

5<sup>th</sup> World Congress and Exhibition on

# CONSTRUCTION AND STEEL STRUCTURE

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World Congress on

# CONCRETE STRUCTURES & CONCRETE TECHNOLOGY

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## *Rex C Donahey*

*American Concrete Institute, USA*

### **The future surrounds us: Deep learning in the concrete industry**

For several years, the world's tech giants such as Amazon, WeChat, and Facebook have been using artificial intelligence (AI) to severely disrupt more traditional commerce, marketing and communications systems. Data scientists specializing in deep learning, a subset of AI, are now intensively developing new applications that will displace traditional methods in finance, healthcare, and transportation. Even within the concrete construction industry, early applications of deep learning algorithms have the potential to boost productivity, safety, and quality. This presentation will provide a summary of the concepts behind deep learning, review the many ways the technology affects our lives, examine current deep learning applications within the concrete industry and anticipate potential applications for specification, inspection, training and production. Lastly, attendees will be challenged to look for opportunities for applying deep learning in their own activities.

### **Biography**

Rex C Donahey earned his PhD from the University of Kansas. His career has included stints as a faculty member at Oklahoma State University and the University of Illinois; a structural engineer with Ellerbe Becket, Inc.; and the director of research at Composites Technologies Corporation. For the past 13 years, he has been Editor-in-Chief of Concrete International, the magazine of the American Concrete Institute. Donahey holds two patents related to insulated concrete wall panels. He is a licensed professional engineer in Oklahoma and Florida and he is a member of the Precast/Prestressed Concrete Institute.

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