Alok A. Deshpande, P.E.

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PROFESSIONAL REGISTRATION

Professional Engineer, Michigan, No. 6201068570

EDUCATION

2015 – present (exp. May 2019)	PhD in Civil Engineering *University at Buffalo, State University of New York*	GPA: 3.93/4
2010 – 2011	Master of Science in Civil Engineering (Structures) *University of Illinois at Urbana-Champaign*	GPA: 3.96/4
2006 – 2010	Bachelor of Technology in Civil Engineering *College of Engineering, Pune (India)*	GPA: 9.10/10

PROFESSIONAL EXPERIENCE

Research

Aug 2018 – present Research Engineer
Structural Engineering and Earthquake Simulation Laboratory (SEESL)
University at Buffalo, State University of New York
- Seismic qualification testing of ceiling systems and electrical equipment
- Design and execution of experimental tests

Jan 2016 – present Research Assistant
University at Buffalo, State University of New York
- Seismic behavior of RC walls subjected to elevated temperature
- Concrete subjected to high temperatures
- Development of strain-hardening cementitious composites
- Experimental methods – large-scale structural testing and materials testing

Apr 2014 – Jun 2015 Project Officer
Indian Institute of Technology Madras (India)
- Development of consistent strain based design of RC components
- Nonlinear static analysis of RC buildings

Practice

Jan 2012 – Mar 2014 Design Engineer
Leslie E Robertson Associates, New York (USA) and Mumbai (India)
- Construction drawings for high-rise concrete buildings in India
- Schematic design for structural systems
- Site visits and coordination with contractor and client

Teaching

Dec 2018	Guest Lecturer for CIE525 (Reinforced Concrete), graduate class of 50
Aug – Dec 2017	Teaching Assistant for CIE525 (Reinforced Concrete), graduate class of 50
Aug – Dec 2015	Teaching Assistant for EAS207 (Statics), undergraduate class of 450
Aug – Dec 2011	Teaching Assistant for CEE470 (Structural Analysis), graduate class of 80

AWARDS AND HONORS

Apr 2018	Finalist at the 3-Minute Thesis Competition https://www.youtube.com/watch?v=XlXjSPivGLY
Dec 2016	$2,500 Structural Engineers Foundation Research Grant for 2016-2017
Dec 2010	Gold Medal from *Alumni Association of College of Engineering, Pune*
Jun 2010	Gold Medal from *Dept. of Civil Engineering, College of Engineering, Pune*

RESEARCH INTERESTS

- Large-scale experimental testing
- Strain-hardening cementitious composites (SHCC)
- Effects of high temperature on cementitious materials and reinforced concrete
- Seismic testing of electrical equipment and ceiling systems
- Blast engineering

PUBLICATIONS

Journal articles

1. **Deshpande. A. A.** and Whittaker, A. S. "Seismic behavior of reinforced concrete walls at elevated temperature," *accepted for publication in ACI Structural Journal* (2019).

2. **Deshpande, A. A.**, Kumar, D. and Ranade, R. "Influence of high temperatures on the residual mechanical properties of a hybrid fiber-reinforced strain-hardening cementitious composite," *Construction and Building Materials*, Vol. 208, pp. 283-395, May 2019, https://doi.org/10.1016/j.conbuildmat.2019.02.129.

Conference papers

1. Kumar, D., **Deshpande, A. A.** and Ranade, R. "Effects of elevated temperatures on residual bond strength of steel rebar with strain hardening cementitious composite," *3rd R N Raikar Memorial International Conference and Gettu-Kodur International Symposium on Advances in Science and Technology of Concrete*, 14-15 December, 2018, Mumbai, India.

2. **Deshpande, A. A.**, Kumar, D., Mourougassamy, A. and Ranade, R. "Development of a Steel-PVA Hybrid Fiber SHCC," *Proceedings of 4th International RILEM Conference on SHCC*, 18-20 September, 2017, Dresden, Germany.

Technical reports

1. **Deshpande, A. A.** and Wu, T., (2019). "An experimental study of the in-plane response of a reinforced masonry wall built using 8-inch NRG continuously insulated concrete masonry units (CICMU)," Report No. UB CSEE/SEESL-2019-01, State University of New York at Buffalo, Buffalo, New York.

2. **Deshpande, A. A.** and Whittaker, A. S., (2018). "Seismic qualification test of ceiling systems, a study for Armstrong Building Products Operations," Part XXXIII, Report No. UB CSEE/SEESL-2018-32, State University of New York at Buffalo, Buffalo, New York.

3. **Deshpande, A. A.**, Terranova, B. R. and Whittaker, A. S., (2018). "Seismic qualification test of ceiling systems, a study for Armstrong Building Products Operations," Part XXXII, Report No. UB CSEE/SEESL-2018-31, State University of New York at Buffalo, Buffalo, New York.

4. **Deshpande, A. A.** and Whittaker, A. S., (2018). "An experimental study of the response of squat reinforced concrete shear walls subjected to combined thermal and seismic loading," January, *https://www.researchgate.net/publication/322919290_An_experimental_study_of_the_response_of_squat_reinforced_concrete_shear_walls_subjected_to_combined_thermal_and_seismic_loadings*.

Manuscripts in preparation

1. **Deshpande, A. A.**, Kumar, D., Ranade, R. and Whittaker, A. S. "Concrete solutions for high temperatures," ASCE Structures Congress, Orlando, Florida, April 2019.

2. **Deshpande, A. A.** and Whittaker, A. S. "Effects of elevated temperatures on the seismic behavior of reinforced concrete walls," 25th International Conference on Structural Mechanics in Reactor Technology (SMiRT25), Raleigh, North Carolina, August 2019.

3. **Deshpande, A. A.**, Kumar, D., Ranade, R. and Whittaker, A. S. "Advanced concretes for high temperature applications," International Association for Bridge and Structural Engineering (IABSE) Congress, New York City, New York, September 2019.

4. **Deshpande, A. A.**, Kumar, D. and Ranade, R. "Influence of high temperatures on residual bond behavior between deformed steel rebar and a hybrid fiber-reinforced strain-hardening cementitious composite."

5. **Deshpande. A. A.**, Ranade, R. and Whittaker, A. S. "Influence of mechanical damage on the residual mechanical behavior of concrete subjected to high temperatures."

6. **Deshpande. A. A.**, Ranade, R. and Whittaker, A. S. "Effects of moisture and heating conditions on mechanical behavior of concrete subjected to elevated temperatures."

7. Kumar, D., **Deshpande. A. A.** and Ranade, R. "Effects of high temperature on the microstructure of strain hardening cementitious composites."

Posters

1. **Deshpande, A. A.**, Kumar, D. and Ranade, R. "Concrete solutions for high temperatures," 97th U.S. Transportation Research Board Annual Meeting, Washington, D.C., January 2018.

2. Kumar, D., **Deshpande, A. A.** and Ranade, R. "Crack-free ductile concrete for resilient and sustainable infrastructure," 97th U.S. Transportation Research Board Annual Meeting, Washington, D.C., January 2018.

SOFTWARE SKILLS

Proficient in AutoCAD, ETABS, LS-DYNA, MATLAB, SAFE, SAP2000, XTRACT.

AFFILIATIONS

Student member of ACI, ASCE, EERI, TMS and IStructE.