

# Shaghayegh Abtahi

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## EDUCATION AND RESEARCH EXPERIENCE

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### UNIVERSITY OF ALBERTA

Edmonton, AB, Canada

September 2017–Present

Ph.D. in Civil & Environmental Engineering

Focus: Structural Engineering

Research Project 1: Probabilistic Seismic Performance Assessment and Retrofit of Deteriorated Reinforced Concrete Structures (Supervisor: [Dr. Yong Li](#))

Research Summary: This study focuses on the time-dependent process of deterioration of reinforced concrete structures in a probabilistic framework. The obtained model of the deteriorated structure is employed to identify the degraded properties of the structure based on the sensors' data. The required repair or retrofit would be investigated based on the identified current state of the structure.

Research Project 2: Effects of Time-varying Frequency Contents in Earthquake Ground Motion Records on Seismic Response of Nonlinear Structural Systems (Supervisor: [Dr. Yong Li](#))

Research Summary: This study investigates the effect of nonstationary (i.e. time-varying) frequency content of earthquake ground motions on the seismic behavior of nonlinear systems using two closely related and comparative stochastic earthquake ground motion models. It shows that ignoring the nonstationary effects may lead to non-conservative results in some cases.

### SHARIF UNIVERSITY OF TECHNOLOGY

Tehran, Iran

September 2014–16

Master of Science in Civil Engineering

Focus: Structural Engineering

Research Project: Probabilistic Evaluation of Nonlinear Behavior of Fixed- and Flexible-base Shear Buildings (Supervisors: [Prof. Mohammad Ali Ghannad](#) and [Dr. Mojtaba Mahsuli](#))

Research Summary: This study revisits the effect of dynamic soil-structure interaction on multistory buildings with a probabilistic approach. The main conclusion is the fact that although the multi-degree-of-freedom aspects of a multistory building would influence the nonlinear responses, the soil-structure interaction effect does not significantly affect the multi-degree-of-freedom aspects.

### SHARIF UNIVERSITY OF TECHNOLOGY

Tehran, Iran

September 2010–14

Bachelor of Science in Civil Engineering

## PEER-REVIEWED PUBLICATIONS

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### Journal Papers:

- Abtahi S., Mahsuli M., and Ghannad M.A., "Probabilistic Evaluation of Strength Demands for Multi-Story Shear Buildings", *ASCE Journal of Structural Engineering*, 118(9): 04018154, 2018.

### Conference Proceedings:

- Abtahi S., Mahsuli M., and Ghannad M.A., "Probabilistic Evaluation of Strength Demands for Shear Buildings-Soil Systems", *3<sup>rd</sup> Annual Structures Graduate Students Conference*, Edmonton, Canada, 2017.
- Abtahi S., Mahsuli M., and Ghannad M.A., "Probabilistic Evaluation of Strength Reduction Factor for Multi-Story Shear Buildings", in *Proceedings of 1<sup>st</sup> National Conference of Applied Researches in Structural Engineering and Construction Management*, Sharif University of Technology, Tehran, Iran, 2016.

### Honors and Awards

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- Research assistant fellowship, University of Alberta, Edmonton, AB, Canada, 2017–Present.
- Teaching assistantship, University of Alberta, Edmonton, AB, Canada, 2017.
- University of Alberta doctoral recruitment scholarship, Edmonton, AB, Canada, 2017.
- Research assistant fellowship, Sharif University of Technology, Tehran, Iran, 2015–16.
- Rank 42<sup>nd</sup> among 40,000 participations in national M.Sc. entrance exam in Civil Engineering, Iran, 2014.
- Rank 153<sup>rd</sup> among 400,000 participations in national university entrance exam, Iran, 2010.