

7th INTERNATIONAL CONSTRUCTION CONFERENCE
JOINTLY WITH
THE CONSTRUCTION RESEARCH CONGRESS (CRC 2019)

Technical Program



Welcoming Message

It is our pleasure to welcome you to the 7th International CSCE Construction Conference. This year, the conference is jointly organized with the ASCE Construction Research Congress (CRC 2019) in Laval, Quebec, Canada. This partnership will afford a unique opportunity for participants. We look forward to this exciting event serving as a platform for knowledge and experience sharing and a forum to encourage networking among academics, industry practitioners and leaders, and project stakeholders.

The conference has a strong technical program with plenary sessions, five parallel tracks, and two newly introduced panels. The first panel on innovation in construction led by industry experts, and the second on civil/construction engineering curriculum for the next generation, led jointly by prominent academics and industry professionals.

We encourage you to participate actively in the program sessions and workshops to help improve current policies and practices with a keen eye on how to create value in the delivery of construction projects. The program encompasses a wide range of topics including simulation and optimization of construction operations; sustainable civil infrastructure; planning, scheduling, procurement, productivity, safety and legal issues in construction; and risk management. Details on specific topics are included in the program schedule below.

We wish you a good stay in Laval and believe this will be a wonderful opportunity to benefit from what Montreal has to offer visitors. Thank you for participating and we look forward to meeting you at the conference.

Best regards,

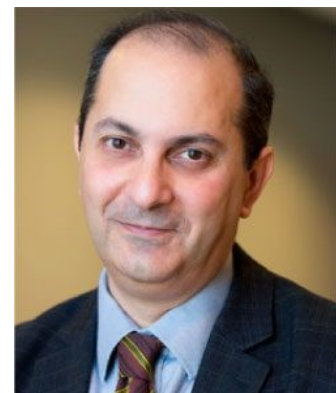
Conference Organizers



Dr. Osama Moselhi, Chair
Professor, Concordia University



Dr. Tarek Zayed, Co-Chair
Professor, Hong Kong
Polytechnic University



Dr. Amin Hammad, Co-Chair
Professor, Concordia University

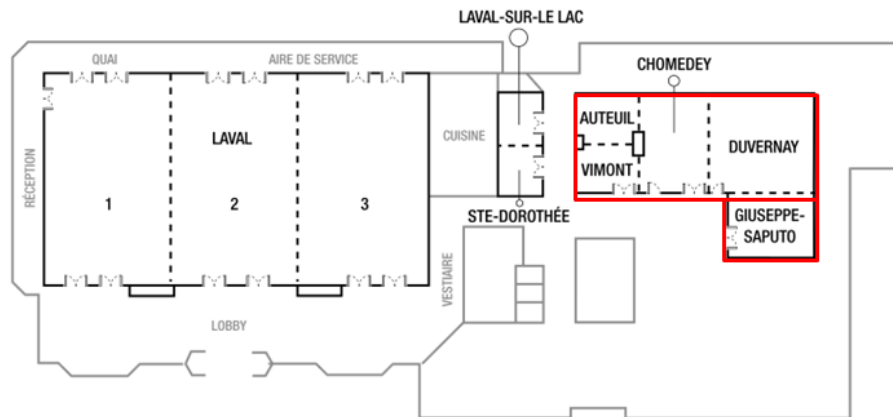
Track Coordinators

Dr. Soliman Abu-Samra, KPMG Canada
 Dr. Hani Alzraiee, California Polytechnic State University
 Mr. Ahmed Assad, Concordia University
 Dr. Mohamed ElMasry, Stream Systems Ltd
 Dr. Emad Elwakil, Purdue University
 Dr. Amin Hammad, Concordia University
 Dr. SangHyeok Han, Concordia University
 Dr. Khalid Kaddoura, AECOM
 Dr. Shahin Karimidorabati, Concordia University

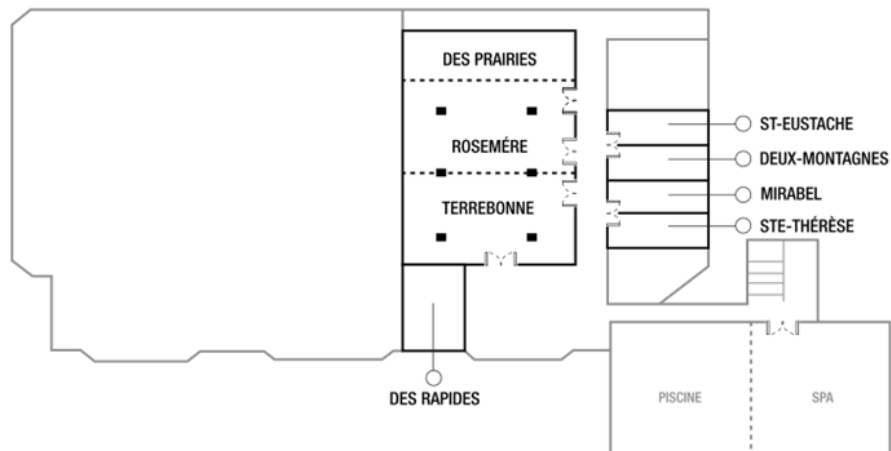
Dr. Fereshteh Mafakheri, Concordia University
 Dr. Mohammed Mawlana, North Carolina A & T State University
 Dr. Ali Motamedi, École de Technologie Supérieure
 Dr. Fuzhan Nasiri, Concordia University
 Dr. Mazdak Nik-Bakht, Concordia University
 Dr. Faridaddin Vahdatikhaki, University of Twente
 Dr. Tarek Zayed, The Hong Kong Polytechnic University
 Dr. Cheng Zhang, Xi'an Jiaotong-Liverpool University

Floor Plans

All technical sessions will be on the main ground level in the 5 rooms located on the right-hand side of the floor plan below.



Main ground level



Level 1

Program Overview

Day One (Wednesday, June 12)					
Room	Chomedey	Duvernay	Auteuil	Vimont	Giuseppe-Saputo
1:00-3:00 PM	AI and Automation	BIM	Construction methods	Green and sustainable design and construction (1)	Decision-support systems (1)
Session chair	Dr. Ali Motamedi	Dr. Mazdak Nik-Bakht	Dr. Ahmed Bouferguene	Dr. Khaled El-Rayes	Dr. SangHyuck Han
3:00-3:30 PM	Coffee break				
3:30-6:00 PM	CRC Meeting				
6:00-7:30 PM	Welcome Cocktail (Cosmodome)				
7:00-7:45 PM	CSCE Construction Division Meeting and Dinner (by invitation)				
Day Two (Thursday, June 13)					
Room	Chomedey	Duvernay	Auteuil	Vimont	Giuseppe-Saputo
7:30-9:00 AM	Opening Breakfast Ceremonies (Laval 1 & 2)				
9:15-9:30 AM	Opening Session				
9:30-10:30 AM	Alan Russell Keynote Address (Dr. Carl Haas)				
10:30-11:00 AM	Coffee break				
11:00-12:00 PM	Optimization & Construction Oper. (1)	BIM and AI	Planning and scheduling (1)	Productivity & Procurement	Decision-support systems (2)
Session chair	Dr. Jason Hailer	Dr. Nora El-Gohary	Dr. Adel Francis	Dr. S. Kermanshachi	Dr. Fuzhan Nasiri
12:00-2:00 PM	Opening Lunch (Laval 1 & 2)				
2:00-3:30 PM	Industry Panel Discussion: Innovation in Construction				
3:30-4:00 PM	Coffee break				
4:00-5:30 PM	Productivity and workforce issues	Project performance tracking and control	Simulation of const. operations	Contracting and legal issues	Decision-support systems (3)
Session chair	Dr. Aslihan Karatas	Dr. Sheryl Staub-French	Dr. Mohamed Marzouk	Dr. H. Christodoulou	Dr. Tarek Hegazy
6:00- 11:00 PM	Riverboard Cruise Nigh				

Day Three (Friday, June 14)						
Breakfast & Plenary Guest Speakers (Dr. Azam Khan, Autodesk Research)						
7:30-9:00 AM	Room	Chomedey	Duvernay	Auteuil	Vimont	Giuseppe-Saputo
9:15-10:30 AM		Optimization & Construction Oper. (2)	Planning and scheduling (2)	Facilities management	Green and sustainable design and construction (2)	Disaster management
Session chair	Dr. Jason Hailer	Dr. Ahmed Elhakeem	Dr. Dina Saad	Dr. M. Al-Hussein	Dr. Juyeong Choi	
10:30-11:00 AM	Coffee break					
11:00-12:00 PM	Peurifoy Award Keynote (Dr. Aminah Robinson Fayek)					
12:00-2:00 PM	Guest Speakers AGM Luncheon					
2:00-3:30 PM	Health and safety (1)	Risk management	Sustainable civil infrastructure (1)	Industry track	Construction education and Global construction issues	
Session chair	Dr. Arash Shahi	Dr. Mona Abouhamad	Dr. Mohamed Hegab	Michel Guevremont	Dr. Krishna Kisi	
3:30-3:45 PM	Coffee break					
3:45-5:15 PM	Workshop: How to be successful in securing academic job?	Panel discussion on Civil/Construction Engineering Curriculum for New Generation				Getting tenured: Workshop on key issues and skills
6:00-7:00 PM	Banquet Reception Cocktail					
7:00-10:00 PM	Honours & Awards Banquet					

Day four (Saturday, June 15)						
Breakfast & Plenary Guest Speakers						
7:30-9:15 AM	Room	Chomedey	Duvernay	Auteuil	Vimont	Giuseppe-Saputo
9:15-10:30 AM		Health and safety (2)	Visualization, Planning & Project Performance	Sustainable civil infrastructure (2)	Modular Construction & Sensing	Life Cycle Analysis & Costing
Session chair	Dr. Cheng Zhang	Dr. Tarek Salama	Dr. Jeff Rankin	Dr. Dan Tran	Dr. Aslihan Karatas	
10:30-11:00 AM	Coffee break					
11:00-12:00 PM	Health and safety (3)	Project management (1)	Sustainable civil infrastructure (3)	Project management (2)		
Session chair	Dr. Mohamed Issa	Dr. Mostafa Elseifi	Dr. Emad Elwakil	Dr. Mona Abouhamad		
12:00-2:00 PM	Guest Speakers & Closing Luncheon					

Detailed Program

DAY 1 – WEDNESDAY, JUNE 12

13:00 – 15:00

AI and Automation (Chomedey, 13:00 – 15:00)

Chair: Dr. Ali Motamedi

- Visualization of Local Municipal Satisfaction by Twitter Data Analysis (Farzaneh Zarei, Canada #130)
- A machine-learning solution for quantifying the impact of climate change on roads (S. Madeh Piryonesi, Canada #169)
- Zero Latency for Emergencies: A Machine Learning based Approach to Quantify Impact of Construction Projects on Emergency Response in Urban Settings (Zhengbo Zou, USA #264)
- Concrete Surface Defect Detection Using Deep Neural Network Based on LiDAR Scanning (Majid Nasrollahi, Canada #32)
- The role and value of integrating AI, drones and associate technologies in construction projects (Azzeddine Oudjehane, Canada #277)
- Potential of Bayesian Networks for Forecasting the Ripple Effect of Progress Events (Kareem Mostafa, Canada #74)
- System Dynamics Approach To Assess Impacts Of Disaster Risks On Investment In Infrastructure (Jishnu Subedi, Canada #271)
- Investigating The Use Of Virtual Reality In Improving The Quality Of Design Bim For Facility Management (Sheryl Staub-French, Canada #218)

BIM (Duvernay, 13:00 – 15:00)

Chair: Dr. Mazdak Nik-Bakht

- Big Visual Data Analysis for Building Information Modeling (Cheng Zhang, China #101)
- Workplace Experiences for Women and Men using BIM/VDC in Construction (Caroline Clevenger, USA #159)
- Application of Laser Scanning Technology in Energy Analysis and Structural health monitoring of Heritage Buildings (Mohamed Marzouk, Egypt #174)
- BIM for Temporary Structures: Development of BIM API Plug-ins for Concrete Formwork (Ziyu Jin, USA #196)
- ArcSPAT: An integrated BIM-GIS model for site layout planning (Ahmad Alsaggaf, Canada #219)
- The BIM impacts on stakeholder management in airport construction projects (Tais Scherer, Canada #221)
- BIM-based code compliance checking for fire safety in timber buildings: A comparison of existing tools (Kristina Kincelova, Canada #226)
- A Case Study of Client Driven Early Bim Collaboration (Muhammad Tariq Shafiq, United Arab Emirates #248)

Construction methods (Auteuil, 13:00 – 15:00)

Chair: Dr. Ahmed Bouferguene

- Implementation of Bridge Bundling Delivery Method: the view from the field (Mamdouh Mohamed, USA #184)
- When fast track construction leads to affordable high end housing. (Serge Parent, Canada #206)
- Developing a Constructability Implementation Framework for Transportation Projects (Dan Tran, USA #214)
- Public-Private Partnerships (P3s) in the US, Observed Obstacles to its Adoption, and Potential Solutions to Overcome the Challenges (Lameck Onsarigo, USA #266)
- Competitive Finite Element Analysis (ANSYS) For the Use of Ice & Frozen Silt As A Supporting Structural Material, An Alternative To The Traditional Crawler Crane Mat Material (S355, G40.21 & Coastal Douglas-Fir) (Ghulam Muhammad Ali, Canada #273)
- Construction Labor Productivity Benchmarking: A Comparison Between On-Site Construction and Prefabrication (Emad Nadi, USA #289)
- Crack Analysis of Electrically Conductive Heated Pavement Systems through Finite Element Modeling (Kristen Cetin, USA #79)
- Comparison among Project Delivery Methods for Scattered Rehabilitation Projects (Ehab Kamarah, Canada #126)

Green and sustainable design and construction (1) (Vimont, 13:00 – 15:00)

Chair: Dr. Khaled El-Rayes

- Improving the Mechanical Strength of Self-Compacting Concrete Using Milicia Excels Ash (Ayobami Busari, Nigeria #102)
- Engineering Properties of Modified Naturally Occurring Bitumen using Polyethylene Terephthalate Waste Polymer for Hot-Mix Asphalt Pavements (Ayobami Busari, Nigeria #103)
- Solar Photovoltaic Electricity for Single-Family Detached Households: Life Cycle Thinking-Based Assessment (Piyaruwan Kaluthantrige, Canada #104)
- Costs of Green Residences in Canada: An Economic and Environmental Analysis of Developing Renewable Powered Building Clusters (Hirushie Karunathilake, Canada #108)
- A Building Energy and Health Conditions Monitoring Strategy For Canadian Building Sector (Tharindu Prabatha Hewa Godella Waththage, Canada #133)
- Optimizing Selection of Existing Building Upgrades to Maximize their Sustainability (Moatassem Abdallah, USA #140)

- Optimizing selection of building materials and fixtures to reduce operational costs (Moatassem Abdallah, USA #142)
- Integrated Building Design and Energy Simulation (Mojtaba Valinejadshoubi, Canada #143)

Decision-support systems (1) (Giuseppe-Saputo, 13:00 – 15:00)

Chair: Dr. SangHyeok Han

- The Use of Reliability Analysis in the Bid Decision-Making Process (Farzad Ghodoosi, Canada #14)
- A Fund-Allocation Optimization Framework for Prioritizing Historic Structures' Conservation Projects - An Application to Historic Cairo (Dina Saad, Egypt #46)
- A System Dynamics model of client linked delay in construction of building projects in India (Dillip Das, South Africa #180)
- Bid/No Bid decision using fuzzy risk assessment (Ahmed Elhakeem, Egypt #207)
- A decision support tool for management of small residential renting buildings: A case study (Virginie Mathieu, Canada #216)
- Would Québec Reach the Electric Vehicle Adoption Target? - A Game Theory Approach (Rafaela Panizza, Canada #227)
- Introducing the concept of Foundational Attributes of construction projects (Fan Zhang, USA #7)
- Evaluating The Economic Effectiveness Of Deconstruction Activities For A Facility: A Case Study (Akash Pushkar, USA #241)

DAY 2 – Thursday, JUNE 13

9:30 – 10:30

Alan Russell Keynote Address (Chomedey, 9:30 – 10:30)

Chair: Dr. Osama Moselhi

Construction and Deconstruction in a Circular Economy

Dr. Carl Haas, Chair of the Department of Civil and Environmental Engineering at the University of Waterloo

11:00 – 12:00

Optimization & Construction Oper. (1) (Chomedey, 11:00 – 12:00)

Chair: Dr. Jason Hailer

- Performance-based Contracts Optimization for Enhanced Roads' Condition (Soliman Abu-Samra, Canada #53)
- Trilevel Optimization Framework for Municipal Co-located Infrastructure: City of Montreal (Soliman Abu-Samra, Canada #54)
- Computing the Task Interruptions that Synchronize Task Delivery Speeds in Repetitive Projects (Kareem Mostafa, Canada #76)
- Understanding the Water-Energy Nexus in Urban Areas: A Cluster Analysis of Urban Water and Energy Consumption (Lufan Wang, USA #114)

BIM and AI (Duvernay, 11:00 – 12:00)

Chair: Dr. Nora El-gohary

- Applications Of Bim And Uav To Construction Safety (Yuting Chen, Canada #254)
- Framework for Cost Estimation Using BIM Object Parameters (Michael Clark, USA #28)
- The Adoption of Building Information Modelling in Canada (Arash Shahi, Canada #48)
- Utilization and Implementation of E-Ticketing to Electronically Track the Delivery of Construction Materials (Sharareh Kermanshachi, USA #297)

Planning and scheduling (1) (Auteuil, 11:00 – 12:00)

Chair: Dr. Adel Francis

- Using Lean Construction Tools And 4d Modelling For Equipment Workspace Planning (Charles Igwe, Canada #37)
- Enhancing Planning, Monitoring and Controlling of Road Construction Projects in Egypt Using System Dynamics Methodology (Nabil Amer, Egypt #39)
- Resilience Preparedness-Based Optimization Framework For Water And Combined Sewer Pipes: Town Of Kindersley (Soliman Abu-Samra, Canada #56)
- Integrated Super-structure and Asphalt Deck Scheduling and Optimization Framework for Bridges (Soliman Abu-Samra, Canada #59)

Productivity & Procurement (Vimont, 11:00 – 12:00)

Chair: Dr. Sharareh Kermanshachi

- Sensitivity Analysis of Construction Schedule Performance Due to Increase in Change Order and Decrease in Labor Productivity (Sharareh Kermanshachi, USA #295)
- Defining Effort for Collaborative Project Success (Sean Mulholland, USA #120)
- Factors Causing Delay of Materials Delivery in Construction Industry in Eastern Province of Saudi Arabia (Adel Alshibani, Saudi Arabia #187)

Decision-support systems (2) (Giuseppe-Saputo, 11:00 – 12:00)

Chair: Dr. Fuzhan Nasiri

- Multi-Period Location Optimization of New Public Facilities To Maximize Equity In Access And Capacity-Saturation (Ali Nezhad, Australia #259)
- AHP based approach for crane selection of building construction in Saudi Arabia: A case study (Hamza Hamida, Saudi Arabia #27)
- Saving refinancing cost: the option value of Revenue Risk-Sharing Mechanisms in transportation public-private partnerships (P3) projects (Yunping Liang, USA #283)
- Analysis of Prefabricated Construction: Productivity, Benefits, Risks & Applications In Canadian Perspectives (Md. Safiuddin, Canada #170)

14:00 – 15:30

Industry Panel Discussion: Innovation in Construction (Chomedey 14:00 – 15:30)

Moderator: Dr. Osama Moselhi

Panelists:

- Chantale Germain, Chief of Planning and Estimating Group at Hydro-Quebec
- Dr. Ivanka Iordanova, Professor, Construction Department, École de Technologie Supérieure
- Tony Bégin, Senior Director, Canam Buildings & Structures Inc.
- Dr. Guy Félio, Senior Advisor, Asset Management Solutions and Infrastructure Resilience, Stantec

16:00 – 17:30

Productivity and workforce issues (Chomedey, 16:00 – 17:30)

Chair: Dr. Aslihan Karatas

- Framework to Establish the Relationship Between Factors Influencing Construction Productivity Using Fuzzy Interpretive Structural Modeling (Yisshak Gebretekle, Canada #34)
- Evaluation Of The Critical Issues That Impact Sustainable Performance Of Sme In Western Cape Construction Industry South Africa (Imisioluseyi Akinyede, South Africa #45)
- Productivity analysis of manual condition assessment for sewer pipes based on CCTV monitoring (Yuan Chen, Canada #86)
- Workforce Resiliency for Careers at Public Transportation Agencies (Kristal Metro, USA #122)
- Modeling Labor Productivity in Egypt using Regression Prediction Models (Amr Hegazy, Egypt #106)
- A framework of construction predetermined motion time system (CPMTS) for manual activities in wooden-frame building manufacturing (Jingwen Wang, Canada #136)

Project performance tracking and control (Duvernay, 16:00 – 17:30)

Chair: Dr. Sheryl Staub-French

- A framework for Utilization of Agile in Construction Management (Basma Mohamed, Canada #21)
- Post Occupancy Evaluation of Affordable Housing in the USA: Toward indicators for sustainable affordable housing (Asma Sharafeddin, USA #111)
- An Extensive Content Analysis of Constructability for Transportation Projects (Dan Tran, USA #149)
- Cost Growth of Heavy Industrial Construction Projects in Alberta (Danny Haines, Canada #152)
- A model for measuring project health in complex construction projects (Ekin Eray, Canada #172)
- Comparing technologies for monitoring the work site occupation for building projects (Stéphane Morin Pépin, Canada #215)

Simulation of const. operations (Auteuil, 16:00 – 17:30)

Chair: Dr. Mohamed Marzouk

- Rubble-Mound Breakwater Construction Simulation (Alireza Mohammadi, Canada #13)
- 4D Simulation of Rock Excavation Projects (Michel Guevremont, Canada #20)
- Workspace Management on Construction Jobsites: An Industry Survey (Abdelhady Hosny, Canada #125)
- Simulation-Based Production Rate Forecast For A Panelized Construction Production Line (Angat Pal Singh Bhatia, Canada #160)
- Considering Activity Conflicts in Tower Cranes Layout Planning using Agent-Based Simulation (Mohamed Marzouk, Egypt #175)
- Substructuring strategy for pseudo-dynamic testing of steel lattice towers. (Rejab Kammouh, Canada #250)

Contracting and legal issues (Vimont, 16:00 – 17:30)

Chair: Dr. Hellen Christodoulou

- Simulation-based Framework for Construction Delay Analysis (Muaz Fagiar, Canada #138)

- How and why use a Code of Standard Practice for Structural Steel (Hellen Christodoulou, Canada #253)
- Effective Tools for Projects Delivered by Progressive Design-Build Method (Simon Adamtey, USA #269)
- Investigation of Conflict' Impacts On Engineering, Procurement, and Construction Schedule Performance (Sharareh Kermanshachi, USA #291)
- Contractual Guidelines For Contractors Working Under Projects Funded By Southeastern Us Dots (Amr Elsayegh, USA #80)
- A Comparative Analysis of Perceived and Revealed Levels of Competition in The Construction Industry and Its Implications for Technological Change (Sergiy Polyachenko, Canada #94)

Decision-support systems (3) (Giuseppe-Saputo, 16:00 – 17:30)

Chair: Dr. Tarek Hegazy

- Application of Fuzzy Analytic Hierarchy Process in Front-End Planning (Nebiyu Kedir, Canada #23)
- Construction Stakeholders' Perception toward the Success Factors of Construction Projects (Ahmed Al-bayati, USA #78)
- City-Scale Energy Modeling to Assess Impacts of Extreme Heat on Electricity Consumption and Production using WRF-UCM modeling with Bias Correction (Kristen Cetin, USA #81)
- Artificial Neural Network Deterioration Assessment Model for Bridges in Missouri (Gasser Ali, USA #85)
- Assessment of Project Risks in Fast-Track Construction Projects: An Evaluation of Risk Mitigation Responses (Claudia Garrido Martins, USA #96)
- A Machine Learning-Based Approach for Building Code Requirement Hierarchy Extraction (Ruichuan Zhang, USA#147)

DAY 3 – Friday, JUNE 14

9:15 – 10:30

Optimization & Construction Oper. (2) (Chomedey, 9:15 – 10:30)

Chair: Dr. Jason Hailer

- A multi-Objective Model for Enterprise cash Flow Management (Ahmed Shiha, Egypt #203)
- Lean Design in construction industry: From theory to practice (Hafsa Chbaly, Canada #239)
- Implementation of Blockchain Technology in the Construction Industry (Steven Graham, USA #245)
- Improving the 3Ps in construction projects with a focus on customer experience (Christian Wokem, Canada #265)
- The Relationship with the Boss in Project-Based Industries (M. Hossein K. Jamali, USA #268)

Planning and scheduling (2) (Duvernay, 9:15 – 10:30)

Chair: Dr. Ahmed Elhakeem

- Application of improving traditional push planning with last planner principles (Mahmoud Hasaballah, Egypt #77)
- Concurrent Delays: Comparison among Forensic Analysis Recommended Practices (Moneer Bhih, Canada #117)
- Construction engineering and inspection (CE&I) costs in the Texas Department of Transportation (Julie Faure, USA #144)
- Schedule Flexibility And Compression Horizon: New Key Parameters For Effective Corrective Actions (Tarek Hegazy, Canada #145)

Facilities management (Auteuil, 9:15 – 10:30)

Chair: Dr. Dina Saad

- Life-Cycle optimization for facility financial management of residential communities (Dina Saad, Egypt #10)
- Wi-Fi Router Network-based Occupancy Estimation to Optimize HVAC Energy Consumption (Krishna Chaitanya Jagadeesh Simma, USA #17)
- Defect Based Condition Assessment of Steel Bridges (Ahmed Elbeheri, Canada #71)
- Procurement Of Facility Maintenance (Laird Ferguson, Canada #87)
- A Neural Network-Based Application for Automated Defect Detection For Sewer Pipes (Xianfei Yin, Canada #99)

Green and sustainable design and construction (2) (Vimont, 9:15 – 10:30)

Chair: Dr. Mohamed Al-Hussein

- Comparative Analysis of Energy Consumption Using DOE-2 Building Energy Analysis Program: A Case Study (Sharareh Kermanshachi, USA #296)
- Application of Fuzzy AHP to Minimize Concrete Waste (Ahmed Hammad, Canada #194)
- Developing A Taxonomy for Risk Analysis of Non-Electric Energy Infrastructure (NEBIYU, Kedir, Canada #33)
- Sustainable Design of Reinforced Concrete Flat-Plate Buildings Based On Cost, Embodied Energy, And Carbon Footprint (Ahmed Noman, Canada #68)
- Energy Code-Compliant Housing Design: A Cost and Energy Perspective (Regina Dias Ferreira, Canada #92)

Disaster management (Giuseppe-Saputo, 9:15 – 10:30)

Chair: Dr. Juyeong Choi

- The Effect of Social Capital on Post-Disaster Informal Reconstruction in Puerto Rico (Jessica Talbot, USA #128)

- Robust Reserve Capacity Planning for Post-Disaster Health-care Facilities through Intelligent Planning Units (IPUs) (Juyeong Choi, USA #30)
- Comparative Analysis of Strengths and Limitations of Infrastructure Resilience Measurement Methods (Sharareh Kermanshachi, USA #292)
- A Systematic Approach to Analysis and Prioritization of Socioeconomic Policies and Legal Barriers to Rapid Post-Disaster Reconstruction (Sharareh Kermanshachi, USA #298)
- Resilient micropolitan areas in the face of economic shocks: An institutional perspective (Cristina Poleacovschi, USA #62)

11:00 – 12:00

Peurifoy Award Keynote (Chomedey, 11:00 – 12:00)

Chair: Dr. Simaan Abourizk

Innovation and Impact: Fuzzy Logic Solutions in Construction Engineering and Management
Dr. Aminah Robinson Fayek , Professor, Department of Civil and Environmental Engineering of the University of Alberta

14:00 – 15:30

Health and safety (1) (Chomedey, 14:00 – 15:30)

Chair: Dr. Arash Shahi

- Benchmarking Construction Safety Performance At A Global Level: A Case Study Of Us, Canada, And New Zealand (Arash Shahi, Canada #11)
- Leading indicators for safety management: understanding the impact of project performance data on safety performance (Emad Mohamed, Canada #113)
- Evaluating the Effects of Mental Workload and Spatial Cognition on Prevention through Design Activities (Dylan Hardison, USA #119)
- What Do People Like and Dislike About Construction Work? Views to Consider When Designing and Implementing Technology (Katherine Welfare, USA #131)
- Characteristics of the Emission of Particulate Matters in Construction Site: A Comparative Study on a Timber and a Steel Construction Project (Shafayet Ahmed, USA #19)
- Mindfulness-Based Stress Reduction: An Innovative Workshop To Reduce Stress And Improve The Performance Of Construction Professionals (Khursheed Ahmed, Hong Kong #286)

Risk management (Duvernay, 14:00 – 15:30)

Chair: Dr. Mona Abouhamad

- Risk Transfer in P3 Infrastructure Projects due to Construction Deficiencies (Venkata Vemana, Canada #67)
- Risk Management framework for proactive assessment of Power Plant projects in Egypt (Bassem Kassem, Egypt #105)
- Addressing cost overruns through drafting construction contract clauses: A risk path modeling approach (Tamima Elbashbishy, Egypt # 123)
- Integrating sustainability into project risk management; An application in PPP projects (Beenish Bakhtawar, Pakistan #263)
- Energy and cost impacts of CLT- Cross Laminated Timber tall wood building construction. The case of a 10 storey building in Alberta.(Azzeddine Oudjehane, Canada #272)
- Estimating Productivity for Labor-Intensive Task: A Case Study (Nirajan Mani and Krishna P. Kisi, USA #312)

Sustainable civil infrastructure (1) (Auteuil, 14:00 – 15:30)

Chair: Dr. Mohammad Hegab

- Water Conservation in The Household: The Implications Of Metrics And The Association Between Characteristics And Presence Of Conservation (Lauryn Spearing, USA #88)
- Recent Development of Multi-Purpose Utility Tunnels in China: Technology Applications and Cost Analysis (Yisha Luo, Canada #25)
- Assessment of Water Infrastructure Interaction In Us Informal Settlements (Khalid Osman, USA #90)
- Multi-attribute Metric for Assessing Resilience of Water Distribution Networks (Ahmed Assad, Canada #57)
- Resilience-Based Asset Management Framework and Its Application On Pavement Networks (Ahmed Mohammed, Canada #65)
- Condition Prediction of Concrete Bridge Decks Using Markov Chain Monte Carlo-Based Method (Eslam Mohammed, Canada #190)

Industry track (Vimont, 14:00 – 15:30)

Chair: Mr. Michel Guevremont

- Seton Recreation Facility: A Steel Effort for Great Results (Maxime S Harvey, Canada #315)
- Implementing Ontario Asset Management Regulations At City Of London: A Pragmatic Approach (Ahmed Eweda, Canada #303)
- Durability Assessment using Integrated Quality Management Framework in P3 Infrastructure Projects (Venkata Vemana, Canada #197)
- BIM and Lean for project planning and control (Ivanka Iordanova, Canada #316)

- Why Is Steel Certification Essential? Why Should It Be Considered Mandatory? (Hellen Christodoulou, Canada #252)
- Assessment Approach to Evaluate the Conditions of Ductile Iron (DI) Water Distribution Pipelines (Rabia Mady, Canada #223)

Construction education and Global construction issues (Giuseppe-Saputo, 14:00 – 15:30)

Chair: Dr. Krishna Kisi

- Construction industry Professionals' Perspective Towards Communication Technology and Education (Krishna Kisi, USA #110)
- Construction Software Technology Education at California Polytechnic State University – San Luis Obispo (Jason Hailer, USA #228)
- A Statistical Analysis of the Effectiveness of Using 3D Models in Teaching Quantity Surveying Techniques (Krishna Kisi, USA #237)
- Policy and Performance Evaluation of Cladding Systems with Large Window Areas in Tall Residential Buildings (Arash Shahi, Canada #12)
- Revenir aux fondements du Lean dans l'usage du PDVSM en construction (Jean-François Côté, Canada #235)
- Low-cost Smart Productivity Tracking Model For Earthmoving Operations (Ashraf Salem, Canada #173)

15:45 – 17:15

Workshop: How to be successful in securing academic job? (Chomedey, 15:45 – 17:15)

Moderator: Dr. Hani Alzraiee, California Polytechnic State University, USA

Panel discussion on Civil/Construction Engineering Curriculum for New Generation (Duvernay, 15:45 – 17:15)

Moderator: Dr. Tarek Zayed, The Hong Kong Polytechnic University, Hong Kong

Workshop on getting tenured: key issues and skills (Giuseppe-Saputo, 15:45 – 17:15)

Moderator: Dr. Emad Elwakil, Purdue University, USA

DAY 4 – Saturday, JUNE 15

09:15 – 10:30

Health and safety (2) (Chomedey, 09:15 – 10:30)

Chair: Dr. Cheng Zhang

- Benefit/Cost Model for evaluating Prevention through Design (PtD) solutions (Nicholas Tymvios, USA #40)
- Exponential Random Graph Modeling: A Promising Tool for Construction Safety Research (Ahmed Al-bayati, USA #191)
- Analyzing Hazardous Interactions on Construction Jobsites Using Social Network Analysis (Kasim Alomari, Iraq #192)
- Performance Indicators for Construction Safety Culture and Climate: A Comprehensive State-of-the-Art Study (Abdulaziz Alghamdi, USA #195)
- Potential Implications of Job Cognitive and Physical Demand on Worker Safety: An Exploratory Study (Ding Liu, USA #26)

Visualization, Planning & Project Performance (Duvernay, 09:15 – 10:30)

Chair: Dr. Tarek Salama

- An experience-based spatial design framework using VR technology: a case study of designing an office layout (Mun On Wong, Hong Kong #188)
- Space programming requirements representation, analysis and visualization at a large scale architectural firm (Helina Gebru, Canada #210)
- The Impact of Best Practices on the Schedule Growth of Heavy Industrial Projects (Mihai Robu, Canada #115)
- Investigation and Analysis of Human, Organization, and Project-Based Rework Indicators: State-of-the-Art Review (Sharareh Kermanshachi, USA #294)

Sustainable civil infrastructure (2) (Auteuil, 09:15 – 10:30)

Chair: Dr. Jeff Rankin

- Benefit/Cost Model for Noise Loggers' Distribution - City of Montreal (Soliman Abu-Samra, Canada #3)
- Performance-based Contracts and Multi-Objective Optimization Framework for Coordinated Infrastructure (Soliman Abu-Samra, Canada #55)
- How good asset management practices will contribute to achieving the United Nations Sustainable Development Goals (Brandon Searle, Canada #135)
- Maturity-based Scale for Smart Cities: A Conceptual Framework (Ala Suliman, Canada #307)

Modular Construction & Sensing (Vimont, 09:15 – 10:30)

Chair: Dr. Dan Tran

- Dynamic modeling of productivity in modular construction (Babak Manouchehri, Canada #16)
- Integrated scheduling of modular construction using “Mod- Scheduler” (Tarek Salama, USA #64)
- Opportunities and challenges for modular construction in developing nations: a case study in the Nepalese construction industry (Nirajan Mani, USA #231)
- Feasibility Investigation and Accuracy Assessment for a New Generation UWB Tracking System (Tian Jin, Canada #162)
- Examining Risk-based Inspection Approaches to Highway Construction Projects (Dan Tran, USA #156)

Life Cycle Analysis & Costing (Giuseppe-Saputo, 09:15 – 10:30)

Chair: Dr. Aslihan Karatas

- Life Cycle Cost Analysis of Light Steel Framed Buildings with Cement-Based Walls and Floors (Mona Abouhamad, Egypt #82)
- Conceptual Cost Models for Early Energy Simulation in Building Projects (Leila Rafati Sokhangoo, Canada #236)
- Identifying Manageable Scope Creep Indicators and Selecting Best Practice Strategies for Construction Projects (Sharareh Kermanshachi, USA #293)
- A Framework for Pavement Treatment Alternative Selection Through Life Cycle Cost Analysis (Ossama Salem, USA #287)
- Fall Prevention Supplementary Devices for Bridge Construction Workers: A Life Cycle Cost Analysis (Ahmed Al-bayati, USA #205)

11:00 – 12:00

Health and safety (3) (Chomedey, 11:00 – 12:00)

Chair: Dr. Mohamed Issa

- Global Differences in Risk Tolerance Levels Among Construction Workers (Siddharth Bhandari, USA #29)
- Evaluating Disability Management Performance in The Construction Industry Using Metrics (Mohamed Issa, Canada #309)
- Correlations between interpersonal conflicts at work and construction safety performance: two Ontario crosssectional studies (Yuting Chen, Canada #5)

Project management (1) (Duvernay, 11:00 – 12:00)

Chair: Dr. Mostafa Elseifi

- A Study of the U.S. Roofing Industry and its Workforce (Aslihan Karatas, USA #185)
- Detecting Top-down Cracks in In-Service Flexible Pavements (Mostafa Elseifi, USA #282)
- Impacts of replacing a four-phase signal intersection with a diamond interchange of a selected corridor in Dhaka city using Microscopic simulation (Sadia Nowroz Munia, Bangladesh #284)

Sustainable civil infrastructure (3) (Auteuil, 11:00 – 12:00)

Chair: Dr. Emad Elwakil

- Performance of Engineered Cementitious Composites Utilizing Locally Available Materials in the State of Louisiana (Marwa Hassan, USA #281)
- Performance Measure for the Definition of Level of Service in Municipal Infrastructure Asset Management (Marwa Ahmed, Canada #302)
- Deterioration Models for Superstructure of Prestressed Concrete Bridges in California (Emad Elwakil, USA #304)
- Cluster Based Regression Modeling for Predicting Condition Rating of Highway Tunnels (Emad Elwakil, USA #305)

Project management (2) (Vimont, 11:00 – 12:00)

Chair: Dr. Mona Abouhamad

- Optimized Acceleration in Linear Scheduling (Roghabadi Mohammadjavad, Canada #317)
- Progress Facilitation Framework for Construction of Mega Methanol Production Plants (Amirreza Mahpour, Canada #306)
- Decision Support System for Public Private Partnership Investment in Water Projects (Mohamed Hegab, USA #98)

Awards and Invited Talks

Announcing the Recipient of Daniel Halpin Award

Time and place: During CRC meeting on Wednesday, June 12, (3:30–6:00 PM), Chomedey



**Associate Professor
Fernanda Leite**

Dr. Fernanda Leite is an Associate Professor in the Civil, Architectural and Environmental Engineering Department at the University of Texas at Austin. She has a PhD in Civil and Environmental Engineering, from Carnegie Mellon University. Prior to her graduate education, she worked as a Project Manager in her home country Brazil, in multiple building construction and infrastructure projects. Her technical interests include information technology for construction, building and civil information modeling, collaboration and coordination technologies, and construction safety. At the University of Texas at Austin, Dr. Leite teaches courses on Project Management and Economics, Building Information Modeling, and Construction Safety. Her funded research projects have focused on model-based benchmarking of capital projects; 3D modeling of construction work zone safety, autonomous safety monitoring; construction planning and work packaging through autonomous 3D model generation; and automated approaches towards updating 3D building information models of facilities in operation.

Announcing the New CSCE Construction Division Moselhi Best Paper Award

Time and place: During Opening Session on Thursday, June 13, (9:15-9:30 AM), Chomedey

The Moselhi CSCE Construction Division Best Paper Award shall be awarded by the Construction Division of the CSCE to the author(s) of an outstanding paper in recognition of their contribution to the body of knowledge through cutting-edge research in construction. To be considered eligible, a paper must have been accepted for publication in the CSCE Construction Division proceedings to be presented at the Construction Specialty Conference. The authors are not required to be CSCE members. In addition to the Best Paper Award, another paper will be receiving Honourable Mention as the runner-up.



Professor Osama Moselhi

Dr. Osama Moselhi is Professor of Engineering in the Department of Building, Civil and Environmental Engineering at Concordia University. He is Fellow of AACE International, ASCE, CAE and CSCE. Since joining Concordia in 1985, after a decade of industry experience, Dr. Moselhi supervised and co-supervised over 100 Masters and Ph.D. students, authored and co-authored over 400 scientific publications. His industry experience spans tall buildings, bridges, nuclear power plants, harbor and offshore facilities. He is recipient of numerous honours and awards, including the Walter Shanly Award of the Canadian Society for Civil Engineering (CSCE) in recognition of “outstanding contributions to the development and practice of construction engineering in Canada” and the Tucker-Hasegawa Award of the International Association for Automation and Robotics in Construction (IAARC) in recognition of his “major and sustained contribution to the field of automation and robotics in construction”. Dr. Moselhi served as international consultant on academic affairs and on construction projects in Canada, USA and the Middle East. His research interest encompasses, first, value-driven asset management of civil infrastructure, including condition assessment, deterioration modeling, reliability, risk and resilience assessment, and optimized budget allocation, and, second, optimized delivery of constructed facilities, including project delivery systems, planning, procurement, resource allocation, tracking and control, risk management, productivity modeling and analysis, management of construction claims and decision support systems embracing information technology, remote sensing, web-enabling and spatial technologies.

Keynote Speaker 1: CSCE Construction Division Alan D. Russell Keynote Address

Professor Carl Haas

Title: Construction and Deconstruction in a Circular Economy

Time and place: Thursday, June 13, 9:30-10:30 AM, Chomedey

In an astonishing development, the US Bureau of Labor Statistics reports that compound annual growth rates in productivity have exceeded 5% over the last decade in key construction sectors in the US, including industrial and multi-family residential. Canadian construction productivity improvement rates likely echo the US data. I will argue that advances in robotics, artificial intelligence, information technology automation and integration, new materials, management practices, and training probably contributed to this outcome, and that some of them were in turn driven by fundamental research advances. I will present a few examples of how our community and our laboratory in particular are currently contributing to those advances and their implementation. Examples include research in construction automation, augmented reality, infrastructure computer vision, and biomechanical applications in the construction trades. However, as we move toward a circular economy, renovation, refurbishment, and adaptive reuse market activity is approaching new build activity. These projects typically perform poorly, possibly due to poor definition and planning. I will identify research opportunities for our community related to the circular economy and focus on our current adaptive re-use research, including selective disassembly.



Dr. Carl Haas is the Chair of the Department of Civil and Environmental Engineering at the University of Waterloo, Canada. His research, teaching and consulting are in the areas of construction engineering and management systems. He has received several research and teaching awards. He serves on a number of editorial boards and on professional committees for organizations such as ASCE, NSERC and IAARC. His research has been supported by numerous companies such as Aecon, PCL, Coreworx, SNC Lavalin, OPG, the Construction Industry Institute (CII) and their member companies, as well as agencies such as TxDOT, MTO, NSERC, NSF, and CRC. He is a member of the Canadian Academy of Engineering and a Fellow of the ASCE. He was elected to the US National Academy of Construction in 2013. In 2014 he received the CSCE Walter Shanly Award for outstanding contributions to the development and practice of construction engineering in Canada. He received the ASCE Peurifoy Construction Research Award In 2015. In 2017, he received the University of Waterloo Award of Excellence in Graduate Supervision, and in 2019, he received the ASCE Computing in Civil Engineering Award.

Professor Carl Haas

Keynote Speaker 2

Dr. Azam Khan, Director, Complex Systems Research at Autodesk

Title: Collaborative Systems Modeling of the Entire AEC Process as a Way Forward

Time and place: Friday, June 14, 8:00-9:00 AM, Laval 1-2

Today, we are faced with a massive sustainability challenge where construction is a growing part of the problem. How can we convey these issues back upstream to the engineering and architecture phases of building design? Considering the entire system opens new research questions that may be critical to solving the primary global issue of our time, together.



Azam Khan is the Director of Complex Systems Research at Autodesk. He is the founder of the Symposium on Simulation for Architecture and Urban Design, Adjunct Professor of Computer Science at the University of Toronto, and has been the Velux Guest Professor at The Royal Danish Academy of Fine Arts, School of Architecture and Design. Azam received his B.Sc. and M.Sc. in Computer Science at the University of Toronto and his Ph.D. in Computer Science at the University of Copenhagen. He has co-authored over 70 articles in modeling and simulation theory and practice, visual analytics, visual cognition, Human Bayesian inference, human-computer interaction, sensor networks, and architectural design. The core of the simulation research has been published as SyDEVs, an open source project implementing a multi-paradigm, multi-scale systems simulation framework to support modeling of complex natural and artificial systems.

Dr. Azam Khan

Keynote Speaker 3: Recipient of Peurifoy Construction Research Award

Professor Aminah Robinson Fayek

Title: Innovation and Impact: Fuzzy Logic Solutions in Construction Engineering and Management

Time and place: Friday, June 14, 11:00-12:00 AM, Chomedey

Dr. Aminah Robinson Fayek is the 2019 recipient of the Peurifoy Construction Research Award for advancing fuzzy logic in both theory and practice for construction engineering and management. She has been working with fuzzy logic in her research for almost 30 years, and she will share her inspiration for and insights into using this artificial intelligence tool to improve construction industry performance, competitiveness, and innovation. After providing an overview of fuzzy logic, Dr. Robinson Fayek will illustrate the unique challenges presented by construction problems and how fuzzy logic can be used to overcome those challenges. Throughout her career, Dr. Robinson Fayek has worked closely with both academics and construction industry leaders to develop fuzzy hybrid techniques that combine fuzzy logic with other modeling approaches, including machine learning, optimization, multi-criteria decision-making, and simulation. She will describe how these varied hybrid techniques have been used to predict and improve crew motivation and productivity, ascertain how specific competencies affect performance, and enhance the analysis of risks and opportunities, among other applications. Dr. Robinson Fayek will also relate the many ways she ensures her work has an impact, through industry collaboration, the creation of research communities, and support for trainees, and she will share the most significant impact she has had as a researcher. Dr. Robinson Fayek will share her vision for research into new fuzzy hybrid methods adapted specifically for use in the construction domain. She will conclude by suggesting solutions to the challenges of increasing research impact.



Professor Aminah Robinson Fayek

Dr. Aminah Robinson Fayek is a professional engineer and a professor in the Department of Civil and Environmental Engineering at the University of Alberta. She holds a Tier 1 Canada Research Chair in Fuzzy Hybrid Decision Support Systems for Construction, one of the highest academic commendations in Canada, which recognizes innovative world-class researchers who have made an international impact in their fields. Dr. Robinson Fayek is in her third consecutive term as NSERC Industrial Research Chair in Strategic Construction Modeling and Delivery. She is the editor of *Fuzzy Hybrid Computing in Construction Engineering and Management: Theory and Applications*, which presents the latest research on fuzzy hybrid techniques from around the world. She is also an editor for the *ASCE Journal of Construction Engineering and Management* and the *Canadian Journal of Civil Engineering*, and she serves on several committees both within the University of Alberta and for organizations such as NSERC, the National Council of Deans of Engineering and Applied Science, and the Construction Owners Association of Alberta (COAA). Not only has her research gained international recognition, it has also been implemented with leaders of the construction industry. In recognition of her impact on industry, Dr. Robinson Fayek received the preeminent award of the industrial construction sector in western Canada: the Don Currie Award is for long-standing and dedicated service that has contributed to the success of the COAA. The Canadian Society for Civil Engineering presented Dr. Robinson Fayek with the Walter Shanly Award, the top national award for construction engineering, and the Association of Professional Engineers and Geoscientists of Alberta recognized her exemplary contributions to teaching and learning with the Excellence in Education Award. Dr. Robinson Fayek was awarded the Killam Annual Professorship for excellence in teaching, research, and service, and in recognition of outstanding contributions to scholarship and the University community.

Industry Panel Discussion: Innovation in Construction

Time and place: Thursday (July 13), 2:00 to 3:30 pm, Chomedey

Moderator: Dr. Osama Moselhi, Concordia University

Panelists:

Chantale Germain, Chief of Planning and Estimating Group at Hydro-Quebec



Chantale Germain is a civil engineer and she has just finished her master's degree in project management. She accumulates thirty years of experience in mega projects. On the contractor side, she worked in James Bay at La Grande-1, Laforge-1 and Laforge- 2. On the owner side at Hydro-Québec, she worked for mega project as Eastmain-1, Eastmain-1A, Rupert, La Sarcelle, Romaine Complexe and others. For the last 10 years, she has been the Chief of Planning and Estimating Group at Hydro-Quebec (HQIESP). Each year, the group manages CA\$1.7B worth of projects.

Dr. Ivanka Iordanova, Professor, Construction Department, École de Technologie Supérieure, and Innovation Specialist at Pomerleau.



Dr. Ivanka Iordanova is LEED AP, CanBIM CP, and Professor at the Construction Department of the ETS (École de Technologie Supérieure), Montreal. She has a diploma in architecture and Master's and PhD degrees from the University of Montreal. After several years of teaching digital and integrated design at the School of Architecture, and a post-doc at the GRIDD of the ETS, she worked at Pomerleau (Canadian GC and Design-Builder) as an Innovation and VDC Director. There she introduced and led the adoption of innovation technology (BIM/VDC) and strategies (Lean construction). Today, her research program focusses on construction industrialization, prefabrication and automation, based on the digital transformation of the industry. Dr. Iordanova is an active member of the BIM and Lean Construction community in Canada and a member of the Board of Directors of CanBIM.

Tony Bégin, Senior Director, Canam Buildings & Structures Inc.



Tony Bégin graduated from Sherbrooke University in civil engineering with a Master's degree in Structural Dynamic in 1995. He has cumulated 25 years of work at the Canam Group. Starting as connection design engineer and being involved in the development of a business network of more than 120 steel fabricators in North America. He has developed a design assistance services by visiting over 100 engineering firms across Canada. He has put in place the national account buy direct program by approaching major retailer and developer such as WalMart, Home Depot and Canadian Tire. His function today is to promote LEAN Construction practices and the Integrated Project Delivery collaborative approach to professionals, owners, developers and contractors. He has also been involved with the Canadian Society for Civil Engineering (CSCE) over 25 years from a student member up to the national presidency in 2015-2016. He received the Walter Shanly Award in 2017 for his outstanding contributions to construction engineering research and practice in Canada. He has been elected, also in 2017, as CSCE Fellow in recognition for his civil engineering excellence and active contribution towards the progress of his profession.

Dr. Guy Félio, Senior Advisor, Asset Management Solutions and Infrastructure Resilience, Stantec



Dr. Félio is a civil engineer with a Ph.D. from Texas A&M University. He has more than 35 years of experience in the field as a university professor, researcher, consultant and policy advisor. At Stantec, Guy provides expertise and support in the areas of asset management and adaptation of the built environment to climate change. Recently Guy worked at Engineers Canada on climate change impacts to infrastructure, including the application of the PIEVC Engineering Vulnerability Assessment Protocol and was key in designing the Infrastructure Resilience Professional (IRP) certification program. During his career at the National Research Council, Guy led the Urban Infrastructure Research group, focusing on technological and management improvements for municipal infrastructure. He launched InfraGuide – a program that produced 55 best practices to support municipalities manage their assets, and provided expert advice to Federal infrastructure programs. In addition to serving as an advisor to public agencies for the development of infrastructure strategies and policies, he is very active on professional associations' boards and committees, as well as in knowledge transfer through university education and professional training. Guy was the Project Coordinator and principal author for the first Canadian Infrastructure Report Card published in September 2012, and Councillor in the City of Clarence-Rockland (Ontario) from 2010 to 2014.

Panel Discussion on Civil/Construction Engineering Curriculum for New Generation

Time and place: Friday (June 14), 3:45-5:15pm, Duvernay

The aim of this workshop is to engage the industry partners in the civil/construction engineering curriculum building and design. This will improve the curriculum learning outcomes to fit the industry needs. The panelists from industry and academia will discuss the needs of industry and how to be integrated in the civil/construction engineering curriculum for new generation of engineers.

Agenda

- 03:45 – 03:50 Workshop Introduction by the *Moderator Professor Tarek Zayed*
- 03:50 – 04:05 Construction/Infrastructure industry needs and challenges by *Mr. Gilles Turcotte*
- 04:05 – 04:20 New technology needs and challenges by *Mr. Tony Bégin*
- 04:20 – 04:35 Curriculum improvement challenges by *Professor Simaan AbouRizk*
- 04:35 – 04:50 Recommendations for curriculum improvement by *Professor Susan Bogus*
- 04:50 – 05:15 Questions and comments from audience

Registration

**** Space is limited, reserve ASAP****

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Panelists



Gilles Turcotte, MBA
Vice-President, Business
Development & Proposals,
Construction/Infrastructure
SNC-Lavalin

Gilles Turcotte is Vice President, Business Development and Proposals, with the Infrastructure Construction division of SNC-Lavalin. He manages business development activities for Eastern Canada. Main projects pursued are public transit networks, roads & bridges and infrastructure for natural resource projects. In the recent years, he led the business development efforts for the Réseau Électrique Métropolitain, the Champlain Bridge replacement and some infrastructure projects for natural resources development. Gilles is at SNC-Lavalin since 2011.

He worked previously for Thales as Sales, Marketing & Commercial Affairs Director, a major European electronic systems integrator for transportation, aerospace and defense applications. Prior to Thales, he worked as Sales & Marketing Manager at Honeywell for the Power Generation and Management Division.

Gilles has an MBA from McGill University with a specialisation in international business and a B.A. in Economics from Université de Sherbrooke. He is on the board of directors of the Canadian Construction Association and of the Canadian Construction Innovation.



**Tony Bégin, Senior
Director, Canam Buildings &
Structures Inc.**

Tony Bégin graduated from Sherbrooke University in civil engineering with a Master's degree in Structural Dynamic in 1995. He has cumulated 25 years of work at the Canam Group. Starting as connection design engineer and being involved in the development of a business network of more than 120 steel fabricators in North America. He has developed a design assistance services by visiting over 100 engineering firms across Canada. He has put in place the national account buy direct program by approaching major retailer and developer such as WalMart, Home Depot and Canadian Tire. His function today is to promote LEAN Construction practices and the Integrated Project Delivery collaborative approach to professionals, owners, developers and contractors. He has also been involved with the Canadian Society for Civil Engineering (CSCE) over 25 years from a student member up to the national presidency in 2015-2016. He received the Walter Shanly Award in 2017 for his outstanding contributions to construction engineering research and practice in Canada. He has been elected, also in 2017, as CSCE Fellow in recognition for his civil engineering excellence and active contribution towards the progress of his profession.



Dr. Simaan M. AbouRizk,
Distinguished University
Professor and Chair
Department of Civil and
Environmental Engineering,
University of Alberta

Dr. Simaan AbouRizk is a Distinguished University Professor, Chair of the Department of Civil and Environmental Engineering at the University of Alberta, and a Tier 1 Canada Research Chair in Operations Simulation. After receiving his Ph.D. in 1990 from Purdue University, Dr. AbouRizk accepted a faculty position at the University of Alberta, where he focused his research efforts on advancing simulation modeling and analysis of construction processes. Dr. AbouRizk has since become a renowned expert in the development and application of computer simulation for construction planning, productivity improvement, constructability review, and risk analysis. The high-quality and impact of his research work is evidenced by his receipt of numerous awards and recognitions, including the Peurifoy Construction Research Award, a Steacie Memorial Fellowship, the Thomas Fitch Rowland Prize, a Killam Professorship, a Walter Shanly Award, the E. Whitman Wright Award, and his induction into the Canadian Academy of Engineering, the National Academy of Construction, and the Royal Society of Canada.

The success and distinctiveness of Dr. AbouRizk's research program are a consequence of his strong industrial research partnerships that are focused on advancing research, teaching, and overall practice. This collaborative approach has garnered widespread support from numerous funding agencies, policy makers, and industrial practitioners and has been instrumental in the expansion of the University of Alberta's Hole School of Construction Engineering into one of the most reputable and well-respected Construction Engineering and Management programs in North America.



Dr. Susan Bogus Halter
Professor and AGC
Endowed Chair of
Construction Engineering &
Management
Department of Civil,
Construction &
Environmental Engineering
University of New Mexico

Susan Bogus Halter, PhD, PE, is the Associated General Contractors (AGC) Endowed Chair Professor in the Department of Civil Engineering at the University of New Mexico in Albuquerque, NM. She holds B.S. and M.S. degrees in civil and environmental engineering from the University of Wisconsin – Madison and a Ph.D. degree in civil engineering from the University of Colorado at Boulder. Dr. Bogus teaches and researches in the area of construction engineering and asset management. Her research focuses on the integration of design and construction to reduce project delivery time, improve sustainability, and increase infrastructure resilience. Prior to joining UNM, she worked for ten years at CH2M HILL as a project engineer and project manager in Virginia, Wisconsin, and Georgia. Dr. Bogus is a licensed Professional Engineering in the state of Wisconsin.

Getting Tenured: Workshop on Key Issues and Skills

Time and place: Friday (June 14), 3:45-5:15pm, Giuseppe Saputo

The aim of this workshop is to help the tenure track faculty members to acquire, discover, appraise and disseminate knowledge needed for being tenured and promoted. The panelists will communicate this knowledge and the manner of its acquisition and discovery to the early career fellows.

Agenda

03:45 – 03:50 Workshop Introduction by the *Moderator Dr. Emad Elwakil*

03:50 – 04:05 Tenure and promotion for research institutions in Canada by *Professor Aminah Robinson Fayek*

04:05 – 04:20 Tenure and promotion for research institutions in USA by *Professor Khaled El-Rayes*

04:20 – 04:35 Tenure and promotion for teaching institutions by *Professor Mohamed Hegab*

04:35 – 04:50 Successful exemplary cases

04:50 – 05:15 Questions and comments from audience

Registration

**** Space is limited, reserve ASAP****

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Panelists



Aminah Robinson Fayek, Ph.D., P.Eng

Tier 1 Canada Research Chair in Fuzzy Hybrid Decision Support Systems for Construction, NSERC Industrial Research Chair in Strategic Construction Modeling and Delivery, Ledcor Professor of Construction Engineering, Professor, Haskayne School of Construction Engineering, Department of Civil and Environmental Engineering, University of Alberta

Dr. Aminah Robinson Fayek is a professional engineer and a professor in the Department of Civil and Environmental Engineering at the University of Alberta. She holds a Tier 1 Canada Research Chair in Fuzzy Hybrid Decision Support Systems for Construction, one of the highest academic commendations in Canada, which recognizes innovative world-class researchers who have made an international impact in their fields. Dr. Robinson Fayek is in her third consecutive term as NSERC Industrial Research Chair in Strategic Construction Modeling and Delivery. She is the editor of Fuzzy Hybrid Computing in Construction Engineering and Management: Theory and Applications, which presents the latest research on fuzzy hybrid techniques from around the world. She is also an editor for the ASCE Journal of Construction Engineering and Management and the Canadian Journal of Civil Engineering, and she serves on several committees both within the University of Alberta and for organizations such as NSERC, the National Council of Deans of Engineering and Applied Science, and the Construction Owners Association of Alberta (COAA). Not only has her research gained international recognition, it has also been implemented with leaders of the construction industry. In recognition of her impact on industry, Dr. Robinson Fayek received the preeminent award of the industrial construction sector in western Canada: the Don Currie Award is for long-standing and dedicated service that has contributed to the success of the COAA. The Canadian Society for Civil Engineering presented Dr. Robinson Fayek with the Walter Shanly Award, the top national award for construction engineering, and the Association of Professional Engineers and Geoscientists of Alberta recognized her exemplary contributions to teaching and learning with the Excellence in Education Award. Dr. Robinson Fayek was awarded the Killam Annual Professorship for excellence in teaching, research, and service, and in recognition of outstanding contributions to scholarship and the University community.



Khaled El-Rayes, Ph.D.
Professor of Construction
Engineering and Management
O'Neil Faculty Scholar in Civil
and Environmental Engineering
Department of Civil and
Environmental Engineering
University of Illinois at Urbana-
Champaign

Khaled El-Rayes is a Professor and an O'Neil Faculty Scholar in the Department of Civil and Environmental Engineering at the University of Illinois at Urbana-Champaign. El-Rayes has more than 30 years of professional experience in both academia and the construction industry. He taught numerous graduate and undergraduate courses in the area of construction engineering and management and he was repeatedly named to the "List of Teachers Ranked as Excellent by their Students" at the University of Illinois. He also served as PI and Co-PI on numerous research projects with budgets totaling more than \$9Million that were funded by the National Science Foundation, Illinois Center for Transportation, and National Center for Supercomputing Applications. The outcome of his research projects was published in more than 150 articles including more than 80 journal papers. The contributions of his research have also been recognized nationally and internationally, receiving many research awards including the "Best Conference Paper Award" from the ASCE Construction Research Congress in 2012, the "Best Journal Paper Award" in 2010 from the ASCE Journal of Construction Engineering and Management, the "ASCE Thomas Fitch Rowland Prize" in 2007; the "NSF CAREER Award" from the National Science Foundation in 2003; and the "Doctoral Prize of the Faculty of Engineering and Computer Science" from Concordia University in Canada in 1999. El-Rayes supervised the research work of 28 Ph.D. students, including 16 former Ph.D. students who are currently holding faculty Positions in Purdue University, Columbia University, University of Colorado, US Air Force Institute of Technology, Florida International University, University of Santa Clara, University of Alexandria, and Kuwait University. El-Rayes served as the Secretary, Vice-Chair and Chair of the ASCE Construction Research Council, which is widely recognized as the premier national forum for Construction Engineering and Management research and it includes in its membership more than 200 professors and scholars.



**Mohamed Hegab,
Ph.D.,P.E.,P.M.P.,C.C.M.**
Professor of Construction
Management, Department of
Civil Engineering & Construction
Management, California State
University, Northridge

Dr. Hegab is a Full Professor of Construction Management at California State University, Northridge (CSUN). He has over 25 years of professional experience concurrent with over thirteen years in academia. Academically, Dr. Hegab founded the Construction Management (CM) Program within the Department of Civil Engineering and Construction Management at CSUN and directed the program for most semesters since 2005. During that time, Dr. Hegab successfully navigated all the challenges a new program or department inevitably experiences. During his tenure, the program was accredited by the American Council of Construction Education (ACCE) with no weaknesses in 2010, a rare achievement, particularly in an initial accreditation visit. It was reaccredited in 2015 for a full six years' term. Managerially, Dr. Hegab has extensive experience overseeing multimillion-dollar projects. Using industrial experience in academia, and vice versa, is one of his key strengths. Specializing in project controls and claims analysis has made him highly proficient in cost control, schedule control, legal claims analysis, contract negotiations, and dispute resolution. Dr. Hegab has a number of distinguished professional licenses including Professional Engineering Licenses in North Dakota and California, Project Management Professional, Certified Construction Manager. Academically, Dr. Hegab has more than 30 technical papers published in prestigious engineering journals and some conference papers. Dr. Hegab has also published four books. In addition, Dr. Hegab is a reviewer for a number of national and international technical journals.

Workshop on How to Be Successful in Securing Academic Job?

Time and place: Friday (June 14), 3:45-5:15 pm, Chomedey

The Workshop is designed for Ph.D. students and postdocs who are actively applying or expected to apply for academic faculty positions so you can navigate the steps of searching, applying, interviewing, and negotiating for faculty positions.

Agenda

03:45 – 03:50 Workshop Introduction by *Dr. Hani Alzraiee*

03:50 – 04:00 Academic CV, cover letter, research/teaching statements by *Dr. Tarek Salama*

04:00 – 04:10 Searching techniques/places for academic positions by *Dr. Tarek Salama*

04:10 – 04:20 Nailing the phone/skype interview and campus visit by *Dr. Ehsan Rezazadeh*

04:20 – 04:30 Negotiating your first contract by *Dr. Ehsan Rezazadeh*

04:30 – 04:45 Tips and tricks for securing academic position by *Professor Ashutosh Bagchi*

04:45 – 05:15 Questions and comments from the audience.

Registration

**** Space is limited, reserve ASAP****

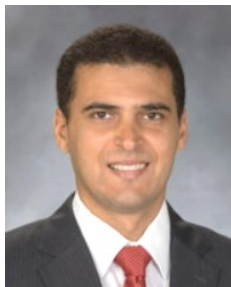
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Panelists



Dr. Ashutosh Bagchi, Ph.D.
Professor & Chair, Building, Civil,
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Dr. Bagchi received the Ph.D. degree in Civil (Structural) Engineering from Carleton University, Ottawa, Canada, M.S. degree in Civil (Structural) Engineering from Indian Institute of Technology, Madras, and B.Eng. degree in Civil Engineering from Jadavpur University, Calcutta, India. His research interests include Structural Dynamics and Earthquake engineering, Structural Health Monitoring, Infrastructure Rehabilitation, Finite and Boundary Element Methods, and Computer Aided Design and Engineering. Dr. Bagchi has industrial experience in both Civil Engineering and Information Technology. He has received a number of prestigious awards including the NSERC Postdoctoral Fellowship and ISIS Canada Postdoctoral Fellowships, ENCS Teaching Excellence Award, Concordia University Provost's Fellow. He is a licensed Professional Engineer in Ontario and affiliated to CSCE, ASCE, CAEE, and ISHMII. He has authored/coauthored more than one hundred articles in technical journals and conferences, two patent applications, and a number of technical reports for academia and industry, and delivered keynote and invited lectures in National and International Conferences.



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Dr. Tarek Salama is an assistant professor in California state university in Sacramento. He worked in several multinational organizations from 2003 to 2012 relevant to offshore and onshore construction and oil and gas industries. His research interests include structural engineering, modular construction, project planning and scheduling. He is a member of the American society for civil engineers (ASCE), the Egyptian engineers syndicate, and he holds a project management professional certificate (PMP) from the project management institute (PMI). He has received Hydro Quebec financial award from the faculty of engineering and computer science in Concordia University in Montreal from 2014 to 2016 while studying for PhD.



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