Jan Vosahlik, Associate Principal

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EDUCATION

Kansas State University

- PhD, Civil Engineering, 2018
- MSc, Civil Engineering, 2014

Czech Technical University in Prague

- BS, Structural and Transportation Engineering, 2012

PRACTICE AREAS

- Concrete Rheology, Fresh Properties, Pumpability, and Workability
- Concrete Mixture Optimization
- Ultra-High Performance Concrete (UHPC), Self-Consolidating Concrete (SCC), Fiber-Reinforced Concrete (FRC)
- Construction and Concrete Production Troubleshooting
- Thermal Control Plans and Mass Concrete
- 3D-Printing with Concrete
- Emerging Technologies and R&D Support
- Litigation Support & Forensic Investigation
- Concrete Sustainability

REGISTRATIONS

Professional Engineer

- Michigan

HONORS AND AWARDS

- International Concrete Repair Institute Scholarship
- ACI Emerging Leadership Conference 2019
- Czech Technical University Dean's Award for Outstanding Bachelor's Thesis
- Joseph and Elizabeth Barton-Dobenin Scholarship

EXPERIENCE

Dr. Vosahlik boasts over a decade of experience in concrete and cement-based materials. His expertise covers a wide array of topics, including concrete workability, pumpability, rheology, mixture development and optimization, construction troubleshooting, and mass concrete. Additionally, he is well-versed in new product and technology R&D, particularly in additive manufacturing with concrete.

In previous roles, Dr. Vosahlik consulted for the construction industry and later led materials R&D at a construction automation startup focusing on 3D concrete printing. Dr. Vosahlik also serves as a lecturer at the University of Texas in Austin.

PROFESSIONAL SERVICE

American Concrete Institute

- 123 Research and Current Developments
- 134 Concrete Constructability
- 238 Workability of Fresh Concrete
- 238A Student Workability
- 239D Materials and Methods of Construction with UHPC
- 329 Performance Criteria for Ready Mixed Concrete
- 564 3-D Printing with Cementitious Materials

American Ceramics Society – Cements Division

- Member

REPRESENTATIVE PROJECTS

Construction Consulting & Troubleshooting

- **Freeze-Thaw Durability of Precast Sound Barriers**
  Development of experimental testing program and materials consulting for non-compliant precast elements.
- **Mile Long Bridge, IL**
  Mass concrete performance testing, concrete mixture qualifications for specification compliance.
- **Denver Light Rail Eagle P3 Project, CO**
  Expert litigation support for $100M+ dispute.
- **Nashville Convention Center, TN**
  Client support and consulting for low-strength non-compliance resolution.

Concrete Mixture Development, Optimization and Testing

- **Champ Clark Bridge Replacement, Mississippi River, MO/IL**
  Development and qualification testing of self-consolidating cementitious grout for a precast bridge deck.
- **Rough River Dam Modification, KY**
  Design, optimization, and field evaluation of concrete mixtures for mass concrete placements.
- **NSA 3D-Printed Habitat Challenge**
  Development of 3D-printable cement-based mixtures.

Mass Concrete

Development of thermal control plans for various mass concrete placement, construction consulting, and placement troubleshooting.

- PDX Airport Redevelopment, OR
- IU Health Bedford Hospital LINAC, IN
- San Luis Obispo Water Resource Recovery Facility, CA
- Davidson Branch Pump Station and Equalization Facility, TN
- Swift Creek Bridge Replacement, CA
- Owls Head Wastewater Treatment Plant, NY
- Phillips 66 Wood River Refinery, IL

Product Research & Development

- **ICC-ES Certifications Programs**
  Various compliance evaluation programs for ICC-ES AC accreditation of construction products (mortar/grout admixtures, epoxy adhesive, 3D-printable mortars).
- **Internal Curing Wisconsin DOT**
  Multi-year research program on internal curing for pavement and bridge deck concrete.
- **Additive Manufacturing**
  Director of product development of 3D-printable cement-based materials for a leading additive manufacturing company in the US.
- **Ultra-High Performance Concrete**
  Evaluation and compliance testing programs for multiple leading producers of UHPC, including the implantation of new test methods.
- **Expanded Glass Aggregate**
  Evaluation and compliance testing of fine aggregate for lightweight structural concrete.