The construction research community is continually involved in the development of any new technologies, innovations, and processes that have the potential to enhance construction operations and practices. These pursuits cover a number of areas, including field technologies, project management techniques, organizational enhancements, and personnel issues. Additionally, these pursuits range from basic research to applied studies of existing projects. Although CII takes an active role in pursuing many of the topics in these categories, the breadth of research it can support is limited. In order to provide a full overview of research currently underway across the construction research community, CII’s Academic Committee sponsors a poster session to present external projects, submitted by collaborating universities across our nation. Now a regular part of the CII Annual Conference display area, the Academic Committee Poster Session provides information on industry research that has been funded from other sources. Please stop by and enjoy the posters!

1. **A Novel Approach to Automated Generation of Knowledge-based Construction Simulation Models**  
   *Reza Akhavian, Dr. Amir H. Behzadan – University of Central Florida*  
   This study addresses a major challenge in construction simulation research. The goal is to capture real time multi-modal data from field processes to create data-driven knowledge-based simulation models.

2. **A Strategy for Mitigating Material Price Risk**  
   *Rebecca McDonald, Dr. W. Edward Back – University of Alabama*  
   This research investigates the application of financial derivative hedging on construction projects to mitigate material price risk regardless of project size and duration.

3. **An Advanced Construction Supply Nexus (ACSN) Model**  
   *Mahdi Safa, Dr. Carl Haas – University of Waterloo*  
   This project developed an ACSN model to serve as a computational and process environment that facilitates decision-making processes for a variety of levels and phases of a construction mega-project.

   *Jongwei Shan, Dr. Paul Goodrum – University of Colorado Boulder*  
   The poster presents the potential regional impact of forecasted global warming on construction productivity, utilizing existing global climate models and an integrated information modeling approach.

5. **Analysis of Shifting Dynamics in the Global Construction Marketplace**  
   *Joshua Zilke, Dr. John Taylor – Virginia Tech*  
   The objectives of this project include assessing the degree to which globalization is occurring in the construction industry, and determining whether U.S. construction firms are lagging behind firms from other countries in revenue capture from globalization.
*Mohsen Shahandashti, Dr. Baabak Ashuri, Georgia Institute of Technology*

This research effort created multivariate time series models to enhance the accuracy of existing cost estimation models, using information available from several macroeconomic, energy, and construction market variables.

7. **Mining clash data: evaluation and improvement of BIM-based MEP design coordination**  
*Li Wang, Dr. Fernanda Leite – University of Texas at Austin*

This study explores leverages data-mining approaches to understand how the documentation of problems from data-mining clashes and the corresponding solutions to these problems will affect the coordination efficiency and possible re-use of knowledge.

8. **Mobile 3D Mapping of Large Infrastructure Projects, Using Unmanned Aerial Vehicle (UAV) Systems**  
*Eric Marks, Dr. Jochen Teizer – Georgia Institute of Technology; Sebastian Siebert, Dr. Yelda Turkan – Iowa State University*

This research examines how the use of UAVs as a data-acquisition platform and as a measurement instrument has become attractive for many surveying applications. This poster shows how these UAV-based applications help decision makers in construction project management tasks.

9. **Selecting the most suitable project delivery system for capital projects**  
*Zorana Popic, Dr. Osama Moselhi – Concordia University*

This poster presents an automated multi-tiered decision-support process for selecting capital project delivery systems, which include the recently developed Integrated Project Delivery and Public-Private Partnership approaches.

10. **The Owner’s Guide to Maximizing Success on Projects**  
*Bryan Franz, Behzad Esmaeili, Dr. Robert Leicht, Dr. John Messner – The Pennsylvania State University and Dr. Keith Molenaar, University of Colorado Boulder*

This ongoing research study is using statistical analyses of a large dataset of completed building projects to develop an ongoing examination of how stakeholder role, technology, team behavior, and delivery systems affect project performance.