

# Nadine Ibrahim

## PhD, PMP, EIT

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### Current Role

- 2015 - present Post-Doctoral Fellow, Engineering Education for Sustainable Cities in Africa, Civil Engineering, University of Toronto
- 2015 - present Sessional Instructor for Infrastructure for Sustainable Cities (CIV577) and Infrastructure for Urban Prosperity (CEM1003), Civil Engineering, University of Toronto

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### Education

- 2015 **Ph.D., Civil Engineering, University of Toronto**  
Supervisor: Prof. Chris Kennedy (Sustainable Infrastructure Group)  
Committee: Murray Metcalfe, Patricia McCarney, Heather MacLean, Jenn Drake, Jeffrey Siegel  
Thesis: [Prioritizing Climate Action for Low-Carbon Growth in Cities](#)
- 2003 **MASc, Civil Engineering, University of Toronto**  
Supervisor: Prof. John Bonacci (Structures Group)  
Thesis: Decision-Making Using a Performance-Based Life-Cycle Cost Tool for Fibre-Reinforced Polymer Repairs.
- 2000 **Certificate in Preventive Engineering and Social Development, University of Toronto**  
Centre for Technology & Social Development, Faculty of Applied Science and Engineering
- 2000 **BASc (Honors), Civil Engineering (Collaborative Environmental Option), University of Toronto**  
Thesis: A Decision-Making Scheme Using Life-Cycle Cost Analysis for the Evaluation of Concrete Bridge Rehabilitation.

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### Research Experience

- Dec 2015 - present **Post-Doctoral Fellow**  
**Engineering Education for Sustainable Cities in Africa, Civil Engineering, U of T**  
<http://eesca.utoronto.ca>
- Assisted in successful grant applications for the Dean's Strategic Fund, Connaught Global Challenges Award, and Learning and Education Advancement Fund (LEAF).
  - Investigated engineering programs in public universities and emerging private institutions in Africa, and analyzed curricula in undergraduate and graduate engineering programs.
  - Initiated discussions for online and distance learning practices to include concepts of urban sustainability in 30 institutions across 11 African countries.
  - Surveyed infrastructure needs in African cities due to rapid urbanization and population growth to contextualize the urban context in courses.
  - Delivered a 3-day online course on Sustainable Cities to the African Leadership University using Blackboard Collaborate for 14 participants and 3 facilitators.
  - Organized workshop for MasterCard Foundation Scholars in Engineering.
  - Started the production phase of a 12-week online course on Engineering Sustainable Cities using TechSmith's Camtasia 3.0 and Articulate 360's Rise.

May 2013 - Dec 2014 **Research Assistant**

**Sustainable Infrastructure Group, Civil Engineering, U of T**

- Analyzed material flows for Dar es Salaam, Jakarta, Amman, Buenos Aires, Rio de Janeiro, Sao Paulo, and Manila using urban metabolism for comparative analysis.
- Evaluated low-carbon infrastructure strategies in 22 global cities and analyzed policy implications for climate governance.
- Examined material flows in 27 megacities, and contributed to the trend analysis.
- Collaborated with researchers in Cairo to support data collection and analysis on energy consumption and material flows to complete a survey for megacities.
- Developed a multi-layered indicator set for urban metabolism studies for surveying megacities.
- Surveyed challenges and opportunities in megacities, focusing on utilities.

1998/99/2000

**Summer Research Assistant**

**Structures and Transportation Groups, Civil Engineering, U of T**

- Reviewed Bridge Management Systems in US Departments of Transportation (DOTs) and Ministry of Transportation Ontario (MTO) to determine bridge lifecycle repair and rehabilitation strategies.
- Compiled cost data for the life-cycles of bridge rehabilitation and repair materials.
- Assisted graduate students in experiments on configurations for transverse and longitudinal reinforcement of concrete columns to compare effects of rectilinear ties versus continuous rectilinear transverse reinforcement, and on the durability and performance of reinforced concrete columns and fibre-reinforced polymers.
- Participated in the data entry and modeling of the commuting patterns of residents of Toronto as part of the Integrated Land Use Transportation and Environment modeling system (ILUTE) using MapInfo and Microsoft Access.

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## Industry Experience

Feb 2010 - Aug 2015  
(part-time)

**Manager, Asset Management and Sustainable Infrastructure  
Urban & Environmental Management, Mississauga, ON**

An urban consulting firm in southern Ontario <http://www.uemconsulting.com>

- Consulted for municipalities in Southern Ontario to develop corporate asset management programs for municipal services including water, wastewater, waste management, and energy to financially support investments in infrastructure.
- Developed strategies for level of service, lifecycle, risk assessment, and infrastructure spending to support repair versus replacement decisions.
- Claimed tax incentives for Scientific Research and Experimental Development.
- President-appointed member of the Young Professionals Advisory Committee (YPAC) to liaise between young professionals and senior management.

**Projects include:**

- 2014 Environmental Services 2013 State of the Infrastructure Report (SOIR), York Region.
- 2014 Development of a Comprehensive Asset Management Strategy & Plan, Town of Ingersoll.
- 2013 Long-term capital plan for waste management facilities, York Region.
- 2013 Asset Management Program Scoping for Water and Wastewater Facilities, City of Hamilton.
- 2012 Gap Analysis and Risk Assessment for Water & Wastewater Infrastructure, Halton Region.
- 2012 Brantford Power Asset Management Program, Brantford Power Inc.
- 2010 Drinking Water Quality Management System, Infrastructure Review, City of Hamilton.
- 2010 York Service Delivery Review for Water, Wastewater and Solid Waste, York Region.
- 2010 Peel Corporate Asset Management System, Peel Region.

Sept 2009 - Jan 2010 **Program Assistant**  
**Taking It Global, Toronto, ON**

A member of Ontario Council for International Cooperation <http://www.tigweb.org>

- Co-delivered and managed an 8-week online environmental entrepreneurship and social innovation e-course (Sprout) with participants representing 40 countries.
- Screened and selected participants and e-mentors to achieve a diverse cohort.
- Updated the Orientation Guide and weekly content to reflect participants' interests.
- Communicated with international participants and mentors, and offered guidance for technical content as they developed their project ideas for implementation.
- Analyzed data to support the final report to the Pearson Foundation to renew funding.

Oct 2003 - June 2009 **Senior Environmental Manager & Business Development Manager**  
**EcoConServ Environmental Solutions, Cairo, Egypt**

A private sector environmental consulting firm <http://www.ecoconserv.com>

- Led and managed environmental, developmental and social projects contracted by development assistance, international financial aid organizations, and local sponsors from tendering stage to closeout.
- Negotiated contracts with bilateral and multilateral development organizations.
- Managed projects in countries with diverse environmental challenges including Egypt, Yemen, Syria, Libya, Ethiopia, and Saudi Arabia.
- Formed consortiums and joint ventures with international companies to ensure expertise and cost-effectiveness of bids, while retaining the local knowledge.
- Served as the main point of contact for national and international clients.
- Provided strategic advice on the expansion of the company's portfolio, and took a key role in implementing the strategy to remain competitive.
- Prepared technical and financial proposals including subject matter experts' qualifications, corporate experience, methodology, schedules, and budgets.
- Built and maintained relationships with financing institutions, clients, local institutions and agencies, partners, stakeholders, and subject matter experts to create work efficiencies.

**Projects include:**

**Projects in Climate Change**

- 2009 Clean Development Mechanism (CDM) projects for the Egyptian-Danish Business-to-Business collaboration for climate change, Royal Danish Embassy.
- 2008 Sector Review on Environment and Energy for the Egyptian-Danish Business-to-Business collaboration for climate change, Royal Danish Embassy.
- 2008 Clean Development Mechanism (CDM) projects in partnership with Perspectives Germany, European Carbon Fund.

**Projects in Energy**

- 2009 Proposals for renewable energy project (solar and wind) for the European Mediterranean Partnership under the Sarkozy Initiative "Plan Solaire".
- 2008 Environmental and Social Impact Assessments Training for the hydroelectric power projects for the Ethiopian staff at the Eastern Nile Technical Regional Office (ENTRO), Nile Basin Initiative.
- 2008 Environmental and Social Impact Assessment for the Greater Cairo Natural Gas Connections, including Quantitative Risk Assessment, and Resettlement Policy Framework, World Bank.
- 2007 Environmental Impact Assessment for 60 MW Wind Park at Al Mokha, Yemen. World Bank.
- 2007 Site Assessment of Halliburton sites in Libya, TAUW Environment, COWI

### **Projects in Waste Management**

- 2007 Solid Waste Management for Idku City, Beheira Governorate, Egyptian LNG (as a Corporate Social Responsibility Project).
- 2007 Development of National Healthcare Waste Management Guidelines, Yemen.
- 2005 Integrated Solid Waste Management in Fayoum Governorate, Royal Netherlands Embassy.
- 2004 Feasibility Study on Enabling the Informal Sector in Solid Waste Management, National Program for Privatization of Solid Waste Management, GTZ.
- 2004 Socio-Economic Evaluation of Community Based Waste Management Initiative, CENACT with Cowater International, Canadian International Development Agency (CIDA).
- 2004 Analysis and Recommendations on Municipal Solid Waste Management in Rural Areas in Egypt, Regional Solid Waste Management Project in Mashreq & Maghreb Countries, Mediterranean Environmental Technical Assistance Program (METAP), World Bank.
- 2003 Dissemination Workshop for projects under the Environmental Enterprise Fund, in waste recycling projects including plastic, oil, animal and agricultural waste, Environmental Initiative Fund and Roche International, funded by Canadian International Development Agency (CIDA).

### **Projects in Environmental Assessment and Evaluation**

- 2009 Country Portfolio Evaluation for Egypt and Syria on biodiversity, climate change, international waters, persistent organic pollutants and land degradation, Global Environment Facility (GEF).
- 2007 Coordination of capacity building for local technical staff on environmental management for the Sana'a Basin Water Management Project, Ministry of Water and Environment, Yemen.
- 2005 Training needs assessment for the implementation of an environmental mainstreaming program for the integration of the environment as a cross-cutting issue into the European Commission External Aid. AGRECO-Belgium.
- 2005 Pilot Project Supporting Decentralization of Environmental Management in Governorates and Environmental Management Units, Environmental Sector Programme, DANIDA (Danish Development Assistance program).
- 2005 Organization of a national public consultation workshop for the Country Environmental Analysis in Egypt (1992-2002), World Bank.
- 2004 Survey of Donors Assistance to Egypt in Environment (1993-2003), Friedrich Ebert Stiftung.

### **Projects in Environmental and Social Impact Assessment, including Public Consultation**

- 2008 Implementation of the Environmental Impact Assessment of the Grand Egyptian Museum (GEM) in Egypt, with the Supreme Council of Antiquities, Ministry of Culture, and Japan International Cooperation Agency (JICA).
- 2008 Environmental Impact Assessment for Seacom Marine Fibre-Optic Cable, MobiNil.
- 2008 Environmental Impact Assessment for Combined Cycle Power Plants in Saudi Arabia, World Bank, IFC and the Saudi Presidency of Meteorology and Environment.
- 2007 Environmental and Social Impact Assessment for the Integrated Sanitation and Sewerage Infrastructure Project. Egyptian Holding Company for Water and Wastewater, World Bank.
- 2007 Environmental and Social Impact Assessment, and Resettlement Policy Framework for Port Cities Development Program (Aden, Hodeidah and Mukalla).
- 2005 Environmental Impact Assessment and Waste Management System Design for Toshka Valley Agricultural Project, Kingdom Agricultural Development Company (KADCO).
- 2003 Environmental Impact Assessment for Cairo House (Centre for environmental training, education and communication), DANIDA (Danish Development Assistance program).

### **Projects in Environmental Pollution Control**

- 2007 Investments Needs Survey of the Egyptian Pollution Abatement Project (EPAP II), Japan Bank for International Cooperation (JBIC).
- 2003 Comprehensive Review of Marine Pollution in Gulf of Aqaba & Gulf of Suez, Support for Environmental Assessment and Management, Department for International Development, UK.

July 2000 - Jan 2001

**Concrete and Materials Engineer**

**Materials and Manufacturing Ontario, Toronto, ON**

Materials and Manufacturing Ontario, a member of Ontario Centre of Excellence

- Worked in collaboration with Materials and Manufacturing Ontario, Bot Engineering Construction Ltd., and Andec Manufacturing on the rehabilitation of concrete piles of a parking structure at Crystal Beach in Fort Eerie, Ontario.
- Evaluated material characteristics and structural condition of piles, and produced recommendations for the rehabilitation plan.

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## Teaching Experience

### Course Instructor

2016 - present **CIV 577 - Infrastructure for Sustainable Cities**

Number of times taught: 3 (Winter 2016, Winter 2017 and Winter 2018)

Enrollment: 18-27 fourth year and graduate civil engineering students, with 3-6 TAs.

Teaching activities: 14 weeks of lectures covering urbanization and growth of world cities, sustainable cities and communities, climate change and greenhouse gas emissions, urban metabolism, material flow analysis, life-cycle analysis, principles and theories of sustainable urban design, green building design, transit network design including active transportation, energy systems, water/wastewater/storm water systems, contaminants and waste management, urban vegetation, neighbourhood activity and morphology, urban climatology.

Formative assessments: Problem sets, urban exploration activities, design project to design a city of choice for the year 2050 including final oral presentation.

2016 - present **CEM 1003 - Infrastructure and Urban Prosperity**

Number of times taught: 3 (Winter 2016, Winter 2017 and Winter 2018)

Enrollment: 8-11 graduate students in the Master of Engineering in Cities Engineering and Management, with 1 TA.

Teaching activities: 12 weeks of lectures on financial decision-making, microeconomic foundations, welfare economics, transportation economics, urban economics, economics of major infrastructure investments, regional macroeconomic analysis, environmental and ecological economics, and long term influences on infrastructure development.

Formative assessments: 6 problem sets, book discussion, journal article review, and term project examining infrastructure impacts on urban economies in global cities including final oral presentation.

2015 - 2016 **CME 368 - Engineering Economics and Decision-Making**

Number of times taught: 2 (Fall 2015 and Fall 2016)

Enrollment: 140-150 third year civil and mineral engineering students, with 6 TAs.

Teaching activities: 12 weeks of lectures covering capital, basic financial concepts, time value of money, cash flow, equivalence, simple and compound interest, discount factors, ecological economics, greening gross fixed capital formation, green growth, engineering decisions, benefit cost analysis, rate of return analysis, incremental analysis, valuation, depreciation, taxation, cost-effectiveness analysis, breakeven analysis, payback, inflation and introduction to macroeconomics.

Formative assessments: Research project on green growth, 4 problem sets, and group activity for project evaluation and decision-making including press release report, video submission, and an individual project on climate change mitigation economics using marginal abatement cost curves.

2012-2015

**CIV382 - Civil Engineering Portfolio**

Enrollment: 25-35 third year civil engineering students, in coordination with the Engineering Communications Program.

Number of times taught: 3 (2012/13, 2013/14, and 2014/15)

Teaching activities: Year-long course to guide and support students in compiling a portfolio of Civil Engineering reports, presentations, labs and drawings.

- Coached students to design a portfolio with a theme to reflect their technical and communication strengths. I had the opportunity
- Supervised students one-on-one throughout the year to work with their strengths and address their weaknesses, and strengthen their communication skills, both verbal and written.
- Developed a comprehensive understanding of all the formative assessments (assignments, term papers, lab reports, posters, problem sets) in all courses in civil engineering in the department that students select from for their themed portfolios.

**Online Teaching (Academic)**

May 2017

**Sustainable Cities: An African Focus.** Lead instructor for a 3-day course for 13 students and 3 facilitators at the African Leadership University in Mauritius.

- Led a 4-person instruction team to deliver a 3-day live online course to the African Leadership University in Mauritius.
- Delivered course content using Blackboard Collaborate and gained an understanding of students' abilities, in addition to understanding more technical factors in terms of internet access, bandwidth, online learning platforms, and online interaction.

Sept 2018  
(expected)

**Engineering Sustainable Cities: Adding an African Perspective.** Developing a 12-week module in collaboration with partners from African institutions.

- Utilized the support of the Centre for Teaching Support and Innovation, Engineering Technology Office, and librarians during course production.
- Developed expertise with online learning software such as Camtasia 3.0 by TechSmith and Rise by Articulate 360, and teaching strategies and tools, including open education resources (OER).

**Online Teaching (Non-Academic)**

Fall 2009

**Sprout.** An 8-week online environmental entrepreneurship and social innovation course for participants aged 18-30, and mentors representing 40 countries.

- Co-delivered the online course using project management principles to guide community-based projects from ideation to commercialization.
- Managed the course as it is structured to involve participants as mentees, and paired with mentors to guide participants through their weekly deliverables.

**Seminar Leader**

Fall 2009

**Engineering Strategies and Practice.** Seminar Leader for a three-week module on Appropriate Technology and Corporate Social Responsibility for first year engineering students, in coordination with Engineers Without Borders.

- Led students in a workshop format to develop an opinion on the appropriateness of a technology for the issues it is trying to address by examining the root causes of poverty, water issues, and examples of existing technologies in developing nations.
- Facilitated discussions based on readings on topics including water issues, international development and social factors in design.

### Head Teaching Assistant (TA)

- Fall 2014 **Engineering Economics and Decision-Making.** Third year civil + mineral engineering students.
- Fall 2013 **Engineering Economics and Decision-Making.** Third year civil + mineral engineering students.
- Delivered a number of lectures, coordinated benchmarking sessions with TAs, graded assignments, managed TA activities, and assigned duties and allocation of hours.
  - Developed case studies on Canadian-based projects to supplement teaching material.
  - Learned how to perform benchmarking with TAs to ensure consistency in grading,
  - Developed rubrics to facilitate grading among TAs and set expectations for students.

### Teaching Assistant (TA)

- Winter 2015 **Sustainable Infrastructure.** Fourth year and graduate civil engineering students.
- Winter 2014 **Sustainable Infrastructure.** Fourth year and graduate civil engineering students.
- Winter 2013 **Infrastructure Economics.** Graduate civil engineering students.
- Winter 2013 **Engineering Strategies and Practice II.** First year language intensive engineering students.
- Fall 2012 **Engineering Strategies and Practice I.** First year engineering students.
- Fall 2012 **Engineering Economics and Decision-Making.** Third year civil engineering students.
- Winter 2011 **Engineering Economics and Decision-Making.** Third year civil engineering students.
- Fall 2010 **Terrestrial Energy Systems.** Fourth year engineering and third year arts and science students.
- Winter 2003 **Engineering, Society and the Environment.** First year civil, mechanical and chemical engineering students.
- Fall 2002 **Building Science.** Third and fourth year civil engineering students, and graduate architecture and civil engineering students.
- Winter 2002 **Engineering, Society and the Environment.** First year civil, mechanical and chemical engineering students.
- Fall 2001 **Structures, Materials and Design.** First year engineering students.
- Winter 2001 **Engineering, Society and the Environment.** First year civil, mechanical and chemical engineering students.
- Fall 2000 **Structures, Materials and Design.** First year engineering students.

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### Scholarships

2014	Ontario Graduate Scholarship	\$15,000
2013	Ontario Graduate Scholarship	\$15,000
2010	Natural Sciences and Engineering Research Council (NSERC) PGS-D	\$63,000
2000	Ontario Graduate Scholarships in Science and Technology (OGSST)	\$15,000
2000	Materials Manufacturing Ontario (MMO)	\$8,500
2000	Intelligent Sensing for Innovative Structures Canada (Network of Centres of Excellence) - Scholarship for Women in Engineering	\$5,000
2000	Undergraduate Student Research Award (USRA) by the Natural Sciences and Engineering Research Council (NSERC)	\$5,000

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### Awards and Honours

- 2015 Women's Leadership Award, Bureau of Cultural and Educational Affairs in Canada, Consulate General of Egypt
- 2010 7T6 Early Career Award, Faculty of Applied Science and Engineering, University of Toronto
- 2002 Best Oral Presentation, Very Creative Poster, and Best Written Presentation, Intelligent Sensing for Innovative Structures Canada
- 1997 - 2000 Dean's Honour Roll, Faculty of Applied Science and Engineering

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## Academic Service and Administration

### Service to the University of Toronto

Jan 2018 - present	President's International Council (PIC) for Africa (3-year term)
Sept 2017 - present	Elected Member of the Nominating Committee of Alumni Governors (1-year term) College of Electors of the Governing Council of the University of Toronto
Feb 2017	Consultation with Vice-President International to develop University of Toronto's strategic engagement opportunities in Africa
Jan 2016 - present	Faculty of Applied Science and Engineering Alumni Representative (4-year term) College of Electors of the Governing Council of the University of Toronto

### Service to the Faculty of Applied Science and Engineering

Feb 2018	Speaker, Graduate Research Day
Jan - April 2018	Client to Engineering Strategies and Practice, for "Global Classroom Project"
Sept 2017	Career Chat Lounge, Career Information Days
Jan 2017 - Aug 2017	Working group for the Graduate Professional Skills Program
Sept 2016 - Feb 2017	Alumni Admissions Assessor for Broad Based Admissions Program for the class of 2T1
Sept 2016 - June 2017	Editorial Committee Member, Letters to a Young Engineer
Oct 2015 - April 2016	High School Outreach, Women in Science and Engineering (WISE)
Jan 2015	Moderator, Green Building Construction Panel, Sustainable Engineers Association Conference, University of Toronto
May 2014	Girls' Leadership in Engineering Experience (GLEE), University of Toronto
Mar 2011 - Jan 2013	Lunch and Learn Coordinator and Graduate Associate, Cities Centre

### Service to the Department of Civil Engineering

Feb 2015	Speaker, Graduate Research Day
Sept 2012 - Aug 2013	Coordinator, Civil Engineering YouTube Channel
Sept 2010 - Nov 2015	Sustainable Infrastructure Group (SIG)
Sept 2010 - Mar 2011	President, Civil Engineering Graduate Student Association (CEGSA)
Mar 2001 - May 2002	Student Committee Representative for Intelligent Sensing for Innovative Structures
Mar 2000 - June 2000	Chair, GRADitude for Civil Engineering.
Sept 1999 - June 2000	Vice President, Business, Civil Engineering Club
Feb 1999 - June 2000	Fundraising Committee, Concrete Canoe

### Peer Review Service

2018	Urban Science
2018	DII-2018 Conference abstract and paper reviews for the International Conference on Infrastructure Development and Investment Strategies for Africa
2017	Journal of Industrial Ecology
2017	PLOS ONE
2017	Nature Climate Change, Springer Nature
2017	Oxford University Press Canada, Fourth Canadian Edition of Engineering Economic Analysis by Donald G. Newnan, John Whittaker, and John Jones.
2017	Sustainable Built Environment, Elsevier
2016	ISIE 2017 Conference abstract reviews: Science in Support of Sustainable and Resilient Communities
2016	World Development, Elsevier
2016	Sustainability, MDPI
2016	Journal of Environment and Pollution, InderScience
2013	Journal of Sustainable Development, Canadian Center of Science and Education (CCSE)

### Awards Nominations and Referee

2017	Leading Women Award, Building Communities Recognition Program, Ontario Women Directorate
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- 2015 Joan E. Foley Quality of Student Experience Award, University of Toronto  
2015 Harpreet Dhariwal Emerging Leader Award  
2014 Award for Support of Women in the Engineering Profession by Engineers Canada
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## Entrepreneurship

- Dec 2016 - present **Member of the Advisory Board, Greenometry, Boston, MA**  
Boston-based start-up developing climate metrics <http://www.greenometry.org/>
- Advised the team on marginal abatement cost curve methodology and application.
  - Reviewing literature and historical applications of marginal abatement cost curves for other sectors.
  - Designed examples of climate mitigation economics for client meeting presentations.
  - Contributed to methodology and work plan sections in proposal submissions as they apply to cities and municipalities of interest.
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## Academic Training and Certifications

- 2017 OPTIONS: Opportunities for PhDs: Transitions, Industry Options, Networking, and Skills, Institute for Leadership Education in Engineering (ILead), University of Toronto.  
2017 Workshop on Teaching for Effective Learning in Engineering, Institute for Engineering Teaching and Educational Research (IETER), University of Toronto.  
2017 Module Design, Centre for Teaching Support and Innovation, University of Toronto.  
2015 Prospective Professors in Training (PPIT), University of Toronto.  
2015 Teaching Engineering in Higher Education (APS 1203), University of Toronto.  
2015 Emerging Leadership Workshop, Ted Rogers School of Management, Ryerson University.
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## Industry Training and Certifications

- 2017 Mitacs Step - Discovering the Entrepreneur Within. Ontario Institute for Studies in Education, University of Toronto.  
2014 Supervisor Occupational Health & Safety Awareness Training, Ontario Ministry of Labour.  
2013 Sustainability 101 and Sustainability: Step by Natural Step, The Natural Step.  
2010 Project Management Professional (PMP), PMI ID: 1757124; Certification Number: 1334998.  
2008 Clean Development Mechanism training by Danish Energy Management.  
2008 CDM Perspectives and Opportunities Workshop and Seminar by KfW and GTZ.  
2008 Environment, Health and Safety Training, Chevron Corporation.
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## Professional Affiliations

- Voting member of the Canadian Urban Institute (CUI)
- Canadian Engineering Education Association (CEEA)
- CEEA/ACEG Chair of Special Interest Group on the Engineer of 2050
- CEEA/ACEG Member of Special Interest Group on Open Education Resources
- International Society for Industrial Ecology (ISIE), member of the Sustainable Urban Systems section
- Professional Engineers Ontario, Registration Number: 100050919 (application for licensure under review)
- Project Management Institute (PMI), Project Management Professional # 1334998
- Canadian Society for Civil Engineers (CSCE)
- Sustainable Engineers Association (SEA)

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## Mentorship

- Dec 2016 - May 2017 **Jusoor Foundation Mentorship Program 2016/17, Jusoor Foundation**  
<http://jusoorsyria.com/programs/academic-mentorship-program/>
- Mentored one student at York University, Masters in Environmental Studies.
  - Part of the 100 Syrian Women, 10,000 Syrian Lives Scholarship Program.
- Oct 2015 - present **MasterCard Foundation Scholars Program, University of Toronto**  
<http://sites.utoronto.ca/mcfscholars/>
- Appointed as the faculty representative for Civil Engineering students from Sub-Saharan Africa.
  - Mentored two civil engineering students from Kenya.
- Oct 2015 - present **Alumni Mentorship Program, University of Toronto**  
<http://alumni.engineering.utoronto.ca/students/alumni-mentorship-program/>
- Mentored six civil engineering and one chemical engineering student over three years.
  - Offered students motivation and insight as they navigate academic and career decisions.
- Nov 2015 - Dec 2016 **Mentor and Protégé Program, Mentor City, Canadian Society for Civil Engineers**  
<https://csce.ca/mentorship-program/>
- Mentored with the first mentoring initiative of the CSCE.
  - Provided feedback on the mentorship processes to enhance the beta version testing.
- Sept 2015 - April 2016 **High School Outreach Program, Women in Science and Engineering**  
<https://www.wiseuoft.org/high-school-outreach>
- Promoted the education of women in science and engineering by visiting high schools across the Greater Toronto Area through the delivery of informational presentations.
- Mar - May 2010 **Sprout E-Course**  
<http://sprout.tigweb.org/>
- Participated as a mentor in a course on environmental entrepreneurship and social innovation funded by the Pearson Foundation.
  - Mentored one student in the category of technology and globalization on a project. "Social Marketplace" built upon e-commerce, social networking and social business.
- Feb - Apr 2012 **Change Inc.**  
<http://changeinc.tigweb.org/>
- Participated as a mentor in a course for the cultivation of social entrepreneurs led by the Public Policy Forum.
  - Mentored one student in the category of globalization and human rights on a project "Worldwide Partnerships" to stimulate awareness and propose solutions to the globalization of products by large companies.
  - Mentored one student in the category of culture, education and environment on a project "ReGenerate Centre" which proposes a multi-use building with studio space for resident artists and skilled crafts persons, and an art gallery.

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## Invited Presentations

### Guest Lectures

- 2017 Guest Lecture presenting “Climate Mitigation Economics” in CME 368 Engineering Economics and Decision-Making, University of Toronto, Nov 2017.
- 2017 Alumni Career Panel Speaker in CIV 201: Introduction to Civil Engineering, Sept 2017.
- 2016 Guest Lecture presenting “Cities and Sustainability” at APS120 Interdisciplinary Introduction to Sustainability, University of Toronto, Aug 2016.
- 2016 Guest Lecture presenting “Ecological Economics, Green Growth and Everything in Between” at APS420/1420 Technology, Engineering & Global Development, University of Toronto, Feb 2016.

### Research-Related

- 2016 Futures Forum: The Future of Smart Communities, University of Ontario Institute of Technology, Oshawa, May 2016
- 2015 “Climate Action in Cities” as part of the Industrial Ecology: Innovations for a post-carbon society, International Workshop in Paris and Worldwide via Webcast; Pre-COP21 event by the International Society for Industrial Ecology Student Community, Toronto, Nov 2015.
- 2015 “Policy Dialogue on Climate Action” as part of the GCI Event: A Conversation on Urban Energy, Climate Change and Resilient Cities, Global Cities Institute, Toronto, Nov 2015.
- 2015 Transformation Toronto 2050, Dan Leckie Forum, Toronto City Hall, March 2015.
- 2015 Sustainable Engineers Association Conference 2015 (Moderating the Green Building Construction Panel), University of Toronto, Jan 2015.
- 2013 Consultation on the Draft 2012 Greenhouse Gas Inventory, Air Quality and Energy Mapping for the City of Toronto, City of Toronto Environment and Energy Office, November 2013.

### Outreach and Engineering Leadership

- 2017 Exploratory session for a new Graduate Professional Skills program in the Faculty of Applied Science and Engineering, Graduate Studies and Institute for Leadership Education in Engineering (ILead), University of Toronto, Jan 2017.
- 2015 Career Pathways for Civil Engineers, Institute for Leadership Education in Engineering (ILead), Mar 2015.
- 2014 Canadian Arab Institute, Youth Professional Development Conference (Moderator of the Engineering Panel), Ted Rogers School of Management, Ryerson University, Sept 2014.
- 2013 Canadian Arab Institute, Youth Professional Development Conference (Engineering and Architecture Panel), University of Toronto, Sept 2013.
- 2012 Dunbarton High School Career Day, Pickering, Ontario, April 2012.

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## Volunteer Activities and Community Involvement

- 2017 - present Class Parent for Grade 1 French Immersion Class, Millwood Junior School.
- 2017 Mentoring our Youth (representing Engineering), Muslim Moms of Durham.
- 2016 - 2017 Class Parent for Grade 5 French Immersion Class, Millwood Junior School.
- 2016 Co-founder of Eatonville Book Club, Toronto Public Library.
- 2015 - present Member-at-large at Millwood Junior School, Home and School Association.
- 2013 - 2015 Member of the Youth Committee, CAI Youth Academy, and Annual Professional Development Conference Organizing Committee, Canadian Arab Institute.
- 2013 - 2014 Member-at-large at Elmlea Public School, Student Advisory Council.
- 2006 Volunteer for Timberland Earth Day for clean up campaigns and environmental awareness.
- 2005 Volunteer for Greenpeace International, Mediterranean Peaceful Energy Tour.
- 2000 Energy Ambassador at the Office of Energy Efficiency, Natural Resources Canada.

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## Publications

### Record as of 2018-03-28

Scopus: Documents = 6; H index = 4; Total Citations = 143 total citations by 122 documents  
Google Scholar: Documents = 10; H index = 5; Total Citations = 253 total citations

Peer-reviewed journal papers, invited publications and book chapters are downloadable from [ResearchGate](#)

### Peer-Reviewed Journal Papers

1. [Ibrahim, N.](#), and Kennedy, C., 2016. "[A Methodology for Constructing Marginal Abatement Cost Curves for Climate Action in Cities.](#)" *Energies*, 9(4): 227-243.
2. Kennedy, C., Stewart, I., Facchini, A., Mele, R., Chen, B., Cerosimo, I., Uda, M., Kansal, A., Chiu, A., Kim, K., Dubeux, C., La Rovere, E. L., Cunha, B., Pincetl, S., Keirstead, J., Barles, S., Pusaka, S., Gunawan, J., Adegbile, M., Nazariha, M., Hoque, S., Marcotullio, P., Gonzalez, F., Genena, T., [Ibrahim, N.](#), Farooqui, R., Cervantes, G., Sahin, A., 2015. "Energy and Material Flows of Megacities." *Proceedings of the National Academy of Sciences (PNAS)*, 112 (19): 5985-5990.
3. Kennedy, C., [Ibrahim, N.](#), and Hoornweg, D., 2014. "Low carbon infrastructure strategies for cities." *Nature Climate Change*, 4, 343-346.
4. Stewart, I., Kennedy, C., [Ibrahim, N.](#), Facchini, A., and Mele, R. 2014. "Developing a multi-layered indicator set for urban metabolism studies in megacities." *Ecological Indicators*, 47,7-15.
5. [Ibrahim, N.](#), Sugar, L., Hoornweg, D., and Kennedy, C., 2012. "Greenhouse gas emissions from cities: comparison of international inventory frameworks." *Local Environment*, 17 (2), 223-241.

### Invited Publications

6. [Ibrahim, N.](#), 2017. "[Decarbonization Unique to Cities.](#)" News and Views, *Nature Climate Change*, 7 (10): 690-691.

### Book Chapter

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