

Fuzhan Nasiri, PhD, PEng

Professor and Associate Chair
Department of Building, Civil, and Environmental Engineering (BCEE),
Gina Cody School of Engineering and Computer Science,
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EDUCATION

PDF Cert.	<i>Chemical & Environmental Engineering, Yale University, USA, 2010</i>
PhD	<i>Environmental Systems Engineering, University of Regina, Canada, 2007</i>
MSc.	<i>Industrial Systems Engineering, Sharif University of Technology, Iran, 2002</i>
BSc.	<i>Industrial Systems Engineering, Sharif University of Technology, Iran, 1998</i>

ACADEMIC EXPERIENCE

<i>Full Professor</i>	Department of Building, Civil, and Environmental Engineering, Concordia University, Montreal, QC, Canada, 2024-
<i>Associate Professor</i>	Department of Building, Civil, and Environmental Engineering, Concordia University, Montreal, QC, Canada, 2019-2024
<i>Assistant Professor</i>	Department of Building, Civil, and Environmental Engineering, Concordia University, Montreal, QC, Canada, 2014-2019
<i>Honorary Lecturer</i>	Bartlett Faculty of the Built Environment, University College London (UCL), UK, 2014-2015
<i>Lecturer (Assistant Professor)</i>	Bartlett Faculty of the Built Environment, University College London (UCL), UK, 2011-2014
<i>Associate Research Scientist</i>	Centre for Green Chemistry & Green Engineering, Yale University, USA, 2010-2011
<i>Postdoctoral Associate</i>	Centre for Green Chemistry & Green Engineering, Yale University, USA, 2009-2010
<i>Postdoctoral Fellow</i>	Groupe d'Études et de Recherche en Analyse des Décisions (GERAD), HEC Montréal, Canada, 2007-2009
<i>Research Assistant</i>	School of Engineering, University of Regina, Canada, 2003-2007
<i>Researcher</i>	<i>Systems Automation and Productivity Research Centre, Sharif University of Technology, Iran, 2001-2002</i>

AWARDS

Dean's Research Excellence Award, Gina Cody School of Engineering and Computer Science, Concordia University, 2023
Dean's Teaching Excellence Award, Gina Cody School of Engineering and Computer Science, Concordia University, 2018
Provost's Teaching Award (Outstanding Contribution in Teaching & Learning), University College London (UCL), 2013

FUNDING

MITACS Accelerate Partnership Grant: Integrating life cycle analysis with fault detection and diagnosis for improving the operational and carbon efficiency of oil-free magnetic chillers, Mathematics of Information Technology and Complex Systems (MITACS) with SMADT Inc., 2025-2028 (\$120,000), Role: PI

Faculty Research Support (FRS) Fund, Concordia University, 2025-2026 (\$50,000), Role: PI

FRQNT Partnership Research Project: Application des agents tensio-actifs biologiques pour la récupération des minéraux critiques des résidus alcalins, Fonds de recherche du Québec - Nature et technologie (FRQNT), 2025-2027 (\$300,000), Role: Co-I

Faculty Research Support (FRS) Fund, Concordia University, 2024-2025 (\$60,000), Role: PI

Voltage Seed Grant. Poly-Generation Innovation Park: A Sustainable Energy Frontier, Canada First Research Excellence Fund (CFREF) on Electrifying Society, 2024-2026 (\$400,000), Voltage: \$200,000; Queen Elizabeth Scholars Program: \$200,000, Role: PI

PLAIN Grant : Valorisation des sédiments de dragage comme matériaux de construction : Performances et impacts socio-environnementaux pour des ports durables, Réseau Québec Maritime (RQM), 2024-2026, \$200,000 (Role: Co-I)

Faculty Research Support (FRS) Fund, Concordia University, 2023-2024 (\$70,000), Role: PI

Voltage Seed Grant. Integrated Concentrating Solar Photovoltaic/Thermal (CPV/T) and Pumped Thermal Energy Storage (PTES) Systems in Canada's Cold Climate, Canada First Research Excellence Fund (CFREF) on Electrifying Society, 2024-2026 (\$200,000), Role: Co-I

Voltage Seed Grant. Concordia Living Lab of Loyola Campus: Decarbonisation and operational optimisation of a community energy system, Canada First Research Excellence Fund (CFREF) on Electrifying Society, 2024-2026 (\$200,000), Role: Collaborator

Gina Cody Research & Innovation Fellowship, Mapping of the characteristics of HVAC duct insulation used in building sector in Canada using a life cycle costing/assessment (LCCA), 2024-2025 (\$40,000), Role: PI

Faculty Research Support (FRS) Fund, Concordia University, 2023-2024 (\$73,000), Role: PI

MITACS Accelerate Partnership Grant: Artificial Intelligence for Smart Adaptation of Indoor Spaces & Facilities to Airborne Transmission Mitigation Pathways, Mathematics of Information Technology and Complex Systems (MITACS) with Humanitas Inc., 2023-2024 (\$210,000), Role: PI

Faculty Research Support (FRS) Fund, Concordia University, 2022-2023 (\$80,000), Role: PI

NSERC Discovery Grant: Integrating Reliability Engineering and Resilience Assessment for Hybrid Renewable Energy Facilities Management, Natural Sciences and Engineering Research Council (NSERC), 2022-2027 (\$186,000), Role: PI

NSERC Alliance Partnership Grant: Development of an AI-based Regulatory Control for Energy Management Information Systems, Natural Sciences and Engineering Research Council (NSERC) with EnerZam Inc., 2022-2024 (\$95,000), Role: PI

FRQNT Partnership Research Project: Application of water-energy efficiency in the mining industry (Application de l'efficacité eau-énergie dans l'industrie minière), Fonds de recherche du Québec - Nature et technologie (FRQNT), 2022-2024 (\$300,000), Role: Co-I

Concordia Team Grant: Mycelium-Composite Materials: Performance and Socio-Environmental Potential Impacts in the Construction Sector for Aesthetics and a Sustainable Future, 2022-2023 (\$50,000), Role: Co-I

Horizon PDF Program: Development of a Data-driven Model Predictive Control (MPC) for Smart Waste-to-Energy Value Chain Management in Northern Communities of Quebec, 2021-2023 (\$80,000), Role: PI

Faculty Research Support (FRS) Fund, Concordia University, 2021-2022 (\$74,000), Role: PI

MITACS Accelerate Partnership Grant: Real-time personnel counting and personal protective equipment (PPE) recognition in construction sites, Mathematics of Information Technology and Complex Systems (MITACS) with Pomerleau Inc., 2021-2022 (\$55,000), Role: PI

NSERC Alliance Partnership Grant: Integrating Predictive Maintenance Analytics into a Cloud-based CMMS for Smart Work Order Management and Resource Allocation, Natural Sciences and Engineering Research Council (NSERC) with EnerZam Inc., 2020-2025 (\$223,000), Role: PI

Faculty Research Support (FRS) Fund, Concordia University, 2020-2021 (\$36,000), Role: PI

MITACS Accelerate Partnership Grant: Development of a smart AI-based monitoring tool for building energy management automation, Mathematics of Information Technology and Complex Systems (MITACS) with EnerZam Inc., 2020-2023 (\$160,000), Role: PI

Faculty Research Support (FRS) Fund, Concordia University, 2019-2020 (\$48,000), Role: PI

NSERC Engage Partnership Grant: Integrated Techno-economic Assessment of Community-scale Geothermal Facilities for Nunavik (with BBA Inc.), 2018-2019 (\$25,000), Role: PI

Faculty Research Support (FRS) Fund, Concordia University, 2018-2019 (\$70,000), Role: PI

NSERC Engage Partnership Grant: Reliability Modeling and Analysis of Biomass Boilers (with BMA Ltd.), 2017-2018 (\$25,000), Role: PI

Faculty Research Support (FRS) Fund, Concordia University, 2017-2018 (\$78,000), Role: PI

NSERC Discovery Grant (Building-Integrated Renewable Heat), 2016-2022 (\$144,000), Role: PI

Faculty Research Support (FRS) Fund, Concordia University, 2016-2017 (\$35,000), Role: PI

ENCS Capital Research Innovation Grant: Waste To Energy Conversion, 2015 (\$200,000), Role: Co-I (with Z. Chen as PI)

VP Strategic Grant, Concordia University (Sustainable Communities), 2015-2018 (\$60,000), Role: PI

VP Strategic Equipment Fund, Concordia University, 2015-2017 (\$17,500), Role: PI

ENCS Start-up Grant, Faculty of Engineering and Computer Science, Concordia University, 2015-2017 (\$50,000), Role: PI

UCL Grand Challenges Grant (Sustainable Cities): Assessment and Management of Infrastructure Resilience (with Andy Chow and Afzal Siddiqui), EPSRC-UCL, 2013-2014 (£5,000)

FM Sector Skills Assessment, UK Asset Skills Council (With Alexi Marmot), 2013-2014 (£9,000)

EMININN: Environmental Macro Indicators of Innovation (Life Cycle analysis of the Built Environment Technologies), (FP7-European Commission: UCL and 6 other European partners), 2013 (Funding share: (£9,000)

UCL Grand Challenges Grant (Sustainable Cities): Water Reuse Infrastructure Design, Configuration, and Planning (With Sarah Bell), 2012-2013 (£5,000)

ARUP Global Research Challenge Research Grant: Urban Water Reuse Network Modeling and Optimisation, 2011-2012 (£12,500)

SCHOLARSHIP/FELLOWSHIP

Postdoctoral Fellowship, Yale University - National Science Foundation (NSF), 2009-2010 (\$45,000/year)

GERAD Postdoctoral Fellowship, Groupe d'Études et de Recherche en Analyse des Décisions (GERAD), 2007-2009 (\$35,000/year)

NSERC Industrial R&D Postdoctoral Fellowship, Natural Sciences and Engineering Research Council of Canada (NSERC), approved for 2007-2010 (\$43,000/year)

NSERC Visiting Postdoctoral Fellowship, Natural Sciences and Engineering Research Council of Canada (NSERC), approved for 2007-2009 (\$40,000/year)

Faculty of Engineering Research Scholarship, School of Engineering, University of Regina, 2004-2007 (\$10,000/year)

Associated Engineering Scholarship, Associated Engineering Ltd., SK, Canada, 2004-2006 (\$2,500/year)

Graduate Scholarship, Faculty of Graduate Studies, University of Regina, 2004-2005 (\$5,000/year)

INSTITUTIONAL SERVICE

Advisory Board Member, Concordia Institute for Water, Energy and Sustainable Systems (CIWESS), 2024-

Member, Accreditation Coordination Team, Department of Building, Civil, and Environmental Engineering (BCEE), Concordia University, 2024

Associate Chair, Department of Building, Civil, and Environmental Engineering (BCEE), Concordia University, 2023-

Member, Sustainability Action Plan Committee, Representative for Gina Cody School of Engineering & Computer Science, Concordia University, 2023-2024

Member, Advisory Search Committee for BCEE Department Chair Selection, Gina Cody School of Engineering & Computer Science, Concordia University, 2023.

Member, University Senate, Concordia University, 2022-2023.

Member, Teaching Excellence Awards Committee, Gina Cody School of Engineering & Computer Science, Concordia University, 2022-2024.

Member, Capstone SDG Impact Awards Committee, Gina Cody School of Engineering & Computer Science, Concordia University, 2023-2024.

Member, Faculty Personnel & Tenure Committee (FPTC), Gina Cody School of Engineering & Computer Science, Concordia University, 2021-2023

Member, Faculty Council, Gina Cody School of Engineering & Computer Science, Concordia University, 2021-2023

Member, Departmental Personnel Committee (DPC), Department of Building, Civil, and Environmental Engineering (BCEE), Concordia University, 2021-2023.

Member, PhD Thesis Exam Chairing Pool, Gina Cody School of Engineering & Computer Science, Concordia University, 2021-2023.

Member, Staff Recognition Committee, Department of Building, Civil, and Environmental Engineering (BCEE), Concordia University, 2022-2023.

Member, Election Committee, Department of Building, Civil, and Environmental Engineering (BCEE), Concordia University, 2021-2023

Member, Undergraduate Studies & Awards Committee, Department of Building, Civil, and Environmental Engineering (BCEE), Concordia University, 2022-2023.

Member, University Senate Committee on Academic Planning & Priorities, Concordia University, 2019-2020

Member, Departmental Tenure Committee (DTC), Department of Building, Civil, and Environmental Engineering (BCEE), Concordia University, 2019-

Member, Equity, Diversity, and Inclusion (EDI) Task Force, Gina Cody School of Engineering and Computer Science, Concordia University, 2018-2020

Member, University Senate Library Committee, Concordia University, 2018-2020

Chair, Departmental Teaching Committee, Department of Building, Civil, and Environmental Engineering (BCEE), Concordia University, 2018-2020; 2022-2023

Member, Departmental Graduate Curriculum Committee, Department of Building, Civil, and Environmental Engineering (BCEE), Concordia University, 2018-2020

Capstone Project Supervisor, CIVI/BLDG 490, BCEE Department, Concordia University, 2017-

Evaluation Panel Member, Individualized Programs Research Exposition, Concordia University, March 16, 2017.

Member, University NSERC Master's Committee, Concordia University, 2017-2020

Member, Faculty Tribunal Committee (Elected), Gina Cody School of Engineering and Computer Science, Concordia University, 2017-2018.

Coordinator, UCL Infrastructure Management Research Group, 2012-2014

SCIENTIFIC SERVICE

Organizations

President, Special Interest Group (SIG) in Energy, Environment, and Sustainability (EES), *Canadian Operational Research Society* (CORS), 2024-2025

Member, International Task Force, *Association of Environmental Engineering and Science Professors* (AEESP), 2023-

Sub-Task Leader, Annex 37: Smart Design & Control of Energy Storage Systems, International Energy Agency (IEA), 2020-

Conferences/Workshops

Cluster co-chair (Engineering Management), The 2026 CSCE Conference, Quebec City, June 3-5, 2025.
Cluster co-chair (Energy, Environment, and Sustainability), The 2026 CORS Annual Conference, June 8-10, 2025
Organizing Committee & Track Chair (Facilities Management), The CSCE Construction Speciality/ASCE CRC conference, Montreal, July 28-31, 2025.
Technical Program Committee, The 2024 Annual Modeling & Simulation Conference (ANNSIM), Washington D.C., May 20-23, 2024.
Scientific Committee & Special Technical Session Co-Chair, PEOPLE 2023 Conference: Collaborative Solutions to Environmental Problems under Climate Change, Montreal, Canada, 7-11 August, 2023.
Keynote Speaker, International Conference on Civil Engineering Fundamentals and Applications (ICCEFA2021), Nov. 21-23, 2021
Panel Chair, First Nations Climate Change Risk Assessment & Asset Management tools, Civil Engineering Triennial (CSCE/ASCE/ICE), May 25-25, 2021
Session Chair, Decision Support Systems, The 2019 CSCE/ASCE CRC conference, Laval, QC, Canada, June 12-15, 2019
Member, Scientific Committee, The 2019 CSCE/ASCE CRC conference, Laval, QC, Canada, June 12-15, 2019
Member of Scientific Committee, International Conference on Sustainable Energy and Environment Sensing (SEES), Cambridge, UK, June 18-19, 2018
Public Outreach Speaker, World Water Day Program, Concordia University, March 28, 2018
Stream Organiser, The OR 58 Conference (Infrastructure stream), The Operational Research Society, Portsmouth, UK, 6-8 September 2016.
Session Chair and Organizer (Energy Systems), The CORS/INFORMS joint conference, June 14-17, 2015, Montreal, QC, Canada.
Member of Scientific Committee, The International Conference on Marine and Freshwater Environments (iMFE), St John's, NL, Aug. 6-8, 2014
Stream Organiser, The OR 56 Conference (Infrastructure stream), The Operational Research Society, 9-11 September 2014.
Scientific Executive Committee, The 2014 Behavior and Energy Efficiency (BEHAVE) Conference, University of Oxford, UK.
Stream Organiser, The Young OR Conference (Infrastructure stream), The Operational Research Society, 9-11 April 2013.
Organiser and host, UCL FM-Exchange Seminars (Infrastructure Series), 2011-2014
Session Chair, Workshop on Game Theory in Energy, Resources, and the Environment, Montreal, Oct. 25-26, 2007

Scientific/Research Journals

Co-Guest Editor, INFOR Journal, Special Issue on OR Applications in Energy, Environment, and Sustainability, 2024
Co-Guest Editor, Energies Journal, Special Issue on Energy Management, Energy Sustainability and Energy Efficiency in Buildings, 2024
Editorial Board Member, Nature Scientific Reports – Environmental Engineering Section (Nature-Springer), 2022-
Editorial Board Member, Energy Conversion and Economics (Wiley), 2021-
Editorial Board Member, Journal of Healthcare Analytics (Elsevier), 2021-
Editorial Board Member, Journal of Sustainable Cities & Society (Elsevier), 2021-
Associate Editor, International Journal of Civil Infrastructure, 2021-
Associate Editor, Journal of Environmental Systems Research (Springer), 2020-
Editorial Board Member, Journal of Pipeline Science & Engineering (Elsevier), 2020-
Editorial Board Member, Journal of Energy & Built Environment (Elsevier), 2019-
Editorial Board Member, Journal of Environmental Systems Research (Springer), 2012-
Co-Guest Editor, Energies Journal, Special Issue on Applications of Artificial Intelligence (AI) in Energy Storage Systems Design, Operation and Control, 2024
Co-Guest Editor, Nature Scientific Reports, Special Collection on Quality and Reliability Engineering, 2023 -

Co-Guest Editor, Journal of Environmental Systems Research (Springer), Special Issue on Infrastructure Systems and the Environment: Sustainability, Circularity, and Resilience, 2023

Managing Guest Editor, Journal of Sustainable Cities and Society (Elsevier), Special Issue on Smart Energy Storage Systems, 2022.

Guest Editor, Journal of Pipeline Science and Engineering, Special Issue on AI applications in pipeline reliability engineering and maintenance, 2022

Guest Editor, Energies (MDPI), Special Issue on Building, District, and Community Energy Systems Optimization, 2021.

Managing Guest Editor, Journal of Sustainable Cities and Society (Elsevier), Special Issue on Engineering solutions for climate change and its physical and sociological impacts, January 2017.

Guest Editor, Journal of Facilities Management (Emerald), Special issue on Sustainable Infrastructure Management (Volume 12, Issue 3, 2014)

Assistant to Editor-in-Chief, Journal of Environmental Informatics, 2003-2004

Reviewer (2003-present):

Reliability Engineering & System Safety (Elsevier); Sustainable Cities and Society (Elsevier); Energy (Elsevier); Renewable Energy Journal (Elsevier); Energy and Buildings (Elsevier); Energy Policy (Elsevier); Utilities Policy (Elsevier); Energy Sources Journal, Part-A (Taylor & Francis); Advances in Building Energy Research (Taylor & Francis); Journal of Facilities Management (Emerald); Performance of Constructed Facilities (ASCE); Process Safety & Environmental Protection (Elsevier); International Journal of Construction Management (Taylor & Francis); International Journal of Sustainable Transportation (Taylor & Francis); Journal of Cleaner Production (Elsevier); Clean Technologies (MDPI); Environmental Engineering (ASCE); Environmental Engineering & Science (ICE); Environmental Management (Elsevier); Environmental Modeling & Assessment (Springer); International Journal of Disaster Risk Reduction (Elsevier); Environmental Modeling & Software (Elsevier); The Science of the Total Environment (Elsevier); Journal of Environmental Informatics (ISEIS); Stochastic Environmental Research & Risk Assessment (Springer); Journal of Hazardous Materials (Elsevier); Healthcare Analytics (Elsevier); Pipeline Science & Engineering (Elsevier); PLOS ONE (PLOS); European Journal of Operational Research (Elsevier); Production and Operations Management (POMS); Computers & Industrial Engineering (Elsevier); International Journal of Production Economics (Elsevier); Computational Management Science (Springer); Journal of Information Sciences (Elsevier); Economics of Innovation and New Technology (Taylor & Francis); Automatica (Elsevier); Hydrogeology Journal (Springer); International Journal of Water (Inderscience); Advances in Water Resources (Elsevier); Water Quality Research Journal of Canada (IWA); Water Research (Elsevier); Water Resources Management (Springer)

Research Funding Agencies

Member, Grant Evaluation Committee, Natural Sciences and Engineering Research Council of Canada (NSERC) - Discovery Program (EG 1509: Civil, Industrial and Systems Engineering), 2024-2027.

Grant Proposal Reviewer, Canada Foundation for Innovation (CFI), 2023-

Grant Proposal Reviewer, Natural Sciences and Engineering Research Council of Canada (NSERC) - Discovery Program, 2023-

Review Panel Member, Development Grants Program, US National Science Foundation (NSF), 2022.

Grant Proposal Reviewer, Natural Sciences and Engineering Research Council of Canada (NSERC) - Alliance Program, 2019-

Grant Proposal Reviewer, UK Engineering and Physical Sciences Research Council (EPSRC), 2019-

Grant Proposal Reviewer, UK Natural Environment Research Council (NERC), 2017-

Proposal Reviewer, MITACS Accelerate Program, 2017-

TEACHING

ENCS 8011 (PhD Seminar), Department of Building, Civil, and Environmental Engineering, Concordia University, 2024-

CIVI 6721 (Infrastructure Systems Modeling & Simulation), Department of Building, Civil, and Environmental Engineering, Concordia University, 2017 -

BLDG 6631/481 (Fundamentals of Facilities Management), Department of Building, Civil, and Environmental Engineering, Concordia University, 2015 -

Guest Lecturer, Green Buildings, CIVI 324 – Sustainable Project Management, Department of Civil Engineering, McGill University, Winter 2018.

ENGR 301 (Engineering Management Principles & Economics), Faculty of Engineering and Computer Science, Concordia University, 2014 -

BEVFEG (Physical Asset Management), Bartlett Faculty of the Built Environment, University College London (UCL), 2011-2014

Guest Lecturer, BEVFES (Sustainable Facility Management), Bartlett Faculty of the Built Environment, University College London (UCL), Fall 2011

Guest Lecturer, ENVE-360/F&ES-910 (Green Engineering & Sustainable Design), Yale University, Winter 2010

Lab Instructor, Introduction to Computer Programming, Department of Computer Science, First Nations University of Canada (SIFC), 2004-2006

Teaching Assistant, Introduction to Computer Programming, Department of Computer Science, First Nations University of Canada, 2003

Teaching Assistant, Engineering Economics, Department of Industrial Engineering, Sharif University of Technology, 2001

CERTIFICATIONS & TRAINING

2012	Teaching & Learning in Higher Education	Institute of Education (University of London)
2012	Education on Stage (Theatrical Skills in Teaching)	University College London (UCL)
2009	Fundamentals of Teaching in Engineering	Yale University
2005	Teaching Development	University of Regina
2000	Technology Management	Sharif University of Technology
1998	Quality Assurance Systems	Sharif University of Technology

MEMBERSHIP

- Groupe d'Études et de Recherche en Analyse des Décisions (GERAD)
- Canadian Operational Research Society (CORS)
- Association of Professional Engineers and Geoscientists (APEGS)
- Institut nordique du Québec (INQ)
- Canadian Society for Civil Engineering (CSCE)
- Association of Environmental Engineering and Science Professors (AEESP)
- American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE)
- Institute for Operations Research and the Management Sciences (INFORMS)
- American Society of Civil Engineers (ASCE)

PUBLICATIONS

Notes:

- The student co-authors are marked with a “**”
- Impact Factors (IF) of journals are the ones reported on the journal webpages

- **Journal Papers**

- [J92] Sedighi*, A. A., Nasiri, F., & Haghighat, F. (2025). A framework for realistic estimation of indoor environments airborne infection risk: evaluating ASHRAE standard 24, *Building and Environment*, accepted-in-press. (IF: 7.1)
- [J91] Deldoost*, S., Nasiri, F., & Haghighat, F. (2025). Real-Time Analysis of Pathogen Dispersion Patterns Resulting from a Moving Infectious Person, *Building and Environment*, 280, 113153. (IF: 7.1)
- [J90] Sedighi*, A. A., Nardell, E. A., Nasiri, F., & Haghighat, F. (2025). Revisiting the Wells-Riley Airborne Infection Model - A Critical Analysis of its Use and Misuse. *Building and Environment*, 280, 113136. (IF: 7.1)

- [J89] Pakdaman*, S., Nouri*, G., Mulligan, C. N., & Nasiri, F. (2025). Integration of Membrane-Based Pretreatment Methods with Pressure-Retarded Osmosis for Performance Enhancement: A Review. *Materials*, 18 (5), 1020. (IF: 3.1)
- [J88] Sedighi*, A. A., Nasiri, F., & Haghighat, F. (2025). Respiratory infection transmission risk assessment: Incorporating insights from public health strategies for population and individual behaviors. *Building and Environment*, 270, 112496. (IF: 7.1)
- [J87] Fadaeefath Abadi*, M., Bordbari*, M. J., Haghighat, F., & Nasiri, F. (2025). Dynamic Maintenance Cost Optimization in Data Centers: An Availability-Based Approach for K-out-of-N Systems. *Buildings*, 15(7), 1057. (IF: 3.1)
- [J86] Fadaeefath Abadi*, Nasiri, F., and Haghighat, F. (2025). Availability-Based Maintenance Prioritization for Data Centers: A Dynamic Programming Approach, *Safety and Reliability*, accepted-in-press.
- [J85] Bazdar*, E., Nasiri, F., & Haghighat, F. (2024). Resilience-Centered Optimal Sizing and Scheduling of a Building-Integrated PV-based Energy System with Hybrid Adiabatic-Compressed Air Energy Storage and Battery Systems, *Energy*, 308, 132836. (IF: 9.0)
- [J84] Sedighi*, A. A., Haghighat, F., Nasiri, F. (2024). Strategic Ventilation Design for Reducing Airborne Infection Transmission in a Two-Story Building: A Numerical Approach, *Building and Environment*, 262, 111785. (IF: 7.1)
- [J83] Delnaz*, A., Nasiri, F., Li, S. (2024). Prediction of Water-Main Failures and Management of the Associated Risks Using Integrated Predictive Analytics Approach, *Safety and Reliability*, accepted-in-press.
- [J82] Wu*, X., Sameti, M., Nasiri, F. and Li, B. (2024). An off-grid solar district energy system with borehole thermal energy storage: A life cycle assessment in a subarctic region, *Journal of Building Engineering*, 91, 109576. (IF: 6.4)
- [J81] Rezaei*, M., Sameti, M., Nasiri, F. (2024). Design optimization of an integrated tri-generation of heat, electricity, and hydrogen powered by biomass for cold climates, *International Journal of Thermofluids*, 22, 100618.
- [J80] Rahnama, S., Khatibi, M., Maccarini, A., Farouq, M. M., Mirzaei, P. A., Fabrizio, E., Ferrara, M., Bogatu, D., Shinoda, J., Olesen, B.W., Kazanci, O. B., Bazdar*, E., Nasiri, F., Zeng, C., Wei, X., Haghighat, F., Afshari, A. (2024). A methodical approach for design of thermal energy storage systems in buildings, *Energy Storage*, 6(2), e600. (IF: 3.2)
- [J79] Bordbari*, M.J.; Nasiri, F. (2024). Networked Microgrids: A Review on Configuration, Operation, and Control Strategies. *Energies*, 17, 715. (IF: 3.2)
- [J78] Bazdar*, E., Nasiri, F., & Haghighat, F. (2023). Optimal Planning and Configuration of Adiabatic-Compressed Air Energy Storage for Urban Buildings Application: Techno-Economic and Environmental Assessment, *Journal of Energy Storage*, 76, 109720. (IF: 9.4)
- [J77] Shirzadi*, N., Nasiri, F., Menon, R. P., Monsalvete, P., Kaifel, A., Eicker, U. (2023). Smart Urban Wind Power Forecasting: Integrating Weibull Distribution, Recurrent Neural Networks, and Numerical Weather Prediction, *Energies*, 16(17), 6208. (IF: 3.2)
- [J76] Rezaei*, M., Sameti, M., and Nasiri, F. (2023). An enviro-economic RAM-based optimization of biomass-driven combined heat and power generation, *Biomass Conversion and Biorefinery*, accepted-in-press. (IF: 4.0)
- [J75] Adib*, M., Nasiri, F., and Haghighat, F. (2023). Integrating wind energy and compressed air energy storage for remote communities: A bi-level programming approach. *Journal of Energy Storage*, 72, 108496. (IF: 9.4)
- [J74] Adib*, M., Nasiri, F., and Haghighat, F. (2023). Integrating compressed air energy storage with wind energy system – A review, *e-Prime - Advances in Electrical Engineering, Electronics and Energy*, 5, 100194.
- [J73] Sedighi*, A. A., Haghighat, F., Nasiri, F., Cao, S., & Ren, C. (2023). Approaches in CFD Modeling of Respiratory Droplet Dispersion—Issues and Challenges. *Sustainable Cities and Society*, 97, 104696. (IF: 11.7)

- [J72] Bazdar*, E., Nasiri, F., & Haghighat, F. (2023). An improved energy management operation strategy for integrating adiabatic CAES with renewables in decentralized applications. *Energy Conversion and Management*, 286, 117027 (IF: 10.4)
- [J71] Malayeri*, M., Nasiri, F., Lee, C.S., Haghighat, F. (2023). Optimization of Photocatalytic Oxidation Reactor for Air Purifier Design: Applications of Artificial Neural Networks and Genetic Algorithm, *Chemical Engineering*, 462, 142186. (IF: 15.1)
- [J70] Delnaz*, A., Nasiri, F., Li, S. (2023). Asset Management Analytics for Urban Water Mains: A Literature Review, *Environmental Systems Research*, 12 (1), 1-17. (IF: 3.4)
- [J69] Esmaili*, F., Mafakheri, F., Nasiri, F. (2023). Biomass Supply Chain Resilience: Integrating Demand and Availability Predictions into Routing Decisions Using Machine Learning, *Smart Science*, 11 (2), 293-317 (IF: 2.3)
- [J68] Daneshvar*, A., Nasiri, F., and Haghighat, F. (2023). Optimal Dispatch of an Energy Hub with Compressed Air Energy Storage: A Safe Reinforcement Learning Approach, *Journal of Energy Storage*, 57, 106147. (IF: 9.4)
- [J67] Asif, Z., Haghighat, F., Nasiri, F., Dong, J., and Chen, Z. (2023). Estimation of Anthropogenic VOCs Emission based on Volatile Chemical Products: A Canadian Perspective, *Environmental Management* (Springer Nature), 71(4), 685-703. (IF: 3.5)
- [J66] AL-Smadi* H., Al-Sakkaf, A., Zayed, T., Nasiri, F. (2023). An integrated space-based building maintenance management model using multi-objective optimization, *Smart and Sustainable Built Environment*, 12 (2), 277-297. (IF: 3.6)
- [J65] Mohammed*, A.; Zayed, T.; Nasiri, F.; Bagchi, A. (2022). Asset Management-Based Resilience Index Formulation for Pavements via Principal Components Analysis, *Construction Innovation*, accepted-in-press. (IF: 3.3)
- [J64] Bazdar*, E., Sameti, M., Nasiri, F., Haghighat, F. (2022). Compressed air energy storage in integrated energy systems: A review, *Renewable and Sustainable Energy Reviews*, 167, 112701. (IF: 15.9)
- [J63] Shirzadi*, N., Rasoulia, H., Nasiri, F., Eicker, U. (2022). Resilience enhancement of an urban microgrid during off-grid mode operation using critical load indicators, *Energies*, 15 (20), 7669. (IF: 3.2)
- [J62] Rabiei*, N., Nasiri, F., and Eicker, U. (2022). Multi-Stage Transit-Oriented Development (TOD) Assessment: The Case Study of Montreal Metro Systems. *ASCE Journal of Urban Planning & Development*, 148 (3), 836-869. (IF: 2.5)
- [J61] Heidari, M., Rahdar*, M. H., Dutta, A., & Nasiri, F. (2022). An energy retrofit roadmap to net-zero energy and carbon footprint for single-family houses in Canada. *Journal of Building Engineering*, 60, 105141. (IF: 6.4)
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- [C25] Yousefli*, Z., Nasiri, F., and Moselhi, O., "Multi-Agent Systems for the Simulation of Maintenance Resource Allocation in Healthcare Buildings", *2017 SIM Expo*, Mississauga, ON, Canada, Nov.30-Dec. 01, 2017.
- [C24] Assad*, A., Nasiri, F., and Zayed, T., "Holistic Resilience-Based Asset Management Using System Dynamics and Evolutionary Optimization", *National Water and Wastewater Conference*, St. John's, NL, Canada, Nov. 5-8, 2017.
- [C23] Amador, L., Mohammadi*, A., Nasiri, F., "A cooperative environment to incorporate comfort on modal choices and trip assignment", *The 2017 ITS World Congress*, Montreal, QC, Canada, Oct. 29-Nov. 02, 2017.
- [C22] Amiri Fard*, F., and Nasiri, F., "Development of a Model for Energy Management Decisions in Refurbishment of Buildings", *International Conference of Recent Trends in Environmental Science and Engineering (RTESE'17)*, Toronto, ON, Canada, Aug. 23-25, 2017.
- [C21] Amador, L., Mohammadi*, A., Nasiri, F., "Level of comfort, and safety in urban subway", *The 4th International Conference on Transportation Information and Safety (ICTIS) - ASCE/CSCE/IEEE joint conference*, Banff, AB, Aug. 8-10, 2017. **(Best Paper Award)**
- [C20] Igwe*, C., Nasiri, F., Hammad, A. "Evaluating the Impact of Buildability Assessment and Value Management on Construction Project Delivery". *The 2017 Project Management Symposium*, Maryland, USA, May 4-5, 2017.
- [C19] Pourhosseini*, O., and Nasiri, F., Availability-based maintenance scheduling in domestic hot water systems of HVAC. *The 58th Canadian Operational Research Society Annual Conference (CORS2016)*, Banff, AB, May 30-June 01, 2016.
- [C18] Jafarpour*, A., Zakikhani*, K., and Nasiri, F., A Replacement Analysis of Exterior Wall Insulation Retrofitting in Residential Buildings. *The 2016 CSCE Annual Conference*, Canadian Society for Civil Engineering, London, ON, June 1-4, 2016.
- [C17] Jafarpour*, A., and Nasiri, F., A Comparative Assessment of Insulated Concrete and Wood Frame Wall Technologies: Building Envelope Perspectives, Costing, and Environmental Impacts. *The 2016 CSCE Annual Conference*, Canadian Society for Civil Engineering, London, ON, June 1-4, 2016.

- [C16] F. Nasiri, and F. Mafakheri "Integrating Biomass Boilers into Non-domestic Buildings: A System Dynamics Analysis, *CORS/INFORMS International Conference*, Montreal, QC, June 14-17, 2015.
- [C15] F. Nasiri, M. Shouler, and S. Tahir. "District Water Reuse Network Optimisation", *The 18th Young OR Conference of the Operational Research Society*, Exeter, UK, 9-11 April, 2013.
- [C14] M. Shouler, S. Tahir, and F. Nasiri. "Water-reuse Networks", *The 38th CIBW062 International Symposium on Water Supply and Drainage for Buildings*, Edinburgh, Scotland, UK, 27-30 August, 2012.
- [C13] T. Savage, R. Wang, F. Nasiri, N. Barawid, and J.B. Zimmerman. "Municipal Water System Planning and Optimization: Exploring Water Reclamation and Reuse from Water Utilities' Perspectives", *International System Dynamics Society Conference*, Washington, D.C., USA, July 24-28, 2011.
- [C12] F. Nasiri, T. Savage, R. Wang, N. Barawid, and J.B. Zimmerman. "A System Dynamics Approach for Urban Water Reclamation-Reuse Planning: A Case Study from the Great Lakes Region", *Engineering Sustainability 2011*, Pittsburgh, PA, USA, April 10-12, 2011.
- [C11] F. Nasiri, T. Savage, R. Wang, N. Barawid, and J.B. Zimmerman. "Urban Water Reclamation-Reuse Planning and Management: A System Dynamics Approach", *CRM-GERAD-MITACS Joint Workshop on Decision Analysis and Sustainable Development*, Montreal, QC, Canada, September 27-28, 2010.
- [C10] F. Nasiri and G. Zaccour, "A Game-Theoretic Analysis of Biomass Electricity Generation Supply Chain", *The 2009 Decision Sciences Institute Annual Meeting*, New Orleans, LA, USA, November 14-17, 2009.
- [C9] F. Nasiri and G. Zaccour, "Renewable Portfolio Standard: A Game-theoretic Analysis", *The INFORMS Annual Meeting* (Invited Speaker - Section: Energy, Natural Resources, and the Environment), San Diego, CA, USA, October 11-14, 2009.
- [C8] F. Nasiri and G. Zaccour, "Analyzing Biomass Utilization for Power Generation in Canada: A Game-Theoretic Approach", *Workshop on Dynamic Games in Management* (Section: Energy and Resources), Montreal, May 2-3, 2008.
- [C7] F. Nasiri and G. Huang, "Capacity Planning for Electricity Generation with Energy-Environmental Targets", *Workshop on Game Theory in Energy, Resources, and Environment*, Montreal, October 25-26, 2007.
- [C6] F. Nasiri and G. Huang, "Waste Recycling Programs in Canada: A Fuzzy Multiple Attribute Environmental Performance Analysis", accepted at *The Joint International Conference on Computing and Decision Making in Civil and Building Engineering*, Montreal, June 14-16, 2006.
- [C5] F. Nasiri, G. Huang and N. Fuller, "A Compatibility Analysis Decision Aid for Selecting the Optimal Groundwater Remediation Technologies", accepted at *The International Conference on Environmental Management (ICEM)*, Hyderabad, India, October 28-30, 2005.
- [C4] F. Mafakheri, L. Dai, D. Slezak and F. Nasiri, "Selecting the Optimal Project Delivery System: A Rough-AHP Decision Aid", In *Proceedings of the International Workshop on Rough Sets and Soft Computing in Intelligent Agent and Web Technology (IEEE / WIC / CM International Joint Conference)*, Compiègne, France, September 19-22, 2005.
- [C3] F. Nasiri, G. Huang, I. Maqsood, and N. Fuller, "Water Quality Index: A Multiple Criteria Approach", accepted at *The Third International Conference on River Basin Management*, Bologna, Italy, September 6-8, 2005.
- [C2] F. Nasiri, G. Huang and G. Fuller, "A Fuzzy State-Space HOQ Model for Solid Waste Management", accepted at *The 19th International Conference on Solid Waste Technology & Management*, Philadelphia, PA, USA, March 21-24, 2004.
- [C1] S. Khanmohammadi, F. Nasiri and M. Charmi, "Delay Time Estimating in Project Management Using Fuzzy Delays and Fuzzy Probabilities", In *Proceedings of the International ICSC Conference on Computational Intelligence (CIM2001)*, Bangor, UK, June 19-21, 2001.

- **Books & Book Chapters**

- [B2] Bordbari, M. J., & Nasiri, F. (2026). Dynamic Networked Micro-Grids for Urban Energy Resilience, In: *Next Generation Cities – An Encyclopedia* (Volume 2: Built and natural Environment), World Scientific.
<https://doi.org/10.1142/13660-vol2>
- [B1] Wilcox, J., Bell, S., & Nasiri, F. (2017). Water Reuse Trajectories. In: *Urban Water Trajectories* (pp. 69-80). Springer. <https://doi.org/10.1007/978-3-319-42686-0>

- **Editorials**

- [E3] F. Nasiri, (2014). "Sustainable Infrastructure Facilities Management" (Editorial), *Journal of Facilities Management*, 12 (3).
- [E2] F. Nasiri and M. Pitt (2011). "Defining Risk in Facilities Management" (Editorial), *Journal of Facilities Management*, 9 (3).
- [E1] M. J. Eckelman and F. Nasiri (2011). "Thinking in Systems" (Invited Book Review), *Journal of Industrial Ecology*, 15 (1), 156-157.

OTHER PUBLICATIONS

- F. Nasiri and G. Zaccour (2010). "Renewable Portfolio Standard Policy: A Game-theoretic Analysis", *Les Cahiers du GERAD*, 68, 1-19 (Ref. # G-2010-68)
- F. Nasiri and G. Zaccour (2008). "A Game-Theoretic Framework for Analyzing Biomass-based Electricity Generation", *Les Cahiers du GERAD*, 70, 1-22 (Ref. # G-2008-70)
- F. Nasiri, "Development of Fuzzy Multiple-Attribute Decision Aid Methodologies for Energy-Environmental Policy Analysis and Assessment." *PhD Dissertation*, University of Regina, 2007 (Supervisor: Prof. G. H. Huang)
- F. Nasiri, "Fuzzy-Logic Based Decision Making Model Implementation in Project Control and Planning." *MSc Thesis*, Department of Industrial Engineering, Sharif University of Technology, 2002 (Supervisor: Prof. S. T. Akhavan Niaki)
- F. Nasiri (2003). "Dual Time-Probability Algorithm in Project Planning & Control Based on Fuzzy Beliefs", *Sharif Industrial Engineering Magazine*, 34, 29-35.

IN MEDIA

- August 26, 2025, Concordia News: [Concordia researchers create faster way to trace how diseases spread indoors](#)
- February 06, 2024, Concordia News: [Concordia's Volt-Age research program announces \\$7.2M for 36 seed-funded projects](#)
- October 31, 2023, Concordia News: [Improved wind speed forecasts can help urban power generation, according to new Concordia research](#)
- April 01, 2022, Concordia 17 Rooms Exercise: [UN Sustainable Development Goals \(SDGs\) No. 7: Affordable & Clean Energy](#)
- March 12, 2022, CBC Montreal: [Geothermal energy keeps grape vines cozy in winter](#)
- November 04, 2021, Portail Constructo (BÂTIMENT 2021): [Des gains d'énergie dans les bâtiments grâce à l'intelligence artificielle](#)
- April 26, 2021, CScience: [Rendre nos bâtiments moins énergivores grâce à l'IA](#)
- April 19, 2021, Le Devoir: [Des bâtiments plus intelligents et plus sains grâce aux algorithmes](#)
- June 03, 2020, Concordia News: [The Sustainability Action Fund recognizes a dozen outstanding and environmentally conscious grad and undergrad projects](#)
- November 26, 2019, Concordia News: [Concordia researcher hopes to use big data to make pipelines safer](#), also featured in [The Suburban](#) and [Science Daily](#) (English) and [Enerzine](#) (French)
- September 23, 2019, Les Affaires Magazine (Montreal): [Améliorer le confort des transports en commun](#)
- June 25, 2019, Journal Metro (Montreal): [Pont Samuel-De Champlain: un modèle pour l'avenir, dit un expert](#)
- June 12, 2019, Concordia News: [Concordia partnership explores geothermal possibilities in northern Quebec](#)
- June 12, 2019, Concordia News: [Concordia PhD candidate is developing a way to improve hospital care](#)
- March 19, 2018, CBC News (Montreal): [Measuring comfort on Montreal's Metro](#)
- March 14, 2018, Journal Metro (Montreal): [Les voitures de métro de Montréal sont-elles confortables?](#)

SUPERVISORY

Concordia University

Postdoctoral Fellows

- Dr. Bahareh Behboodi, Department of Building, Civil, and Environmental Engineering, Dec. 2024 – present (NSERC Alliance PDF)
- Dr. Sahar Bakhtar, Department of Building, Civil, and Environmental Engineering, Oct. 2022 – June 2023 (NSERC Alliance PDF)
- Dr. *Mojtaba Malayeri*, Department of Building, Civil, and Environmental Engineering, Oct. 2021 – March 2022 (Horizon PDF program)
- Dr. *Saeed Moradi*, Department of Building, Civil, and Environmental Engineering, March – July, 2021 (MITACS-Pomerleau PDF)

PhD students:

- Parham Asadi*, Department of Building, Civil, and Environmental Engineering, Sep. 2025 – present, Thesis Subject: TBA
- Mohammad Hossein Kazemi*, Department of Building, Civil, and Environmental Engineering, Sep. 2024 – present, Thesis Subject: TBA
- Mahdieh Adib*, Department of Building, Civil, and Environmental Engineering, Sept. 2023 – present (Co-supervised with Fariborz Haghighat), Thesis Subject: Integrating Compressed Air Energy Storage Systems with Renewable Energies, Stage: passed PhD proposal exam
- Omid Mohagheghi*, Department of Building, Civil, and Environmental Engineering, May 2023 – present (Co-supervised with Fereshteh Mafakheri), Stage: passed PhD comprehensive exam, Thesis Subject: Evaluating Bio-hubs integration into Wood Pellets Supply Chains using Systems Dynamics
- Mohammad Javad Bordbari*, Department of Building, Civil, and Environmental Engineering, Jan. 2023 – present, Thesis Subject: Dynamic Reliance-Oriented Configuration of Dynamic Networked Microgrids, Stage: passed PhD proposal exam
- Zeinab (Samaneh) Deldoost*, Department of Building, Civil, and Environmental Engineering, Sept. 2022 – present (Co-supervised with Fariborz Haghighat), Thesis Subject: CFD Simulations for Assessment of Airborne Pathogen Dispersion, Stage: passed PhD proposal exam
- Ali Asghar Sedighi*, Department of Building, Civil, and Environmental Engineering, Sept. 2022 – present (Co-supervised with Fariborz Haghighat), Thesis Subject: CFD Modeling of Respiratory Droplets Dispersion, Stage: passed PhD proposal exam
- Giti Nouri*, Department of Building, Civil, and Environmental Engineering, May 2021 – present (Co-supervised with Catherine Mulligan), Thesis Subject: Applications of Pressure Retarded Osmosis in Mining Industry, Stage: passed PhD proposal exam
- Rasoul Rajabi Khamesi*, Department of Building, Civil, and Environmental Engineering, May 2021 - present, Thesis Subject: Ultraviolet Germicidal Irradiation and Fibrous Filters against the propagation of SARS-COV-19 in HVAC systems, Stage: passed PhD comprehensive exam (on-leave)
- Yashar Bezyan*, Department of Building, Civil, and Environmental Engineering, Sept. 2020 - present (Co-supervised with Mazdak Nik-Bakht), Thesis Subject: Fault detection and Diagnosis of Heating, Ventilation and Air Conditioning systems, Stage: passed PhD proposal exam
- Babak Manouchehri*, Department of Building, Civil, and Environmental Engineering, September 2019 - (Co-supervised with Sang Hyeok Han), Thesis Subject: Performance Assessment and Forecasting in Modular and Off-Site Construction, Stage: passed PhD proposal exam (on-leave)
- Alireza Goudarzi*, Department of Building, Civil, and Environmental Engineering, September 2017- (Co-supervised with Hua Ge), Thesis Subject: Development of Model Predictive Control (MPC) for Building Energy Management, Stage: passed PhD proposal exam
14. *Nasim Rabie*, Department of Building, Civil, and Environmental Engineering, September 2016-2025, (Co-supervised with Ursula Eicker), Thesis Subject: Multistage Transit-Oriented Development (TOD) Assessment Method:

- Integrating Sustainability Analysis and Disaster Mitigation, **Stage: Graduated**
- 13- *Mostafa Fadaee*, Department of Building, Civil, and Environmental Engineering, January 2017- September 2025 (Co-supervised with Fariborz Haghighat), Thesis Subject: Integrated Cost-Availability Based Maintenance Management Models for Data Centers, **Stage: Graduated**
 - 12- *Dr. Masoud Rezaee*, Department of Building, Civil, and Environmental Engineering, January 2017-August 2025, Thesis Subject: Hybridized Biomass-driven Combined Heat and Power Systems Optimization Considering Reliability, Availability, and Maintainability Criteria, **Stage: Graduated**
 - 11- *Dr. Elaheh Bazdar*, Department of Building, Civil, and Environmental Engineering, Sept. 2020 – August 2024 (Co-supervised with Fariborz Haghighat), Thesis Subject: Integrated Optimal Design and Operation of compressed air energy storage for decentralized applications, **Stage: Graduated**
 - 10 – *Dr. Navid Shirzadi*, Department of Building, Civil, and Environmental Engineering, January 2020 – March 2023, present (Co-supervised with Ursula Eicker), Thesis Subject: Integrated Optimization of Location, Design, and Operation of Renewable Energy Systems for Urban Microgrids, **Stage: Graduated**
 - 9- *Dr. Reem Ahmed*, Department of Building, Civil, and Environmental Engineering, September 2017- August 2022, Thesis Subject: Development of an Integrated Data-Driven Budget Allocation Approach for Maintenance Management in Healthcare Facilities, **Stage: Graduated**
 - 8- *Dr. Ahmed Mohammed*, Department of Building, Civil, and Environmental Engineering, 2015-2022 (Co-supervised with Ashutosh Bagchi), Thesis Subject: Resilience-Based Asset Management Framework for Pavement Maintenance and Rehabilitation, **Stage: Graduated**
 - 7- *Dr. Azadeh (Zahra) Yousefli*, Department of Building, Civil, and Environmental Engineering, Jan 2015-February 2021 (Co-supervised with Osama Moselhi), Thesis Subject: Automated Resource Allocation for Maintenance Management in Hospitals, **Stage: Graduated**
 - 6- *Dr. Igwe Charles Nnaemeka*, Department of Building, Civil, and Environmental Engineering, May 2016-February 2021 (Co-supervised with Amin Hammad), Thesis Subject: Integrating last planner with 4D model for equipment workspace planning in urban highway reconstruction projects, **Stage: Graduated**
 - 5- *Dr. Mohammad Hosseini*, Department of Building, Civil, and Environmental Engineering, May 2016 – Sep 2020 (Co-supervised with Bruno Lee), Thesis Subject: A Bayesian Approach to Assessment of Fuel Composition Variability Effects on Grate-bed Biomass Combustion, **Stage: Graduated**
 - 4- *Dr. Kimiya Zakikhani*, Department of Building, Civil, and Environmental Engineering, Sept 2015-July 2020, Thesis Subject: Failure Prediction and Maintenance Planning for Oil & Gas Pipelines, **Stage: Graduated**
 - 3- *Dr. Saeed Moradi*, Department of Building, Civil, and Environmental Engineering, May 2018-July 2020, Thesis Subject: Defect Detection in Sewer Inspection Videos Using Support Vector Machine and Deep Neural Networks, **Stage: Graduated**
 - 2- *Dr. Farhad Amiri Fard*, Department of Building, Civil, and Environmental Engineering, May 2015-May 2020, Thesis Subject: Assessment and Optimization of Energy Efficiency Gains through Building Refurbishments, **Stage: Graduated**
 - 1- *Dr. Alireza Mohammadi*, Department of Building, Civil, and Environmental Engineering, May 2016-July 2019 (Co-supervised with Luis Amador), Thesis Subject: Asset Evaluation and Optimization for Urban Subway Systems, **Stage: Graduated**

MASc students:

- Maryam Abedin*, Department of Building, Civil, and Environmental Engineering, May 2025 – (Co-supervised with Catherine Mulligan), Thesis Subject: TBA
- Kamyar Soleimani*, Department of Building, Civil, and Environmental Engineering, May 2025 –, Thesis Subject: TBA
- Fatemeh Gholami*, Department of Building, Civil, and Environmental Engineering, May 2025 – (Co-supervised with Radu Zmeureanu), Thesis Subject: TBA
- Golnaz Vakili*, Department of Building, Civil, and Environmental Engineering, Sept. 2023 –, Thesis Subject: Prefabricated construction in Northern communities: a Life cycle CO2 assessment approach
- Paniz Saebi*, Department of Building, Civil, and Environmental Engineering, Sept. 2023 –, Thesis Subject: The LCA analysis of prefabricated houses in Northern Quebec
- Emmanuel Davies*, Department of Building, Civil, and Environmental Engineering, Sept. 2023 –, Thesis Subject: Comparative Analysis of Noise and Vibration Levels in Conventional and Electric Buses
- Saeed Ahmadpour*, Department of Building, Civil, and Environmental Engineering, Sept. 2023 – (Co-supervised with

Luis Amador), Thesis Subject: Bicycle Infrastructure Management System.

Arash Kamaliha, Department of Building, Civil, and Environmental Engineering, Sept. 2021 – , Thesis Subject: Optimal Placement of Wind Sensors for Enhancing the Airflow Field Reconstruction and Prediction around High-Rise Buildings

- 12 - Kimia Khalili, Department of Building, Civil, and Environmental Engineering, May. 2023 – December 2024 (Co-supervised with Po-Han Chen), Thesis Subject: Optimal Placement of Electric Vehicle Charging Infrastructure in Commercial Buildings, **Stage: Graduated**
- 11 - Atefeh Delnaz, Department of Building, Civil, and Environmental Engineering, Jan. 2021 – June 2023 (Co-supervised with Samuel Li), Thesis Subject: An Integrated Data-Driven Failure Prediction and Risk Management Approach for Water Mains, **Stage: Graduated**
- 10 - Mahdiah Adib, Department of Building, Civil, and Environmental Engineering, Jan. 2021 – May 2023 (Co-supervised with Fariborz Haghighat), Thesis Subject: Optimal Integration of Compressed Air Energy Storage Systems for Off-grid Communities, **Stage: Graduated**
- 9 - Alireza Daneshvar, Department of Building, Civil, and Environmental Engineering, May 2021 – March 2023 (Co-supervised with Fariborz Haghighat), Thesis Subject: A Novel Safe Deep Reinforcement Learning Approach for Optimal Dispatch of Energy Hubs with Compressed Air Energy Storage, **Stage: Graduated**
- 8 - Foad Esmaeili, Department of Building, Civil, and Environmental Engineering, September 2019 – Aug. 2022 (Co-supervised with Fereshteh Mafakheri), Thesis Subject: Biomass Supply Chain Resilience: Integrating Demand and Availability Predictions into Routing Decisions Using Machine Learning, **Stage: Graduated**
- 7- Hamza Rasaei, Department of Electrical and Computer Engineering, Jan. 2020 – Dec. 2021 (Co-supervised with Hassan Rivaz), Thesis Subject: Explainable AI for Image Processing, **Stage: Graduated**
- 6- Xiuting Wu, Department of Building, Civil, and Environmental Engineering, Jan. 2021 – Dec. 2021 (Co-supervised with Biao Li), Thesis Subject: "Life cycle assessment of solar district heating with borehole thermal energy storage in Nunavik, **Stage: Graduated**
- 5- Sudipta Adhikary, Department of Building, Civil, and Environmental Engineering, September 2017- August 2020 (Co-supervised with Ashutosh Bagchi), Thesis Subject: Resilience Assessment of Water Supply Networks Subject to Seismic Hazards, **Stage: Graduated**
- 4- Huthaifa Smadi, May 2018-March 2019, Thesis Subject: Space-based multi-objective condition assessment and maintenance planning for building components, **Stage: Graduated**
- 3- Sahar Esmaeelzadeh, Department of Building, Civil, and Environmental Engineering, September 2016-July 2018 (Co-supervised with Fereshteh Mafakheri), Thesis Subject: Agent-based Modelling and Simulation for Multi-Source Biomass Supply chain Management, **Stage: Graduated**
- 2- Ali Jafarpour, Department of Building, Civil, and Environmental Engineering, May 2015 - May 2017, Thesis Subject: Thermal performance, Costing, and Environmental Impacts of Insulated Walls, **Stage: Graduated**
- 1- Omid Pourhossieni, Department of Building, Civil, and Environmental Engineering, May 2015 - September 2016, Thesis Subject: Availability-based Maintenance Scheduling in Domestic Hot Water Systems, **Stage: Graduated**

MEng students:

Saman Mcvand, 2024
Sandeep Singh, 2022
Foad Bahmani, 2022
Zahra Tayebi, 2020
Maryam (Parastoo) Latifi, 2020
Mahdis Shabestari, 2019
Amir Azodighajar, 2019
Shimaa Nabil, 2019
Tannaz Saeedi, 2018
Mohammad Amirpour, 2018
Muhammad Umer, 2018
Milad Rezaee, 2017
Safa Mokahhal, 2017
Saeed Kashefi, 2017
Faezeh Parsa, 2017

Khadar Ali Mohammed, 2017
 Hussein El Sabeh, 2017
 Mandana Rezaee, 2017
 Armita Jafari, 2017
 Bashar Alfalah, 2017
 Mina Naghavi, 2016
 Mohammed Abdul Latif, 2016
 Raja Muhammad Awais, 2016
 Mona Darki, 2016
 Kareem Mohammed, 2016
 Kinan Norgo, 2016
 Ali Zahedi, 2016
 Behshid Mirjaberi, 2016
 Yvonne Ocheoha, 2016
 Maisha Abdul, 2016
 Arash Jamali, 2016
 Usman Mughees, 2015
 Sabeeh Zulfikhar, 2015
 Ehsan Mousavian, 2015
 Fatemeh Ahani, 2015
 Medhat Mourad, 2015
 Mohammad Ali Aune, 2015
 Hasseeb Hassan, 2015

University College London

PhD students:

Jin Si, Bartlett Faculty of the Built Environment, University College London, Sept. 2012-Aug. 2014 (1st Supervisor);
 Sept. 2014-Jan. 2017 (Co-Supervisor) – Stage: graduated
Jamie Bull, Bartlett Faculty of the Built Environment, University College London, Sept. 2011- Aug. 2014 (Co-Supervisor) – Stage: graduated

MSc students:

CICEK, Cihan, Bartlett Faculty of the Built Environment, University College London, UK, 2013-2015, (Stage: graduated).
BELGRAVE, Andre, Bartlett Faculty of the Built Environment, University College London, UK, 2013-2015, (Stage: graduated).
ARIBIMEARI, Lolo, Bartlett Faculty of the Built Environment, University College London, UK, 2013-2015, (Stage: graduated).
JONKER, Jan, Bartlett Faculty of the Built Environment, University College London, UK, 2013-2015, (Stage: graduated).
Kapustsina, Marharyta, Bartlett Faculty of the Built Environment, University College London, UK, 2013-2015, (Stage: graduated).
MAGALHAES, Rui, Bartlett Faculty of the Built Environment, University College London, UK, 2012-2014, (Stage: graduated).
ZHANG, Jingyan, Bartlett Faculty of the Built Environment, University College London, UK, 2012-2014, (Stage: graduated).
ALAM, Irfan, Bartlett Faculty of the Built Environment, University College London, UK, 2011-2013, (Stage: graduated).
ETCIOGLU, Gulsen, Bartlett Faculty of the Built Environment, University College London, UK, 2011-2013, (Stage: graduated).
AKINYEMI, Yetunde, Bartlett Faculty of the Built Environment, University College London, UK, 2011-2013, (Stage: graduated).

SEDDON, Bob, Bartlett Faculty of the Built Environment, University College London, UK, 2011-2013, (Stage: graduated), - **Best Thesis Award** -

Research assistants:

Nikolas Anezakis, Bartlett Faculty of the Built Environment, University College London (UCL), 2014

Jonathan Wilcox, Bartlett Faculty of the Built Environment, University College London (UCL), 2012-2013

Yale University

Research assistants:

Troy Savage, Centre for Green Chemistry and Green Engineering, Yale University, New Haven, CT, 2009-2011

Ranran Wang, Centre for Green Chemistry and Green Engineering, Yale University, New Haven, CT, 2009-2011

Nico Barawid, Centre for Green Chemistry and Green Engineering, Yale University, New Haven, CT, 2009-2011

GRADUATE EXAMINATION ACTIVITIES

As of August 2025, I have served in **261** graduate examinations as follows:

Exam	MASc	PhD
Comprehensive Exam	-	84
Proposal Exam	-	50
Thesis Defense Exam	61	58
Thesis Defense Exam (External to University)	-	8

AFFILIATIONS

- Groupe d'Études et de Recherche en Analyse des Décisions (GERAD)
- Concordia Institute for Water, Energy and Sustainable Systems (CIWESS)
- Concordia Centre for Innovation in Construction and Infrastructure Engineering and Management (CICIEM)
- Concordia Next-Generation Cities Institute
- Concordia Applied AI Institute
- Institut nordique du Québec (INQ)

PROFESSIONAL EXPERIENCE

UCL Consultant, Infrastructure Systems Group (Decentralized Urban Water Reuse), ARUP (in collaboration with UCL Consultancy), London, UK, 2012

Municipal Systems Analyst, Urban Management Development Deputyship, Municipality of Tehran, Iran, 2002 – 2003

Researcher, Systems Automation and Productivity Research Centre, Sharif University of Technology, Iran, 2001-2002

Project Planning & Control Engineer, Industrial Engineering & Project Planning Department, SULIRAN Co. (design and manufacturing of modular steel structures and buildings), Tehran, Iran, 1999 – 2000

Quality Assurance Intern, PARSKHODRO Co. (car manufacturer), Tehran, Iran, 1997 – 1998