

Session 1: April 3, 2018 - 10:30am - 12:00pm			
Room: Melopomene (2nd Floor)			
Track 1A: Automation and Robotics			
Moderator: Zhigang Shen (University of Nebraska-Lincoln)			
Time	Paper ID	Title	Authors
10:30 AM	223	UAV Mission Planning Using Swarm Intelligence and 4D BIMs in Support of Vision-based Construction Progress Monitoring and As-Built Modeling	Hesam Hamledari, Shakiba Davari, Seyed Omid Sajedi, Pouya Zangeneh, Brenda McCabe and Martin Fischer
10:45 AM	459	Proof of Concept for the Use of Small Unmanned Surface Vehicles in the Built Environment Management	Alireza Shojaei, Hashem Izadi Moud and Ian Flood
11:00 AM	431	Current and Future Applications of Unmanned Surface, Underwater and Ground Vehicles in Construction	Hashem Izadi Moud, Alireza Shojaei and Ian Flood
11:15 AM	150	Framework for Human Performance Analysis in Unmanned Aircraft System (UAS) Operations in Dynamic Construction Environment	Sungjin Kim and Javier Irizarry
11:30 AM	307	Automated Matching of Design Information in BIM to Regulatory Information in Energy Codes	Peng Zhou and Nora El-Gohary
11:45 AM	393	A Clustering Approach for Analyzing the Computability of Building Code Requirements	Ruichuan Zhang and Nora El-Gohary
Session 1: April 3, 2018 - 10:30am - 12:00pm			
Room: Acadian Room I (3rd Floor)			
Track 1B: Building Performance & Lifecycle Analysis			
Moderator: Krishna Kisi (Missouri Western State University)			
Time	Paper ID	Title	Authors
10:30 AM	317	Machine Learning-based Occupant Energy Use Behavior Optimization	Kadir Amasyali and Nora El-Gohary
10:45 AM	571	Life Cycle Energy and Carbon Analysis of Single Family Residential Buildings: Atlanta Case Study	Arezo Shirazi and Baabak Ashuri
11:00 AM	411	3D Simulation-based Pre-Occupancy Evaluation	Sangyun Shin and Raja R. A. Issa
11:15 AM	352	Model Predictive Control Strategy for Hybrid Ventilation Building Operation	Jianli Chen, Godfried Augenbroe and Xinyi Song
11:30 AM	114	Climate Effects in Data Envelopment Analysis for Residential Energy Performance Benchmarking ---An Empirical Case Validation	Endong Wang, Peng Mao, Min Chen, Xiaodong Zhang and Lingzhi Li
11:45 AM	570	Evaluating Temporal Shifts in City Scale Building Energy Benchmarks	Abby Francisco, Neda Mohammadi and John Taylor
Session 1: April 3, 2018 - 10:30am - 12:00pm			
Room: Acadian Room II (3rd Floor)			
Track 1C: CII Research			
Moderator: Mounir El Asmar (Arizona State University)			
Time	Paper ID	Title	Authors
10:30 AM	428	Model Maturity Risk Index Framework for Tracking Progress in Model-based Engineering	Gustavo Garcia, Mani Golparvar-Fard, Jesus De La Garza and Martin Fischer
10:45 AM	524	Front End Engineering Design (FEED) for Large Industrial Projects: FEED Maturity and its Impact on Project Performance	Abdulrahman Youssef, G. Edward Gibson, Mounir El Asmar and David Ramsey
11:00 AM	384	Corporate Best Practices for Successful Productivity Improvement Programs	Cameron Gaddy, Carlos Caldas and Britt Freund
11:15 AM	155	Organizational Routine-matching in Delivery of Capital Projects	Sagata Bhawani, Robert Leicht, John Taylor and Stephen Humphrey
11:30 AM	181	Assessing and Evaluating Subcontractor Management Safety Policies	Elyas Jazayeri, Huang Liu and Gabriel Dadi
11:45 AM	34	Achieving Higher Levels of Facility Design Standardization in the Upstream, Midstream, and Mining Commodity Sector: Barriers and Challenges	Jin Ouk Choi, Jennifer Shane, Young Hoon Kwak and Binit Shrestha

Session 1: April 3, 2018 - 10:30am - 12:00pm			
Room: Algiers Room A (2nd Floor)			
Track 1D: Risk and Safety Management			
Moderator: Kevin Han (North Carolina State University)			
Time	Paper ID	Title	Authors
10:30 AM	134	Consideration of Worker Safety in the Design Process: A Statistical-Based Approach Using Analysis of Variance (ANOVA)	Ali Karakhan, John Gambatese, Kasim Alomari and Ding Liu
10:45 AM	185	Mechanism and Measurements of Fall due to Loss-of-Balance for Construction Workers	Chongsheng Cheng and Zhigang Shen
11:00 AM	331	Scaling Personalized Safety Training through Automated Feedback Generation	Idris Jeelani, Kevin Han and Alex Albert
11:15 AM	623	Design and Planning Opportunities for Effectively Minimizing Worker Exposure to Cumulative Health Hazards	Linda Tello and David Grau
11:30 AM	32	Safety Leadership Effectiveness Assessment of Project Managers in the Construction Industry: A Case Study of China	Yanhong Ma, Chunlin Wu, Dongping Fang and Chao Wang
11:45 AM	15	Assessing the Effects of Tool-Loading Formation on Construction Workers' Postural Stability	Houtan Jebelli, Kanghyeok Yang, Mohammad Mahdi Khalili, Changbum Ahn and Terry Stentz
Session 1: April 3, 2018 - 10:30am - 12:00pm			
Room: Algiers Room B (2nd Floor)			
Track 1E: Construction Means & Methods			
Moderator: Susan Bogus Halter (University of New Mexico)			
Time	Paper ID	Title	Authors
10:30 AM	70	Life-Cycle Cost Comparison of Concrete and Polymer Concrete Manholes Used in Sewer Pipes	Sayan Sakhakarmi, Pramen Shrestha and Jacimaria Batista
10:45 AM	523	A Comparative Analysis of Batching by Weight and Volume Towards Improved Concrete Production	Opeyemi Joshua, Olabosipo Fagbenle, Kolapo O. Olusola, Shunanum Shamaki, Joyce A. Abuka-Joshua, Ayodeji O. Ogunde, Lekan M. Amusan and Ignatius O. Omuh
11:00 AM	71	Contributing Factors to the Punch-List Problem: Preliminary Investigation in a High-Rise Tower Project in Southern Nevada	Pramen Shrestha, Adolfo Rabasto and Binit Shrestha
11:15 AM	368	Evaluation of Curve Fitting Techniques for Estimating Time of Surcharge Release in Embankment Construction over Soft Soils	Clifton Farnsworth
11:30 AM	699	Estimating Service Life of In-Situ Flexible Pavements in Louisiana Using Pavement Management System Data	Ahmed Abdel-Khalek, Mostafa Elseifi, Julius Codjoe and Christophe Fillastre
11:45 AM	448	Preserving Historical Concrete Structures with Modern Construction Methods	Michele Anderson, Susan Bogus and Mahmoud Reda Taha
Session 1: April 3, 2018 - 10:30am - 12:00pm			
Room: Gentilly (1st Floor)			
Track 1F: Risk and Safety Management			
Moderator: Fei Dai (West Virginia University)			
Time	Paper ID	Title	Authors
10:30 AM	154	Identifying Safety Hazards in Design: Evaluating the difference between BIM and 2D CAD drawings	Dylan Hardison and Matthew Hallowell
10:45 AM	107	Adaptive Signal-Processing for BLE Sensors for Dynamic Construction Proximity Applications	Xiaoyu Yang, Jee Woong Park and Yong K. Cho
11:00 AM	108	Theoretical Framework for Improving the Adoption of Safety Technology in Construction Industry	Chukwuma Nnaji, John Gambatese and Chinweike Eseonu
11:15 AM	374	Statistical Results on Incidents for Formwork Safety in Concrete Structures	Alan Haduong, Joseph Kim and Vahid Balali
11:30 AM	100	Wearable Insole Pressure Sensors for Automated Detection and Classification of Slip-Trip-Loss of Balance Events in Construction Workers	Maxwell Fordjour Antwi-Afari, Heng Li, Joonoh Seo, Sanghyun Lee, David John Edwards and Arnold Yu Lok Wong
11:45 AM	561	Tracking Divergence in Workers' Trajectory Patterns for Hazard Sensing in Construction	Kanghyeok Yang, Changbum Ahn and Hyunsoo Kim

Session 1: April 3, 2018 - 10:30am - 12:00pm			
Room: Algiers Room C (2nd Floor)			
Track 1G: Contracting & Legal Issues			
Moderator: Min Liu (North Carolina State University)			
Time	Paper ID	Title	Authors
10:30 AM	9	Achieving Agency Goals in Public-Private Partnerships Through Key Performance Indicators: Application of Existing Contract and Specification Theory	Douglas Alleman, Gabriel Jobidon, Keith Molenaar and Edmund V. Caplicki
10:45 AM	58	The USA PPP Payment Mechanisms – A Comparison to the Canadian PPP Systems	Luming Shang and Ahmed Abdel Aziz
11:00 AM	196	Exploring the Growth of Public-Private Partnerships by Examining Enabling Legislation	Katherine Maslak and Bryan Franz
11:15 AM	318	Analysis of the Use of PPPs in Higher Education Institutions through Systematic Literature Review	Rana Khallaf, Kyubung Kang and Makarand Hastak
11:30 AM	486	Non-Compete Provisions in Public-Private Partnerships: A Review of Current Practice	Emma Weaver, Alex D'Alessio and Qingbin Cui
11:45 AM	498	Using project team integration to predict cost and schedule performance in public transportation projects	Arllys Silva and Christofer Harper
Session 1: April 3, 2018 - 10:30am - 12:00pm			
Room: Poydras (3rd Floor)			
Track 1H: Data Sensing, BIM, Simulation			
Moderator: Haiyan Sally Xie (Illinois State University)			
Time	Paper ID	Title	Authors
10:30 AM	330	Framework of a 3D BIM and Smart Device-based Indoor Navigation System for Construction Management	Jaehyun Park and Hubo Cai
10:45 AM	491	Decentralized Visual 3D Mapping of Scattered Work Locations for High-Frequency Tracking of Indoor Construction Activities	Fouad Amer and Mani Golparvar-Fard
11:00 AM	504	Automatic 3D Modeling of Structural and Mechanical Components from Point Clouds	Yeritza Perez-Perez, Mani Golparvar-Fard and Khaled El-Rayes
11:15 AM	529	LIDAR and 4D Information Model Based Progress Monitoring of Linear Construction Projects	Nisha Puri and Yelda Turkan
11:30 AM	640	4D Modeling and BIM-Based Project Planning Using Constraint-Based Simulation For Implementation in Iran Considering an Actual Case Study	Payam Hadavi and Mehdi Tavakolan
11:45 AM	102	Planning and Control Framework for Virtual Design and Construction: Case-based Evidence from Electrical Construction	Hisham Said and Justin Reginato
Session 1: April 3, 2018 - 10:30am - 12:00pm			
Room: Pelican Room I (3rd Floor)			
Track 1I: Data Sensing, BIM, Simulation			
Moderator: Kristen Cetin (Iowa State University)			
Time	Paper ID	Title	Authors
10:30 AM	538	Automated BIM Object Classification to Support BIM Interoperability	Jin Wu and Jiansong Zhang
10:45 AM	632	BIM-BASED FRAMEWORK FOR ANALYZING 'DESIGN FOR DISASSEMBLY' STRATEGIES	Justin K.W. Yeoh, Sum Leng Lee and K.C.G. Ong
11:00 AM	319	Real-Time Image-to-BIM Registration using Perspective Alignment for Automated Construction Monitoring	Khashayar Asadi and Kevin Han
11:15 AM	487	Investigation of leveraging BIM information exchange standards for conducting LOD-based cost estimating	Issa J. Ramaji, Nafisa Richardson, Ehsan Mostavi and Sharareh Kermanshachi
11:30 AM	649	Advancing Measurement Process to Improve Inspection of Construction Heavy Equipment Using A State-of-the-art 3D Modeling Technology	Mahdi Safa, Kelly Weeks and Arash Shahi
11:45 AM	149	Predicting BIM Maturity based on Learning Curve Model at Firm Level	Hamed Nabizadeh Rafsanjani, Xiaoxiang Xue, Stuart Bernstein and Zhexiong Shang

Session 1: April 3, 2018 - 10:30am - 12:00pm			
Room: Fulton (3rd Floor)			
Track 1J: Global Issues and Disaster Management			
Moderator: Islam El-Adaway (University of Tennessee - Knoxville)			
Time	Paper ID	Title	Authors
10:30 AM	85	Decreasing the Economic Vulnerability of The Built Environment Throughout the Disaster Recovery Processes: An Agent Based Model Framework	Mohamed Eid and Islam El-Adaway
10:45 AM	103	Post-Disaster Interim Shelter using Manufactured Housing Units: Analysis of Systems and Supply in the United States	Jonathan Bartusiak and Hisham Said
11:00 AM	296	Community Participation in Post-Disaster Shelter Programs: Examining the Evolution of Participation in Planning, Design, and Construction	Casie Venable, Aaron Opdyke, Amy Javernick-Will and Abbie Liel
11:15 AM	563	Optimal Material Selection Algorithm for Post-Disaster Shelters Applying Analytic Hierarchy Process: A Case Study of Refugee Shelters in Germany	Zhu Jiadong, Fatemeh Orooji and Douglas Chelson
11:30 AM	647	Measuring the Social Impact of Innovation in the Fabrication and Delivery of Post-Disaster Temporary Housing – 2018 Fire in Chile Case Study	Miguel Mora and Burcu Akinci
11:45 AM	483	A Cyber-Physical System Approach for Intelligent Building Emergency Evacuation Signage Guidance	Jun Zhang and Raja R. A. Issa
Session 1: April 3, 2018 - 10:30am - 12:00pm			
Room: Tremé (2nd Floor)			
Track 1K: Infrastructure Management			
Moderator: Mohsen Shahandashti (University of Texas - Arlington)			
Time	Paper ID	Title	Authors
10:30 AM	278	Permanent vs. Temporary Infrastructure Solutions: Hosting communities' Perceptions toward Methods of Provision of Water Services to Displaced Persons in Germany	Felipe Araya, Kasey Faust and Jessica Kaminsky
10:45 AM	457	Simulation-based Optimization of Communication Protocols for Reducing Delays during Nuclear Power Plant Outages	Zhe Sun, Cheng Zhang and Pingbo Tang
11:00 AM	132	A Social Networking Enabled Crowdsourcing System for Integrated Infrastructure Asset Management	S. Thomas Ng, Frank J Xu, Yifan Yang, Hongyang Li and Junjie Li
11:15 AM	136	Research on the Mode and Benefit of Construction Enterprises Participating in PPP Projects	Jing Du, Hongyue Wu and Lei Zhu
11:30 AM	285	Partnerships in Local Infrastructure Delivery: A Matched Pairs Case Study Comparing Two Crowdfunded and Two Traditionally Funded Projects	Kate Gasparro
11:45 AM	72	Maintenance Practices for Chloride-Induced Corrosion in Reinforced-Concrete Bridge-Pier Columns	Pramen Shrestha and Dinesh Dhakal
Session 1: April 3, 2018 - 10:30am - 12:00pm			
Room: Pelican Room II (3rd Floor)			
Track 1L: Data Sensing, BIM, Simulation			
Moderator: Youngjib Ham (Texas A&M University)			
Time	Paper ID	Title	Authors
10:30 AM	581	Localizing Fire Stations in School Districts by Developing a New Generation of 3D Visualisation using GIS Data	Ajay Zalavadia, Vahid Balali and Joseph J. Kim
10:45 AM	292	Parsing Natural Language Queries for Extracting Data from Large-Scale Geospatial Transportation Asset Repositories	Tuyen Le, H. David Jeong, Stephen B. Gilbert and Evgeny Chukharev-Hudilainen
11:00 AM	321	Automated Filtering Big Visual Data from Drones for Enhanced Visual Analytics in Construction	Mirsalar Kamari and Youngjib Ham
11:15 AM	525	The Status Quo and Future Potentials of Data Analytics in AEC/FM: A Quantitative Analysis of Academic Research and Industry Outlook	Shahrazad Mansouri and Reza Akhavian
11:30 AM	547	A Systematic Review of Applied Information Systems in Industrialized Construction	Mohamad Ahmadzade Razkenari, Andriel Evandro Fenner, Junghoon Woo, Hamed Hakim and Charles J. Kibert
11:45 AM	732	Resiliency Investment Decision Making: Going Beyond Code	Huey W. Lim, Dongping Fang and Feniosky Peña-Mora

Session 2: April 3, 2018 - 1:45pm - 3:00pm			
Room: Poydras (3rd Floor)			
Track 2A: Data Sensing, BIM, Simulation			
Moderator: JianSong Zhang (Purdue University)			
Time	Paper ID	Title	Authors
1:45 PM	441	Building Owner Manual Assisted by Augmented Reality: A Case from Brazil	Lorena Claudia de Souza Moreira, Regina C. Ruschel and Amir H. Behzadan
2:00 PM	156	Past, Present, and Future of BIM-enabled Facilities Operation and Maintenance	Xinghua Gao and Pardis Pishdad-Bozorgi
2:15 PM	188	BIM Coverage in Demand Response Management: A Pilot Study in Campus Buildings	Xinran Yu and Semiha Ergan
2:30 PM	346	Using a Case-Study Approach to Explore Methods for Transferring BIM-Based Asset Data to Facility Management Systems	Jason Lucas and Walid Thabet
2:45 PM	580	Developing a Location Aware Building Information Modeling System for Facility Maintenance Management	Keyu Chen, Weiwei Chen, Chun Ting Li, Kei Yiu Chan and Jack C. P. Cheng
Session 2: April 3, 2018 - 1:45pm - 3:00pm			
Room: Algiers Room A (2nd Floor)			
Track 2B: Global Construction Issues & Disaster Management			
Moderator: Sayanti Mukherjee (Purdue University)			
Time	Paper ID	Title	Authors
1:45 PM	26	Dynamics of Homeowner Mitigation Response to Wildfire Hazard	Elmira Kalhor and Vanessa Valentin
2:00 PM	267	Integration of social media and unmanned aerial vehicles (UAVs) for rapid damage assessment in Hurricane Matthew	Faxi Yuan and Rui Liu
2:15 PM	434	New Disasters in the Twittersphere: How Communities Utilize Social Media to Seek and Share Information in the Wake of Induced Seismicity	Andrew Tracy, Rudy Klucik, Amy Javernick-Will and Cristina Poleacovschi
2:30 PM	508	How Construction Resource Availability Affects Housing Reconstruction in Tornado Alley	Erin Arneson, Matthew Hallowell and Amy Javernick-Will
2:45 PM	513	Enhancing Resilience in Disaster Response: A Meta-Network Analysis Approach	Jin Zhu and Ali Mostafavi
Session 2: April 3, 2018 - 1:45pm - 3:00pm			
Room: Tremé (2nd Floor)			
Track 2C: Infrastructure Management			
Moderator: Pingbo Tang (Arizona State University)			
Time	Paper ID	Title	Authors
1:45 PM	75	Evaluating the Quality of Transportation Guidebooks through Vetting: A Case Study	Milagros Pinto, Carla Lopez Del Puerto and Christofer Harper
2:00 PM	519	Proposal and Feasibility Analysis of an Urban Pavement Management System for the City of Valencia, Spain	Jose Ramon Serra, Borja Guaita, Cristina Torres-Machi and Eugenio Pellicer
2:15 PM	395	Evaluating the Ride Quality of Asphalt Concrete Pavements Delivered Using Design-Build	Hala Sanboskani, Namho Cho, Mounir El Asmar and Shane Underwood
2:30 PM	416	A Bi-Objective Highway Maintenance and Rehabilitation Budget Allocation Approach for Multiple Funding Categories	Jojo France-Mensah, Bharathwaj Sankaran and William O'Brien
2:45 PM	388	Feature Discretization and Selection Methods for Supporting Bridge Deterioration Prediction	Kajjian Liu and Nora El-Gohary

Session 2: April 3, 2018 - 1:45pm - 3:00pm			
Room: Algiers Room B (2nd Floor)			
Track 2D: Productivity and Workforce			
Moderator: Long D. Nguyen (Florida Gulf Coast University)			
Time	Paper ID	Title	Authors
1:45 PM	452	Estimating Productivity Rates for Establishing Contract Time	Brent Flaten, Hala Nassereddine, Gary Whited and Awad Hanna
2:00 PM	454	Factors Affecting Construction Labor Productivity: Qualitative and Quantitative Assessment	Awad Hanna and Karim Iskandar
2:15 PM	484	Emerging workforce training methods for the construction industry	Andriel Evandro Fenner, Shirley Morque, James Sullivan and Charles Kibert
2:30 PM	593	Quantitative Evaluation of Project Manager Competencies for Wisconsin Department of Transportation	Sarah Rezk, Gary Whited and Awad Hanna
2:45 PM	340	Multi-level Hierarchical Analysis for Productivity Frontier Estimation	Nirajan Mani, Krishna Kisi, Eddy Rojas and E. Terence Foster
Session 2: April 3, 2018 - 1:45pm - 3:00pm			
Room: Acadian Room II			
Track 2E: Algiers Room C (2nd Floor)			
Moderator: Daniel Castro (Georgia Institute of Technology)			
Time	Paper ID	Title	Authors
1:45 PM	326	Clash Prediction Model based on Space Gridding with Bayesian Analysis	Yuqing Hu and Daniel Castro-Lacouture
2:00 PM	128	A Bayesian Network based modeling approach for urban interdependent technical and social infrastructure systems	Chen Zhao and Dongping Fang
2:15 PM	126	Accurate Mapping of Underground Utilities: an Information Fusion Approach Based on Dempster-Shafer Theory	Jiannan Cai, Shuai Li and Hubo Cai
2:30 PM	662	Analysis of Overstock in Construction Supply Chain and Inventory Optimization	Haiyan Xie and Deepa Palani
2:45 PM	165	Chaos & Complexity in Modeling Spatial Temporal Clashes for Construction Processes	Abdelhady Hosny, Mazdak Nik-Bakht and Osama Moselhi
Session 2: April 3, 2018 - 1:45pm - 3:00pm			
Room: Acadian Room I (3rd Floor)			
Track 2F: Risk and Safety Management			
Moderator: Nicholas Tymvios (Bucknell University)			
Time	Paper ID	Title	Authors
1:45 PM	95	Improving the Safety in Solar Energy System Installations through Prevention through Design	Chung Ho, Hyun Woo Lee and John Gambatese
2:00 PM	167	A Comparison of Safety Climate and Safety Performance between Ontario's Residential and Heavy Civil Construction Sectors	Yuting Chen, Brenda McCabe and Douglas Hyatt
2:15 PM	17	An Exploratory Study to Investigate Safety Climate Among Construction Workers in Puerto Rico	Carla Lopez Del Puerto, Eddie Rivera, Javier Irizarry and David Gilkey
2:30 PM	235	Using Augmented Virtuality to Understand the Situational Awareness Model	Siddharth Bhandari, Matthew Hallowell, Leaf van Boven, Mani Golparvar Fard, June Gruber and Keith Welker
2:45 PM	241	Examining the Relationship Between Personality Characteristics and Worker's Attention Under Fall and Tripping Hazard Conditions	Sogand Hasanzadeh, Behzad Esmaeili and Michael D. Dodd

Session 2: April 3, 2018 - 1:45pm - 3:00pm			
Room: Pelican Room II (3rd Floor)			
Track 2G: Sustainable Design and Construction			
Moderator: David Riley (Pennsylvania State University)			
Time	Paper ID	Title	Authors
1:45 PM	390	Data-Driven Approach to Identify the Impacts of Urban Neighborhood Characteristics on Building Energy Consumption	Lufan Wang and Nora El-Gohary
2:00 PM	351	A Case Study on the Effect of Energy Efficient Design Features on Building Occupant's Comfort Level	Swaetha Jebackumar, Rodolfo Valdes-Vasquez, Mary Nobe and Jeni Cross
2:15 PM	64	Proposing A Conceptual Decision Support System For Building Energy Retrofits Considering Sustainable Triple Bottom Line Criteria	Amirhosein Jafari and Vanessa Valentin
2:30 PM	656	Framework for Building Energy Retrofit Project Development Using Risk Analysis	Mahsa Safari and David Riley
2:45 PM	492	Modeling Green Digital Technology Implementation in Construction	Mona Foroozanfar and Samad Mohammad Ebrahimzadeh Sepasgozar
Session 2: April 3, 2018 - 1:45pm - 3:00pm			
Room: Melopomene (2nd Floor)			
Track 2H: Automation and Robotics			
Moderator: David Grau (Arizona State University)			
Time	Paper ID	Title	Authors
1:45 PM	24	Workpiece modeling for Adaptive Robotized Construction Work	Kurt Lundeen, Vineet Kamat, Carol Menassa and Wes Mcgee
2:00 PM	733	A Robotic Wearable Exoskeleton for Construction Worker's Safety and Health	Yong Cho, Kinam Kim, Shaojun Ma and Jun Ueda
2:15 PM	611	Multi-Robot Task Allocation and Route Planning for Indoor Building Environment Applications	Bharadwaj Mantha, Carol Menassa and Vineet Kamat
2:30 PM	646	Autonomous Mobile Robot Localization and Mapping for Unknown Construction Environments	Pileun Kim, Jingdao Chen and Yong. K Cho
2:45 PM	589	Opportunities to Advance Engineering Cognition and Project level Decision Making by Adopting Emergent Methods from Neuroscience	Tripp Shealy and Mo Hu
Session 2: April 3, 2018 - 1:45pm - 3:00pm			
Room: Pelican Room I (3rd Floor)			
Track 2I: Data Sensing, BIM, Simulation			
Moderator: Amin Hammad (Concordia Institute for Information Systems Engineering)			
Time	Paper ID	Title	Authors
1:45 PM	222	UAV-enabled Site-to-BIM Automation: Aerial Robotic- and Computer Vision-based Development of As-Built / As-is BIMs and Quality Control	Hesam Hamledari, Shakiba Davari, Ehsan Rezazadeh Azar, Brenda McCabe, Forest Flager and Martin Fischer
2:00 PM	31	Monitoring Excavation Slope Stability Using Drones	Yong Xiao, Vineet Kamat and Sanghyun Lee
2:15 PM	183	Real-time 3D Reconstruction on Construction Site using Visual SLAM and UAV	Zhexiong Shang and Zhigang Shen
2:30 PM	116	Application of Terrestrial LiDAR for Landslide Monitoring: Lessons Learned from Feature based Point Cloud Registration	Srikanth Sagar Bangaru, Yongwei Shan, Chao Wang and Phil Lewis
2:45 PM	601	Towards Building Geotechnical Information Modeling	Pelin Gultekin Bicer and Sihyun Kim

Session 2: April 3, 2018 - 1:45pm - 3:00pm			
Room: Fulton (3rd Floor)			
Track 2J: Construction Planning & Control			
Moderator: Ossama Hosny (The American University in Cairo)			
Time	Paper ID	Title	Authors
1:45 PM	237	QR-Code Implementation to Reduce Unnecessary Procedures in Material Handling	Junyong Ahn, Younghan Jung, Sara Smith and Shahram Varzavand
2:00 PM	305	Construction Portfolio Management Model for Institutions	Kristen Hurtado, John Savicky, Kenneth Sullivan, Jake Smithwick and Dhaval Gajjar
2:15 PM	447	Geospatial Technologies for Collecting Construction Material Information	Su Zhang, Susan Bogus, Christopher Lippitt and Jesse Sprague
2:30 PM	325	A Knowledge-based Cyber-Physical System (CPS) Architecture for Informed Decision Making in Construction	Yihai Fang, Nazila Roofigari-Esfahan and Chimay Anumba
2:45 PM	7	A framework for modeling construction organizational competency and performance	Getaneh Gezahegne Tiruneh and Aminah Robinson Fayek
Session 2: April 3, 2018 - 1:45pm - 3:00pm			
Room: Gentilly (1st Floor)			
Track 2K: Construction Education			
Moderator: Cristina Poleacovschi (Iowa State University)			
Time	Paper ID	Title	Authors
1:45 PM	3	Beyond BIM: The Evolution of an IT for Construction Course	Kenneth Sands, Christine Fiori and Min Jae Suh
2:00 PM	74	International Service Learning as a Platform for Next-Gen Construction Management Education	Anthony Songer, Karen Breitreuz and Mike Montoya
2:15 PM	288	Technological and Social Dimensions of Engaging Lower Division Undergraduate Construction Management Students with Experiential and Project Based Learning	Wei Wu and Yupeng Luo
2:30 PM	386	Assessing ABET Outcomes in Construction Engineering Curriculum	Jennifer Shane, Aliye Karabulut-Ilgü and Chuck Jahren
2:45 PM			
Session 2: April 3, 2018 - 1:45pm - 3:00pm			
Room: Acadian Room II (3rd Floor)			
Track 2L: Risk and Safety Management			
Moderator: Anthony Perrenoud (University of Oklahoma)			
Time	Paper ID	Title	Authors
1:45 PM	83	Using Unmanned Aerial Systems for Automated Fall Hazard Monitoring	Masoud Gheisari, Abbas Rashidi and Behzad Esmaeili
2:00 PM	243	Applications of Resilience Systems in Construction Safety	Mohammed Azeez and John Gambatese
2:15 PM	316	The Impact of Social Learning on Construction Safety Behaviors: A Multiuser Virtual Reality Experiment	Yangming Shi, Jing Du, Eric Ragan, Kunhee Choi and Shuo Ma
2:30 PM	446	Integration of BIM, Bayesian Belief Network and Ant Colony Algorithm for Assessing Fall Risk and Route Planning	Ting-Kwei Wang and Chang Qin
2:45 PM	490	Data-driven Approach to Scenario Determination for VR-based Construction Safety Training	Yunjeong Mo, Dong Zhao, Jing Du, Weihua Liu and Ajay Dhara

Session 3: April 3, 2018 - 3:15pm - 4:30pm			
Room: Pelican Room I (3rd Floor)			
Track 3A: Sustainable Design and Construction			
Moderator: Hyun Woo "Chris" Lee (University of Washington)			
Time	Paper ID	Title	Authors
3:15 PM	19	The Effect of Individual Differences in BIS/BAS on Household Energy Behavior Intervention Strategies during Peak and Off-peak Hours	Yilong Han and Yujie Lu
3:30 PM	410	Pulverized Calcined Clay and Carbide Waste as Alternative Binder in Concrete and Mortar Applications for Sustainable Construction	Opeyemi Joshua, Kolapo Olusola, Olabosipo Fagbenle, James Olawuyi, Lameed Adebayo, Ayodeji O. Ogunde, Adedeji Afolabi and Segun Michael Olorunsola
3:45 PM	482	Peggy's House: Making a Case for Social Sustainability	Frederick Paige and Santhosh Thirukkumaran
4:00 PM	590	Greening Data Centers: Beyond LEED Version 4	Hashem Izadi Moud, Hamed Hakim, Alireza Shojaei, Charles Kibert and Ian Flood
4:15 PM	615	A Framework for Assessing the Financial Feasibility of LEED for Homes Guidelines for Water Efficiency	Mohamed Abdel-Raheem and Jennifer Lima
Session 3: April 3, 2018 - 3:15pm - 4:30pm			
Room: Algiers Room A (2nd Floor)			
Track 3B: Construction Means & Methods			
Moderator: Phil Lewis (Texas A&M University)			
Time	Paper ID	Title	Authors
3:15 PM	200	Estimating Air Pollutant Emissions for Nonroad Equipment using MOVES- Case Study of a Building Project	Sai Akhila Boddi Reddy and Ingrid Arocho
3:30 PM	295	Estimation of Infiltration Based on Development Density and Soil Type for Denver Colorado	Lance Vandemark and Caroline Clevenger
3:45 PM	375	Construction Techniques for Electrically Conductive Heated Pavement Systems	Hesham Abdualla, Sajed Sadati, Halil Ceylan, Kristen Cetin, Sunghwan Kim, Peter Taylor, Mani Mina, Bora Cetin and Kasthurirangan Gopalakrishnan
4:00 PM	419	Design-Build Performance Over the Years: An Exploration into Colorado's Experience	Douglas Alleman, Guillermo Nevett and Paul Goodrum
4:15 PM	685	Monitoring Physical Progress of Indoor Buildings using Mobile and Terrestrial Point Clouds	Sara Shirowzhan, Samad Sepasgozar and Chang Liu
Session 3: April 3, 2018 - 3:15pm - 4:30pm			
Room: Acadian Room I (3rd Floor)			
Track3C: Building Performance & Lifecycle Analysis			
Moderator: Somayeh Asadi (Pennsylvania State University)			
Time	Paper ID	Title	Authors
3:15 PM	22	Development of Work Breakdown Structure Inventory Framework for Building Assets	Maha Alkasisbeh and Osama Abudayyeh
3:30 PM	46	Analysis of BioT-based energy business in the city of Montreal- lessons learned for broader Markets	Shivang Tarika and Mazdak Nik-Bakht
3:45 PM	197	Efficient HVAC Systems with Smart Sensors	Mehdi Khazaeli, Hector Estrada and Luke Lee
4:00 PM	627	Steel or Wood Frame? A Life Cycle Comparison of External Wall Systems through Deconstruction and Reuse	Fernanda Cruz-Rios, David Grau and Oswald Chong
4:15 PM	286	Integrating Building Information Models and Building Operation Information Exchange Systems in a Decision Support Framework for Facilities Management	Marjan Sadeghi, Mohammed Mehany and Kelly Strong

Session 3: April 3, 2018 - 3:15pm - 4:30pm			
Room: Fulton (3rd Floor)			
Track 3D: Construction Planning & Control			
Moderator: Mahdi Safa (Lamar University)			
Time	Paper ID	Title	Authors
3:15 PM	705	Beta Index and Complexity in Schedule Performance Measurement	Huu T. Huynh, Yi Su, Gunnar Lucko and Richard C. Thompson Jr.
3:30 PM	81	Effects of Formal Practices and Teamwork on Interface Management Performance in Large-Scale Construction Projects	Wenxin Shen, Byungjoo Choi, Sanghyun Lee and Wenzhe Tang
3:45 PM	543	Resource-Based Exploratory Analysis of Project Complexity Impact on Phase-Based Cost Performance Behavior	Elnaz Safapour, Sharareh Kermanshachi, Mohammadreza Habibi and Jennifer Shane
4:00 PM	551	Effects of General Contractor's Loading Strategies on Project and Trades' Performance	Ashtad Javanmardi, Simon M. Hsiang and Min Liu
4:15 PM	479	Age Related Ethical Lapses in Construction Engineering Site Management Decisions	Dilan Badshah and Carl Haas
Session 3: April 3, 2018 - 3:15pm - 4:30pm			
Room: Algiers Room B (2nd Floor)			
Track 3E: Productivity and Workforce			
Moderator: Gabe Dadi (University of Kentucky)			
Time	Paper ID	Title	Authors
3:15 PM	35	Developing Construction Workers' Mental Vigilance Indicators through Wavelet Packet Decomposition on EEG signals	Jiayu Chen, Zhenghang Lin and Xiaoyang Guo
3:30 PM	51	A System Dynamics Model for Analyzing Cumulative Impacts of Out-of-Sequence Work	Ibrahim Abotaleb and Islam El-Adaway
3:45 PM	77	Energy Consumption by Construction Workers for On-site Activities	Ding Liu and John Gambatese
4:00 PM	137	A Theoretical Framework for the Systematic Construction Project Productivity Measurement: Reconceptualisation and Boundary Extension	Wenting Zhan and Wei Pan
4:15 PM	442	Visualizing Eye Tracking Convex Hull Areas: A Pilot Study for Understanding How Craft Workers Interpret 2D Construction Drawings	Matthew Sears, Paul Goodrum and Omar Alruwaythi
Session 3: April 3, 2018 - 3:15pm - 4:30pm			
Room: Gentilly (1st Floor)			
Track 3F: Construction Education			
Moderator: Fan Zhang (University of Southern Mississippi)			
Time	Paper ID	Title	Authors
3:15 PM	210	Implications of the Integrated Project Delivery Research in Practice	Sulyn Cossett Gomez Villanueva, Nader Naderpajouh, Glenn Ballard, Makarand Hastak, Theodore Weidner and Paulo Barriga
3:30 PM	422	Synthesis of Quality Assurance Practices of State DOTs for Highway Construction Projects using Alternative Delivery	Yashovardhan Jallan, Jung Hyun Lee and Baabak Ashuri
3:45 PM	564	What are the Beliefs and Misconceptions about Climate Change of Students Pursuing Careers in Civil and Construction Engineering?	Emma Coleman, Tripp Shealy and Allison Godwin
4:00 PM	60	An Investigation of Construction Workforce Inequalities and Biases in the Architecture, Engineering, and Construction (AEC) Industry	Jin Ouk Choi, Pramen P. Shrestha, Jaewon Lim and Binit Shrestha
4:15 PM	313	Leveraging Pedagogical Innovation for Prevention through Design Education: Lessons Learned from Serious Game Development	Zia Din and G. Edward Gibson Jr.

Session 3: April 3, 2018 - 3:15pm - 4:30pm			
Room: Pelican Room II (3rd Floor)			
Track 3G: Contracting & Legal Issues			
Moderator: Michele Herrmann (Mississippi State University)			
Time	Paper ID	Title	Authors
3:15 PM	49	Complying with Environmental Requirements: Contractual Implications and Considerations	Islam El-Adaway, Ibrahim Abotaleb, Roderick Mohler, Jesse Sheffler, Hayley Fuller and Cristian Orozco
3:30 PM	383	Analysis of Construction Contracts: Searching for Collaborative Practices	Thais Alves and Nargis Shah
3:45 PM	493	Rules-Based Approach for Construction Contract Documents Interpretation	Jamileh Hamie and Mohamed-Asem Abdul-Malak
4:00 PM	146	Comparison of Various Competitive Bidding Methods from an Owner's Perspective	Rita Awwad and Michael Ammourey
4:15 PM	347	Best-Value Procurement in Design-Bid-Build Construction Projects: Empirical Analysis of Selection Outcomes	Phuong Nguyen, Brian Lines and Dan Tran
Session 3: April 3, 2018 - 3:15pm - 4:30pm			
Room: Melopomene (2nd Floor)			
Track 3H: Data Sensing, BIM, Simulation			
Moderator: Mani Golparvar-Fard (University of Illinois at Urbana-Champaign)			
Time	Paper ID	Title	Authors
3:15 PM	689	BIM-Enhanced Noise Hazard Training: A Pilot Study	Weile Wei and Chao Wang
3:30 PM	249	A Supervised Machine Learning-based Sound Identification for Construction Activity Monitoring and Performance Evaluation	Tianyi Zhang, Yong-Cheol Lee, Michele Scarpiniti and Aurelio Uncini
3:45 PM	586	Improved Stakeholder Communication and Visualizations: Real-time Interaction and Cost Estimation within Immersive Virtual Environments	Vahid Balali, Mojtaba Noghabaei, Arsalan Heydarian and Kevin Han
4:00 PM	151	Capturing Human Sensation Using Physiological Sensing Devices to Support Human-Centered Indoor Environment Design	Lu Zhang, Nipesh Pradhananga and Newton D'souza
4:15 PM	266	Feasibility Study of a Wristband-type Wearable Sensor to Understand Construction Workers' Physical and Mental Status	Houtan Jebelli, Byungjoo Choi, Hyeonseung Kim and Sanghyun Lee
Session 3: April 3, 2018 - 3:15pm - 4:30pm			
Room: Poydras (3rd Floor)			
Track 3I: Data Sensing, BIM, Simulation			
Moderator: Hubo Cai (Purdue University)			
Time	Paper ID	Title	Authors
3:15 PM	79	Using Panoramic Augmented Reality to Develop a Virtual Safety Training Environment	Ricardo Eiris Pereira, Masoud Gheisari and Behzad Esmaeili
3:30 PM	333	A Usability Study of an Immersive Virtual Reality Platform for Building Design Review: Considerations on Human Factors and User Interface	Daniel Paes and Javier Irizarry
3:45 PM	343	Virtual reality and augmented reality use in assisting project schedule control: a review	Meiqing Fu and Rui Liu
4:00 PM	455	A Meta Analysis of Augmented Reality Challenges in the Underground Utility Construction Industry	Amr Fenais, Nikolas Smilovsky, Samuel T. Ariaratnam and Steven K. Ayer
4:15 PM	684	Enhancing the Prediction of Artificial Lighting Control Behavior using Virtual Reality (VR) A Pilot Study	Chanachok Chokwitthaya, Sanaz Saeidi, Supratik Mukhopadhyay and Yimin Zhu

Session 3: April 3, 2018 - 3:15pm - 4:30pm			
Room: Algiers Room C (2nd Floor)			
Track 3J: Global Construction Issues & Disaster Management			
Moderator: Hisham M. Said (Santa Clara University)			
Time	Paper ID	Title	Authors
3:15 PM	294	An Open Transportation Network Resilience Analytics Platform for Large-Scale Urban Accessibility Analysis	Qi Wang, Edgar Castro and Armin Akhavan
3:30 PM	84	Urban Crisis Detection Technique: A Spatial and Data Driven Approach based on Latent Dirichlet Allocation (LDA) Topic Modeling	Yan Wang and John Taylor
3:45 PM	432	The impact of inclusiveness on resilience in Temporary Multidisciplinary Organisations (TMO)	Karen Blay
4:00 PM	622	Introducing Community Resiliency through CSR	Mohamed Elzomor, Omar Youssef and Marie-Odile Fortier
4:15 PM	120	Can "EDGE" be the Solution to Sustainability of Buildings in Colombian Market?	Oscar Beltrán and Mazdak Nik-Bakht
Session 3: April 3, 2018 - 3:15pm - 4:30pm			
Room: Tremé (2nd Floor)			
Track 3K: Infrastructure Management			
Moderator: Tuyen Le (Iowa State University)			
Time	Paper ID	Title	Authors
3:15 PM	591	Synthesis of Water Infrastructure Adaptation Practices in Atlantic Coastal Communities	Sreeganesh Yerri, Kalyan Piratla, Brandon Ross and Daniel Harrison
3:30 PM	397	MODELING OF PUBLIC PERCEPTIONS TOWARDS IMPROVED WATER SYSTEM LEVEL OF SERVICE ARISING FROM INFRASTRUCTURE ALTERNATIVES IN U.S. SHRINKING CITIES	Khalid Osman and Kasey Faust
3:45 PM	567	Quantifying the Resilience of Water Supply Infrastructure Systems: The Role of Infrastructure Interdependency	Saad Aljadhai and Dulcy Abraham
4:00 PM	588	EVALUATION OF A NEW RELIABILITY ASSESSMENT APPROACH FOR WATER PIPELINE NETWORKS	Abdulrahman Bin Mahmoud and Kalyan Piratla
4:15 PM	262	Making the Case for Increased Interventions on the Parcel Scale for a Holistic Water Infrastructure Management Practice	Mary Semaan and Annie Pearce
Session 3: April 3, 2018 - 3:15pm - 4:30pm			
Room: Acadian Room II (3rd Floor)			
Track 3L: Construction Planning & Control			
Moderator: Nazila Roofigari-Esfahan (Virginia Tech)			
Time	Paper ID	Title	Authors
3:15 PM	277	Design of a Conceptual Cost Estimation Decision Support System for Public University Construction	Anh Chau, Gary Moynihan and Stephanie Vereen
3:30 PM	94	Owner Time And Cost Contingency Estimation For Building Construction Projects in Egypt	Seif El-Din Nawar, Ossama Hosny and Khaled Nassar
3:45 PM	507	Quantification of Cost, Time, and Productivity Loss due to Scope Change	Hani Alzraiee and Tarek Zayed
4:00 PM	61	Stochastic Time-Cost-Quality Trade-Off Analysis: The PERT Approach	Ossama Hosny and Mahmoud Elbassuoni
4:15 PM	506	Cost Management Practice of Construction Firms and Its Influencing Factors: Lessons from Southwestern Nigeria	Olabosipo Fagbenle, Opeyemi Joshua, Adedeji Afolabi, Rapheal Ojelabi, Oluseyi Fagbenle, Ayoola Fagbenle and Maryam Akomolafe

Session 4: April 4, 2018 - 9:45am - 11:15am			
Room: Algiers Room A (2nd Floor)			
Track 4A: Productivity and Workforce			
Moderator: Eric Jing Du (Texas A&M University)			
Time	Paper ID	Title	Authors
9:45 AM	387	Exploring collaborative networks in BIM design based on event logs	Limao Zhang and Baabak Ashuri
10:00 AM	407	Business Value of Augmented Reality in the Construction Industry	Fopefoluwa Bademosi and Raja R. A. Issa
10:15 AM	427	BIM Implementation in Facilities Management: An Analysis of Process	Saratu Terreno, Chimay Anumba and Somayah Asadi
10:30 AM	437	Development of a Web-based human resource sourcing system for labour only contracts	Adedeji Afolabi, Olabosipo Fagbenle, Rapheal Ojelabi, Lekan Amusan, Patience Tunji-Olayeni and Victor Daniyan
10:45 AM	336	Professional Progression, Company Commitment, and Project Choice: An Empirical Investigation into Professional Staff Values in Construction	Denise Simmons, Josh Iorio, John Taylor and Dan Li
11:00 AM	315	Characterizing the Role of Communications in Teams Carrying Out Building Inspection	Yangming Shi, Jing Du, Pingbo Tang and Dong Zhao
Session 4: April 4, 2018 - 9:45am - 11:15am			
Room: Algiers Room B (2nd Floor)			
Track 4B: Quantitative Methods			
Moderator: Issam Srouf (The American University of Beirut)			
Time	Paper ID	Title	Authors
9:45 AM	186	Impact of Construction Projects on Urban Quality of Life: a Data Analysis Method	Zhengbo Zou and Semiha Ergan
10:00 AM	187	Time-Series Based Thermography on Concrete Block Void Detection	Chongsheng Cheng and Zhigang Shen
10:15 AM	207	Laboratory Investigation of Using Piezoelectric Transducers in Energy Harvesting From Asphalt Pavements	Samer Dessouky and Hossein Roshani
10:30 AM	230	Development of Project Life Cycle Communication Ladder Framework Using Factor Analysis Method	Shirin Kamalirad and Sharareh Kermanshachi
10:45 AM	248	Post-Disaster Labor Wage Fluctuations: A Comparative Empirical Analysis among Different Sectors of U.S. Construction Industry	Navid Ahmadi and Seyed Mohsen Shahandashti
11:00 AM	152	Impact of Project Integration on Implementation of Model-based Estimating	Wenqi Zhu, Hyun Woo Lee and Carrie Sturts Dossick
Session 4: April 4, 2018 - 9:45am - 11:15am			
Room: Acadian Room I (3rd Floor)			
Track 4C: Building Performance & Lifecycle Analysis			
Moderator: Dong Zhao (Michigan State University)			
Time	Paper ID	Title	Authors
9:45 AM	127	Analysis of Embodied Energy of High-rise Office Buildings in Hong Kong	Jie Wang and Wei Pan
10:00 AM	190	Life Cycle Assessment Framework for Demolition and Deconstruction of Buildings	Arya Anuranjita, George Berghorn, Darius Bates and Matt Syal
10:15 AM	433	Multi-Objective Reliability-Based Optimization of Life-Cycle Maintenance for Bridges under Cost Uncertainty	Niloofer Montazeri and Ali Touran
10:30 AM	695	Implications of prefabrication for the life cycle carbon emissions of high-rise buildings in high-density urban environment	Wei Pan, Yue Teng, Kaijian Li and Cong Yu
10:45 AM	382	Life-Cycle Cost Analysis for Traditional and Permeable Pavements	Talal Rehan, Yan Qi and Anne Werner
11:00 AM	356	Predicting the Need for Energy Efficiency Upgrades of Residential Buildings Through Data-Driven Modeling	Huyen Do, Kristen Cetin, Kaanthi Sundaravadanam and Trevor Andersen

Session 4: April 4, 2018 - 9:45am - 11:15am			
Room: Fulton (3rd Floor)			
Track 4D: Construction Planning & Control			
Moderator: Justin Yeoh (National University of Singapore)			
Time	Paper ID	Title	Authors
9:45 AM	496	Statistical Modeling of Number of Bidders in Highway Resurfacing and Widening Construction Projects	Minsoo Baek and Baabak Ashuri
10:00 AM	404	Synthesis of Improvements to EVMS Key Parameters Representation	Farah Demachkieh and Mohamed-Asem Abdul-Malak
10:15 AM	415	Exploring Potential Delays Associated with Requests For Information in CM/GC Highway Construction	Dean Papajohn, Douglas Alleman, Mounir El Asmar and Keith Molenaar
10:30 AM	301	Trends in Social Network Research in Construction Teams: A Literature Review	James Kereri and Christofer Harper
10:45 AM	220	Cost Benefit Analysis of Best Practices for Expediting Utility Relocations on Highway Projects	Ernest-John Ignacio and Khaled El-Rayes
11:00 AM	261	A Case Study of Utility Coordination within a Major Design-Build Transportation Project	Roy Sturgill, Timothy Taylor and Gabriel Dadi
Session 4: April 4, 2018 - 9:45am - 11:15am			
Room: LaSalle C (2nd Floor)			
Track 4E: Automation and Robotics			
Moderator: Karen Blay (Loughborough University)			
Time	Paper ID	Title	Authors
9:45 AM	245	Automated Tower Crane Planning Leveraging BIM and Rule Checking	Yuanshen Ji and Fernanda Leite
10:00 AM	290	Real-Time Construction Site Layout and Equipment Monitoring	Ci-Jyun Liang, Vineet R. Kamat and Carol C. Menassa
10:15 AM	414	Towards Systematic Understanding of Geometric Representations in BIM Standard: An Empirical Data-Driven Approach	Jiansong Zhang
10:30 AM	125	Recommender System for Improving BIM Efficiency: An Interior Finishing Case Study	Yuxuan Zhang, Hexu Liu and Mohamed Al-Hussein
10:45 AM	113	Graphical Scripting Approach Integrated with Speech Recognition for BIM-based Rule Checking	Yong-Cheol Lee, Pedram Ghannad, Nan Shang, Charles Eastman and Sarah Barrett
11:00 AM	476	VPL-based code translation for automated compliance checking of building envelope energy efficiency	Hui Zhou, Sanghoon Lee and Huaquan Ying
Session 4: April 4, 2018 - 9:45am - 11:15am			
Room: Pelican Room I (3rd Floor)			
Track 4F: Risk and Safety Management			
Moderator: Ahmed Al-Bayati (Western Carolina University)			
Time	Paper ID	Title	Authors
9:45 AM	12	A Review of the Barriers to Implementing Project Risk Management and a Study of their Impact on Electrical Contractors' Risk Maturity Levels	Anthony Perrenoud, Jafer Alnassar, Brian Lines and Ben Bigelow
10:00 AM	41	Using the Risk Target Concept to Investigate Construction Workers' Potential Biases in Assigning/Assuming Safety Risk	Mohammed Azeez and John Gambatese
10:15 AM	59	Three-Dimensional Visual and Collaborative Environment for Jobsite Risk Communication	Abiodun Olorunfemi, Fei Dai, Liyaning Tang and Yoojung Yoon
10:30 AM	379	The Association Between Risk Perception and Risk-Taking Behavior of Construction Workers	Bac Dao, Sogand Hasanzadeh and Behzad Esmaeili
10:45 AM	68	Temporary Construction Signage: Driver Preferences for Work Zone Safety	Ziyu Jin and John Gambatese
11:00 AM	309	Developing a cost-effective and adaptive training program to enhance construction safety in tunneling construction	Ming Lu and Monjurul Hasan

Session 4: April 4, 2018 - 9:45am - 11:15am			
Room: Gentilly (1st Floor)			
Track 4G: Contracting & Legal Issues			
Moderator: Pardis Pishdad-Bozorgi (Georgia Institute of Technology)			
Time	Paper ID	Title	Authors
9:45 AM	246	A Pilot Study of Investigating Trust Repair Strategies for Competence-based Trust Violation in China: from Subcontractors' Perspective	Xiaodan Zheng, Xinyi Song, Conghan Wang and Shuibo Zhang
10:00 AM	391	Team Selection Mechanics: Qualifications, Availability, and the Human Element	Kristen Hurtado, Kenneth Sullivan, Jake Smithwick, Brian Lines, Brian Stone and Anusree Saseendran
10:15 AM	429	Regulation of Unmanned Aerial Vehicles and a Survey on Their Use in the Construction Industry	Michele Herrmann
10:30 AM	430	The Joint Impact of Supply Chain Integration Practices on Construction Schedule Performance for California Healthcare Projects	Daniel M. Hall
10:45 AM	511	Assessment of Integrated Project Delivery (IPD) Risk and Reward Sharing Strategies from the Standpoint of Collaboration: A Game Theory Approach	Pardis Pishdad-Bozorgi and Divyansh Srivastava
11:00 AM	638	Contracting Methods for Integrated Project Delivery: A Healthcare Case Study	Sean Mulholland and Caroline Clevenger
Session 4: April 4, 2018 - 9:45am - 11:15am			
Room: Poydras (3rd Floor)			
Track 4H: Data Sensing, BIM, Simulation			
Moderator: Masoud Gheisari (University of Florida)			
Time	Paper ID	Title	Authors
9:45 AM	29	Smart Construction from Head to Toe: A Closed-loop Lifecycle Management System Based on IoT	Jinying Xu and Weisheng Lu
10:00 AM	123	Automated Generation of Optimal Steel Sequences with Discrete Action, Status, and Interaction Simulation in BIM	Kyungki Kim, Madhumita Akhuli, Chunhee Cho and Jeewoong Park
10:15 AM	679	Immersive Virtual Environments for Longitudinal Occupant Behavior Studies: A Case Study	Sanaz Saeidi, Yimin Zhu and Chanachok Chokwitthaya
10:30 AM	166	Case Study in the Implementation of Virtual Design Reviews in the Generation of As-Built Information	Fadi Castronovo, Bassam Awad and Reza Akhavian
10:45 AM	101	The Impact of BIM Design-related Changes on the Performance of VDC Tasks of Electrical Contractors in the United States	Justin Reginato and Hisham Said
11:00 AM	630	An Approach to Automate Frequent Encroachment Condition Assessments	Tiyasa Ray and David Grau
Session 4: April 4, 2018 - 9:45am - 11:15am			
Room: Pelican Room II (3rd Floor)			
Track 4I: Data Sensing, BIM, Simulation			
Moderator: Issa J. Ramaji (University of North Florida)			
Time	Paper ID	Title	Authors
9:45 AM	692	Reaction Time Optimization based on Sensor Data-Driven Simulation for Snow Removal Projects	Parinaz Jafari, Emad Mohamed, Mostafa Ali, Ming-Fung Francis Siu, Simaan Abourizk, Lance Jewkes and Rod Wales
10:00 AM	270	Maintainability Assessment of Light Design Using Game Simulation, Virtual Reality and Brain Sensing Technologies	Nidia Bucarelli, Jiansong Zhang and Chao Wang
10:15 AM	201	Multi-Physics Simulation of Microwave Energy for Curing Cement-Based Materials	Chunhee Cho, Jeewoong Park and Kyungki Kim
10:30 AM	405	Visualizing and Coordinating Construction Projects Using Holography	Nathan Blinn, Ralph Tayeh and Raja R. A. Issa
10:45 AM	686	A Conversation Analysis Framework Using Speech Recognition and Naive Bayes Classification for Construction Process Monitoring	Tianyi Zhang, Yong-Cheol Lee, Yimin Zhu and Javier Hernando
11:00 AM	648	Multi-Criteria Ranking Tool for Evaluating Buildings Evacuation using Agent-Based Simulation	Mohamed Marzouk and Basma Mohamed

Session 4: April 4, 2018 - 9:45am - 11:15am			
Room: Algiers Room C (2nd Floor)			
Track 4J: Global Issues and Disaster Management			
Moderator: Kristen Parrish (Arizona State University)			
Time	Paper ID	Title	Authors
9:45 AM	398	Lean Construction to Manage Project Structural Complexity: LPDS-MDM Framework	Audrey Bascoul, Stanislaus Tuholski and Iris Tommelein
10:00 AM	139	Robustness Enhancement of Healthcare Infrastructure Through Intelligent Planning Units (IPUs)	Juyeong Choi and Makarand Hastak
10:15 AM	96	Implementation of Housing Regulations in Temporary Accommodations for Displaced Persons: A German Case Study	Miriam E. Hacker, Jessica Kaminsky and Kasey Faust
10:30 AM	233	Engineering, Procurement and Construction Cost and Schedule Performance Leading Indicators: State-of-the-Art Review	Mohammadreza Habibi, Sharareh Kermanshachi and Elnaz Safapour
10:45 AM	360	Unique Features of Conducting Construction Activities within Tribal Communities	Brianne Arviso, Kristen Parrish and Wanda Dalla Costa
11:00 AM	48	Contracting in The Saudi Public Construction Projects: What Do US Contractors Need to Know?	Islam El-Adaway, Ibrahim Abotaleb, Mohamed Eid, Samuel May, Lauren Netherton and Jonathan Vest
Session 4: April 4, 2018 - 9:45am - 11:15am			
Room: Tremé (2nd Floor)			
Track 4K: Infrastructure Management			
Moderator: Aaron Costin (University of Florida)			
Time	Paper ID	Title	Authors
9:45 AM	177	Understanding Theory of Project Management for Complex Civil Infrastructure	Jin Ouk Choi, Jennifer Shane and Kelly Strong
10:00 AM	464	Evaluation of Energy Harvesting Potential in Water Pipelines to Power Sustainable Monitoring Systems	Harshit Shukla, Harsh Desai, Jacob Sorber and Kalyan Piratla
10:15 AM	546	Fire prevention and management strategies for structures and materials occupying space under bridges	Jisoo Park, Yong K. Cho and Jaewon Shim
10:30 AM	556	Automating Highway Infrastructure Maintenance Using Unmanned Aerial Vehicles	Nermin Shaghlil and Ahmed Khalafallah
10:45 AM	283	RFID and BIM Enabled Prefabricated Component Management System in Prefabricated Housing Production	Bing Qi, Ke Chen and Aaron Costin
11:00 AM	423	An Evaluation of the Failure Modes and Condition Assessment Technologies for Small Diameter Ductile Iron Pipes	Srinath Kumar, Hamed Zamenia, Tom Iseley and Dulcy Abraham
Session 4: April 4, 2018 - 9:45am - 11:15am			
Room: Acadian Room II (3rd Floor)			
Track 4L: Risk and Safety Management			
Moderator: Dan Tran (University of Kansas)			
Time	Paper ID	Title	Authors
9:45 AM	451	Diagnosing Multiple Supervision Failures in Falling Accidents in China and Countermeasure Design for Addressing Hidden Factors	Zhijun Yin and Pingbo Tang
10:00 AM	302	Vision-based Construction Activity Analysis in Long Video Sequences via Hidden Markov Models: Experiments on Earthmoving Operations	Dominic Roberts, Mani Golparvar-Fard, Juan Carlos Niebles, Junyoung Gwak and Ruxiao Bao
10:15 AM	569	Advancing Hazard Recognition through Neuroscience: Measuring Cognitive Response to Hazards Using Functional Near Infrared Spectroscopy	Mo Hu, Tripp Shealy, Matthew Hallowell and Dylan Hardison
10:30 AM	578	Evaluating the Performance of Machine Learning Algorithms on Construction Accidents: An application of ROC Curves	Pouya Gholizadeh, Behzad Esmaeili and Babak Memarian
10:45 AM	636	Monitoring Changes in Gait Adaptation to Identify Construction Workers' Risk Preparedness after Multiple Exposures to a Hazard	Cenfei Sun, Changbum Ahn, Junseo Bae and Matthew Johnson
11:00 AM	323	Use of Analytical Tools to Mitigate Mobile Crane-related Failures	Congwen Kan, Yihai Fang, Chimay Anumba and John Messner

Session 5: April 4, 2018 - 1:45pm - 3:00pm			
Room: Algiers Room A (2nd Floor)			
Track 5A: Productivity and Workforce			
Moderator: Denise Simmons (Virginia Institute of Technology)			
Time	Paper ID	Title	Authors
1:45 PM	147	Cooperation in Engineering, Procurement and Construction (EPC) project team: The impact of ethical climate among general contractor.	Lianying Zhang and Guannan Xi
2:00 PM	242	Discovering the Impact of Late Change Orders and Rework on Labor Productivity: A Water Treatment Case Study Analysis Using System Dynamics Modeling	Sharareh Kermanshachi, Rishab Thakur and Paul Govan
2:15 PM	310	Optimal Labor Productivity: A Case Study in a Sheet Metal Bending	Krishna Kisi, Nirajan Mani, Eddy Rojas and Terence Foster
2:30 PM	696	An investigation on stress among the professionals in the Indian construction industry	K.S. Anandh and K. Gunasekaran
2:45 PM	698	Measures of Mental Alertness of Construction Workers to Enhance Job Site Safety	Atefeh Mohammadpour, Mehdi Khalighi, Ebrahim Karan, Michael Bendele and Ann Marshall
Session 5: April 4, 2018 - 1:45pm - 3:00pm			
Room: Acadian Room I (3rd Floor)			
Track 5B: Quantitative Methods			
Moderator: Sharareh Kermanshachi (University of Texas at Arlington)			
Time	Paper ID	Title	Authors
1:45 PM	443	Examining Impact of Risk on Cost Growth in Design-Build Projects Using Structural Equation Modeling	Sharon Mathew, Dan Tran and Long Nguyen
2:00 PM	526	Is Architectural Billing Index Helpful to Forecast Fluctuations in Nonresidential Construction Spending in the United States?	Bahram Abediniangerabi, Navid Esfahani and Mohsen Shahandashti
2:15 PM	541	Comparative Analysis between Project Delivery Systems through Quantitative Assessment of Project Performance	Michael Ibrahim, Awad Hanna and David Kievet
2:30 PM	582	Entity-Based Investigation of Project Complexity Impact on Size and Frequency of Construction Phase Change Orders	Elnaz Safapour, Sharareh Kermanshachi and Issa Ramaji
2:45 PM	637	Value Engineering and its Applications in Civil Engineering	Mohamed Abdel-Raheem, Ahmed Abdelhamed, Victoria Burbach, Grecia Sanchez and Linda Navarro
Session 5: April 4, 2018 - 1:45pm - 3:00pm			
Room: Acadian Room II (3rd Floor)			
Track 5C: Building Performance & Lifecycle Analysis			
Moderator: Matt Syal (Michigan State University)			
Time	Paper ID	Title	Authors
1:45 PM	373	Are Facility Maintenance and Operations Enabling Performance: A Study of K-12 Public Schools	Michael Beauregard and Steven Ayer
2:00 PM	584	A Study of Net Zero Energy Buildings in the US: Evaluating Key Elements	Hamed Hakim, Ashish Tripathy Asutosh, Mohamad Ahmadzade Razkenari, Andriel Evandro Fenner and Charles Kibert
2:15 PM	206	Comparing life cycle assessment databases for estimating carbon emissions of prefabricated buildings	Yue Teng, Wei Pan and Kaijian Li
2:30 PM	665	Improving Creativity in the Value Engineering Process for Green Building Construction	Joel Ochieng Wao
2:45 PM	299	Exploring Agent-Based Modeling Approaches For Human-Centered Energy Consumption Prediction	Yewande Abraham, Chimay Anumba and Somayeh Asadi

Session 5: April 4, 2018 - 1:45pm - 3:00pm			
Room: Fulton (3rd Floor)			
Track 5D: Construction Planning & Control			
Moderator: Vanessa Valentin (University of New Mexico)			
Time	Paper ID	Title	Authors
1:45 PM	87	Optimal Construction Site Conditions for Concrete Operations	Jorge Santamaria and Vanessa Valentin
2:00 PM	89	A BIM-Enabled System for Evaluating Impacts of Construction Change Orders	Veerasak Likhitruangsilp, Tantri Handayani, Photios Ioannou and Nobuyoshi Yabuki
2:15 PM	657	An ontological framework for identification of construction resources using BIM information	Sina Mohammadi, Mehdi Tavakolan and Banafsheh Zahraie
2:30 PM	438	Assessment of the Linkages and Leakages in a Cloud-based Computing Collaboration among Construction Stakeholders	Adedeji Afolabi, Lekan Amusan, Dele Owolabi, Rapheal Ojelabi, Opeyemi Joshua and Patience Tunji-Olayeni
2:45 PM	520	Integrating BIM and Earned Value Management System to Track Projects Progress	Hani Alzraiee
Session 5: April 4, 2018 - 1:45pm - 3:00pm			
Room: Gently (1st Floor)			
Track 5E: Construction Education			
Moderator: Heidi Brothers (University of Colorado - Denver)			
Time	Paper ID	Title	Authors
1:45 PM	502	Tracking Student Retention using System Dynamics Modeling	Parya Nickbeen, Susan Bogus and Vanessa Valentin
2:00 PM	596	Development and Evaluation of an Augmented Reality Learning Tool for Construction Engineering Education	Xiaowei Luo and Christine Diane Mojica Cabico
2:15 PM	605	"She is not an expert": Gender myths reinforced among civil engineers	Cristina Poleacovschi
2:30 PM	334	Assessing the Graduate Education in Research Methodology on Sustainability	Dong Zhao, Rodolfo Valdes-Vasquez, Denise Simmons and Kristen Parrish
2:45 PM			
Session 5: April 4, 2018 - 1:45pm - 3:00pm			
Room: Poydras (3rd Floor)			
Track 5F: Risk and Safety Management			
Moderator: Reza Akhavian (California State University East Bay)			
Time	Paper ID	Title	Authors
1:45 PM	13	How Psychological Capital Affects Construction Workers' Safety Behavior: The Mediating Role of Safety Motivation	Dan Wang, Xueqing Wang and Lu Wang
2:00 PM	118	The Distracted Worker: Effect on Hazard Recognition and Safety Performance	Mostafa Namian, Alex Albert and Jing Feng
2:15 PM	11	Impact of advertising signs on freeway crashes within a certain distance in Michigan	Reza Shirazinejad and Ahmed Al-Bayati
2:30 PM	115	Using Virtual Prototyping to Select Compatible Fall Protection Supplementary Devices for Bridge Maintenance Work	Carlos M. Zuluaga and Alex Albert
2:45 PM	635	Illumination and Visibility of Workers in Nighttime Highway Work Zones	Ali Jafarnejad, John Gambatese and Chukwuma Nnaji

Session 5: April 4, 2018 - 1:45pm - 3:00pm			
Room: Algiers Room B (2nd Floor)			
Track 5G: Contracting & Legal Issues			
Moderator: Ghada Gad (California State Polytech University, Pomona)			
Time	Paper ID	Title	Authors
1:45 PM	38	Total Project Cost of Best Value Procurement: Linking Bid Prices with Project Close Out	Brian Lines and Venkata Sai Raghu Teja Kakarapalli
2:00 PM	239	Time of Involvement and Dispute Occurrence in Public Highway Projects	Sogand Hasanzadeh, Behzad Esmaeili, Ghada M. Gad, Douglas D. Gransberg and Samaneh Nasrollahi
2:15 PM	471	Examination of Judgements Rendered by Engineering Professionals under Various Construction Claims/Disputes Resolution Roles	Mohammad Barakat, Mohamed-Asem Abdul-Malak and Hiam Khoury
2:30 PM	542	Detriments of Meddling with the Engineer's Claims-Related Contract Administration Roles	Mohamed-Asem Abdul-Malak and Layal Naeem
2:45 PM	642	Financial Accounting Treatment of Differing Site Conditions Claims: A Contractor's Perspective	Mohammad Barakat, Hiam Khoury and Mohamed-Asem Abdul-Malak
Session 5: April 4, 2018 - 1:45pm - 3:00pm			
Room: Pelican Room I (3rd Floor)			
Track 5H: Data Sensing, BIM, Simulation			
Moderator: Johnson Xuesong Shen (University of New South Wales)			
Time	Paper ID	Title	Authors
1:45 PM	36	Evolution of BIM Adoption and Implementation by the Construction Industry Over the Past Decade: a Replication Study	Kareem Mostafa and Fernanda Leite
2:00 PM	56	Defining a Problem-Based Learning Activity to Enhance Critical Skills for Resolving Prevalent Issues on BIM projects	Rahimi A. Rahman and Steven K. Ayer
2:15 PM	93	The Heterogeneity of BIM Objects in Different Construction Contexts	Jing Wang, Weisheng Lu, Diandian Liu and Fan Xue
2:30 PM	109	Web-based Data Federation, Archiving, and Curating of Construction Activity and Operation Sounds	Tianyi Zhang, Yong-Cheol Lee and Seungwon Yang
2:45 PM	193	Leveraging Site Survey Points for Mixed Reality BIM Visualization	Jad Chalhouh, Suleiman Alsafouri and Steven K. Ayer
Session 5: April 4, 2018 - 1:45pm - 3:00pm			
Room: Pelican Room II (3rd Floor)			
Track 5I: Data Sensing, BIM, Simulation			
Moderator: Joseph Louis (Oregon State University)			
Time	Paper ID	Title	Authors
1:45 PM	537	Non-USA Practitioners' Perception of Key BIM Maturity	Yunfeng Chen, Dylan John, Robert Cox and Qian Huang
2:00 PM	573	Engaging with BIM: Interactive Workspaces in Facility Design and Construction	Jennifer Lather, Robert Leicht and John Messner
2:15 PM	643	Envisioned Roles of BIM for Design Delivery under Design-Build Projects	Mayssa Kalach, Issam Srour and Mohamed-Asem Abdul-Malak
2:30 PM	707	Investigating Owner Requirements for BIM-Enabled Design Review	Soojung Kim, Achintya Bhat, Erik A. Poirier and Sheryl Staub-French
2:45 PM	453	BIM Interoperability for Structure Analysis	Ran Ren, Jiansong Zhang, and Hazar Dib

Session 5: April 4, 2018 - 1:45pm - 3:00pm			
Room: Algiers Room C (2nd Floor)			
Track 5J: CII Research			
Moderator: Bryan Franz (University of Florida)			
Time	Paper ID	Title	Authors
1:45 PM	180	Modeling a Safety Training and Competence Model for Construction Craft Professionals	Elyas Jazayeri, Huang Liu and Gabriel Dadi
2:00 PM	332	Integrating PDRI Tools Into Introductory Construction Classrooms	Mohamed Elzomor and Kristen Parrish
2:15 PM	228	State-of-the-Practice in the Design and Construction of Flexible Facilities	Katherine Maslak, Bryan Franz, Keith Molenaar and Gül Kremer
2:30 PM	494	Construction Manager General Contractor (CMGC) Characteristics and Effective Practices in Transportation Sector	Hongtao Dang and Jennifer Shane
2:45 PM	535	Impact of Collaboration and Integration on Performance of Industrial Projects	Phil Barutha, David Jeong, Douglas Gransberg and Ali Touran
Session 5: April 4, 2018 - 1:45pm - 3:00pm			
Room: LaSalle C (2nd Floor)			
Track 5K: Sustainable Design and Construction			
Moderator: Charles Kibert (University of Florida)			
Time	Paper ID	Title	Authors
1:45 PM	381	Pervious Concrete Test Methods for the Lab and Field	Talal Rehan, Yan Qi and Anne Werner
2:00 PM	562	Aligning Rating Systems and User Preferences: An Initial Approach to More Sustainable Construction Through a Behavioral Intervention	Dalya Ismael and Tripp Shealy
2:15 PM	574	Systems versus Linear Thinking: Measuring Cognitive Networks for Engineering Sustainability	Mo Hu and Tripp Shealy
2:30 PM	106	Improved Target-Value Design Approach through the Integration of Environmental Performance and Reliability Theory	Samer Buhamdan, Beda Barkokebas, Aladdin Alwisy, Ahmed Bouferguene and Mohamed Al-Hussein
2:45 PM	117	Decision Support System for Building Materials Selection: Current Trends and Opportunities	Martin Nwodo, Chimay Anumba and Somayeh Asadi
Session 5: April 4, 2018 - 1:45pm - 3:00pm			
Room: Tremé (2nd Floor)			
Track 5L: Infrastructure Management			
Moderator: Cristina Torres-Machi (University of Colorado - Boulder)			
Time	Paper ID	Title	Authors
1:45 PM	440	Characterizing Point Cloud Data Quality for Reliable Spatial Change-based Maintenance Planning of Civil Infrastructures	Jiawei Chen, Pingbo Tang and Wen Xiong
2:00 PM	23	Municipality Asset Management: Asset Types and Effective Management Process	Maha Alkasisbeh and Osama Abudayyeh
2:15 PM	122	Utility ontology development for supporting utility compliance checking	Xin Xu and Hubo Cai
2:30 PM	284	Developing Information Model for Multi-purpose Utility Tunnel Lifecycle Management	Ali Alaghbandrad and Amin Hammad
2:45 PM	195	GPR-Based Deterioration Mapping in Subway Networks	Thikra Dawood, Zhenhua Zhu and Tarek Zayed

Session 6: April 4, 2018 - 3:15pm - 4:30pm			
Room: Algiers Room A (2nd Floor)			
Track 6A: Productivity and Workforce			
Moderator: Jinouk Choi (University of Nevada Las Vegas)			
Time	Paper ID	Title	Authors
3:15 PM	163	Pilot Implementation of Assessing Physiological Measures during Construction Activities using Air Force Cadets	Caroline Clevenger, Robert Young, Wilbur Pillsbury, Moatassem Abdallah and Heidi Brothers
3:30 PM	182	Exploring the Role of Ethical Climate on Knowledge Contribution Loafing in Construction Project Teams	Lianying Zhang and Hui Sun
3:45 PM	408	Social risk conduction analysis of large-scale water conservancy projects: A set of survey data from China	Anmin Wang, Yanxu Wang, Liqun Zheng and Yang Hu
4:00 PM	554	Multi-Tiered Professional Liability Coverage for Designers and Contractors under Design-Build Project Delivery	Mayssa Kalach, Mohamed-Asem Abdul-Malak and Issam Srouf
4:15 PM	221	Evaluating Construction Work Obstacles Using Resilient Short-Interval Scheduling	Fei Han and Susan Bogus
Session 6: April 4, 2018 - 3:15pm - 4:30pm			
Room: Acadian Room I (3rd Floor)			
Track6B: Quantitative Methods			
Moderator: Timo Hartmann (Technical University of Berlin)			
Time	Paper ID	Title	Authors
3:15 PM	86	Neighborhood Design and Regional Accessibility of Age-Restricted Communities from Resiliency and Spatial Perspectives	Yuan Chen, Ahmed Bouferguene and Mohamed Al-Hussein
3:30 PM	88	Bibliometric Analysis of Published Studies in ASCE Construction Research Congress, USA	Mehran Oraee, M. Reza Hosseini, Roshani Palliyaguru and Linda Tivendale
3:45 PM	158	Time-Environmental Impacts Tradeoff Analysis for Businesses Commuters	Moatassem Abdallah, Aly Tawfik, Caroline Clevenger and Shahryar Monghasemi
4:00 PM			
4:15 PM			
Session 6: April 4, 2018 - 3:15pm - 4:30pm			
Room: Gentilly (1st Floor)			
Track 6C: Contracting & Legal Issues			
Moderator: Pramen Shrestha (University of Nevada Las Vegas)			
Time	Paper ID	Title	Authors
3:15 PM	66	Performance Comparison of Design-Build Projects for Highways and Buildings	Medya Fathi and Pramen Shrestha
3:30 PM	67	Relationship between Project Performance and Contract Procurement Factors in Design-Bid-Build Highway Projects	Ruiko Maharjan and Pramen Shrestha
3:45 PM	371	Effectiveness of Qualifications-Based Selection Criteria in Design-Build and Construction Manager at Risk Procurements: An Empirical Analysis	Brian Lines, Amirali Shalwani and Jake Smithwick
4:00 PM	255	Project Delivery Selection: Framework and Application in the Utility Industry	Chengyuan Diao, Yijun Dong and Qingbin Cui
4:15 PM	47	A Relational Contractual Framework for Promoting Collaborative Project Environment	Islam El-Adaway, Ibrahim Abotaleb and Seif Eteifa

Session 6: April 4, 2018 - 3:15pm - 4:30pm			
Room: Fulton (3rd Floor)			
Track 6D: Construction Planning & Control			
Moderator: Mohammed S. Hashem M. Mehany (Colorado State University)			
Time	Paper ID	Title	Authors
3:15 PM	55	What Construction Topics Do They Discuss in Social Media? A Case Study of Weibo in China	Liyaning Tang, Yiming Zhang, Fei Dai, Yoojung Yoon and Yangqiu Song
3:30 PM	533	Development of Project Communication Network: A New Approach to Information Flow Modeling	Shirin Kamalirad and Sharareh Kermanshachi
3:45 PM	141	Addressing Quality Problems in the Construction Industry: An Agent Based Modelling Approach	Daoud Kiomjian, Issam Srour and Faith Jordan Srour
4:00 PM	263	Delay Analysis: A Comparison of Schedules without Phantom Float in Commercial Scheduling Software	Diana Franco Duran and Jesús de La Garza
4:15 PM			
Session 6: April 4, 2018 - 3:15pm - 4:30pm			
Room: Algiers Room B (2nd Floor)			
Track 6E: Construction Planning & Control			
Moderator: Jennifer Shane (Iowa State University)			
Time	Paper ID	Title	Authors
3:15 PM	489	A Bayesian Network Approach to Selecting Project Delivery Methods	Sai Bypaneni, Dan Tran and Long Nguyen
3:30 PM	401	Degree of Criticality of Project Controls to Project Success	Farah Demachkieh and Mohamed-Asem Abdul-Malak
3:45 PM	683	Risk Management Strategies and the Effects on Project Success	Eric Scheepbouwer, Ashi Ezz, Brian Guo and Daniel Van der Walt
4:00 PM	694	High-rise modular building: ten-year journey and future development	Wei Pan, Yi Yang and Lin Yang
4:15 PM			
Session 6: April 4, 2018 - 3:15pm - 4:30pm			
Room: Acadian Room II (3rd Floor)			
Track 6F: Risk and Safety Management			
Moderator: Alex Albert (North Carolina State University)			
Time	Paper ID	Title	Authors
3:15 PM	52	Penetration of Leading Safety Indicators in the Construction Industry: The Case of Tennessee	Noor Akroush and Islam El-Adaway
3:30 PM	135	Validation of Time-Safety Influence Curve Using Empirical Safety and Injury Data—Poisson Regression	Ali Karakhan, Sathyanarayanan Rajendran and John Gambatese
3:45 PM	170	Towards improving safety performance of transportation maintenance workers through a pre-task safety talk program	Zamaan Al-Shabbani, Roy Sturgill and Gabriel Dadi
4:00 PM	418	A Hybrid Logistic Regression and Spatial Analysis Approach for Identification of Candidate Highway Safety Projects	Jojo France-Mensah and William O'Brien
4:15 PM	105	Methodology to Measure Real-Time PM 2.5 Levels in Equipment Cabins	Nahush Montadka and Ingrid Arocho

Session 6: April 4, 2018 - 3:15pm - 4:30pm			
Room: Poydras (3rd Floor)			
Track 6G: Sustainable Design and Construction			
Moderator: Pin-Chao Liao (Tsinghua University)			
Time	Paper ID	Title	Authors
3:15 PM	212	Viability of the Use of Nanoclay-modified Asphalt Binders in Roofing Shingles	Zahid Hossain and Biswajit Baigri
3:30 PM	229	Estimating the Value of Built-in Flexibility in Infrastructure	David G. Carmichael
3:45 PM	322	Civil Systems Engineering: Definition, and Basic Concepts	Lucian-Constantin Ungureanu and Timo Hartmann
4:00 PM			
4:15 PM			
Session 6: April 4, 2018 - 3:15pm - 4:30pm			
Room: Pelican Room I (3rd Floor)			
Track 6H: Data Sensing, BIM, Simulation			
Moderator: Jack C. P. Cheng (The Hong Kong University of Science and Technology)			
Time	Paper ID	Title	Authors
3:15 PM	168	A Productivity Forecasting System for Construction Cyclic Operations Using Audio Signals and a Bayesian Approach	Chris Sabillon, Abbas Rashidi, Biswanath Samanta, Chieh-Feng Cheng, Mark Davenport and David Anderson
3:30 PM	98	Region Proposal Mechanism for Building Element Detection from Unstructured Point Clouds	Jing Dao Chen, Yong Cho and Kyungki Kim
3:45 PM	265	A Supervised Learning-based Construction Workers' Stress Recognition Using a Wearable Electroencephalography (EEG) Device	Houtan Jebelli, Mohammad Mahdi Khalili, Sungjoo Hwang and Sanghyun Lee
4:00 PM	468	Modeling and Optimizing Fuel Usage of On-road Construction Equipment	Khalegh Barati and Xuesong Shen
4:15 PM	80	Building Intelligent Virtual Agents as Conversational Partners in Digital Construction Sites	Ricardo Eiris Pereira and Masoud Gheisari
Session 6: April 4, 2018 - 3:15pm - 4:30pm			
Room: Pelican Room II (3rd Floor)			
Track 6I: Data Sensing, BIM, Simulation			
Moderator: Steven Ayer (Arizona State University)			
Time	Paper ID	Title	Authors
3:15 PM	335	Developing a Collaboration Framework for Model-Based Estimating	Alireza Borhani, Carrie Sturts Dossick, Hyun Woo Lee and Laura Osburn
3:30 PM	226	An Exploratory Study of Sequence Alignment for Improved Sensor-Based Human Activity Recognition	Nipun Nath, Prabhat Shrestha and Amir Behzadan
3:45 PM	458	BIM Application in The Whole Life Cycle of Construction Projects in China	Lan Luo, Zhixin Yan, Delei Yang, Jianxun Xie and Guangdong Wu
4:00 PM	587	A Conceptual Framework for Effective Communication in Construction Management: Information Processing and Visual Communication	Namhun Lee and Yeojin Kim
4:15 PM			

Session 6: April 4, 2018 - 3:15pm - 4:30pm			
Room: Algiers Room C (2nd Floor)			
Track 6J: Global Construction Issues & Disaster Management & Contracts			
Moderator: Minsoo Baek (Georgia Institute of Technology)			
Time	Paper ID	Title	Authors
3:15 PM	629	Change Order Disputes: Causes and Effects in Kuwait	Yasmin Shalaby and Ahmed Khalafallah
3:30 PM	449	A Prediction Model To Monitor The Financial Soundness Of Construction Firms In Korea And The US	Haekyung Im, Edward Minchin, Hamed Hakim and Yuanxin Zhang
3:45 PM	518	A FRAMEWORK FOR ENHANCING CONTRACTOR-SUBCONTRACTOR RELATIONSHIPS IN CONSTRUCTION PROJECTS IN NIGERIA	Olabosipo Fagbenle, Opeyemi Joshua, Adedeji Afolabi, Rapheal Ojelabi, Oluseyi Fagbenle, Ayoola Fagbenle and Maryam Akomolafe
4:00 PM	20	International Contruction Project Risk Assessment Framework based on Dynamic Meta Network Analysis of Stakeholders, Events and Objects	Tao Wang, Shangde Gao and Pin-Chao Liao
4:15 PM	399	Construction Project Complexity as Addressed in Traditional vs. Lean Project Management Literature	Audrey Bascoul, Iris Tommelein and Stanislaus Tuholski
Session 6: April 4, 2018 - 3:15pm - 4:30pm			
Room: LaSalle C (2nd Floor)			
Track 6K: Sustainable Design and Construction			
Moderator: Rodolfo Valdes Vasquez (Colorado State University)			
Time	Paper ID	Title	Authors
3:15 PM	91	Economic Feasibility Analysis of Photovoltaic Systems Using Bayesian Networks	Mahmoud Shakouri and Hyun Woo Lee
3:30 PM	130	Analysis of GHG Emissions Reduction Policies on Commuters and Organizations	Caroline Clevenger, Moatassem Abdallah, Aly Tawfik and Shahryar Monghasemi
3:45 PM	205	Optimum Aspect Ratio of Windows in Small Commercial Buildings: A Comparison Between Seven Climate Zones in the United States	Reza Foroughi and Somayeh Asadi
4:00 PM	389	System Engineering Analysis Approach to Building Material Selection for Sustainable Buildings	Rebekah Burke and Kristen Parrish
4:15 PM	143	A Stochastic Approach for Maximizing Productive Time by Optimizing Indoor Environmental Quality	Mohamad Awada and Issam Srour
Session 6: April 4, 2018 - 3:15pm - 4:30pm			
Room: Tremé (2nd Floor)			
Track 6L: Infrastructure Management			
Moderator: Kalyan Piratla (Clemson University)			
Time	Paper ID	Title	Authors
3:15 PM	76	A Condition Assessment and Prediction Framework for Bridges Expansion Joints in Egypt	Abdelhay Badawy, Ossama Hosny, Hatem Elbehairy and Elkhayam Dorra
3:30 PM	204	Modeling Food Desert Disruptors: Impact of Public Transit Systems on Food Access	Kelsey Abel and Kasey Faust
3:45 PM	463	Effect of Slope on Water Infiltration near Buildings	Elizabeth Brogan and Caroline Clevenger
4:00 PM	619	Automated Water Runoff Location in Large Canal Networks	Bala Sai Krishna Paladugu and David Grau
4:15 PM			