

## Behrouz Shafei, PhD, PE

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**IOWA STATE UNIVERSITY**  
**Institute for Transportation**

### BACKGROUND

Dr. Behrouz Shafei is an Associate Professor of the Department of Civil, Construction, and Environmental Engineering at Iowa State University with a Professional Engineering (PE) license from the State of California, where he finished his PhD and postdoctoral studies. Dr. Shafei has a solid background and extensive experience in bridge engineering, including the development of novel material and structural solutions to extend the service life of bridge structures. He has active research projects sponsored by the Iowa Department of Transportation, Minnesota Department of Transportation, Midwest Transportation Center, Accelerated Bridge Construction University Transportation Center, and National Science Foundation. He is currently advising master and doctoral students, while teaching concrete design at both undergraduate and graduate levels. His contribution to the field has been recognized by the Public Impact Distinguished Fellowship (2010–2011), James D. Cooper Award (2011), Young Engineer Award (2012), Wiley Award for Innovation in Computing (2014), and Charles W. Schafer Award for Excellence in Teaching, Research, and Service (2020).

### EDUCATION

- PhD, Civil Engineering, University of California, Irvine, CA, 2011
- MS, Structural Engineering, University of Tehran, Iran, 2006
- BS, Civil Engineering, University of Tehran, Iran, 2004

### PROFESSIONAL EXPERIENCE

- Associate Professor (with Tenure), Department of Civil, Construction, and Environmental Engineering, Iowa State University, 2020–Present
- Assistant Professor, Department of Civil, Construction, and Environmental Engineering, Iowa State University, Ames, 2014–2020
- Assistant Professor, Department of Civil and Environmental Engineering, University of Massachusetts, Amherst, 2012–2014
- Postdoctoral Scholar, Department of Civil and Environmental Engineering, University of California, Irvine, 2011–2012

### SELECTED RESEARCH PROJECTS

- *Development of Non-Proprietary Ultra-High-Performance Concrete (UHPC) for Iowa Bridges*, Iowa Highway Research Board, Iowa Department of Transportation, and Accelerated Bridge Construction University Transportation Center (PI, 2018–2022)

- *Steel Reinforcement Section Loss Guidance Tables*, Minnesota Department of Transportation (PI, 2019–2022)
- *Fiber-Reinforced Concrete for Bridge Decks*, Iowa Highway Research Board and Iowa Department of Transportation (PI, 2018–2021)
- *Ultra High-Performance Concrete (UHPC) Repair of Steel Bridge Girder Ends*, Iowa Highway Research Board and Iowa Department of Transportation (PI, 2012–2025)
- *Beam End Repair for Prestressed Concrete Beams*, Iowa Department of Transportation (PI, Phase I: 2018–2022; Phase II: 2022–2025)
- *Increase Service Life at Bridge Ends through Improved Abutment and Approach Slab Details and Water Management Practices*, Iowa Highway Research Board (PI, 2017–2022)

### SELECTED PUBLICATIONS

- Karim, R. and B. Shafei. 2022. Investigation of Five Synthetic Fibers as Potential Replacements of Steel Fibers in Ultra-High-Performance Concrete. *ASCE Journal of Materials in Civil Engineering*, Vol. 34, No. 7, pp. 1–14.
- Kazemian, M. and B. Shafei. 2022 Internal Curing Capabilities of Natural Zeolite to Improve the Hydration of Ultra-High-Performance Concrete. *Journal of Construction and Building Materials*, Vol. 340, Article no. 127452, pp. 1–12.
- DeJong, A., W. Shi, B. Shafei, and T. Hosteng. 2021. Integral Abutment Connections with Grouted Reinforcing Bar Couplers and Ultra-High-Performance Concrete. *ASCE Journal of Bridge Engineering*, Vol. 26, No. 8, pp. 1–15.
- Karim, R. and B. Shafei. 2021. Flexural Response Characteristics of Ultra-High-Performance Concrete Made with Steel Microfibers and Macrofibers. *Journal of Structural Concrete*, Vol. 22, No. 6, pp. 3476–3490.
- Khatami, D. and B. Shafei. 2021. Impact of Climate Conditions on Deteriorating Reinforced Concrete Bridges in the U.S. Midwest Region. *ASCE Journal of Performance of Constructed Facilities*, Vol. 35, No. 1, pp. 1–11.
- Karim, R., M. Najimi, and B. Shafei. 2019 Assessment of Transport Properties, Volume Stability, and Frost Resistance of Non-Proprietary Ultra-High-Performance Concrete. *Journal of Construction and Building Materials*, Vol. 227, Article no. 117031, pp. 1–10.

### PROFESSIONAL AFFILIATIONS, HONORS, AND SERVICE

- Member, ASCE Task Group 2 on Reliability-Based Structural Performance Indicators
- Member, TRB Committee AKM50, Advanced Concrete Materials and Characterization
- Member, ACI Structural Plain Concrete Committee (Committee 380)
- Associate Member, ACI UHPC Committee (Committee 239)
- Associate Member, ACI Concrete Bridge Design Committee (Committee 343)
- Member, International Association for Bridge Maintenance and Safety (IABMAS)
- Member, International Association for Life-Cycle Civil Engineering (IALCCE)
- Member, American Society of Civil Engineers (ASCE)
- Member, American Concrete Institute (ACI)
- Professional Engineering (PE) License, State of California