

Kejin Wang

Associate Professor and Division Leader

492 Town Engineering Building
(515) 294-2152 • kejinw@iastate.edu

EDUCATION

- University of California (Berkeley); Ph.D. Civil Engineering; 1994.
- Chinese Academy of Sciences (Beijing); M.S. Civil Engr.; 1985.
- Hefei University of Technology (Hefei); B.S. Civil Engr.; 1982.

HONORS AND AWARDS

- Journal of ASTM International Award for "2008 Outstanding Editorial Board Member"; 2008.
- Honorary Professor, School of Civil Engineering, Chongqing Jiaotong University of Technology, China, 2008.
- Charles W. Schafer Faculty Award for "Excellence in Teaching, Research and Service in Civil, Construction, and Environmental Engineering," Iowa State University, 2006.
- Honorary Professor, School of Civil Engineering, Hefei University of Technology, China, 2006.
- Honorary Professor, School of Civil Engineering, Lanzhou Jiaotong University, China, 2003.

BOOKS EDITED OR CO-EDITED:

- K. Wang, Editor, Proceedings of International Workshop on Sustainable Development and Concrete Technology, Beijing, China, May 20-22, 2004, ISBN 0-9652310-0, Iowa State University, Ames, IA, 359 pp. (2004).
- K. Wang and A. K. Schindler, Editor, Concrete Heat Development: Monitoring, Prediction, and Management, ACI SP-241, American Concrete Institute, Farmington Hills, MI (2007).

JOURNAL PAPERS:

- G. Lu, K. Wang, T. J Rudolphi, "Modeling Rheological Behavior of Highly Flowable Mortar Using Concepts of Particle and Fluid Mechanics" Cement and Concrete Composites, Vol. 30, Issue 1, 1-12 (2008)
- F. Bektas, K. Wang, and H. Ceylan, "Effect of Portland Cement Fineness on ASTM C1260 Expansion," Journal of Testing and Evaluation, Vol. 36, p. 436-442, 2008
- F. Bektas,, K. Wang, H. Ceylan, Use of Ground Clay Brick as a Pozzolanic Material in Concrete, Journal of ASTM International, v5, n10, ID: JAI101681 (November 2008).
- Z. Ge and K. Wang, "Modified Heat of Hydration and Strength Models for Concrete Containing Fly Ash and Slag", International Journal of Computers and Concrete, Vol. 6, No. 1, p 19-40, 2009
- Z. Ge, K. Wang, P. J. Sandberg, J. M. Ruiz, Characterization of Cement-based Materials Using a Simple Isothermal Calorimeter" Journal of Advanced Concrete Technology, volume 7, No. 3, October 2009
- J.T. Kevern, K. Wang, and V.R Schaefer, "Test Methods for Characterizing Air Void Systems in Portland Cement Pervious Concrete," Journal of ASTM International Vol. 6, No. 9 (ID JAI102451), 2009
- G. Lomboy, K. Wang "Effects of Strength, Permeability, and Air Void Parameters on Freezing-Thawing Resistance of Concrete With and Without Air Entrainment" Journal of ASTM International, Vol. 6, No. 10, (ID JAI102454), 2009
- G. Lu and K. Wang "Investigation into Yield Behavior of Fresh Cement Paste: model and experiment," ACI Materials Journal, Vol. 107, No. 1, p 1-8, January-February, 2010
- T. Voigt, J. Mbele, K. Wang, S. P. Shah, "Using Fly Ash, Clay and Fibers for Simultaneous Improvement of Concrete Green Strength and Consolidability for Slip-form Pavement" (accepted by ASCE Mat. J. September 2009)
- Kevern, J. T., Wang, K., and Schaefer, V. R. "The Effect of Coarse Aggregate on the Freeze-Thaw Durability of Pervious Concrete." ASCE Journal of Materials in Civil Engineering, 2009. (Accepted, July 09)



Kejin Wang (left) on site with Bob Steffes of the Portland Cement Concrete Pavement and Materials Research Laboratory (PCC Lab).

TEACHING

Kejin Wang' teaching expertise is in the area portland cement concrete materials and pavements. She also assists in civil engineering senior design courses. CE 382, Design of Concretes and Pavement Structures; CE 383, Design of Portland Cement Concrete; CE 587, Applied Concrete and Pavement; CE 580X, Advanced Design of Concretes.

RESEARCH

Kejin Wang's research interests include chemistry and microstructure of concrete, portland cement and supplementary cementitious materials (uses of slag, fly ash, silica fume, etc.), concrete pavements (mix design, test methods, and surface characterization), special concrete (particularly in self-consolidating concrete and pervious concrete), concrete durability (alkali-silica reaction, freeze-thaw and steel corrosion), and concrete distress and repair. Her recent research projects include:

- Sequestering Lead in Paint by Utilizing Deconstructed Masonry Materials as Recycled Aggregate in Concrete (PI, sponsor: Strategic Environmental Research and Development Program (SEROP));
- Improving Variability and Precision of Air Void Analyzer (AVA) Test Results and Developing Rational Specification Limits (Phase 1) (Co-PI, sponsor: Federal Highway Administration (FHWA));
- Self-Compacting Concrete - Applications to Slip Form Paving (PI, sponsors: FHWA, State Department of Transportation (DOT), and Industry-Pooled Fund);
- Develop a Simple and Rapid Test for Monitoring Heat Evolution of Concrete for Lab and Field (PI, sponsor: FHWA);
- Pervious Concrete Mix Design for Pavement Wearing Course Application (Co-PI, sponsors: National Center for Concrete Pavement Technology (CP Tech Center) and RMC Research and Education Foundation);
- Development of Performance Properties of Ternary Mixes (Co-PI, sponsors: FHWA/State DOTs/ Industry);
- Understanding rheology of cement-based materials through integrated experiments and computations at multiple scales (PI, Sponsor: National Science Foundation)