Matthew Bandelt

Assistant Professor and Associate Chair at New Jersey Institute of Technology
Newark, NJ, US

Professor Bandelt focuses on cement-based composites to improve the behavior, durability and environmental impact of concrete structures.

Biography

Matthew Bandelt completed his Ph.D. in Civil and Environmental Engineering at Stanford University in 2015 where he specialized in the use of innovative construction materials to improve the performance of structural systems. Recent research has focused on cement-based composites which incorporate small polymeric and steel fibers to improve the structural behavior and durability of reinforced concrete structures. He has developed specifications to aid in design of structures using these composites, as well as computational modeling tools to predict their behavior under earthquake loading. He is currently exploring the use of these composites, and other novel construction materials, to improve infrastructure durability against harsh environmental conditions, and to decrease construction times and project delays. Dr. Bandelt is a recipient of the prestigious National Science Foundation Graduation Research Fellowship (NSF-GRF), and has also received awards from the American Institute of Steel Construction (AISC) and the American Society of Civil Engineers Structural Engineering Institute (ASCE-SEI).

Areas of Expertise

Computational Modeling, Polymeric Fibers, Construction, Reinforced Concrete

Affiliations

Bandelt Research Group, Professional Engineer - NJ, PA, American Concrete Institute (ACI) Voting Member, American Institute of Steel Construction (AISC), American Society of Civil Engineers (ASCE), Earthquake Engineering Research Institute (EERI), American Society for Engineering Education (ASEE)

Event Appearances

Predicting UHPC Structural Response at Ultimate Limit State through Numerical Simulation
Second International Interactive Symposium on UHPC

Fiber-Based Modeling of Reinforced HPFRCC Hinge Zones
11th National Conference on Earthquake Engineering

Simulation of Reinforced HPFRCC Deformation Capacity under Flexure- and Shear-Dominated Stress States
Computational Modeling of Concrete and Concrete Structures

Influence of HPFRCC Tensile Properties on Numerical Simulation Of Reinforced HPFRCC Component Behavior
Ninth International Symposium on Fiber Reinforced Concrete

Influence of Field-Cast Tensile Properties and Test Methods on Simulated Reinforced HPFRCC Component Behavior
Ninth International Conference on Fracture Mechanics of Concrete and Concrete Structures

Impact of Reinforcement Ratio on Deformation Capacity of Reinforced High-Performance Fiber-Reinforced Cementitious Composites
Seventh International RILEM Conference on High-Performance Fiber-Reinforced Cementitious Composites

Monotonic and Cyclic Bond-slip Behavior of Ductile High-performance Fiber-reinforced Cement-based Composites
Third International RILEM Conference on Strain Hardening Cementitious Composites

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Education

Stanford University
Ph.D. Civil Engineering

Villanova University
M.S. Civil Engineering

Villanova University
B.S. Civil Engineering

Accomplishments

James M. Gere Research Fellowship
2014

NSF Graduate Research Fellowship Recipient
2011

ASCE/SEI ? Student Structural Design Competition First Place Award
2010

AISC ? Education Foundation Fred R. Havens Fellowship Recipient
2010

Villanova University Dean of Engineering Academic Excellence Award
2010
