

CSCE 2006 ANNUAL CONFERENCE – CALGARY MAY 23-26, 2006

TECHNICAL PROGRAM

Wednesday, May 24th / Mercredi 24 Mai 8:30-10:00	
8:30	Imperial Ballroom
	<p>Opening Ceremony / <i>Cérémonie d'ouverture</i> Conference Chair / <i>Président de la conférence</i> – Tom Brown Honourary Chair / <i>Président honoraire</i> – Amin Ghali President of CSCE / <i>Président de la SCGC</i> – Alistair MacKenzie Mayor of Calgary / <i>Maire de Calgary</i> – Dave Bronconnier <i>(Welcome from the City of Calgary to all delegates)</i></p>
9:00	Imperial Ballroom
	Session I-1
	<p>Conference Keynote Address / <i>Conférenceier Invité</i> “(Civil) Engineering for Sustainable Development: How do we fare?” Guy Y. Félio, Ph.D., P.Eng. Vice President National Research Council of Canada</p>
10:00	Grand Foyers & Imperial Ballroom
	Coffee Break – Trade Show / <i>Pause café</i> – <i>Exposition</i>

	General Conference / Conférence générale			Structures / Structures	Construction / Construction			Student Competition / Concours étudiants
	Imperial 5	Imperial 7	Imperial 9	Imperial Ballroom	Doll	Bannerman	Walker	Herald
	Session I-2A	Session I-2B	Session I-2C	Session I-2D	Session I-2E	Session I-2F	Session I-2G	Session I-2H
	Wastewater Treatment Technology	Transportation Engineering	Sustainable Development - I	Keynote Address I	Computer Applications	Project Delivery	Sustainable Construction	Competition
	Chair / Président: Mohamed Gamal El-Din	Chair / Président: Said Easa	Chair / Président: Ata Khan	Chair / Président: Jadwiga Kroman	Chair / Président: Mohamed Al-Hussein	Chair / Président: Tarek Hegazy	Chair / Président: Carl Hass	Jury / Jury
10:30	GC-041 Pilot Testing of the AmmEL-HC System for Ammonia Removal from Biosolids Centrate <i>I.D. Buchanan, L. Su, L. Seed and G. Shelp</i>	GC-040 The Relationships between DHV and Holiday Traffic Peaking for Various Types of Roads <i>Z. Liu, S. Datla and S. Sharma</i>	GC-130 General Considerations for Municipal Solid Waste Management as a Strategic Subject for Urban Sustainability <i>A. Gómez-Pedroso and L. Garrido</i>	“Search for the True Structural Solution” Dr. Jiri Strasky Consulting Engineer and Professor at the Technical University in Brno, Czech Republic	CT-092 Construction Site Photography: Virtual Reality vs. the Focus+Context Problem <i>L. Waugh</i>	CT-008 Appropriate Scope Definition for Highway Design-Build Projects <i>K. Molenaar and J. Shane</i>	CT-007 Benchmarking for Project Development Sustainability Practices <i>W.K. Chong, C.T. Haas and S. Kim</i>	Ductility-Based Design of Ultra-High Strength Concrete Structures in Seismic Regions <i>Abdelsamie Elmenshawi</i>
10:50	GC-119 Removal of Diphenylamine from Water by Enzymatic Treatment with Laccase and Color Removal Using Sodium Lauryl Sulfate and Alum <i>B. Saha, N. Biswas, J.K. Bewtra and K.E. Taylor</i>	GC-052 Effect of Simulating Environmental Factors on Stripping Evaluation of Asphalt Pavements <i>A. Mostafa, A.O. Abd El Halim, S. Easa and A. Eldesouky</i>	GC-126 Achieving Sustainable Transportation Infrastructure: Role of Intelligent Systems <i>A. Khan and Y. Hu</i>		CT-057 Cost Estimation Factors for the Development of an ANN Model for Waste Water and Sewer Installation Services <i>D.P. Alex, M. Al-Hussein, A. Bouferguène, S. Fernando</i>	CT-019 Estimating Design Costs for Design-Build Transportation Projects <i>D. Gransberg, C. Lopez del Puerto and K. Robson</i>	CT-101 Laboratory and Case Studies of the Use of High-Volume Fly-Ash Concrete in Insulated Concrete-Form Construction <i>R.L. Day, M.N. Nazir and L. Moore</i>	Evaluating Innovative Cladding Systems for Super High-rise Buildings on an International Basis <i>Saad AboMoslim</i>
11:10	GC-087 Submerged Membrane Bioreactor Configurations for Biological Nutrient Removal Process <i>J. Mouthon-Bello and H. Zhou</i>	GC-072 Investigating Efficiency of Statewide Continuous Traffic Monitoring Program and A Discussion about AASHTO Minimum Data Requirements <i>M. Zhong, S.C. Sharma, and S. Datla</i>	GC-039 Residential Construction and Its Impact on Sustainable Development <i>D. Mah and M. Al-Hussein</i>		CT-075 Bridge Risk Assessment Using Neural Networks <i>T.M.S. Elhag and Y.M. Wang</i>	CT-031 Contractors and Design Risk in Major Civil Works Design/Build Projects <i>J. Bröchner, U. Håkansson and L. Hässler</i>	CT-053 Sustainable Educational Facilities: The Green School (Case Study) <i>M. Attalla and E. Kamarah</i>	Stress-Deformation Predictions and Behaviours of the Toulustouc CFRD Main Dam <i>Janelle Vautour</i>
11:30	GC-120 Optimization of the Reaction Conditions for Enzymatic Removal of 2,4-Dimethylphenol from Wastewater <i>J.P. Ghosh, N Biswas, J.K. Bewtra and K. Taylor</i>	GC-116 Achieving LEED® Credits with Segmental Concrete Pavements <i>R. Burak</i>	GC-103 Environmentally Compatible Design of Structures <i>N.K. Srivastava and A.-M. Laroche</i>		CT-079 Reasoning about Construction Performance Using Causal Models <i>A.D. Russell and M. Li</i>	CT-058 Establishing Effective Project Teams for Design-Build Project Delivery <i>K. Crawford</i>	CT-059 Utilizing the Analytical Network Process for Evaluating the Sustainability Performance of Construction Projects over Their Life Cycle <i>V.W.Y. Tam, S. Mohamed and R.A. Stewart</i>	Comparison of Direct Tension Test and the Ontario Ministry of Transportation Extended Bending Beam Studies of Physically Aged Asphalts <i>Ameli Pereira</i>
11:50	GC-038 Application of Large Scale At-Grade Sewage Treatment and Disposal in Fort Good Hope, NWT <i>K.R. Johnson, A. Agha and M. Mathrani</i>	GC-115 Adaptation of SUPERPAVE Asphalt Concrete Mix Design Procedure to Jordan Climatic and Traffic Conditions <i>I. Asi and F. Elayan</i>	GC-013 Cement and Concrete Role towards Sustainable Development <i>A. Vizer</i>	CT-107 Comparison of Cluster Analysis and Unsupervised-Learning Neural Networks in Classifying Construction Contractors <i>A. Elazouni</i>	CT-085 The Performance of Major Australian Projects: A Comparison of PPP Projects versus More Traditional Procurement Strategies <i>J.P. Fitzgerald and C.F. Duffield</i>	CT-113 Towards Building Sustainable Concrete Pavements <i>A. Mukherjee, H. Muga, and T. Van Dam</i>		
12:10	Imperial Ballroom							
	Trade Show & Luncheon / Exposition et Déjeuner							

	General Conference / Conférence générale			Structures / Structures			Construction / Construction	Student Competition / Concours étudiants
	Doll	Bannerman	Walker	Imperial 5	Imperial 7	Imperial 9	Imperial Ballroom	Herald
	Session I-3A	Session I-3B	Session I-3C	Session I-3D	Session I-3E	Session I-3F	Session I-3G	Session I-3H
	Water and Wastewater Treatment & Management	Infrastructure and Asset Management	Innovation and Information Technology	Bridge Design	Concrete - Materials	Architectural Engineering	Keynote Address	Competition
	Chair / Président: Gopal Achari	Chair / Président: Ralph Haas	Chair / Président: Narendra Srivastava	Chair / Président: Gordon Jin	Chair / Président: Bozena Czarnecki	Chair / Président: Randy Pickle	Chair / Président: Simaan AbouRizk	Jury / Jury
14:00	GC-028 Disinfection of New and Rehabilitated Water Mains – A Review of Various Practices <i>M. Mathrani and R.H. Boon</i>	GC-128 Making Infrastructure Investment Decisions to Address Canada’s Infrastructure Deficit <i>M. Lemay, M. Carter, and D. Danyluk</i>	GC-082 A Generic Database Model for SHM Applications from Experiences in Monitoring of the Confederation Bridge <i>D.N.Tiwari and T.G. Brown</i>	ST-087 Calculation of Equivalent Constant Torsional Rigidity for Beams with Variable Torsional Rigidity <i>L.G. Jaeger and B. Bakht</i>	ST-029 SOS: An Optimization System for the Sustainable Use of Supplementary Cementing Materials in Concrete <i>R.L. Day, M. de Spot, M. Thomas and M. Nazir</i>	ST-073 Design of Two High-rise Towers Linked with Full-Height Glazed Atrium <i>B. Schroeder, J. Gilliland and G. Birkle</i>		Condition Rating of Existing Water Mains <i>Hassan Ahmad Al-Barqawi</i>
14:20	GC-042 Removal of Disinfection By-Products by a Point-of-Use Activated Carbon Treatment Unit <i>E. Smith and B. Emam</i>	GC-100 Managing Risk with Infrastructure Management Systems <i>K.J. Kostuk and G.A. Sparks</i>	GC-045 More Sustainable Curtain Wall Systems: Using a Solar Dynamic Buffer Zone (SDBZ) to Reduce Energy Costs <i>R. Richman and K.D. Pressnail</i>	ST-074 The Influence of Construction Sequencing on Stresses in Precast Concrete Bridges <i>G. Birkle, R.M. Herzinger and J. Hanley</i>	ST-088 Sensitivity Analysis of Time to Repair Parking Structures <i>R.E. Loov</i>	ST-053 Structural Design of the New Canadian War Museum <i>C.M. Allen and J. Turner</i>	“The Software Interoperability Crisis: is anybody paying attention?” Dr. Richard Jackson Director, The FIATECH Consortium, Austin, Texas, USA	Stochastic Life Cycle Cost of Water Mains <i>Khaled Shehata</i>
14:40	GC-007 Design and Winter Construction of Sewage Lagoon Discharge Pipeline in Landslide Area near Fort Smith, NWT <i>K.R. Johnson</i>	GC-009 Highway Life Cycle Management: Pricing and Risk Allocation <i>S. Parche</i>	GC-101 Advancement of a New Accurate Foundation Concept <i>S.P.G. Moonen</i>	ST-122 Assessment of Canadian Highway Bridge Design Code (CHBDC) for C-shaped Prestressed Concrete Girder Bridge: Clause 5.7 Live Load <i>Y.J. Kim, M.F. Green and R.G. Wight</i>	ST-061 Properties of Exposed Aggregate Concrete <i>T.I. Al-Anany, M.N. Abou-Zeid and E.H. Fahmy</i>	ST-123 Adaptive Building Reuse and Component Reuse <i>V. Straka and M. Gorgolewski</i>		Paving Asphalt Modification with Tire Crumb Rubber with and without Used Lubrication Oil <i>Rafal Jadzinski</i>
15:00	GC-081 Dingman Pump Station Sanitary Storage Facility: Optimizing Existing and Future Sanitary Services through Large Volume Storage Detention <i>J.A. Dann</i>	GC-019 A Mechanism for Asset Management Integration <i>L. Cowe Falls, R. Haas and S.L. Tighe</i>		ST-017 Effect of Longitudinal Stiffness on Bridge Live Load Distribution Using the CHBDC, AASHTO-LRFD and Finite Element Analysis <i>Z. Yousif and R. Hindi</i>	ST-068 Environmental, Aesthetics and Development Gaps in Current Concrete Codes of Practice <i>M.N. Abou-Zeid and E.H. Fahmy</i>	ST-117 The Role of Footbridges in the Functional Adaptation of Bridges and Viaducts <i>E. Siviero</i>		
15:20	GC-089 Use of Ozone as a Sanitizer to Wash Fresh Agricultural Products <i>K. Wei and H. Zhou</i>	GC-021 An Econometric Model of Infrastructure Investments and Science Park Development <i>Kun-Jung Hsu</i>			ST-003 Corrosion Durability and Structural Response of RC Beams Containing Supplementary Cementing Materials <i>S.F.U. Ahmed, M. Maalej, P. Paramasivam and H. Mihashi</i>	ST-118 Architectural and Structural Design of Complex Shapes: Integrated Processes through Digital Models, E-learning Didactic Experiences at Faculty of Architecture IUAV in Venice <i>E. Siviero, M. Petrucci, M. Mantoan, M. Turrin, D. Frigo and L.Gorgi</i>		
15:40	Grand Foyers & Imperial Ballroom Coffee Break – Trade Show / Pause café – Exposition							

	General Conference / Conférence générale		Structures / Structures			Construction / Construction		
	Herald	Stephen A	Imperial 5	Imperial 7	Imperial 9	Doll	Bannerman	Walker
	Session I-4A	Session I-4B	Session I-4C	Session I-4D	Session I-4E	Session I-4F	Session I-4G	Session I-4H
	Water Quality Assessment	Civil Engineering History and Education	Bridge Decks	Concrete Durability	Seismic	Modeling and Simulation	Project Delivery	Sustainable Construction
	Chair / Président: Ian Buchanan	Chair / Président: Robert Hamilton	Chair / Président: Gerd Birkle	Chair / Président: Len McSaveney	Chair / Président: Michael Allen	Chair / Président: Ming Lu	Chair / Président: George Jergeas	Chair / Président: Robert Day
16:10	GC-023 Analysis of Long-Term Rainfall to Develop Stormwater Quality Flow Rate Design Criteria <i>B. Lee, F. Tonto and P. Tov</i>	GC-006 David Thompson and George Back: Mappers of the Northwest <i>K.R. Johnson</i>	ST-046 Comparison of the Failure Mechanism of Steel-Free Circular Concrete Deck with Rational Mechanics Model <i>G. Mediwake, A.A. Mufti, and N. Rattanawangcharoen</i>	ST-027 Combined Experimental and Numerical Investigation on the Mechanism of Frost Salt Scaling in Cement Mortars <i>O. Copuroglu, E. Schlangen, A. Fraaij and K. van Breugel</i>	ST-045 Assessment of Seismic Response of Multi-Span Box Girder Bridges Considering Soil-Structure Interaction <i>A.M. Halabian and A. Salehi</i>	CT-035 Critical Path Scheduling under Resource-Availability and Activity-Interruption Constraints <i>H.-C. Lam and M. Lu</i>	CT-121 P3 Projects and the Changing Roles of Consulting Engineers <i>E. Drimoussis and G. Webster</i>	CT-061 Sustainable Construction Materials and Procedures for U.S. National Park Service Projects <i>T. Gilchrist and S. Bogus</i>
16:30	GC-121 Heavy Metals Concentrations in Lake Erie's Western Basin Sediments <i>S. Elsayed, N. Biswas, I. Al-Aasm and M. Orlandea</i>	GC-025 Civil Engineering History and Ethics <i>R. Hamilton</i>	ST-126 Experimental Investigation on the Fatigue Behaviour of GFRP Reinforced Concrete Bridge Deck Slabs <i>A. El Ragaby, E. El Salakawy and B. Benmokrane</i>	ST-133 Effect of Cations and Carbonation on Chlorides Binding in Concrete <i>S. Munshi, M. Boulfiza</i>	ST-099 Displacement-Based Seismic Design of Shear Walls Submitted to Eastern Canada Seismic Hazard <i>N. Bouaanani and K. Alexieva</i>	CT-036 New Optimization Approach for Construction Site Layout <i>S. Easa, F. Sadeghpour, and A. Hossain</i>	CT-089 Why is the Selection of an Appropriate Project Delivery Methodology so Hard? <i>S. Sweeney and C.F. Duffield</i>	CT-130 Fly Ash Concrete in Curb and Gutter Construction after 20 Years in Service <i>R.L. Day and B. Czarniecki</i>
16:50	GC-026 Comparison of Storm Water Quality Treatment Guidelines and Critical Structural Best Management Performance Factors and Parameters to Consider <i>P. Tov, B. Lee and F. Tonto</i>	GC-061 A Statistical Study on the Learning Styles and Teaching Approaches in Civil Engineering Education in Xi'an University of Architecture and Technology <i>M. Lu, F. Lin, M.Y. Leung and Y. Song</i>	ST-111 Combining "Steel Free Deck" Technology with Partial Depth Precast Concrete Panels <i>J.D. Bowen, A. Mufti and K. Dick</i>	ST-080 Diagnosis of a Subway Concrete Structure Affected by Alkali-Silica Reaction <i>T.Y. Hao and Y.L. Hui</i>	ST-100 Seismic analysis of Ice-Dam-Reservoir systems <i>N. Bouaanani and M.A. Chagnon</i>	CT-069 Productivity of Tunnel Construction Using Road-Headers <i>A. Obeidat, H. Al-Barqawi, T. Zayed and M. Amer</i>	CT-110 Practical Guidelines for a Successful Design-Build Projects Experience <i>S. Fahmy and G. Jergeas</i>	CT-096 Design and Application of an Interior Slab Mix Incorporating High Volumes of Waste Materials <i>L.M. Moore, M.N. Nazir, and R.L. Day</i>
17:10	GC-031 Engineered Phytotechnologies for Urban Restoration: Re-greening China's Cities <i>B.C. Anderson, Y. Zhong, L. Zhang, X. Ruan and W. Ren</i>	GC-032 Use of Ozone for Drinking Water Disinfection in Canada <i>A.R. Bale and M. Mathrani</i>	ST-132 Service Life Evaluation of Bridge Decks Constructed with Different Reinforcing Strategies <i>A. Kumar, M. Boulfiza and N. Banthia</i>		ST-103 Assessment of the Available Tools for Seismic Vulnerability Evaluation of Historical Buildings <i>M.-J. Nollet, K. Lefebvre and A. Karbassi</i>	CT-051 Research and Application of a 4D Construction Planning System for Construction Management <i>Y. Zhang, J.P. Zhang, J.L. Li, D.P. Wu, W. Lu and D.Y. Wang</i>	CT-109 Evaluation of New Mexico Highway 44's Warranty Provisions from a Real Option Perspective <i>A. Quick and Q. Cui</i>	CT-097 Case Study of Economic and Environmental Life-Cycle Assessment of Roofing Systems <i>A.A. Guggemos</i>
19:00 - 22:00	Buses leave from Hotel Entrance at 18:00							
	Social Evening – Spruce Meadows International Equestrian Centre / Soirée sociale							

	General Conference / Conférence générale				Structures / Structures	Construction / Construction		
	Herald	Doll	Bannerman	Walker	Imperial Ballroom	Imperial 5	Imperial 7	Imperial 9
	Session II-1A	Session II-1B	Session II-1C	Session II-1D	Session II-1E	Session II-1F	Session II-1G	Session II-1H
	Solid Waste and Landfill Technology	Infrastructure Management and Renewal	Engineering Materials and Mechanics	Hydrotechnical and Cold Region Engineering	Keynote Address II	Modeling and Simulation	Underground Technology	Sustainable Construction
	Chair / <i>Président</i> : Klas Ohman	Chair / <i>Président</i> : Ashraf El-Assaly	Chair / <i>Président</i> : Hamid Soleymani	Chair / <i>Président</i> : Arbind Mainali	Chair / <i>Président</i> : Robert E. Loov	Chair / <i>Président</i> : Yasser Mohamed	Chair / <i>Président</i> : Erez Allouche	Chair / <i>Président</i> : Mohamed Attalla
8:00	GC-099 Diffusion Coefficient of Methane in Compost Amended Landfill Final Cover Soil <i>D. Pokhrel, J.P.A. Hettiaratchi and B. K. Rajbhandari</i>	GC-057 Direct Measurement of the Impact of Heavy Loads on Thin Membrane Pavements <i>A. Hamad and L. Cowe Falls</i>	GC-102 A Direct Optimization Approach for Identification of Dynamic Characteristics of Structures <i>L. Li and F. Ghrib</i>	GC-035 Rubble Pile-Up and Ride-Up Observations (Student Competition) <i>M. ElSeify and T.G. Brown</i>		CT-086 Quantifying Weather Impacts on Construction Activities – An Application on HDPE Pipeline Installation <i>A.A. Shahin, Y. Mohamed and S. AbouRizk</i>	CT-001 Sustainable Utility Infrastructure via Multi-Utility Tunnels <i>C.D.F. Rogers and D.V.L. Hunt</i>	CT-060 Evaluation of Physical Waste Levels with Reference to the Stepwise Incentive System in Construction <i>V.W.Y. Tam, S. Mohamed and R.A. Stewart</i>
8:20	GC-104 Biodegradation of High Moisture and Organic Content Solid Waste in Bioreactor Landfills <i>H. Jin and M. Warith</i>	GC-020 Accelerated Pavement Testing in Canada <i>S.L. Tighe, L. Cowe Falls and G. Dore</i>	GC-079 Comparison of Two Finite Element Models of a Human Tibia (Student Competition) <i>M.A. Whitty and G. Akhras</i>	GC-048 Two-Dimensional Hydrodynamic Modeling of the Saskatchewan River below E.B. Campbell Hydroelectric Dam – A Case Study <i>A. Watanabe, Y.C. Jin and C. Katopodis</i>		CT-070 Slip-Form Productivity Analysis for Concrete Silos <i>M.R. Sharifi; S. Baciou, and T. Zayed</i>	CT-021 Cost Forecast Model for Sewer Infrastructure Network in Edmonton, Alberta <i>A. El-Assaly, H. Ng, K. Chua, C. Yong, S. Ariaratnam and J. Ruwanpura</i>	CT-132 Managing Risk While Tunnelling through Benzene Contaminated Ground <i>A. Kwan, S. Fernando, F. Policicchio and S. AbouRizk</i>
8:40	GC-122 Implications and Trends of Siloxanes in Landfill and Wastewater Biogases <i>E.A. McBean</i>	GC-054 Evaluation of Pavement Deterioration in the Province of Alberta <i>A. Abdelfattah and L. Cowe Falls</i>	GC-125 Cellular concrete: Engineering and Technological Advancement for Construction in Cold Climates <i>B. Dolton and C. Hannah</i>	GC-056 Resistance of a Single Spur Dike in an Open Channel <i>H. Azinfar and J.A. Kells</i>		CT-103 Cell-Based Representation and Analysis of Spatial Resources in Construction Simulation <i>C. Zhang, A. Hammad, T.M. Zayed and G. Wainer</i>	CT-026 Robotic Assessment of Lined Concrete Pipe <i>S.T. Ariaratnam and R. Webb</i>	CT-074 Development of Landmark Precast Concrete Foundation System for Residential Construction <i>H. Yu, M. Al-Hussein, R. Nasser and J.J.R. Cheng</i>
9:00	GC-114 A Numerical Model to Predict Settlements and Moisture Distribution in Bioreactor Landfills <i>C.H. Hettiarachchi, J.N. Meegoda and J.P.A. Hettiaratchi</i>	GC-091 Stochastic Analysis of User Costs <i>A. Deshpande, O. Salem and A. El-Assaly</i>	GC-018 The Changes in Low-Temperature Grades of Asphalts upon Aging <i>S. Ho, J. Chow and L. Zanzotto</i>	GC-014 SPATIORAGE: Analyse spatiale et temporelle de la précipitation en milieu urbain (Student Competition) <i>L. Jolliet, N. El-Jabi, and J.-M. Ribl</i>		Hugh Krentz Special Sessions on Steel Structures	CT-011 Simulation-Based Risk Management Using Multilevel/Multi-Managed Integrated Networks <i>M. Moussa, J. Ruwanpura and G. Jergeas</i>	CT-032 An AI- Based Cost Estimating System for the Construction Cost of Underground Utility Projects <i>T. Shehab, E. Nasr, and M. Farooq</i>
9:20	GC-129 Stabilization of Paper Waste in Bioreactor Landfills Using Soybean Peroxidase Enzyme <i>R.K. Sah, M.A. Warith and J.P.A. Hettiaratchi</i>	GC-049 The Assessment of Life Cycle Management in Construction Industry <i>Lee-kuo Lin, Chih-Chiang Chang and Hui-chi Lin</i>	GC-055 An Early Evaluation of the Initial Canadian Experience with Warm Asphalt Mix <i>A. Johnston, M. Da Silva, H. Soleymani and C.K. Yeung</i>	GC-011 Effect of Grid Spacing on the Prediction of Oscillatory Boundary Layer Properties using $k-\epsilon$ model <i>A.R. Ghumman, A. Sana and M.A. Shamim</i>	Achieving “Real” Safety in High-rise Buildings – Will the NIST World Trade Center Recommendations Help or Hurt? Jon D. Magnusson Chairman/CEO, Magnusson Klemencic Associates		CT-088 Decision Support System for Quality Control Examination of Welding in Pipe Fabrication <i>G. Corona-Suarez, M. Al-Hussien, Y. Mohamed and S. AbouRizk</i>	CT-065 Stabilization of Deep, Vertical Slope, Excavation <i>F. De la Mora and N. Hassón</i>
9:40	GC-127 Enhancement of the Performance of Bioreactor Landfills Operating under Saline Conditions by Sludge Addition <i>S. Alkaabi, P.J. Van Geel, and M.A. Warith</i>		GC-001 Comparison Study of Member Stiffness, using Theoretical and Finite Element Method <i>N. Rasti</i>		CT-071 Simulation and Optimization of Prefabricated Steel-Structure Installation Operations <i>Z.-Z. Hu, J.-P. Zhang, M. Lu, M. Cao and S.-D. Gao</i>			
10:00	Grand Foyers & Imperial Ballroom Coffee Break – Trade Show / Pause café – Exposition							

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	Herald	Doll	Imperial 5	Imperial 7	Imperial 9	Bannerman	Walker	Imperial Ballroom
	Session II-2A	Session II-2B	Session II-2C	Session II-2D	Session II-2E	Session II-2F	Session II-2G	Session II-2H
	Advances in Environmental Engineering - I	Sustainable Development - II	Steel	Concrete – Analysis and Design	Seismic & Infill Walls	Construction Productivity, Mega Projects	Information Technology	Keynote Address
Chair / Président: Maria Elektorowicz	Chair / Président: Brian Burrell	Chair / Président: Mike Bartlett	Chair / Président: Ian Gilbert	Chair / Président: Ralph Hildenbrandt	Chair / Président: Aminah Robinson	Chair / Président: Lloyd Waugh	Chair / Président: Raafat El-Hacha	
10:30	GC-123 Chlorine Residual Decay in Water Distribution Systems <i>J. Huang and E.A. McBean</i>	GC-058 Updating of the CSCE Guidelines on Sustainable Development <i>A. Perks, B.C. Burrell, B. Korol, A. Khan, J. Heroux and L. Ford</i>	ST-058 Non-linear Finite Element Model for Wide Flange Beams under Torsional and Flexural Loads <i>D.M. Bremault, R.G. Driver and G.Y. Grondin</i>	ST-090 Punching of Concrete Flat Plates Due to Unbalanced Moment Transfer in CSA A23.3-04 <i>R.B. Gayed and A. Ghali</i>	ST-039 The Influence of Presence of Openings on the Non-Linear Seismic Response of RC Infilled Frames (Student Competition) <i>M. ElSeify, M. El-Attar, A. Ragab and O. Hodhod</i>	CT-014 Working Efficiencies and Analysis of Non-tool Time in Alberta Commercial Construction Projects <i>K.N. Hewage and J.Y. Ruwanpura</i>	CT-049 Investigation of Data Formats for the Integration of 3D Sensed and 3D CAD Data for Improved Equipment Operation Safety <i>F. Bosche and C.T. Haas</i>	“Briefing on the Canadian Forces Disaster Assistance Response Team” Captain Stéphane Michaud Former Engineer Officer of the Canadian Forces Disaster Assistance Response Team (DART)
10:50	GC-073 Multi-Criteria Decision Making In Fuzzy Environment <i>S. Chowdhury and P. Champagne</i>	GC-085 Comparative Analysis of Guidelines on Sustainable Development <i>A. Khan, L. Ford, B.C. Burrell, J. Heroux, A. Perks and B. Korol</i>	ST-018 State of the Art in Cellular and Castellated Beam Design <i>S. Parent, R.M. Hoffman, D.W. Dinehart, J.R. Yost, and S.P. Gross</i>	ST-021 Punching Shear Strength of Interior Flat-Slab Connections with Openings <i>A. Sherif, G. Ghanem and A. Abdel-Razek</i>	ST-083 Shaking Table Test of Full-Scale Single Story Building of 3D-Panel Prefabricated System <i>M.Z. Kabir, O. Rezaifar, M. Taribakhsh and A. Tehranian</i>	CT-029 Concreting Productivity Improvements in Alberta on Commercial Construction Projects <i>S. Peres da Silva and J.Y. Ruwanpura</i>	CT-093 Exploring the Principles of Interactive Collaborative Workspaces <i>J. Rankin, M. Issa and A.J. Christian</i>	
11:10	GC-117 Analysis of Ambient Air Quality Trends at Selected West Central Airshed Society Stations: Tomahawk and Carrot Creek <i>N. Haque, M. Gamal El-Din and W.B. Kindziarski</i>	GC-070 Sustainability-Related Courses in Canadian Engineering Programs <i>T.E. El-Diraby, B.C. Burrell, H.T. Chan and V. Komarnicki</i>	ST-037 A Review of Current Code Provisions for Beams With Flange Fastener Holes <i>P. Arasaratnam, K.S. Sivakumaran and M.Tait</i>	ST-092 Finite Element Analysis of Slab-Column Connections <i>A. Kheyroddin and S.R. Hoseini Vaez</i>	ST-038 Probabilistic Analysis to Investigate the Various Parameters Influencing the Design Process of RC Infilled Frames against Seismic Loads <i>M. ElSeify, M. El-Attar, A. Ragab and O. Hodhod</i>	CT-108 Investigation into the Relationship between Just-in-time (JIT) Training and Productivity in Building Construction in Indonesia <i>S. Alwi, S. Kajewski and K. Hampson</i>	CT-010 Computer Game for Simplified Project Management Training <i>T. Hegazy</i>	
11:30	GC-118 Establishment of Ambient Air Quality Trends Using Historical Monitoring Data from Edmonton and Fort McKay, Alberta <i>K. Faisal, M. Gamal El-Din and W.B. Kindziarski</i>	GC-046 Is Urban Diversity Synonymous with Urban Sustainability? What do people “suggest” for Clerkenwell in London? <i>I. Perdikogianni and A. Penn</i>	ST-084 The Behavior of Steel Beam to Built-Up Column Moment Connections Using Side Plates <i>A. Deylami and M.R. Shiravand</i>	ST-025 Load-Deflection Behavior of Composite Precast Pretensioned Prestressed Beam with Cast-In-Situ Concrete Slab <i>B.N. Shah and M. Reza Kianoush</i>	ST-067 Effect of Infill Walls on The Performance of Multi-Storey Building during Earthquakes <i>M. Abdel El Razik, A. Asran and A. Abdel Hafiz</i>	CT-024 Relating Key Factors to the Performance of Industrial Construction Mega Projects <i>A. Robinson Fayek, D. Rowan, S. Revay and D. Mousseau</i>	CT-080 Knowledge Management – Its Role in Quality Management <i>K. Zhang, A.D. Russell and S. Staub-French</i>	
11:50	GC-131 Characterization of Chromite Ore Processing Residue <i>W. Kamolpornwijit and J.N. Meegoda</i>		ST-047 Deformation Capacity of High-Strength Steel Members <i>K.S. Sivakumaran and T. Thanga</i>	ST-104 Modeling Reinforced Concrete and Post-tensioned Two-Way Slabs <i>J.I. Lee, A. Scanlon, and Y.H. Lee</i>		CT-127 Managerial Challenges Involved in Construction of Mega Petrochemical Projects in Developing Countries <i>H. Beigi, M.M. Mortaheb, and A. Toorani</i>	CT-013 Technology Adoptability and Adaptability Issues Related to Communication in Alberta Commercial Construction Projects (Student Competition) <i>K.N. Hewage and J.Y. Ruwanpura</i>	
12:10	Imperial Ballroom AGM Luncheon / Déjeuner & AGA							

	General Conference / Conférence générale	Structures / Structures			Construction / Construction		Disaster Mitigation / Allègement des désastres	
	Stephen A	Imperial 5	Imperial 7	Imperial 9	Herald	Doll	Bannerman	Walker
	Session II-3A	Session II-3B	Session II-3C	Session II-3D	Session II-3E	Session II-3F	Session II-3G	Session II-3H
	Contaminated Site Remediation and Management	Steel – Impact and Earthquake	Concrete – Bond and Durability	FRP - I	Construction Education & International Construction	Project Planning	Materials for Blast Resistance	Impact of Landslides on Infrastructure
	<i>Chair / Président: Mostafa Warith</i>	<i>Chair / Président: Khaled Sennah</i>	<i>Chair / Président: Amin Ghali</i>	<i>Chair / Président: Robert Loov</i>	<i>Chair / Président: Glenn Ballard</i>	<i>Chair / Président: Sabah Alkass</i>	<i>Chair / Président: Pat Heffernan</i>	<i>Chair / Président: Michael Bründl</i>
14:00	GC-112 Heavy-Metal Removal from Petroleum Oily Sludge Using Lemon-Scented Geraniums <i>A. Badawieh and M. Elektorowicz</i>	ST-059 Non-linear Finite Element Analysis of Steel Plate Shear Walls <i>A.K. Bhowmick, G.Y. Grondin and R.G. Driver</i>	ST-094 Bond and Tension Stiffening in Concrete Tension Members with Plain Reinforcement <i>P.H. Bischoff and D.A. MacLaggan</i>	ST-032 Analysis of GFRP-Reinforced Concrete Panels under Direct Uniaxial and Biaxial Tension <i>T.B. Sabrah, H. Marzouk, and A. Hussein</i>	CT-122 An Example of Project Management Training Program in a Developing Country <i>M. Mortaheb, A. Aghajani and J. Ruwanpura</i>	CT-043 A Procedure to Forecast the Maintenance/Repair Costs of Office Buildings <i>Y. Liu, S. Alkass and S. Al-Jibouri</i>	DM-028 FRP – A Potential Blast Retrofitting Material (Student Competition) <i>R. El-Hacha and C. Yuen</i>	DM-023 Tsunami Hydrodynamic Impact Forces on Physical Infrastructures in Thailand and Indonesia <i>I. Nistor, M. Saatcioglu, and A. Ghojarah</i>
14:20	GC-113 Heavy-Metals Removal from Oil Sludge Using Ion Exchange System <i>M. Elektorowicz and Z. Muslat</i>	ST-091 Monotonic and Cyclic Behaviour of Corrugated Steel Plate Shear Walls <i>R. Botros and M. Elbadry</i>	ST-052 The Ductility of Reinforced Concrete Slabs and the Influence of Strain Localization <i>R.I. Gilbert</i>	ST-085 Control Tests on a Steel Girder Bridge <i>A.A. Mufti, B. Bakht, G. Tadros, R. Eden and K. Amy</i>	CT-111 Cultural Risks on International Projects <i>M. Sennara and F. Hartman</i>	CT-076 Challenges in Transmission Lines Engineering: Innovative Approaches <i>I. Shoala, S. Cripps and S. Abdelatif Hassanien</i>	DM-002 Fiber-Reinforced Polymers for Blast Mitigation of Existing Structures <i>P. Milligan and S. Witt</i>	DM-024 A Brief Overview of Landslide-Generated Tsunamis Affecting North America <i>A. Blais-Stevens, M. Geertsema, J.W. Schwab, B.D. Bornhold, and D.C. Mosher</i>
14:40	GC-033 Treatment of Sewer Gases with a Biofilter and a Carbon Adsorber <i>C.-J. Jeng, R.E. Rogers, W. Pelz, J. Fiala and C. Wards</i>	ST-062 Monotonic and Cyclic Behavior of Square Hollow Structural Section for Passive Energy Dissipation <i>R.W.K. Chan and F. Albermani</i>	ST-009 Identification of Parameters Affecting Ductility of Reinforced Concrete Beams <i>A. Elmenshawi and T.G. Brown</i>	ST-036 Thermal Effect on FRP-Reinforced Concrete Slabs <i>A. Zaidi and R. Masmoudi</i>	CT-003 Target Costing in Construction <i>G. Ballard</i>	CT-077 Solutions for Construction of Two Linked Highrise Towers in a Dense Urban Setting <i>J. Gilliland, B. Schroeder, F. Carineli and R. Pedersen</i>	DM-029 The Effectiveness of Textile Barriers to Attenuate Blast Wave Ingress into Buildings <i>P.J. Heffernan, C.C. Moyle, R.G. Wight and K.D. Scherbatiuk</i>	DM-025 Landslides Impacting Linear Infrastructure in West Central British Columbia <i>M. Geertsema, J.W. Schwab and A. Blais-Stevens</i>
15:00	GC-062 Modeling of Advective-Dispersive-Reactive Contaminant Transport in Saturated Zone Using Fuzzy Set Theory <i>D.G.M. Senevirathna, G. Achari and F. King</i>	ST-120 Structural Behaviour of Syncrude's Aurora II Crusher <i>V.P. Sharma, C.L. Denkhaus, K. Obaia and J.J.R. Cheng</i>	ST-096 Flexural Strengthening of Steel-Concrete Composite Girders (Student Competition) <i>N. Ragab and R. El-Hacha</i>	ST-131 Fibre Reinforcing the Cover of Concrete Columns <i>M.N.S. Hadi</i>	CT-056 The Need for Simulation in Civil Engineering Education <i>M. Mawdesley, S. Al-Jibouri, D. Scott and S.J. Gribble</i>	CT-126 Discrepancies in Measuring Project Progress <i>F. Khoramshahi, M. Sohrabi and M. Mortaheb</i>	DM-031 Numerical Analysis of the Response of Blast Loaded GFRP Retrofitted Concrete Slabs <i>A.G. Razaqpur, W. Mekky, W. El-Dakhkhni, A. Tolba and E. Contestabile</i>	DM-007 Emergency Response Planning for a Second Catastrophic Rock Slide at Turtle Mountain, Alberta <i>C.R. Froese, G. Carter, W. Langenberg and F. Moreno</i>
15:20	GC-076 A Multimedia Model for Risk Assessment of Landfill Emissions (Student Competition) <i>R.R. Zhang and Z. Chen</i>	ST-115 Dissipative Buckling Restrained Braces: Theoretical-Numerical Analysis and Design Criteria <i>M. Mele and O. Iannone</i>	ST-082 Prediction of Interfacial Stresses at the Bond Critical Junction of FRP and RC Beams <i>A.H. Kashani and M.Z. Kabir</i>	ST-130 Behaviour of FRP Wrapped HSC Columns under Eccentric Loads <i>M.N.S. Hadi</i>	CT-028 Factors Affecting Technology Transfer Performance: Evidence from Thailand <i>T. Waroonkun, R. Stewart and S. Mohamed</i>	CT-129 Barriers in Proper Implementation of EVM <i>K. Hazini, B. Sharif and M. Mortaheb</i>	DM-003 Ductal® - An Ultra-High Performance Material for Resistance to Blasts and Impacts <i>B. Cavill, M. Reberntrost and V. Perry</i>	DM-013 Developing a Risk Analysis Procedure for Post-Wildfire Mass Movement and Flooding in British Columbia <i>P. Jordan, K. Turner, D. Nicol and D. Boyer</i>
15:40	Grand Foyers							
	Coffee Break / Pause café							

	General Conference / Conférence générale		Structures / Structures			Construction / Construction		Disaster Mitigation / Allégement des désastres
	Bannerman	Walker	Imperial 5	Imperial 7	Imperial 9	Herald	Doll	Stephen A
	Session II-4A	Session II-4B	Session II-4C	Session II-4D	Session II-4E	Session II-4F	Session II-4G	Session II-4H
	Advances in Environmental Engineering - II	Hydrotechnical Engineering - I	Towers, Masts and Transmission Lines	Concrete – Bond and Crack Control	Strengthening and Repair	Risk Assessment	Contracts	Disaster Response
	Chair / Président: Edward McBean	Chair / Président: Muhammad Ashiq	Chair / Président: K.S. Sivakumaran	Chair / Président: Peter Bischoff	Chair / Président: Nemy Banthia	Chair / Président: Alan Russell	Chair / Président: Samuel Ariaratnam	Chair / Président: Ioan Nistor
16:10	<p>GC-106 Sustainable Landfilling in Northern Climates: The Calgary Biocell Project <i>J.P.A Hettiaratchi, M.D.N. Perera, D. Davies, N. Richards, and J. Hundal</i></p>	<p>GC-078 Three-Dimensional Roller of Spatial Submerged Hydraulic Jump <i>H.K. Zare and R.E. Baddour</i></p>	<p>ST-001 Wind Tunnel Test for Dynamic Response of a 300 m Guyed Mast (Student Competition). <i>N. Zhu, B.F. Sparling and J.P.C. King</i></p>	<p>ST-042 Experimental Investigation of Bond of Plain Flexural Reinforcement <i>L.R. Feldman and F.M. Bartlett</i></p>	<p>ST-109 Debonding Failures in FRP-Strengthened Concrete Beams: A Simplified Analysis Based on Response Surface Methodology <i>U.A. Ebead, K.W. Neale, and H. Abdel Baky</i></p>	<p>CT-044 The Effect of Construction Duration Delay on Project Evaluation <i>K.-J. Hsu and H.J. Chien</i></p>	<p>CT-027 Lawyerization of the Engineering and Construction Industry: the Good, the Bad, and the Ugly <i>R. Owers, S.T. Ariaratnam, and D. Armstrong</i></p>	<p>DM-016 A Research Framework for Assessing Critical Infrastructure Designs to Maximize Protection from an Internal Chemical or Biological Attack <i>V. Nakano, W. Croissant Jr., and D. Abraham</i></p>
16:30	<p>GC-105 Biodegradation of Municipal Solid Waste In Aerobic Bioreactor Landfills <i>S. Rendra, L. Fernandes and M. Warith</i></p>	<p>GC-098 Reliability Analysis of Rigid Marine Riser <i>M. Nazir, F. Khan and P. Amyotte</i></p>	<p>ST-014 Shear Force Response of Guyed Towers for Different Earthquake Levels <i>H. Meshmesha, K. Sennah, and J. Kennedy</i></p>	<p>ST-048 Design for Flexural Crack Control – Recent Amendments to the Australian Standard AS3600 <i>R.I. Gilbert</i></p>	<p>ST-002 Behaviour and Strengthening of RC T-Girders under Various Torque to Shear Ratios <i>A. Deifalla and A. Ghobarah</i></p>	<p>CT-081 Features of a Risk Management Tool Applied to a Major Building Project <i>C.E. Nelms, S. De Zoysa and A.D. Russell</i></p>	<p>CT-114 A Comparison of the Effects of Time Clauses in Private and Public Contracts on Projects' Construction Duration <i>A. El-Assaly, M. Farag, O. Salem and S. Fahmy</i></p>	<p>DM-022 Framework for Research into Disaster Response for Critical Infrastructure Reconstruction <i>R. Vander Schaaf and D. Abraham</i></p>
16:50	<p>GC-012 Effect of Latin Hypercube Sampling Sample Size on Uncertainty Analysis of a Tier 3 RBCA Model – MOFAT <i>A.A. Khan, T. Husain and L. Lye</i></p>	<p>GC-110 Streamflow Measurements in the Oil Sands Region of Northeastern Alberta <i>M. Ashiq and F. Ade</i></p>	<p>ST-135 Dynamic Analysis with Damping for Free Standing Structures Using Mechanical Event Simulation <i>I. Giosan</i></p>	<p>ST-119 Offshore Concrete Crack Analysis <i>M.A. Hossin and H. Marzouk</i></p>	<p>ST-136 Rehabilitation of the Structural Slabs of Laurier-Tache Parking Garage (Gatineau, Quebec) Using Glass FRP Bars <i>B. Benmokrane, E. El Salakawy, A. El Ragaby and A. Wiseman</i></p>	<p>CT-084 Incorporating Critical Infrastructure Issues Into Risk Management Practices <i>C.S. Burke and C.F. Duffield</i></p>	<p>CT-123 Problems Created on Delayed Supply of Feedstock for the HDPE Plant of Jam Petrochemical Complex (JPC) in Iran - A Case Study <i>S. Etemadzadeh, M.M. Mortaheb and H. Beigi</i></p>	<p>DM-017 Simulation as a Tool to Assess the Vulnerability of the Operation of a Health Care Facility <i>C. Arboleda, D. Abraham, and R. Lubitz</i></p>
17:10	<p>GC-065 Numerical Modeling of Gas, Heat and Moisture Transport in Landfills <i>A. Garg and G. Achari</i></p>	<p>GC-003 Physical Modelling of Headworks: A Design Tool for Small Hydro <i>S.B. Thapa</i></p>	<p>ST-041 Advances in Transmission Lines Design: A life Cycle Cost Optimization Approach <i>S. Abdelatif Hassanien, N. Shrive and I. Shoala</i></p>	<p>ST-026 Effect of Anchoring of Stiffening Elements on Flexural Capacity of Strengthened Beams <i>A. Asran, A. Amer and A. Riad</i></p>	<p>ST-055 CFRP Strengthening of Prestressed-Precast Hollow Core Slabs to Resist Negative Moments: An Experimental Investigation and a Critical Review of ACI 440.2R-02 Provisions <i>A. Hosny, E.Y. Sayed-Ahmed, A.A. Abdelrahman, and N.A. Alhlaby</i></p>	<p>CT-004 Management Information System Development for Schedule Delay Analysis <i>J.B. Yang and Y.L. Teng</i></p>		<p>DM-005 Vulnerability Assessment of Arizona's Critical Infrastructure <i>T. White, S. Ariaratnam and K. Knutson</i></p>
18:30 – 22:30	Imperial Ballroom							
	Award Banquet / Banquet							

	General Conference / Conférence générale	Structures / Structures			Construction / Construction	Disaster Mitigation / Allègement des désastres
	Stephen A	Imperial 5	Imperial 7	Imperial 9	Bannerman	Walker
	Session III-1A	Session III-1B	Session III-1C	Session III-1D	Session III-1E	Session III-1F
	Geotechnical Engineering	Monitoring	Mortars and Concrete	FRP -II	Project Management	Avalanches, Tornadoes & Climate Change
	Chair / <i>Président:</i> Hiroshan Hettiarachchi	Chair / <i>Président:</i> Leonard Lye	Chair / <i>Président:</i> Vic Perry	Chair / <i>Président:</i> Brock Schroeder	Chair / <i>Président:</i> Tarek Zayed	Chair / <i>Président:</i> Marten Geertsema
8:00	GC-027 Behavior of Concrete Face Rockfill Dam Resting on Granular Alluvium Deposits <i>M. Massiera, J. Vautour, Y. Coulibaly, Y. Hammamji, and A. Szostak-Chrzanowski</i>	ST-028 Influence of the Excitation Source on Modal Parameter Estimation for the Red Deer River Bridge <i>(Student Competition)</i> <i>M. Alwash, B. Sparling and L. Wegner</i>	ST-101 Proposed Method for Determining the Residual Mortar Content of Recycled Concrete Aggregates <i>A. Abbas, O.B. Isgor, A.G. Razaqpur, B. Fournier, G. Fathifazi and S. Foo</i>	ST-075 Repairing of R/C Shell with Steel and FRP Sheets <i>T. Hara</i>	CT-015 Project Lessons Learned: Implications for an Empirical Study in the Canadian Energy Sector <i>K. Jugdev</i>	DM-032 Emergency Plans Organization in Mexico <i>Damian Robledo</i>
8:20	GC-096 Seismic Hazard Analysis (SHA) and Developing the Uniform Hazard Spectra (UHS) for one Site of Islamic Azad University (IAU) in Iran <i>M. Firoozi Nezamabadi and F. Yaghoobi Vayeghan</i>	ST-031 Predictive Formulas for Natural Frequencies and Their Application to Non-Destructive Testing of Beam Members <i>(Student Competition)</i> <i>D. Bockstael, C. Ward, N. Rattanawangcharoen and C. Gheorghiu</i>	ST-064 Mechanical Properties of Mortars Used in Restoration of Egyptian Architectural Heritage <i>(Student Competition)</i> <i>H.H. Ibrahim, H.A. Hodhod, and M.A.R Youssef</i>	ST-035 Flexural Behaviour of Fibre Reinforced Polymer (FRP) Poles <i>R. Masmoudi and S. Metiche</i>	CT-030 Context Sensitive and Sustainable Solutions for Oregon's OTIA III State Bridge Delivery Program – Community Values Shaping a New Generation of Bridges <i>M. Wolfe, M. Wittmann, J. Neil and K. Wamstad-Evans</i>	DM-030 Assessing the Vulnerability of Infrastructure to Extreme Weather Events and Related Climate Change Impacts <i>D. Danyluk, J. Nodelman and D. Lapp</i>
8:40	GC-107 Earthquake Response of Concrete Arch Dams in Time Domain <i>A.R.S.Barikani and M. Hashemiravan</i>	ST-079 Ice Monitoring on Confederation Bridge – What has been learnt <i>T.G. Brown</i>	ST-056 Durability, Drying Shrinkage and Physical Properties of Mortars Used in Restoration of Historical Buildings in Egypt <i>H.H. Ibrahim, H.A. Hodhod, and M.A.R Youssef</i>	ST-054 Structural Behaviour of Carbon FRP Stirrups Used as Shear Reinforcement for Concrete Beams <i>A.K. El-Sayed, E. El-Salakawy and B. Benmokrane</i>	CT-116 Difficulties in Implementing Project Partnering – A Case Analysis of a Public Sector Housing Project <i>A.P.C. Chan, D.W.M. Chan, L.C.N. Fan, P.T.I. Lam and J.F.Y. Yeung</i>	DM-010 Understanding the Propagation of Fractures and Failures Leading to Dangerous and Destructive Snow Avalanches: Recent Developments <i>D. Gauthier and J.B. Jamieson</i>
9:00		ST-116 Confederation Bridge Vibration Monitoring: Implications for Structural Health Monitoring <i>N.A. Londoño and D.T. Lau</i>	ST-011 Mechanical Properties of Hybrid PVA Fibre Reinforced Cementitious Composites under Bending <i>S.F.U. Ahmed, H. Mihashi, and S. Suzuki</i>	ST-127 Analytical Investigation on New Continuous Reinforced Concrete Pavement (CRCP) Using GFRP Bars <i>M. Eisa, E. El-Salakawy, and B. Benmokrane</i>	CT-020 Rationalization and Optimisation Methodologies to Automate Highway Network Programming and Planning <i>A. El-Assaly, S. Hasham, D. Davidson and John Price</i>	DM-015 Integral Avalanche Risk Management – A Case Study from Davos, Switzerland <i>N. Bischof, M. Bründl, A. Guler and L. Stoffel</i>
9:20		ST-097 Structural Health Monitoring of the Esplanade Riel Pedestrian Bridge <i>E. Shehata, R. Haldane-Wilsone, D. Stewart, A.A. Mufti, G. Tadros, B. Bakht, and B. Ebenspanger</i>	ST-050 Development of A Uniaxial Stress-Strain Relationship for Concrete Confined by Steel Tubes <i>Iraj H.P. Mamaghani</i>	ST-134 The Effects of Synthetic-Fibre and Natural-Fibre on the Mechanical and Physical Properties of FRP Rebars in Concrete <i>A.S.M. Kamal, M. Boulfiza, A.C. Tripathy and S. Panigrahi</i>		DM-026 The “Three Little Pigs” Full-Scale Testing Facility <i>G.A. Kopp, F.M. Bartlett, J. Galsworthy, D. Henderson, H.P. Hong, D.R. Incelet, E. Savory, L.M. St. Pierre, and D. Surry</i>
9:40				ST-016 Thermal Buckling Analysis of Thick Laminated Composite Plates Using Complex Finite Strip Method <i>F. Saba and M. Azhari</i>		DM-011 Tornado Hazard Assessment for Overhead Power Transmission Lines in Southern Ontario <i>S.S. Banik, H.P. Hong and G.A. Kopp</i>
10:00	Grand Foyers					
	Coffee Break / Pause café					

	General Conference / Conférence générale	Structures / Structures			Construction / Construction	Disaster Mitigation / Allègement des désastres
	Stephen A	Imperial 5	Imperial 7	Imperial 9	Bannerman	Walker
	Session III-2A	Session III-2B	Session III-2C	Session III-2D	Session III-2E	Session III-2F
	Hydrotechnical Engineering - II	Inspection and Assessment	Special Applications	FRP – Retrofit and Repair	Information Technology & Data	Progressive Collapse
	Chair / <i>Président:</i> Michael Bender	Chair / <i>Président:</i> Jadwiga Kroman	Chair / <i>Président:</i> Laszlo Dunaszegi	Chair / <i>Président:</i> Hesham Marzouk	Chair / <i>Président:</i> Jeff Rankin	Chair / <i>Président:</i> Abass Braimah
10:30	GC-036 Links between Pacific Climate Variability and Low-Frequency Hydroclimatic Variability in Southern Alberta <i>A.K. Gobena and T.Y. Gan</i>	ST-105 Civionics Specifications for Structural Health Monitoring Using Fibre Optic Sensors <i>E. Rivera, A.A. Mufti and D.J. Thomson</i>	ST-089 Reconstruction of the Myra Canyon Trestles on the Kettle Valley Railway K. Witzke, E. de Fleuriot, L. Dunaszegi, A. Esarte, K. Weber, J. Klett, J. Unsworth, B. Lidstone and G. Rutherford	ST-110 Retrofitting Non-ductile Concrete Frames against Earthquakes through Diagonal Prestressing <i>F. Shalouf and M. Saatcioglu</i>	CT-045 A Survey of the Current Project Extranet Practices in the UK AEC Industry <i>L.H.J. Chien and K.-J. Hsu</i>	DM-018 Progressive Collapse for Reinforced Concrete Buildings <i>R. El-Hacha and B. Bullock</i>
10:50	GC-124 Wavelet, Scaling and Multifractal Analysis of Southwestern Canadian Precipitation Variability and Teleconnectivity <i>A.K. Gobena and T.Y. Gan</i>	ST-044 Analytical Modeling and Seismic Instrumentation of Jamuna Multipurpose Bridge <i>A. Iqbal</i>	ST-007 Static Equivalent Procedures for Seismic Analysis of Air Cooler Petrochemical Structure <i>H. Meshmehsha, A. Rashed and S. Guirguis</i>	ST-022 Upgrading Shear Deficient RC Beam-Column Joints for Earthquake Loading Using Steel Reinforced Polymer Sheets <i>R. Izi, M. Elbadry and H. Ibrahim</i>	CT-048 Application of Radio Frequencies and Wireless Communications for Construction Site Positioning and Vehicle Tracking <i>M. Lu, W. Chen, X. Shen and H.-C. Lam</i>	DM-012 Lessons Learned from Application of Progressive Collapse Guidelines to Highrise Building Design <i>G. Birkle, B. Schroeder and J. Gilliland</i>
11:10	GC-092 Riprap Protection against Local Scour <i>M.A.F. Sadeque and M.M. Hossain</i>	ST-081 Bridge Inspection DSS Using Learning-Based Belief Network <i>Y. Hu and A. Hammad</i>	ST-069 Prediction of Extreme ice and Wind Loadings on a Transmission Line in the Province of Manitoba <i>H. Schultz, N. Rattanawangcharoen, and M. Lu</i>	ST-093 Nonlinear Finite Element Analysis of RC Shear Walls Retrofitted Using Externally Bonded Steel Plates and FRP Sheets <i>A. Kheyroddin and H. Naderpour</i>	CT-104 Navigation Methods for Engineering Applications in Urban Virtual Environments <i>E. Mozaffari and A. Hammad</i>	DM-027 Retrofitting of Reinforced Concrete Structures against Blast Loads <i>F. Shalouf</i>
11:30	GC-030 Experimental Study on the Improvement of Bank Protection Structures under Wave Action <i>S. Masoom and M.A. Matin</i>	ST-106 Field Performance of Water Mains Buried in Expansive Soil <i>Y. Hu and H.Q. Vu</i>	ST-005 Dynamic Response of Rectangular Orthotropic Plate Supported by Pasternak Foundation Subjected to Dynamic Load <i>S.W. Alisjahbana and W. Wangsadinata</i>	ST-113 Comparison of Different Retrofit Strategies by Performance Based Design Procedure <i>F. Aras</i>	CT-128 Using Information Technology to Enhance Project Management Process <i>F. Khoramshahi, R. Dehghan and M. Mortaheb</i>	DM-009 Reduction in Fire Resistance of Steel Beams Due to Partial Fire Protection Loss <i>Y. Kang, H.A. Khoo, and G.V. Hadjisophocleous</i>
11:50		ST-051 Residential Houses Cracking Due to Nearby Subsurface Construction Blasting: Critical Review of Current Safe Limits <i>E.Y. Sayed-Ahmed, K.K. Najj</i>	ST-024 Use of DOE Methodology for Investigating Conditions that Influence the Tension in Marine Risers for FPSO Ships <i>D. Hawkins and L.M. Lye</i>		CT-112 Application of PIP in the Construction Projects for Beijing Olympic Games <i>G. Wang, X. Yan and G. Jia</i>	DM-004 Behaviour of Steel Anchors under Impulse-Type Loading <i>A. Braimah, E. Contestabile, and R. Guilbeault</i>
12:10	Imperial Ballroom					
	Closing Luncheon & Student Awards / <i>Déjeuner & prix pour étudiants</i>					