, P. Choi, Q. Liu and M. Gray, "Optimization of cyclohexane Extraction of Alberta Oil Sands," 62nd CSChE Conference (2012).
51. X. Tan, L. Vagi, P. Choi, Q. Liu and M. Gray, "Thermodynamics and Kinetics of Toulene and Water Adsorption/Desorption on Athabasca Oil Sands Tailings," 62nd CSChE Conference (2012).
52. D. Zhou and P. Choi, "Molecular Dynamics Study of Water Diffusivity at Low Concentrations in Non-swollen and Swollen Polyurethanes," 95th CSC Conference (2012).
53. F. Bayati, Y. Boluk and P. Choi, "Study of the Diffusivity of Water in Chemically Modified Xylan Using Inverse Gas Chromatography and Molecular Dynamics Simulation," *Invited Lecture*, Innovative Green Wood Fibre Products Network Meeting (2012).
54. D. Zhou and P. Choi, "Molecular Dynamics Study of the Diffusivity of Water in Polyurethane with and without an Aptamer," 12th Pacific Polymer Conference (2011).
55. C. Huang, P. Choi and L. W. Kostiuk, "Strategy for the Generation of a Non-Equilibrium NT(P₁ – P₂) Ensemble in Molecular Dynamics Simulation," 61st CSChE conference (2011).
56. L. Vagi, H. Nikakhtari, X. Tan, Q. Liu, P. Choi and M. Gray, "Solvent Recovery in Non-Aqueous Extraction of Mined Oil Sands," 61st CSChE Conference (2011).
57. D. Zhou and P. Choi, "Molecular Dynamics Study of the Diffusivity of Water in Polyurethane with and without an Aptamer," 61st CSChE Conference (2011).
58. P. Choi, "Effects of Branching Characteristics on the Performance Properties of Branched Polymers," *Invited Keynote Lecture*, 94th CSC Conference (2011).
59. P. Choi, "Intra and Intermolecular Branch Distribution Dependence of the Solid-State Structure of Polyethylene: Insights from Molecular Dynamics Simulation," *Invited Lecture*, 3rd International Conference on Polyolefin Characterization (2010).
60. P. Choi, "Strategies for Manufacturing Environmentally Degradable Packaging Plastics," *Invited Keynote Lecture*, 93rd CSC Conference (2010).
61. C. Li, M. C. Williams and P. Choi, "Molecular Dynamics Study of the Liquid Morphology of Polyethylene with Different Branching Characteristics Adsorbed on a Clay Surface," 93rd CSC Conference (2010).
62. N. El-Thaher and P. Choi, "Adsorption of Selected Solvents on Kaolinite by Inverse Gas Chromatography," 8th World Congress of Chemical Engineering (2009).

63. X. Ni and P. Choi, "Study of Aromatic Liquid/Inorganic Interfaces by Molecular Simulation," 8th World Congress of Chemical Engineering (2009).
64. N. Li, M. Wang and P. Choi, "Measurement of Tie-Chain Relative Concentrations in Single-Site Linear Low-Density Polyethylene Blown Films by FTIR Spectroscopy," 92nd CSC Conference (2009).
65. P. Khosathit, P. Choi and P-Y B. Jar, "Simulation of the Adsorption on Nano/Micro-Cantilever Sensors," APS Annual Conference (2009).
66. C. Li and P. Choi, "Molecular Dynamics Study of the Crystallization of Linear Low-Density Polyethylenes with Different Intra-Chain Branch Distribution," 42nd IUPAC World Polymer Congress (2008).
67. X. Chen, R. Ozisik, S. Kumar and P. Choi, "Early Stage Crystallization in Isotactic Polypropylene: Influence of Substrate-Polymer Interaction and Confinement," APS Annual Conference (2008).
68. X. Wang, and P. Choi, "Molecular Modelling of Adsorption Behaviour of Normal Alkanes on Silica Surfaces," AIChE Spring Meeting (2008).
69. P. Choi, "Molecular Modelling of Inorganic/Organic Interfaces," *Invited Keynote Speaker*, 50th Annual Technical Symposium, Waterborne and Innovative Coatings: Sink or Swim 2007 (2007).
70. C. Li, Z. Li and P. Choi, "Stability of Water/Toulene Interfaces Saturated with Adsorbed Naphthenic Acids – A Molecular Dynamics Study," 57th CSChE Conference (2007).
71. B. Ji, J. Li, P. Choi, A. Yeung and D. C. Bressler, "Biodegradable Protein-Based Foaming Agents from Bovine Bloodmeal," 57th CSChE Conference (2007).
72. P. Choi, Y. Zhang, H. Zhao and K. Ho, "Intermolecular Branch Frequency Distribution Dependence of the Size and Orientations of Lamellae in Single-Site Linear Low-Density Polyethylene Blown Films," 57th CSChE Conference (2007).
73. S. Patel, A. Lavasanifar and P. Choi, "Study of the Compatibility between Poly(ethylene oxide)-b-(ϵ -caprolactone) and two Water Insoluble Drugs Using Molecular Dynamics Simulation," 57th CSChE Conference (2007).
74. P. Choi, "A Newly Developed Polymer Materials Elective Stream at the University of Alberta," 90th CSC Conference (2007).
75. C. Li and P. Choi, "Determination of the Conformation and Adsorption Energy of Normal Alkanes on a Relaxed α - Al_2O_3 (0001) Surface by Molecular Dynamics Simulations," 90th CSC Conference (2007).
76. M. Zhang, F. Yuen and P. Choi, "A Molecular Dynamics Study of the Solid-State Structures of Linear Low-Density Polyethylenes," 90th CSC Conference (2007).
77. R. Ozisik, X. Chen, S. K. Kumar, W. L. Mattice and P. Choi, "Influence of Stereotacticity on the Crystallization of Isotactic Polypropylene," ACS Spring Meeting (2007).
78. X. Chen, R. Ozisik, S. K. Kumar, P. Choi and W. L. Mattice, "Influence of Stereotacticity on the Crystallization of Isotactic Polypropylene," APS Annual Meeting (2007).
79. C. Li and P. Choi, "Correlation between Adsorption Energy of 1,4 Butanediol and Growth Rates of Various Crystal Faces of α - Al_2O_3 as Revealed by Molecular Dynamics Simulation," AIChE Annual Meeting (2006).
80. C. Li and P. Choi, "Molecular Dynamics Simulation Study on the Morphological Control of α - Al_2O_3 Nanoparticles," NanoForum Canada (2006).

81. C. Huang, K. Nandakumar, P. Choi and L. W. Kostiuik, "A Molecular Dynamics Study of Liquid Transport through a Nanopore Driven by Constant Pressure Differences," NanoForum Canada (2006).
82. P. Choi, "Study of Solid-State Structure of Linear Low-Density Polyethylene by Molecular Dynamics Simulation," *Invited Keynote Lecture*, Singapore International Chemical Conference IV (2005).
83. M. Wang and P. Choi, "Study of Ziegler-Natta and Single-Site Linear Low-Density Polyethylenes by Fuming Nitric Acid, GPC and ^{13}C Solid-State NMR," AIChE Annual Meeting (2005).
84. Z. Li, L. Zhao, S. Newhook and P. Choi, "A Molecular Dynamics Study of the Coalescence Mechanism of Nanometre-Sized Water Clusters with Adsorbed Naphthenic Acids," AIChE Annual Meeting (2005).
85. M. Zhang, Z. H. Liu, L. Zhao and P. Choi, "Study of Single-Site Linear Low-Density Polyethylene Liquids Using Inverse Gas Chromatography and Molecular Dynamics Simulation," AIChE Annual Meeting (2005).
86. C. Li and P. Choi, "Study of the Molecular Weight Dependence of Surface Tension of Low Molecular Weight Alkanes by Molecular Dynamics Simulation," AIChE Annual Meeting (2005).
87. P. Choi, "Study of Single-Site Linear Low-Density Polyethylene Liquids Using Inverse Gas Chromatography and Molecular Dynamics Simulation," 55th CSChE Conference (2005).
88. P. Choi, "Characterization of Four-Phase Structure of High-Density Polyethylene Thin Films by Solid-State ^{13}C NMR," Symposium in honour of Prof. Wayne L. Mattice, University of Akron, Akron, OH (2005).
89. M. Wang and P. Choi, "Characterization of Phase Structure of High-Density Polyethylene Thin Films by Solid-State ^{13}C NMR," 88th CSC Conference (2005).
90. S. S. Rane, W. L. Mattice and P. Choi, "NVT Ensemble Calculation of the Pressure in Polymeric Systems Using the Virtual-Volume-Variation Method," 54th CSChE Conference (2004).
91. S. S. Rane and P. Choi, "Validity of Inferring Cohesive Energy Density of Polymers Using their Measured Internal Pressures," 54th CSChE Conference (2004).
92. L. Zhao and P. Choi, "Stability of Water-in-Oil Emulsions with Adsorbed 6-Methyl-2-Naphthatenepropionic Acid: A Molecular Dynamics Study," 54th CSChE Conference (2004).
93. M. Zhang, U. Sundararaj and P. Choi, "Glass Transition Temperatures Prediction of Polystyrene and Polypropylene Based on Radial Distribution Functions Obtained from Molecular Dynamics Simulation," ACS Fall Meeting (2004).
94. M. Zhang, U. Sundararaj and P. Choi, "Miscibility and Morphology Studies of Poly(etherimide) (PEI)/Poly(butylene terephthalate) (PBT) Blends," ACS Fall Meeting (2004).
95. L. Zhao and P. Choi, "A Molecular Dynamics Study of the Coalescence of Two Nanometre-Sized Water Droplets with Adsorbed Naphthenic Acid," 5th International Conference on Petroleum Phase Behaviour and Fouling (2004).
96. P. Choi, "Thermodynamics of Polyolefin Solutions and Blends," *Invited Plenary Lecture*, 4th China Conference on the Characterization of Macromolecules, Hangzhou, China (2004).
97. P. Choi, "Miscibility of Polyethylene Blends – A Molecular Dynamics Study," 86th CSC Conference (2004).

98. P. Choi and W. L. Mattice, "Effect of Density on the Local Structure of Mixtures of Atactic and Isotactic Polypropylenes at Low Temperatures," 3rd ACS Molecular Modelling Workshop (2004).
99. M. Hudec, P. Choi, A. K. C. Yeung and H. Xiao, "Fundamental Mechanics of Film Formation in Water-Based Coatings," 53rd CSChE Conference (2003).
100. L. Brown and P. Choi, "Don't Forget the Polymers in Low Resin Content Coatings," 52nd CSChE Conference (2002).
101. G. Innes and P. Choi, "Improvement on the Accuracy of Flory-Huggins Interaction Parameters Measured by Inverse Gas Chromatography," 52nd CSChE Conference (2002).
102. X. Kong, M. Silveira, L. Zhao and P. Choi, "A Pseudo Equation-of-State Approach for the Estimation of Solubility Parameters of Polyethylene by Inverse Gas Chromatography," 52nd CSChE Conference (2002).
103. P. Choi, "A Re-examination of the Concept of Hildebrand Solubility Parameter for Polymers," 39th IUPAC World Polymer Congress, 246 (2002).
104. M. Zhang, U. Sundararaj and P. Choi, "A Miscibility Study of PEI/PC Blends by Molecular Dynamics and Differential Scanning Calorimetry," IUPAC World Polymer Congress, 628 (2002).
105. M. Silveira and P. Choi, "A Re-examination of the Validity of the Inverse Gas Chromatography Approach to the Determination of Hildebrand Solubility Parameter," 1st International Conference on Inverse Gas Chromatography Proceedings, 142 – 145 (2001).
106. M. Doran and P. Choi, "Molecular Dynamics Studies of the Branching Characteristics on Crystalline Structure of Polyethylene," ACS Fall Meeting, PMSE Proceedings, 187 (2001).
107. L. Zhao and P. Choi, "Study of the Effect of Branch Content of Octene-based LLDPE on its Miscibility with HDPE by IGC," ACS Fall Meeting, PMSE Proceedings, 574 – 576 (2001).
108. L. Zhao and P. Choi, "Direct Measurements of Flory-Huggins Interaction Parameters for LDPE/LLDPE Blends Using Inverse Gas Chromatography," 50th CSChE Conference (2000).
109. J. Z. Fan, M. C. Williams, and P. Choi, "Investigation of the Effects of Co-monomer Type and Co-monomer Distribution of LLDPE on its Melt Miscibility with HDPE Using Molecular Dynamics Simulation," 38th IUPAC World Polymer Congress, 1152 (2000).
110. M. Silveira and P. Choi, "A Miscibility Study of LDPE/LLDPE Blends at Elevated Temperatures Using IGC," 58th SPE ANTEC, 2454 – 2457 (2000).
111. L. Zhao and P. Choi, "Determination of Solvent Independent Interaction Parameters for the HDPE/LDPE Blend by an Improved IGC Approach," 58th SPE ANTEC, 2540 – 2544 (2000).
112. L. Zhao and P. Choi, "Determination of Solvent Independent Polymer-Polymer Interaction Parameter by an Improved IGC Approach," 49th CSChE Conference (1999).
113. Z. J. Fan, M. C. Williams, and P. Choi, "A Molecular Dynamics Study of Branching Characteristics of LDPE on its Miscibility with HDPE," 49th CSChE Conference (1999).
114. P. Choi, "Miscibility Studies of Polyethylene Blends Using Inverse Gas Chromatography," AIChE Annual Meeting (1998).
115. P. Choi, Z. J. Fan, and M. C. Williams, "Miscibility Studies of Blends of LDPE and Butene-Based LLDPE Using Melting Point Depression," University of Waterloo IPR May Symposium (1998).

116. P. Choi, T. A. Kavassalis, and A. Rudin, "Calculations of Heats of Mixing and Interaction Parameters for Polyethylene and Isotactic Polypropylene Blends Using Molecular Dynamics," 47th CSChE Conference (1997).
117. Z. J. Fan, I. A. Hussein, P. Choi, and M. C. Williams, "A DSC Study of the Miscibility of LDPE/LLDPE Blends," 47th CSChE Conference (1997).
118. Z. J. Fan, I. A. Hussein, P. Choi, and M. C. Williams, "Phase Behaviour of LDPE/LLDPE Blends Prepared at Optimum Blending Conditions," 47th CSChE Conference (1997).
119. A. Henderson, P. Choi, T. A. Kavassalis, and A. Rudin, "Characterization of the Clarity of Blends of an EVA Copolymer with several Tackifier Resins Using Thermal Analysis Techniques," Hot Melt Symposium (1995).
120. P. Choi, T. A. Kavassalis and A. Rudin, "Use of Inverse Gas Chromatography to Estimate Flory-Huggins Interaction and Solubility Parameters of Surfactants," ACS Spring Meeting, San Diego PMSE Div., **70**, 472 – 475 (1994).
121. T. A. Kavassalis, P. Choi and A. Rudin, "The Calculation of 3D Solubility Parameters Using Molecular Models," AIChE Annual Meeting (1992).
122. P. Choi, M. Lynch, A. Rudin, J. W. Teh and J. Batiste, "DSC Analysis of Fusion Level of Rigid PVC Revisited: Filler Effects on Thermal Analysis Data," 50th SPE ANTEC, 2302 – 2304 (1992).
123. J. Batiste, P. Choi, M. Lynch, A. Rudin and L. H. De Carvalho, "Effects of Compounding and Extrusion Variables on Degree of Fusion and Impact Strength of PVC Window Profile," 49th SPE ANTEC, 1234 – 1237 (1991).
124. P. Choi, S. Haridoss and A. Rudin, "Effects of Carbon Black and Peroxide on Crosslinking in Semi-conductive EVA's," 49th SPE ANTEC, 575 – 577 (1991).

INVITED PRESENTATIONS AND SHORT COURSES

1. "Permeability of Low Molecular Weight Alcohols in Hydroxylpropyl Xylan Films," 10th International Inverse Gas Chromatography Symposium, Online (2021).
2. "Structural Dependence of Asphaltene's Dynamics on Its Free Volume," Suncor Academic Forum, Calgary, AB (2020).
3. "Diffusion through Free Volume Redistribution," Centre for Research in Molecular Modelling Symposium, Concordia University, Montreal, QC (2020).
4. "Diffusion through Free Volume Redistribution," McMaster University, Hamilton, ON (2019).
5. "Diffusion through Free Volume Redistribution," University of Waterloo, Waterloo, ON (2019).
6. "Molecular Simulation – an Enabling Tool for Studying Structure-Property Relationships of Bitumen," Suncor Energy, Calgary, AB (2019).
7. "Molecular Simulation – an Enabling Tool for Research," Concordia University, Montreal, QC (2018).
8. "Molecular Dynamics Simulation: A Powerful Tool for Chemical/Materials Engineers," NRC CanmetENERGY," Devon, AB (2018).
9. "Molecular Dynamics Simulation: A Powerful Tool for Chemical/Materials Engineers," University of Saskatchewan," Saskatoon, SK (2017).
10. "Molecular Dynamics Simulation: A Powerful Tool for Chemical/Materials Engineers," Southern University of Science and Technology," Shenzhen, China (2017).

11. "Permeability of Low Molecular Weight Alcohols in Hydroxylpropyl Xylan Films," 2nd Inverse Gas Chromatography Symposium, Newark, NJ (2017).
12. "Study of Barrier Properties of Food Packaging Polymers," York University, Toronto, ON (2017).
13. "Molecular Dynamics Study of Diffusion in Polymers," 37th Canadian High Polymer Forum, Gananoque, ON (2016).
14. "Molecular Dynamics Study of Diffusion in Polymers," Seoul National University, Seoul, South Korea (2016).
15. "Molecular Dynamics Study of Diffusion in Polymers," Collaborative Research on 3D and Materials Research, Incheon, South Korea (2016).
16. "Study of Diffusion in Polymeric Systems Using Molecular Dynamics Simulation," 3rd International Conference of Fluid Flow, Heat and Mass Transfer, Ottawa, ON (2016).
17. "Chemical Engineering Perspective on the Design of Sustainable Materials," Symposium on Frontiers of Chemical Science and Engineering: Environment and Sustainable Development, Beijing, China (2016).
18. "Intelligent NanoFertilizers," FarmTech Conference, Edmonton, AB (2016).
19. "Towards a Sustainable Society," Xi'an Jiaotong University, Xi'an, China (2014).
20. "Design of Macromolecular Systems Using Molecular Simulation," Hong Kong University of Science and Technology, Hong Kong (2014).
21. "Molecular Dynamics Study of the Wetting Behaviour of Selected Liquids on Model Clay Surfaces," Carleton University, Ottawa, ON (2011).
22. "Use of Molecular Simulation to Solve an Industrial Problem on the Structure-Property Relationship of Polyethylene," CIC/CSCHE Local Sections Technical Night (2010).
23. "Miscibility of Polyethylene and Polypropylene," Canadian Plastics Industry Association, BC Innovation Forum, Vancouver, B.C. (2010).
24. "Study of structure-property relationships of macromolecules using molecular simulation," Department of Chemical and Biological Engineering, University of British Columbia, Vancouver, B.C. (2010).
25. "Study of structure-property relationships of macromolecules using molecular simulation," The Hong Kong University of Science and Technology, Hong Kong (2010).
26. "Study of structure-property relationships of macromolecules using molecular simulation," University of Western Ontario, London, ON (2010).
27. "Study of structure-property relationships of macromolecules using molecular simulation," McMaster University, Hamilton, ON (2010).
28. "Design of Macromolecular Systems Using Molecular Simulation," Xerox Research Centre of Canada, Mississauga, ON (2010).
29. "Design of Macromolecular Systems Using Molecular Simulation," Laurentian University, Sudbury, ON (2010).
30. "Design of Macromolecular Systems Using Molecular Simulation," NRC Canadian Neutron Beam Centre, Chalk River, ON (2010).
31. "Design of Solvent Used for Bitumen Extraction by Molecular Modelling and Inverse Gas Chromatography," Centre of Oil Sands Innovation, Edmonton, AB (2010).
32. "Design of Macromolecules by Molecular Simulation," Carleton University, Ottawa, ON (2009).
33. "Design of Macromolecular Drug Delivery Systems Using Molecular Simulation," University of Alberta, Edmonton, AB (2009).

34. "Design of Macromolecules by Molecular Simulation," National Centre for Upgrading Technology, Devon, AB (2009).
35. "Revelation of Structure-Property Relationships by Molecular Simulation," McMaster University, Hamilton, ON (2009).
36. "Revelation of nano-scale structure by molecular simulation," University of Calgary, Calgary, AB (2009).
37. "Revelation of Nano-Scale Structure by Molecular Simulation," Laval University, Quebec, PQ (2009).
38. "Revelation of Nano-Scale Structure by Molecular Simulation," FPInnovations, Quebec, PQ (2009).
39. "Application of Molecular Simulation in Chemical Engineering," University of Western Ontario, London, ON (2008).
40. "Design of Macromolecular Drug Delivery Systems Using Molecular Simulation," The Hong Kong University of Science and Technology, Hong Kong (2008).
41. "Study of Thermodynamic Behaviour of Fluids Using Molecular Simulation," Schlumberger, Edmonton, AB (2007).
42. "Study of Structure-Processing-Property Relationship for LLDPE Blown Films," 33rd High Polymer Forum, Gananoque, ON (2007).
43. "LLDPE Resins: The Best is Yet to Come," NOVA Chemicals Corporation, Calgary, AB (2006).
44. "Structure-Processing-Property Relationships of LLDPE Blown Films," NOVA Chemicals Corporation, Calgary, AB (2006).
45. "Solid-State Morphology of LLDPE as Revealed by Molecular Dynamics Simulation," The Hong Kong University of Science and Technology, Hong Kong (2005).
46. "Solid-State Morphology of Linear Low-Density Polyethylene," NOVA Chemicals Corporation, Calgary, AB (2005).
47. "Characterization of Four-Phase Structure of High-Density Polyethylene Thin Films by Solid-State ¹³C NMR," Poster Presentation, University of Akron, Akron, OH (2005).
48. "Molecular Simulation: A Powerful Tool for Chemical Engineers," Edmonton Section of Canadian Society for Chemical Engineering, Edmonton, AB (2005).
49. "Correlation between Nanometre-Sized Structures in Polyolefins and their Miscibility through Multi-Scale Modelling," University of Alberta, Edmonton, AB (2005).
50. "Molecular Modelling: A Powerful Tool for Studying Molecular Assemblies," Beijing University of Chemical Technology, Beijing, China (2004).
51. "Molecular Modelling of Macromolecular Assemblies," Zhejiang University, Hangzhou, China (2004).
52. "Molecular Modelling of Surfactants," The P & G Company, Cincinnati, OH (2004).
53. "Molecular Modelling: A Powerful Tool for Studying Molecular Assemblies," University of Waterloo, Waterloo, ON (2004).
54. "Towards an Ultimate Understanding of the Structure-Property Relationships of Polyethylenes and their Blends," NOVA Chemicals Corporation, Calgary, AB (2003).
55. "Molecular Modelling: A New Tool for Chemical Engineers," McMaster University, Hamilton, ON (2002).
56. "A Pseudo Equation-of-State Approach to the Estimation of Solubility Parameters of Polymers by Inverse Gas Chromatography," University of Regina, Regina, SK (2002).

57. "Thermodynamics of Polyethylene Blends," NOVA Chemicals Corporation, Calgary, AB (2002).
58. "Molecular Modelling: A New Tool for Chemical Engineers," University of Hong Kong, Hong Kong (2002).
59. "Inverse Gas Chromatography Studies of Polyethylene Liquids and their Blends," NOVA Chemicals Corporation, Calgary, AB (2000).
60. "Miscibility Studies of HDPE/LLDPE Blends Using Molecular Dynamics Simulation," University of British Columbia, Vancouver, BC (1999).
61. "Polymers: Here, There, and Everywhere," Edmonton Chinese Engineers Society (1999).
62. "Molecular Dynamics Studies of the Miscibility of Polyethylenes," University of Alberta Advanced Engineered Materials Centre (1998).
63. "Molecular Modelling: A New Tool for Research Scientists," Baxter Healthcare Corporation, Round Lake, IL (1998).
64. "Miscibility Studies of Blends of LDPE and Butene-Based LLDPE," The Hong Kong University of Science and Technology, Hong Kong (1998).
65. Delivered a short course in Polymer Rheology and Melt Processing hosted by the Canadian Plastics Industry Association, Edmonton, AB (1997).

RESEARCH FUNDS OBTAINED FROM EXTERNAL AGENCIES

Funding Agency	Amount	Title of Project	Joint With
Imperial Oil (2020 – 2023)	\$75,000	Molecular Dynamics Study of the Molecular Mechanism of Environmental Stress Cracking of Polyethylene	
New Frontiers in Research Fund - Exploration (2019 – 2021)	\$128,000	Innovative Biomimetic Hemodialysis Membrane Design with Enhanced Biocompatibility and Improved Clearance of Toxic Middle Molecules Towards Artificial Wearable Kidney	A. Abdelrasoul
Canada First Research Excellence Fund (2017 – 2023)	\$729,000	Solvent Recovery and Removal from NAE Extraction Gangue	
NSERC Discovery Grant (2017 – 2023)	\$183,000	Conversion of lignin into dielectric materials for renewable energy storage	
Alberta Prion Research Institute (2017 – 2020)	\$353,000	Development of a Cheap and Renewable Binder for Torrefied Wood Pellets	D. Bressler
NOVA Chemicals (2016 – 2017)	\$28,500	Diffusion of Solvents in Polyethylene	
Alberta Innovates Bio Solutions (2016 – 2019)	\$213,750	Development of Modified Cellulose Nanofibrils (M-CNF) for Controlled Atmosphere (CA) Food Packaging Films	Y. Boluk

C5MPT (2015 – 2018)	\$189,000	Design of High Capacity Hydrotalcite for CO ₂ Capture	H. Zhang
C5MPT (2015 – 2018)	\$270,000	Design of Sulfide Mineral Collectors Using Molecular Simulation	X. Zu
Agriculture and Agri-Food Canada (2013 – 2016)	\$30,000	Intelligent Nano Fertilizers	
Centre for Oil Sands Innovation (2013 – 2015)	\$163,680	Geopolymierzation and Mineral Hydration to Strength Oil Sands Tailings	Q. Liu
NRCan and Imperial Oil (2013 – 2016)	\$1,410,000	Fundamentals of Non-aqueous Extraction of Oil Sands	T. Etsell and Q. Liu
Schlumberger (2012 – 2013)	\$18,000	Molecular Modelling of Wax Formation	
NSERC RTI Category I (2012 – 2013)	\$63,000	An Inverse Gas Chromatographic System for the Characterization of Biopolymers	
NSERC Discovery Grant (2012 – 2017)	\$170,000	Revelation of Structure-Property Relationships of Polymers Using Molecular Simulation	
Alberta Livestock and Meat Agency (2012 – 2015)	\$225,000	Specific Risk Bovine Protein Feedstock for High Value Materials Applications	D. Bressler
C5MPT (2011 – 2014)	\$240,000	Novel Collectors for Sulfide Flotation	Z. Xu
NSERC Carbon Management Canada (2011 – 2013)	\$236,000	CO ₂ Microbubbles – A Safe and Secure Technique for Increased Sequestration & EOR Potential into Oil/Gas Reservoirs	J. Trivedi and E. Kuru
NSERC Innovative Green Wood Fibre Products Network (2010 – 2015)	\$137,000	Diffusivity of Oxygen and Water Vapour through Chemically Modified Xylan by Inverse Gas Chromatography	
Imperial Oil and Alberta Ingenuity (2010 – 2012)	\$749,540	Kinetics of Solvent Recovery from Extracted Oil Sands Tailing	M. Gray and Q. Liu
NSERC RTI Category I (2012)	\$73,500	Differential Scanning Calorimetry for the Development of New Pharmaceutical with Imporved Performance	A. Lavasanifer
Agriculture and Agri-Food Canada (2009 – 2011)	\$114,800	Intelligent Fertilizers	
AFMNet (2009 – 2011)	\$137,000	Biopolymer Based Controlled Release Systems for Biomedical Applications	

Agriculture Funding Consortium (2009 – 2013)	\$425,000	Development of Value-Added Applications derived from Rendering By-Product Streams	D. Bresler
Schlumberger (2009 – 2010)	\$63,000	Molecular Modelling of Asphaltenes	
NSERC RTI Category I (2007 – 2008)	\$126,000	A Silicon Graphics Workstation System	
NSERC Discovery Grant (2007 – 2012)	\$131,725	Design of Micro/Nanocantilevers with Adsorbed Biomacromolecules Using Molecular Modelling	
Imperial Oil and Alberta Ingenuity (2007 – 2010)	\$294,000	Design of Solvent Used for Bitumen Extraction by Molecular Modelling and Inverse Gas Chromatography	
AFMNet (2005 – 2007)	\$50,000	Synthesis of Polyurethanes Using Vegetable Oils	S. Narine
NSERC CRD Grant (2004 – 2006)	\$189,000	Fundamental Study on Structure/Property Relationship of Polyethylene Blown Films	
NOVA Chemicals Corporation (2004 – 2006)	\$144,900	Fundamental Study on Structure/Property Relationship of Polyethylene Blown Films	
NSERC Research Grant (2002 – 2007)	\$130,000	Molecular Modelling of Polymer-Polymer Interfaces	
AERI COURSE Grant (2002 – 2004)	\$143,760	Stability of Water-in-Oil Emulsions	
IIPP Research Infrastructure (2004)	\$540,671	Infrastructure for the study of structure and function of value added industrial materials	S. Narine
Lafrentz Road Services Ltd. (2000 – 2002)	\$25,200	Improvement of the Cracking Resistance of Road Marking Materials	
NSERC CRD Grant (2000 – 2002)	\$124,000	IGC, DSC and MD Studies of the Thermodynamics of Polyethylene Blends	
NOVA Chemicals Corporation (1999 – 2002)	\$100,000	Thermodynamics and Morphological Studies of Polyethylene Blends	
UAAEM (1998 – 1999)	\$9,000	Polyurethane Coatings	
CFI New Opportunities Grant (1998 – 1999)	\$85,000	Transport Laboratory Infrastructure	J. A. W. Elliot
NSERC Individual Research Grant (1998 – 2002)	\$127,050	A Study of Persistent Order in Polyethylene Melts by Molecular Simulation	
NSERC Equipment Grant (1998 – 1999)	\$58,918	A Study of Persistent Order in PE Melts by Molecular Simulation	

GRADUATE STUDENTS AND POSTDOCTORAL FELLOWS SUPERVISION

Student Name	Program	Title of Project	Joint With
V. H. Malamace Da Silva (2021 –)	M.Sc.	Molecular Simulation of Polar Molecules Under Electric Field	
G. P. Da Costa (2021 –)	Ph.D.	Theoretcial study of organic-inorganic interfaces	
F. Araujo (2021 –)	M.Sc.	Drying of Gangue Using Multiple Mechanisms	
T. Hussein (2021 –)	M.Sc.	Solvent Recovery Using Microwave	
J. C. P. Wong (2021 –)	PDF	Determination of Polymer Viscosity from Free Volume	
S. Kavyani Baghbaderani (2020 –)	Ph.D.	Molecular Simulation of Bitumen	
D. Barker-Rothschild (2020 –)	M.Sc.	3D-RISM-KH Modelling of Lignin	
S. Beck (2020 –)	Ph.D.	Molecular Modelling of Lignin	S. H. Mushrif
A. Kiran (2021)	R.A.	Calcualtion of Asphaltene Viscosity Using Free Volume	
A. Kuang (2021)	R.A.	Solvent Recovery from Gangue Using Covective Current	
R. Khalkhali (2020)	R.A.	Solvent Recovery from Gangue Using Microwave	
M. H. Anvari (2019 – 2020)	PDF	Study of Bubbles Coalescence	
A. Kuang (2018 – 2020)	M.Sc.	Drying of Gangue from a Solvent Based Oil Sands Extraction Process	
K. R. Shivakumar (2018 – 2019)	M.Sc.	Modification of Cellulose Nanofibrils	Y. Boluk
C. Zhu (2017 – 2018)	M.Sc.	Development of a Binder from Hydrolyzed Specified Risk Materials for Torrefied Wood Pellets	D. Bressler
A. Farjoo (2017 – 2018)	PDF	Development of a Binder for Torrefied Wood Pellets	D. Bressler
R. Khalkhali (2017 – 2019)	M.Sc.	Solvent Recovery from Gangue	
J. C. P. Wong (2017 – 2020)	Ph.D.	Polymer Diffusion through Free Volume Redistribution	
V. Kislitsin (2016 – present)	Ph.D.	Development of Modified Cellulose Nanofibrils (M-CNF) for Controlled Atmosphere (CA) Food Packaging Films	
S. Panda (2016 – 2017)	R.A.	Solubility of solvents in polyethylene	
M. H. Anvari (2015 – 2019)	Ph.D.	A Molecular Dynamics Approach towards Interfacial Properties of Sulfide- and Clay-Minerals	

S. Saadat (2015 – 2017)	M.Sc.	Design of High Capacity Hydrotalcite for CO ₂ Capture	
S. Yu (2015 – 2017)	PDF	Water soluble, Upper Critical Solution Temperature Polymers	
Y. Zhou (2015 – 2016)	Ph.D.	Polymer Dynamics	
A. Noorjahan (2015)	PDF	Modelling of water soluble, Upper Critical Solution Temperature Polymers	
K. Pal (2014 – 2016)	R.A.	Solvent Extraction of Bitumen	
N. El-Thaher (2014)	PDF	Design of Collectors by Molecular Simulation	Z. Xu
L. Ejike (2014 – 2016)	M.Sc.	Solvent recovery of low grade ore	
V. Kislitsin (2014 – 2016)	M.Sc.	Development of products from waste proteins	
S. Panda (2013 – 2015)	M.Sc.	Study of Reconstituted Gangue	
J. U. Garcia (2013 – 2015)	M.Sc.	Molecular Modelling of Block Copolymers Used in Solar Cells	
Z. Naderi Khorshidi (2013 – 2018)	Ph.D.	Modelling of Geopolymerization	
R. Renaud (2012 – 2014)	M.Sc.	Solvent Recovery from Gangue	M. Gray
Y. Zhou (2012 – 2014)	M.Sc.	Molecular Modelling of Water Soluble Polymers	
M. Ghosh (2011 – 2014)	M.Sc.	Use of Polymers in CO ₂ Microbubbles Formation	J. Trivedi and E. Kuru
X. Liu (2011 – 2012)	PDF	Molecular Modelling of Collectors for Sulfide Flotation	Z. Xu
W. Zeng (2011 – 2012)	M.Sc.	Molecular Modelling of the Interactions on Mineral Surfaces	
X. Tan (2010 – 2016)	R.A.	Solvent Recovery from Gangue	
A. Khajeh (2010 – 2012)	M.Sc.	Modelling of Nano Morphology of Polymers Used in Solar Cells	
H. Nikakhtari (2010 – 2013)	PDF	Kinetics of Solvent Recovery	M. Gray and Q. Liu
F. Bayati (2010 – 2016)	Ph.D.	Inverse Gas Chromatography Study of Hydroxypropyl Xylan	
A. Noorjahan (2010 – 2014)	Ph.D.	Molecular Diffusion Process	
D. Zhou (2010 – 2013)	PDF	Intelligent Fertilizers	
C. N. Teo (2010 – 2012)	M.Sc.	Kinetics of Liquid Molecules Adjacent to a Surface	L. W. Kostiuk
N. Razavilar (2009 – 2015)	Ph.D.	Diffusion of Drugs in Block Copolymers	F. Jamali
N. El-Thaher (2009 – 2013)	Ph.D.	Molecular Modelling of Polymer Networks	

P. Selvakumar (2010 – 2012)	PDF	Development of Value-Added Applications derived from Rendering By-Product Streams	
L. Wu (2010 – 2012)	RA	Deactivation of Catalysts Used in Pololefin Polymerization	S. Wanke
U. Venukrishnan (2009 – 2011)	PDF	Molecular Modelling of Asphaltenes	
A. Javaher (2007 – 2010)	M.Sc.	Molecular Dynamcis Study of Asphaltene Association in Supercritical Fluids	Z. Xu
P. Szewczyk (2008 – 2010)	M.Sc.	Modelling of Lipid Crystallization	
X. Ni (2007 – 2009)	M.Sc.	Modelling of Solvent Adsorption on Clay	
N. El-Thaher (2007 – 2009)	M.Sc.	Inverse Gas Chromatography Study of Solvent Adsorption on Clay Surfaces	
P. Khosathit (2007 – 2009)	M.Sc.	Modelling of Nanocantilevers	B. Jar
C. Li (2007 – 2009)	PDF	Polymer Dynamics	M. Williams
A. Samtani (2007 – 2008)	RA	IGC Study of Clay Surfaces	
X. Wang (2007 – 2008)	PDF	Molecular Modelling of Organic/Inorganic Interfaces	
A. Kapoor (2006 – 2008)	M.Sc.	Modelling of Nanoflows	
Y. Zhang (2006 – 2007)	PDF	Study of Lamella in Polyethylene Blown Films	
N. Li (2006 – 2008)	M.Sc.	Solid-state ¹³ C NMR of Polyethylene	
S. Patel (2005 – 2009)	Ph.D.	Molecular Modelling of Drug Delivery Systems	A. Lavasanifar
C. Huang (2005 – 2007)	Ph.D.	Molecular modelling of flow in nanometre tubes	L. Kostiuk
L. Zhao (2005 – 2006)	PDF	Characterization of Tie Molecules in Polyethylene	
M. Zhang (2005 – 2006)	PDF	Structure/Property Relationship of Linear Low Density Polyethylene	
M. Wang (2005 – 2006)	RA	Determination of Lamella Orientation using FTIR	
Z. Liu (2004 – 2005)	PDF	Characterization of Tie Molecules	
Z. Li (2004 – 2005)	RA	Computational Chemistry	
M. Wang (2003 – 2005)	M.Sc.	Determination of Branch Distribution using Solid-State ¹³ C NMR	
C. Li (2003 – 2007)	Ph.D.	Molecular Modelling of Organic/Inorganic Interfaces	
M. Hudec (2002 – 2004)	M.Sc.	Coalescence of Polymer Particles in Water	T. Yeung
L. Zhao (2002 – 2004)	PDF	Stability of Water-in-Oil Emulsions	

X. Jin (2001 – 2003)	M.Sc.	Polyurethane Coatings from Soy-Based Polyols	
M. Zhang (2000 – 2004)	Ph.D.	Miscibility in Engineering Thermoplastic Blends	U. Sundararaj
X. Kong (2003 – 2005)	PDF	Synthesis of Polyurethanes	S. Narine
X. Kong (2000 – 2003)	PDF	Crystallization Studies of Polyethylene Blends	
L. Brown (2000 – 2002)	M.Sc.	Improvement of the Cracking Resistance of Various Road Marking Formulations	
G. Innes (2000 – 2002)	M.Sc.	Thermodynamics of Polyethylene Blends Consisting of Ziegler-Natta and Metallocene LLDPEs	
L. Zhao (1999 – 2002)	Ph.D.	An Inverse Gas Chromatography Study of the Thermodynamics of Polyolefin Blends	
M. Silveira (1999 – 2001)	M.Sc.	Solubility and Miscibility Studies of LDPE/LLDPE Blends	
Z. J. Fan (1998 – 2001)	Ph.D.	Melt Miscibility Studies of Polyethylene Blends by MD and SEM	M. Williams
S. Sanyal (1999)	PDF	Mechanical Properties of PE Blends	M. Williams

UNDERGRADUATE STUDENTS SUPERVISION

Student Name	Title of Project
S. Bhatti (Summer Student, 2020)	Study of gangue composition
P. Rahman (CME 458 Project, 2020)	Separation Utilizing Entropy
Y. Huang (Dean's Research Award, 2017)	Design of Xylan-Based Packaging Films Using Inverse Gas Chromatography
C. Wu (Undergraduate Research Assistant, 2017)	IGC Study of Fertilizer Coatings
C. Gao (Summer Student, 2016)	IGC Study of Lignin
C. Wu (Summer Student, 2016)	IGA Study of Lignin
T. Weiss (Summer Student, 2015)	Solvent Recovery of High Grade Ores
R. Han (Dean's Research Award, 2015)	Solvent Recovery from the Gangue of Low Grade Ores
S. Merzara (Summer Student 2015)	Solvent Recovery from Oil Sands Extraction
A. Chiu (Summer Student 2014)	Solvent Diffusivity in Xylan
A. Wong (Summer Student 2014)	T _g Calculation
J. U. Garcia (Summer Student 2013)	Molecular Modelling of Wax Inhibition
A. Wong (Summer Student, 2012)	Water Diffusivity in Xylan

V. Chum (Undergraduate Research Project, 2012)	Dynamics of Solar Cell Polymers
J. D'Cunha (Undergraduate Research Project, 2012)	Dynamics of Solar Cell Polymers
J. U. Garcia (NSERC USRA Student, 2011)	Nano Morphology of Solar Cell Polymers
A. Wong (Summer Student, 2011)	Calorimetry Analysis of SRMs
R. Chee (Summer Student, 2010)	Phase Separation of Lipids
N. Ansari (NSERC USRA Student, 2009)	Molecular Weight Dependence of the Self Diffusivity of PCL
C. Chan (Undergraduate Research Project, 2006)	Dynamics of Alkane Chains
F. Yuen (Summer Student, 2006)	Molecular Modelling of LLDPE
A. Samtani (Summer Student, 2006)	IGC Study of Clay Surfaces
M. K. Wong (Summer Student, 2006)	IGC Study of Diblock Copolymer
Y. S. Ling (Summer Student, 2006)	FTIR Study of Tie Molecule Concentration
S. Miller (Summer Student, 2005)	IGC Study of Acid-Etched Polyethylene
R. Pandher (Summer Student, 2005)	Determination of Free Volume Distribution
S. Newhook (Summer Student, 2004)	Molecular Modelling of Water-in-Oil Emulsions in Oil Sands
S. Miller (Summer Student, 2004)	IGC Study of Acid-Etched Polyethylene
B. Cranston (Co-op Student, 2004)	Molecular Modelling of Water-in-Oil Emulsions
T. Liu (NSERC USRA Student, 2003)	Determination of Free Volume Using IGC
M. Lima (Summer Student from France, 2002)	Evaluation of Sources of Errors of IGC Data
D. Lee (Co-op Student, 2000)	Development of a PVT Apparatus for Polymer Melts
M. Chan (Summer Student, 2000)	Mechanical Properties of Concrete with Fly Ash
D. Khoe (Summer Student, 2000)	Mechanical Properties of Concrete with Fly Ash
K. A. Stein (Dean's Research Award, 2000)	Crystallization Studies of LDPE/LLDPE Blends
M. Doran (Undergraduate Research Project, 2000)	Crystallite Structure of LLDPE
C. Chong (Dean's Research Award, 1999)	Miscibility of HDPE and LDPE Using IGC
J. Wong (Summer Student, 1999)	Melt Elasticity Behavior of Polyethylene
A. Man (Co-op Student, 1999)	Effects of Fly Ash on Air Entrained Admixtures
M. Harrold (Co-op Student, 1999)	Effects of Fly Ash on Air Entrained Admixtures
T. Man (Co-op Student, 1998)	Analysis of Molecular Dynamics Data
K. A. Stein (Dean's Research Award, 1998)	Performance Studies of Curing Compounds

A. Teh (Summer Student from UC, 1998)	Set up of IGC
W. Hum (Summer Student, 1998)	Set up of Laboratory

UNDERGRADUATE AND GRADUATE COURSES TAUGHT

Course	Title	Year	Term	Number of Students	Rating (out of 5)
CH E 539	Polymer Engineering and Science	96/97	III	2	5.0
CH E 265	Process Analysis	97/98	I	45	4.1
CH E 243	Engineering Thermodynamics	97/98	II	62	3.0
CH E 265	Process Analysis	98/99	I	50	4.0
CH E 453	Chemical Engineering Laboratory II	98/99	I	40	N/A
CH E 265	Process Analysis	98/99	II	54	4.0
CH E 265	Process Analysis	99/00	II	76	4.1
CH E 314	Heat Transfer	99/00	III	20	4.0
CH E 539	Polymer Engineering and Science	99/00	III	8	4.7
CH E 265	Process Analysis	00/01	II	67	4.4
CH E 639	Polymer Engineering and Science	00/01	II	10	4.2
CH E 539	Polymer Engineering and Science	00/01	III	14	4.2
CH E 265	Process Analysis	01/02	I	31	4.5
CH E 265	Process Analysis	01/02	III	12	4.3
CH E 539	Polymer Engineering and Science	01/02	III	8	4.5
CH E 343	Chemical Engineering Thermodynamics	02/03	II	33	4.0
CH E 265	Process Analysis	02/03	III	16	4.9
CH E 343	Chemical Engineering Thermodynamics	04/05	II	38	3.8
CH E 481	Colloquium I	04/05	II	26	4.9
CH E 483	Colloquium II	04/05	II	26	4.1
CH E 314	Heat Transfer	04/05	III	28	4.9
CME 265	Process Analysis	05/06	II	66	4.5
CH E 639	Polymer Engineering and Science	05/06	II	7	4.9
CH E 314	Heat Transfer	05/06	III	30	4.1
CME 265	Process Analysis	06/07	II	50	4.1
CH E 689	Polymer Properties	06/07	II	7	4.6
CH E 314	Heat Transfer	06/07	III	28	4.4
CH E 689	Polymer Properties	07/08	I	14	4.3
CME 265	Process Analysis	07/08	II	75	4.3
CME 200	Introduction to Chemical and Materials Engineering	08/09	I	203	4.3
CME 265	Process Analysis	08/09	II	102	4.4
CME 200	Introduction to Chemical and Materials Engineering	09/10	I	203	4.3
CME 481	Colloquium I	09/10	I	27	4.5
CME 265	Process Analysis	09/10	II	102	4.1

CME 200	Introduction to Chemical and Materials Engineering	10/11	I	202	4.2
CH E 694	Biopolymers and Biocomposites	10/11	I	1	N/A
CH E 343	Chemical Engineering Thermodynamics	10/11	II	49	3.9
CME 200	Introduction to Chemical and Materials Engineering	11/12	I	156	4.1
CME 265	Process Analysis	11/12	I	74	3.8
CME 265	Process Analysis	12/13	II	91	4.2
CME 482/ CH E 689	Fundamentals of Polymer Science	14/15	I	30	4.6
CH E 343	Chemical Engineering Thermodynamics	14/15	II	54	4.2
CME 481	Colloquium I	15/16	I	28	4.4
CH E 343	Chemical Engineering Thermodynamics	15/16	II	47	4.6
CME 494/ CME 694	Polymer Characterization	15/16	II	16	4.3
CH E 343	Chemical Engineering Thermodynamics	16/17	II	50	4.8
CME 494/ CME 694	Diffusion in Polymers	16/17	II	17	4.4
CH E 343	Chemical Engineering Thermodynamics	17/18	II	42	4.6
CME 483	Colloquium II	17/18	II	30	4.3
CME 494/ CME 694	Diffusion in Polymers	17/18	II	18	4.9
CH E 343	Chemical Engineering Thermodynamics	18/19	II	52	3.9
CH E 625	Surface and Statistical Thermodynamics	18/19	II	9	N/A
CH E 343	Chemical Engineering Thermodynamics	19/20	II	56	COVID-19
CME 483	Colloquium II	19/20	II	24	
CH E 689	Polymer Properties	19/20	II	11	
CME 482	Fundamentals of Polymers (Online)	20/21	II	18	4.7
CH E 689	Polymer Properties (Online)	20/21	II	25	4.8
CH E 343	Chemical Engineering Thermodynamics	21/22	II	49	4.4
CH E 689	Polymer Properties	21/22	II	25	4.9

EXAMINATION COMMITTEE DUTIES

Participated in master's and doctoral oral examining committees as committee member (duties include reading the candidacy report or the thesis and attending the examination) or impartial chair in the Department except stated otherwise.

1. Supervisor, Tasneem Hussein's master's final oral examining committee, 2022.
2. Supervisor, Daniel Barker-Rothschild's master's final oral examining committee, 2022.
3. Member, Pooria Karami's doctoral final oral examining committee, 2022
4. Member, Shammy Raj's doctoral final oral examining committee, 2022.
5. Member, Nasim Ghasemi's doctoral final oral examining committee (Pharmacy), 2022.
6. Member, Zhe Liu's master's final oral examining committee (Chemistry), 2022.
7. Member, Venugopal Hegde's master's final oral examining committee, 2021.
8. Member, Xinyi Wang's doctoral final oral examining committee, 2021
9. Member, Raunil Raj's master's final oral examining committee, 2021.
10. Member, Amirreza Badri's master's final oral examining committee, 2021.
11. Member, Anna Magdalena Hubmann's doctoral final oral examining committee (Bioresource Technology), 2021.
12. Member, Sagar Bathla's doctoral candidacy examining committee, 2021.
13. Member, Yousef Nademi's doctoral final oral examining committee, 2021.
14. Member, Bhubesh Murugappan Balasubramoniam's doctoral candidacy examining committee, 2021.
15. Supervisor, Jeremy Wong's doctoral final oral examining committee, 2020.
16. Supervisor, Vadim Kislitsin's doctoral final oral examining committee, 2020.
17. Member, Oscar Njiru's master's final oral examining committee, 2020.
18. Member, Balakrishnan Nagarajan's doctoral final oral examining committee (Mechanical Engineering), 2020.
19. Member, Wendy Tran's doctoral final oral examining committee, 2020.
20. Member, Xue Wang's master's final oral examining committee, 2020.
21. Chair, Stepheney Davey's master's final oral examining committee, 2020.
22. Member, Vihid Vajihinejad's doctoral final oral examining committee, 2020.
23. Member, Yi Lu's doctoral final oral examining committee, 2020.
24. Supervisor, Reza Khalkhali's master's final oral examining committee, 2019.
25. Chair, Zhihui Chen's master's final oral examining committee, 2019.
26. Member, Hanyu Zhang's doctoral candidacy examining committee, 2019.
27. Member, Padmanathan Arul Mozhi Devan's doctoral candidacy examining committee, 2019
28. Supervisor, Karthik Ramachandran Shivakumar's master's final oral examining committee, 2019.
29. Member, Bahman Homayun's doctoral final oral examining committee, 2019.
30. Chair, David Scott's master's final oral examining committee, 2019.
31. Member, Adrian Lopera-Valle's doctoral final oral examining committee, 2019.
32. Member, Pooria Karami's doctoral candidacy examining committee, 2019.
33. Member, Zdziana Isabel Martinez Tobon's doctoral final oral examining committee, 2019.
34. Member, Zhengxin Li's doctoral candidacy examining committee, 2019.
35. Member, John Errington Hawk's doctoral final oral examining committee, 2019.
36. Chair, Aijing Wang's master's final oral examining committee, 2019
37. Member, Gazi Arif Mahmud's doctoral candidacy examining committee, 2018.
38. Chair, Yang Tan's master's final oral examining committee, 2018.
39. Member, Dereje Tamiru Tefera's doctoral candidacy examining committee, 2018.
40. Member, Cody Tischler's master's final oral examining committee, 2018.

41. Member, Menatalla Ahmed's doctoral candidacy examining committee, 2018.
42. Member, Xuyang Liu's doctoral candidacy examining committee, 2018.
43. Chair, Yuanyuan Hong's doctoral candidacy examining committee, 2018.
44. Chair, Joseph Caputo's master's final oral examining committee, 2018.
45. Chair, Riya's master's final oral examining committee, 2018
46. Member, Christopher Afacan's master's final oral examining committee, 2018.
47. Member, Quentin Remy's master's final oral examining committee, 2018.
48. Member, Seongdae Kang's doctoral candidacy examining committee, 2018.
49. Member, Vahid Vajihinejad's doctoral candidacy examining committee, 2018.
50. Member, Preetam Anbukarasu's doctoral final oral examining committee, 2018.
51. Member, Hemant Charaya's master's final oral examining committee, 2018.
52. Supervisor, Jeremy Wong's doctoral candidacy examining committee, 2018.
53. Member, Sahar Saadt's master's final oral examining committee, 2018.
54. Member, Behnaz Bazoubandi's master's final oral examining committee, 2018.
55. Supervisor, Zeinab Naderi Khorshidi's doctoral final oral examining committee, 2018.
56. Member, Marjan Radfar's doctoral candidacy examining committee, 2017.
57. Member, Xinyi Wang's doctoral candidacy examining committee, 2017.
58. Chair, Maryam Sadat Ghoraishi Kahangi's doctoral final oral examining committee, 2017.
59. Supervisor, Vadim Kislitsin's doctoral candidacy examining committee, 2017.
60. Chair, Corentin Chatelier's master's final oral examining committee, 2017.
61. Member, Nicole Lee Robertson's doctoral final oral examining committee, 2017.
62. Chair, Sania Tasnim Basher's master's final oral examining committee, 2017.
63. Member, Kaitlyn Towle's doctoral final oral examining committee, 2017.
64. Member, Muziyuan Gao's master's final oral examining committee, 2017.
65. Member, Zahra Rostami Najafabadi's doctoral candidacy examining committee, 2017.
66. Member, Shammy Raj's doctoral candidacy examining committee, 2017.
67. Chair, Nazim Naghizada's master's final oral examining committee, 2017.
68. Chair, Amirreza Sohrabi's doctoral final oral examining committee, 2017.
69. Member, Deniz Meneksedag's doctoral final oral examining committee (Biomedical Engineering), 2017.
70. Chair, Marjan Radfar's doctoral candidacy examining committee, 2017.
71. Member, Jeff Ma's master's final oral examining committee, 2016.
72. Chair, Chen Shi's doctoral final oral examining committee, 2016.
73. Chair, Yihao Du's doctoral candidacy examining committee, 2016.
74. Chair, An Li's doctoral candidacy examining committee, 2016.
75. Member, Jun Liu's doctoral candidacy examining committee, 2016.
76. Member, Dominic Thompson's master's final oral examining committee, 2016.
77. Supervisor, Lawrence Ejike's master's final oral examining committee, 2016.
78. Member, Hale Oguzlu's doctoral final oral examining committee, 2016.
79. Supervisor, Vadim Kislitsin's master's final oral examining committee, 2016.
80. Member, Pooran Appadu's doctoral candidacy examining committee (Food Science), 2016.
81. Supervisor, Yang Zhou's doctoral candidacy examining committee, 2016.
82. Supervisor, Fatemeh Bayati's doctoral final oral examining committee, 2016.
83. Member, Adriana Maria Briones' master's final oral examining committee, 2016.
84. Member, Yi Lu's doctoral candidacy examining committee, 2016.

85. Member, Geraldine Fournier master's final oral examining committee, 2016.
86. Supervisor, Siddhant Panda's master's final oral examining committee, 2015.
87. Member, Pooran Appadu's doctoral candidacy examining committee (Food Science), 2015.
88. Member, Ying Zhu's master's final oral examining committee, 2015.
89. Chair, Peiqi Qiao's doctoral candidacy examining committee, 2015.
90. Member, Anton Fadic Eulefi's doctoral candidacy examining committee, 2015.
91. Chair, Yujia Zhao's master's final oral examining committee, 2015.
92. Member, Manjeet Chowdhry's doctoral final oral examining committee, 2015.
93. Member, Mohammad Khalkhali's doctoral final oral examining committee, 2015.
94. Member, Michael George's doctoral final oral examining committee, 2015.
95. Member, Cuiying Jian's doctoral final oral examining committee, 2015.
96. Supervisor, Jan Ulric Garcia's master's final oral examining committee, 2015.
97. Member, Saeed El Khair Nusri's master's final oral examining committee, 2015.
98. Member, Yuliya Hrynets' doctoral final oral examining committee, 2015.
99. Member, Mariana Perez's doctoral candidacy examining committee, 2015.
100. Member, Hamed Sepehr's doctoral candidacy examining committee, 2015.
101. Member, Yuechao Tang's doctoral candidacy examining committee, 2015.
102. Member, Yahui Xiang's master's final oral examining committee, 2015.
103. Supervisor, Abolfazl Noorjahan's doctoral final oral examining committee, 2014.
104. Supervisor, Yang Zhou's master's final oral examining committee, 2014.
105. Supervisor, Richard Renaud's master's final oral examining committee, 2014.
106. Member, Hasin Haroon's master's final oral examining committee, 2014.
107. Member, Hale Oguzlu's doctoral candidacy examining committee (Civil and Environmental Engineering), 2014.
108. Chair, Ali Mansouri's doctoral candidacy examining committee, 2014.
109. Member, Diana Isabel Martinez Tobon's doctoral candidacy examining committee, 2014.
110. Chair, Ruoxia Li's doctoral candidacy examining committee, 2014.
111. Member, Amirhossein Biabanard Oskouyi's doctoral final oral examining committee (Mechanical Engineering), 2014.
112. Supervisor, Zeinab Naderi Khorshidi's doctoral candidacy examining committee, 2014.
113. Member, Kaitlyn Towle's doctoral candidacy examining committee (Chemistry), 2014.
114. Member, Cuiying Jian's doctoral candidacy examining committee (Mechanical Engineering), 2013.
115. Supervisor, Xiao Ni's master's final oral examining committee, 2013.
116. Member, Lei Wang's master's final oral examining committee, 2013.
117. Supervisor, Zahra Khalili's master's final oral examining committee, 2013.
118. Member, Morteza Chehel Amirani's doctoral candidacy examining committee (Mechanical Engineering), 2012.
119. Member, Sara Bonderoff's doctoral final oral examining committee (Chemistry), 2012.
120. Member, Mohammad Ali Mohammad's doctoral candidacy examining committee (Electrical and Computer Engineering), 2012.
121. Member, Lisa Vagi's master's final oral examining committee, 2012.
122. Member, Yuliya Hrynets' doctoral candidacy examining committee (Food Science), 2012.
123. Member, Leah Coumont's doctoral candidacy examining committee (Chemistry), 2012.
124. Member, Michele Richards's doctoral final oral examining committee (Chemistry), 2012.

125. Member, Amirhossein Biabangard Oskouyi's doctoral candidacy examining committee (Mechanical Engineering), 2012.
126. Member, Mohammad Khalkhali's doctoral candidacy examining committee, 2012.
127. Member, Sima Khademi's master's final oral examining committee (Food Science), 2012.
128. Member, Amelia Fitzsimmons's doctoral candidacy examining committee (Chemistry), 2012.
129. Member, Shivana Rhea Samuel's master's final oral examining committee (Civil and Environmental Engineering), 2012.
130. Member, Manjeet Chowdhry's doctoral candidacy examining committee, 2011.
131. Supervisor, Fatemeh Bayati's doctoral candidacy examining committee, 2011.
132. Member, Jihua Gong's doctoral final oral examining committee, 2011.
133. Member, Banafsheh Babakhani's doctoral final oral examining committee, 2011.
134. Chair, Fei Qi's doctoral final oral examining committee, 2011.
135. Supervisor, Nayef El-Thaher's doctoral candidacy examining committee, 2011.
136. Member, Xiao Ni's doctoral candidacy examining committee, 2011.
137. Supervisor, Negin Razavilar's doctoral candidacy examining committee, 2011.
138. Member, Merouane Khammar's doctoral final oral examining committee, 2011.
139. Supervisor, Abolfazl Noorjahan's doctoral candidacy examining committee, 2011.
140. Member, Shishir Shivhare's master's final oral examining committee (Civil and Environmental Engineering), 2011.
141. Member, Ting Dong's master's final oral examining committee (Mathmatics), 2011.
142. Member, Tizazu Mekonnen's doctoral candidacy examining committee (Food Science), 2011.
143. Member, Guilin Wang's doctoral final oral examining committee, 2011.
144. Member, Peng Huang's doctoral candidacy examining committee, 2010.
145. Member, Sabaratnam Naguleswaran's doctoral candidacy examining committee (Food Science), 2010.
146. Member, Ali Faghnejad's doctoral candidacy examining committee, 2010.
147. Chair, Longhui Qiu's master's final oral examining committee, 2010.
148. Supervisor, Ali Javaheri's master's final oral examining committee, 2010.
149. Chair, Ruben Gonzalez's master's final oral examining committee, 2010.
150. Supervisor, Paulina Szewczyk's master's final oral examining committee, 2010.
151. Member, Tolkynay Urbissinova's master's final oral examining committee (Civil and Environmental Engineering), 2010.
152. Member, Kyle Wells's doctoral final oral examining committee (Chemistry), 2010.
153. Member, Leylisadat Mirmontazeri's doctoral candidacy examining committee, 2010.
154. Member, Sumudu Priyakantha Fernando's doctoral candidacy examining committee (Electrical and Computer Engineering), 2010.
155. Member, Sulayman Oladepo's doctoral final oral examining committee (Chemistry), 2010.
156. Member, Greg Dechaine's doctoral final oral examining committee, 2009.
157. Supervisor, Sarthakkumar Patel's doctoral final oral examining committee, 2009.
158. Supervisor, Nayef El-Thaher's master's final examining committee, 2009.
159. Member, Robel Teklebrhan's doctoral candidacy examining committee, 2009.
160. Supervisor, Xiao Ni's master's final oral examining committee, 2009.
161. Member, Teresa Bisson's doctoral candidacy examining committee, 2009.

162. Member, Marie-Josée Dumont's doctoral final oral examining committee (Food Science), 2009.
163. Member, Sarah Bonderoff's doctoral candidacy examining committee (Chemistry), 2009.
164. Member, Souvenir Muhammad's doctoral candidacy examining committee (Mechanical Engineering), 2009.
165. Member, Rahul Samant's doctoral final oral examining committee (Chemistry), 2009.
166. Member, Khan Quyen Tran's master's final oral examining committee, 2009.
167. Chair, Maryam Zargarzadeh's doctoral candidacy examining committee, 2009.
168. Chair, Shad Siddiqui's doctoral final oral examining committee, 2009.
169. Member, Wenwen Zeng's doctoral candidacy examining committee, 2009.
170. Member, Christopher Lin's doctoral final oral examining committee, 2009.
171. Member, Guoguang's master's final oral examining committee, (Food Science), 2008.
172. Member, Jihua Gong's doctoral candidacy examining committee, 2008.
173. Member, Shengqun Wang's doctoral candidacy examining committee, 2008.
174. Member, Jun Gao's master's final oral examining committee (Food Science), 2008.
175. Member, Yanping Li's doctoral candidacy examining committee, 2008.
176. Chair, Vikas Gupta's master's final oral examining committee, 2008.
177. Member, Rajab Misama Litto's doctoral final oral examining committee, 2008.
178. Supervisor, Atam Kapoor's master's final oral examining committee, 2008.
179. Chair, Sayeed Rushd's master's final oral examining committee, 2008.
180. Member, Wei Bing Gan's doctoral final oral examining committee, 2008.
181. Member, Sufeng's doctoral final oral examining committee, 2008.
182. Member, Banafsheh Babakhani's doctoral candidacy examining committee, 2008.
183. Member, Payman Esmaeili's doctoral final oral examining committee, 2008.
184. Member, Mohammed Al-Saleh's doctoral final oral examining committee, 2008.
185. Member, Boliang Ji's master's final oral examining committee (Food Science), 2008.
186. Supervisor, Nan Li's master's final oral examining committee, 2008.
187. Member, Ali Haider Alshareef's doctoral candidacy examining committee, 2008.
188. Member, Weibing Gan's doctoral candidacy examining committee, 2007.
189. Member, Qiang Chen's doctoral candidacy examining committee, 2007.
190. Chair, A. K. M. Monjur Murshed's doctoral final oral examining committee, 2007.
191. Chair, Shima Khatibisepehr's master's final oral examining committee, 2007.
192. Member, Marc Boodhoo's master's final oral examining committee (Food Science), 2007.
193. Member, Feng Peng's master's final oral examining committee (Chemistry), 2007.
194. Supervisor, Cunkui Huang's doctoral final oral examining committee, 2007.
195. Member, Sulayman Oladepo's doctoral candidacy examining committee (Chemistry), 2007.
196. Member, Amber Sadowy's master's final oral examining committee (Chemistry), 2007.
197. Member, Arash Karimi's doctoral candidacy examining committee, 2007.
198. Chair, Sankar Mahadevan's doctoral candidacy examining committee, 2007.
199. Supervisor, Sarthakkumar Patel's doctoral candidacy examining committee, 2007.
200. Member, Christopher Lin's doctoral candidacy examining committee, 2007.
201. Member, Guilin Wang's doctoral candidacy examining committee, 2007.
202. Member, Nima Saber's doctoral candidacy examining committee, 2007.
203. Member, Feng Lin's doctoral candidacy examining committee, 2007.
204. Chair, Fei Qi's doctoral candidacy examining committee, 2007.

205. Supervisor, Chunli Li's doctoral final oral examining committee, 2007.
206. Member, Merouane Khammar's doctoral candidacy examining committee, 2007.
207. Member, Nana Li's doctoral candidacy examining committee, 2007.
208. Member, Anand Natarajan's doctoral candidacy examining committee, 2007.
209. Member, Carol Mak's master's final oral examining committee, 2006.
210. Member, Mranal Jain's doctoral candidacy examining committee, 2006.
211. Chair, Syed Ahmad Imtiaz's doctoral final oral examining committee, 2006.
212. Member, Greg Dechaine's doctoral candidacy examining committee, 2006.
213. Chair, Talat Mahmood's master's final oral examining committee, 2006.
214. Chair, Yan Liu's doctoral candidacy examining committee, 2006.
215. Chair, Brain Greenhalgh's doctoral candidacy examining committee, 2006.
216. Member, Feng Peng's doctoral candidacy examining committee (Chemistry), 2006.
217. Member, CanUlas Hatiboglu's doctoral candidacy examining committee, 2006.
218. Member, Sufeng Zhang's doctoral candidacy examining committee, 2006.
219. Member, Rahul Samant's doctoral candidacy examining committee (Chemistry), 2006.
220. Member, Song Tao's master's final oral examining committee, 2006.
221. Chair, Salim Ahmed's doctoral candidacy examining committee, 2006.
222. Member, Jingjing Chen's master's final oral examining committee, 2006.
223. Chair, Bei Zhao's doctoral candidacy examining committee, 2006.
224. Chair, Zhenhui Wang's master's final oral examining committee, 2006.
225. Chair, Xinlin Ding's master's final oral examining committee, 2006.
226. Chair, Sandeep Singh Radhawa's master's final oral examining committee, 2005.
227. Member, Lei Ji's master's final oral examining committee, 2005.
228. Supervisor, Chunli Li's doctoral candidacy examining committee, 2005.
229. Member, Zhewen Kang's doctoral candidacy examining committee, 2005.
230. Supervisor, Mingtao Wang's master's final oral examining committee, 2005.
231. Member, Mircea Istratescu's master's final oral examining committee (Civil and Environmental engineering), 2005.
232. Chair, Haixia Guo's doctoral candidacy examining committee, 2005.
233. Supervisor, Cunkui Huang's doctoral candidacy examining committee, 2005.
234. Chair, Bo Lu's master's final oral examining committee, 2005.
235. Chair, Kathlyn Kirkwood's doctoral final oral examining committee, 2005.
236. Chair, Martina Rusnacik's master's final oral examining committee, 2005.
237. Member, Jin Yue's doctoral candidacy examining committee (Food Science), 2005.
238. Member, Abebaw Diress's doctoral final oral examining committee (Chemistry), 2005.
239. Member, Rajab Litto's doctoral candidacy examining committee, 2005.
240. Member, Kerry Humphrey's doctoral candidacy examining committee, 2005.
241. Chair, Zhengang Han's doctoral final oral examining committee, 2005.
242. Chair, Ling Yang's doctoral candidacy examining committee, 2005.
243. Member, Gang Tao's doctoral candidacy examining committee, 2005.
244. Chair, Songbo Yin's doctoral candidacy examining committee, 2005.
245. Member, Kristian Olsen's master's final oral examining committee, 2005.
246. Chair, Ruoyu Cheng's doctoral candidacy examining committee, 2004.
247. Supervisor, Michael Hudec's master's final oral examining committee, 2004.
248. Supervisor, Mingzong Zhang's doctoral final oral examining committee, 2004.
249. Chair, Yin Huang's doctoral final oral examining committee, 2004.

250. Member, Yangling Li's doctoral candidacy examining committee, 2004.
251. Member, Nolan Erickson's master's final oral examining committee (Chemistry), 2004.
252. Chair, Haixia Guo's doctoral candidacy examining committee, 2004.
253. Member, Jason Norman's doctoral candidacy examining committee (Chemistry), 2003.
254. Supervisor, Xiaolan Jin's master's final oral examining committee, 2003.
255. Chair, Zhengke Chen's master's final oral examining committee, 2003.
256. Member, Steve Trepanier's doctoral final oral examining committee (Chemistry), 2002.
257. Supervisor, Mingzong Zhang's doctoral candidacy examining committee, 2002.
258. Chair, Folake Bolanle Olaleye's master's final oral examining committee, 2002.
259. Chair, Kathlyn Kirkwood's doctoral final oral examining committee, 2002.
260. Chair, Pinggui Wu's master's final oral examining committee, 2002.
261. Supervisor, Liyan Zhao's doctoral final oral examining committee, 2002.
262. Chair, Tariq Mannan's doctoral candidacy examining committee, 2002.
263. Member, Sara Eisler's doctoral candidacy examining committee (Chemistry), 2002.
264. Member, Asif Jalil' master's final oral examining committee (Biomedical Engineering), 2002.
265. Member, Jianjum Liu's doctoral candidacy examining committee, 2002.
266. Member, Wei Liu's doctoral final oral examining committee, 2002.
267. Chair, Seena Farea's master's final oral examining committee, 2002.
268. Member, Liming Liu's doctoral final oral examining committee, 2001.
269. Supervisor, Laura-lee Brown's master's final oral examining committee, 2001.
270. Supervisor, Glenn Innes master's final oral examining committee, 2001.
271. Member, Jiang Bai's doctoral final oral examining committee, 2001.
272. Member, Samina Rahmani's doctoral final oral examining committee, 2001.
273. Chair, Vikas Kumar's master's final oral examining committee, 2001.
274. Member, Rui Chen's doctoral final oral examining committee (Chemistry), 2001.
275. Member, Maria Silveira's master's final oral examining committee, 2001.
276. Chair, Jeff Sheremata's master's final oral examining committee, 2001.
277. Member, Rui Chen's doctoral candidacy examining committee, 2001.
278. Member, Allen Goh's master's final oral examining committee, 2001.
279. Member, Liyan Zhao's doctoral candidacy examining committee, 2001.
280. Member, Dawn Richards' doctoral final oral examining committee, 2001.
281. Member, Asif M. Jalil's master's candidacy examining committee, 2001.
282. Chair, Jordi Hemsing's master's final oral examining committee, 2000.
283. Member, Zhengang Fan's doctoral final oral examining committee, 2000.
284. Chair, Shakir Japanwala's master's final oral examining committee, 2000.
285. Chair, Xin Huang's doctoral candidacy examining committee, 2000.
286. Chair, Hui Wang's doctoral candidacy examining committee, 2000.
287. Chair, Haitao Zhang's master's final oral examining committee, 2000.
288. Chair, Trevor Bugg's master's final oral examining committee, 2000.
289. Chair, Jason Melanson's master's final oral examining committee, 2000.
290. Member, Kaled Elalem's master's final oral examining committee, 1999.
291. Member, Steven Moore's master's final oral examining committee, 1999.
292. Member, Jiang Bai's doctoral candidacy examining committee, 1999.
293. Chair, Robert Butts' master's final oral examining committee, 1999.
294. Member, Steve Trepanier's doctoral candidacy examining committee (Chemistry), 1999.

295. Member, Liming Liu's doctoral candidacy examining committee, 1999.
296. Member, Mark Mulder's master's final oral examining committee, 1999.
297. Member, Mingqian Zhang's master's final oral examining committee, 1999.
298. Member, Andrew Skauge's master's final oral examining committee (Chemistry), 1998.
299. Member, Todd Graham's doctoral final oral examining committee (Chemistry), 1998.
300. Member, Dawn Richards' doctoral candidacy examining committee (Chemistry), 1998.
301. Chair, Peng Chen's master's final oral examining committee, 1998.
302. Member, Wei Liu's doctoral candidacy examining committee, 1998.
303. Member, Samina Rahmani's doctoral candidacy examining committee, 1998.
304. Member, Long Wu's doctoral candidacy examining committee, 1998.
305. Member, Ezeddin Shirif's final doctoral oral examining committee (Petroleum Engineering), 1998.

Participated in doctoral oral examining committees as an external examiner.

1. Shima Ghaffari, Ryerson University, 2021.
2. Sophie Haung, University of Saskatchewan, 2020.
3. Dongyang Li, McMaster University, 2020.
4. Dalhui Zhang, McGill University, 2018.
5. Chongchong Wu, University of Calgary, 2017.
6. Bei Yan, University of Saskatchewan, 2017.
7. Shanshan Ren, University of Ottawa, 2016.
8. Wei Chung Chen, McGill University, 2015.
9. Alemayeh Bedane, University of New Brunswick, 2015.
10. Mohammad Tabatabaieyazdi, Ryerson University, 2014.
11. Luying Wang, McMaster University, 2012.
12. Mostofa Kamal Khan, Carleton University, 2011.
13. Somaieh Salehpour, University of Ottawa, 2011.
14. Saeid Mehdiabadi, University of Waterloo, 2011.
15. Loan Huynh, University of Toronto, 2010.
16. Chenggui Sun, University of Waterloo, 2009.
17. Jennifer Du, University of Waterloo, 2008.

ACADEMIC ADMINISTRATIVE DUTIES

1. Elected Trustee of CAUT Defence Fund (2019 – 2022).
2. Chemical Engineering Curriculum Committee (2020 – 2022).
3. Faculty Evaluation Committee, Faculty of Business (2017 – 2021).
4. Faculty Evaluation Committee (Tenure Cases), Faculty of Agriculture, Life & Environmental Sciences (2017 – 2018).
5. President's Review Committee (2015 – 2021).
6. Faculty Evaluation Committee, Faculty of Science (2015 – 2017).
7. Selection Committees – 2 Environmental Engineering Positions (2016).
8. Scientific Advisory Board, Canadian Centre of Clean Coal/Carbon and Mineral Processing Technologies (C⁵MPT) (2012 – 2013 & 2014 – 2015).
9. Selection Committee – Chemical Engineering Position (2014).

10. Faculty Representative on the Faculty of Arts (2012 – 2013).
11. Faculty Representative on the Faculty of Sciences (2012 – 2013).
12. Selection Committees – 3 Chemical Engineering Positions (2013).
13. Associate Chair (Research) (2012 – 2013 & 2014 – present).
14. Faculty Evaluation Committee, Faculty of Engineering (2012).
15. Acting Chair (September 2012 – December 2012).
16. Associate Chair (Undergraduate) (2008 – 2012).
17. 2nd Year Undergraduate Student Advisor (2005 – 2008).
18. Awards Nomination Committee (2005 – 2008).
19. Selection Committee – Mechanical Engineering Position (2007).
20. Selection Committee – Chemical and Materials Engineering Chair Position (2006 – 2007).
21. Faculty Evaluation Committee, Faculty of Engineering (2006).
22. Materials Engineering Curriculum Committee (2006).
23. Selection Committee – Materials Engineering Position (2006).
24. Graduate Advisor (2004 – 2006).
25. 3rd Year Undergraduate Student Advisor (2004 – 2005).
26. Selection Committee – Food Engineering Position (2003).
27. Faculty Advisor to the Chemical Engineering Students Society (elected by students) (1998 – present).
28. Undergraduate Students/Staff Committee (1998 – 2002).
29. Engineering Undergraduate Equipment Fund Committee (1998 – 2002).
30. Selection Committee – Chemical and Materials Engineering Chair Position (2001 – 2002).
31. Selection Committee – Geoenvironmental Engineering Position (2001).
32. Selection Committee – Process Control Position (2001).
33. Faculty Representative on the Faculty of Agriculture, Forestry & Home Economics (1998 – 2001).
34. Participated in Professor Talk at an Orientation held by the Students' Union (1999).
35. 3rd Year Undergraduate Student Advisor (1998 – 1999).
36. Chemical Engineering Curriculum Committee (1998 – 1999).
37. Materials Engineering Curriculum Committee (1998 – 1999).

OTHER PROFESSIONAL ACTIVITIES

1. Organizer and Chair, Bio-based and Bio-inspired Polymers Symposium, 106th CSC Conference (2021 – 2022).
2. Co-chair, Polymer Physics and Characterization Theme, IUPAC Macro 2022 (2021 – 2022).
3. NSF Reviewer, USA (2022).
4. Councillor, Association of Academic Staff, University of Alberta (2016 – opresent).
5. Member, Academic Faculty Committee, (2016 – present).
6. Reviewer, Additive Manufacturing Expert Committee, Canada Founction for Innovation (2020).
7. Organizer and Chair, Macromolecular Science and Engineering Division, 101st CSC Conference (2017).
8. Chair, a polymer engineering session, 67th CSChE Conference (2017)
9. Organizer and Chair, Macromolecular Science and Engineering Division, 67th CSChE Conference (2016 – 2017).

10. Graduate Program Reviewer, Department of Chemical Engineering, University of Saskatchewan (2015).
11. Graduate Program Reviewer, Department of Chemical and Biochemical Engineering, Western University (2014).
12. MSED Representative, 91st CSC Conference (2008).
13. Secretary, 57th CSChE Conference (2007).
14. Organizer and Chairs, polymer engineering sessions, 57th CSChE Conference (2007).
15. Reviewer, American Chemical Society Petroleum Research Fund (2006).
16. Reviewer, Centre for Advanced Interdisciplinary Research in Materials, Chile (2006).
17. Reviewer, Research Proposals from Natural Sciences and Engineering Research Council of Canada (2001 – present).
18. Reviewer, Alberta Ingenuity Scholarship Committees, Alberta Ingenuity Fund (2005 – 2007).
19. Chair, a polymer engineering session, 55th CSChE Conference (2005).
20. Organizer and Chair, a symposium in “Molecular Modelling of Polymers”, 87th CSC Conference (2004).
21. Reviewer, 2003 COURSE Competition Review Panel, Albert Energy Research Institute.
22. Chair, a polymer engineering session, 52nd CSChE Conference (2002).
23. Writer, examinations on polymer engineering, Professional Engineers, Geologists and Geophysicists of Alberta (2002 & 2005).
24. Judge, Selection Committees, SNC Lavalin Plant Design Competitions, Canadian Society for Chemical Engineering (2001 & 2002).
25. Judge, The Edmonton Chemical Engineering Scholarship Committees (2000 – 2002 & 2004 – 2007).
26. Secretary, Edmonton Chinese Engineers Society (1997 – 1998).
27. Manuscript Reviewer (~1 manuscript per month)

Macromolecules

Polymer

Polymers

Macromolecular Theory and Simulations

Journal of Polymer Science: Polymer Physics

Journal of Applied Polymer Science

Journal of Polymer Research

Soft Matter

Journal of Molecular Structure

Journal of Chromatography A

Fluid Phase Equilibria

Journal of Physical Chemistry

Journal of Chemical Physics

Langmuir

Canadian Journal of Chemistry

Journal of Chemical and Engineering Data

Materials and Manufacturing Process

Journal of Materials Processing Technology

Canadian Journal of Chemical Engineering

Advanced Materials

Molecular Pharmaceuticals
Powder Technology
Energy & Fuels
Journal of Colloid and Interface Science

28. Tenure and Promotion Reviewer for 23 cases (Akron, Alberta, UBC, McMaster, Ottawa, Saskatchewan, Tianjin, Waterloo, Ryerson).

CONSULTING ACTIVITIES

1. Bennett Jones LLP, Expert reports on the molecular orientations of polymer molecules in plastic grids, Edmonton, AB (2017 – 2021).
2. NOVA Chemicals Corporation, Determination of miscibility of polyethylene blends (2010, 2014 – 2019).
3. Sintra Engineering, Failure analysis of plastic components, Edmonton, AB (2013).
4. PARLEE McLAWS, Expert report on the transportation of a surfactant material, Edmonton, AB (2010 – 2012).
5. The P & G Company, Molecular modelling of surfactants and interfaces, Cincinnati, OH (2004 – 2006).
6. Bayer Inc., Determination of three-dimensional solubility parameters of a series of proprietary pharmaceutical compounds using inverse gas chromatography, Germany (2002 – 2004).
7. Wade Engineering Ltd., Investigation of the failure of polyethylene pipes used in residential applications, Edmonton, AB (2003).
8. Agrium Inc., Study of solubility and diffusion characteristics of water in and through polyurethane thin films used in controlled release fertilizer applications, Red Water, AB (2000 – 2002).
9. PolyPacific International Inc., Determination of ash contents and molecular structures of plastics scraps, Edmonton, AB (1998 – 1999).

HONOURS & AWARDS

Work in our Macromolecular Theory and Simulation Laboratory Selected by the Editor to be Highlighted on the Outside Back Cover of **Soft Matter**, (2020).
Faculty of Engineering Undergraduate Teaching Award, University of Alberta (2008).
McCalla Professor, University of Alberta (2007).
IUPAC Travel Award, International Union of Pure and Applied Chemistry (2002).
Petro-Canada Young Innovator Award, Petro-Canada Inc. (2001).
Teaching Assistant Award, The Sandford Fleming Foundation, University of Waterloo (1994).
Prominent Canadian, Who's Who in Ontario (1994 – 1998).
Postgraduate Scholarship, Natural Science and Engineering Research Council of Canada (1992 – 1994).
Honourable Mention Paper, 50th ANTEC, Society of Plastic Engineers (1992).
Coatings Scholarships, Coatings Industry Education Foundation (1991 & 1992).

CONTRIBUTION TO SCHOLARLY AND PROFESSIONAL ASSOCIATIONS

Member, Professional Engineers, Geoscientists of Saskatchewan (2022 – present).

Member, Professional Engineers and Geoscientists of Alberta (1997 – present).

Member & Edmonton Local Section Chair, Canadian Society for Chemical Engineering (1988 – present & 2002 – present).

Member, Federation of Societies for Coatings Technology (2004 – present).

Member, Society of Plastics Engineers (1992 – present).

Member, American Institute of Chemical Engineers (2019 – present).

Member, American Chemical Society (1991 – present).

Member, American Society for Engineering Education (1997 – present).

Member, International Year of Chemistry National and Local Committees (2010 – 2011).

Board of Director, Canadian Society for Chemical Engineering (2008 – 2012).