

# Construction Research Congress 2018

## Construction Information Technology



EDITED BY

Chao Wang, Ph.D.  
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Rebecca Harris



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# CONSTRUCTION RESEARCH CONGRESS 2018

## *Construction Information Technology*

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SELECTED PAPERS FROM THE CONSTRUCTION  
RESEARCH CONGRESS 2018

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April 2–4, 2018  
New Orleans, Louisiana

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Construction Institute of the  
American Society of Civil Engineers

EDITED BY

Chao Wang, Ph.D.  
Christofer Harper, Ph.D.  
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## Preface

On behalf of the Construction Institute of the American Society of Civil Engineers (ASCE), the Louisiana State University and the organizing committee, we welcome you to the 2018 CRC and to the city of New Orleans, Louisiana. The Construction Research Congress is the prime international conference in the area of construction engineering and management. This conference is organized by the Construction Research Council of the Construction Institute of ASCE. The 2018 conference was organized and hosted by the Bert S. Turner Department of Construction Management at the Louisiana State University.

The theme for this conference is “Building Community Partnerships”. Construction requires teams of individuals to collaborate and work together to focus on the success of a project. Creating a community of partners allows for synergy to proliferate throughout the team, the project, as well as the surrounding communities. Construction management necessitates partnerships and collaboration due to the globalization of the industry and the increasing complexities and risks that need to be addressed.

New Orleans, located in southeastern Louisiana, is a major United States port and the largest city and metropolitan area in the state of Louisiana with easy access to international airport and multiple forms of ground transportation. Between the festivals, museums, and nightlife, there is always something to do in the Crescent City. New Orleans always has an event going on just blocks from wherever you are. This city is also full of history from the St. Louis Cathedral which has stood the test of time for centuries to the buildings that still haven’t re-opened from Hurricane Katrina. Whatever you are looking for, New Orleans has it, not to mention, the food here is better than anywhere else.

The Conference Proceedings contain 373 peer-reviewed papers, which are the final product from 733 abstracts submitted, 586 abstracts accepted, and 418 full papers submitted. All papers went through a two-step peer review process, and were divided into five books with the following five research focus areas:

- Construction Information Technology
- Construction Project Management
- Safety and Disaster Management
- Infrastructure and Facility Management
- Sustainable Design/Construction and Education

On behalf of the Construction Institute, the American Society of Civil Engineers, Louisiana State University and the 2018 CRC Organizing Committee we welcome you to New Orleans and wish you leave with a wonderful experience and memory of New Orleans and the 2018 CRC.

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# Acknowledgments

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