Ph.D. Student Position at Colorado State University

The research group of Dr. Gaofeng Jia (http://www.engr.colostate.edu/~gjia/index.shtml) in the Department of Civil and Environmental Engineering (CEE) at Colorado State University (CSU) is seeking highly motivated Ph.D. students starting Spring or Fall 2018.

**Description:** The research topics will be in the following areas

- Natural hazard risk assessment and mitigation
- Surrogate modeling for efficient analysis and design of complex engineering systems
- Uncertainty quantification, advanced stochastic simulation
- Modeling of aging and deterioration of infrastructure systems
- Earthquake engineering, structural dynamics, seismic protective systems
- Bayesian approaches for model validation, condition assessment of critical infrastructure

**Minimum requirements:** B.S. in Civil Engineering; meet general Graduate Admission Requirements of Colorado State University (http://www.engr.colostate.edu/ce/applicationinfo.shtml)

**Preferred qualifications:** M.S. in Civil Engineering; excellent oral and written communications skills; background and interest in the above research areas.

**Contact:** Interested applicants are encouraged to contact Dr. Gaofeng Jia (Gaofeng.Jia@colostate.edu) and send your full CV (with GPAs, GRE/TOEFL scores etc.).

**About Dr. Jia's Research Group:** Increased urbanization in the past decades has led to significant infrastructure growth in some of the world’s most hazard-prone regions. Evaluating risks and enhancing resilience in these settings, composed of interconnected systems/networks exposed to multiple hazards over their lifetime, poses a great challenge. Uncertainty quantification/propagation plays an essential role for addressing this challenge as exposure to hazards and necessity to perform life-cycle analysis introduce significant sources of variability in our models for assessing performance/resilience. Unfortunately, reliance on traditional approaches for these tasks is being proven inadequate for tackling this challenge, forcing frequently modeling simplifications that do not faithfully capture the behaviors of interest. To address these challenges, leveraging the versatility of generalized simulation-based approaches and the efficiency of soft computing and high performance computing, Dr. Jia’s research group is developing powerful, versatile simulation-based approaches for risk assessment/mitigation that is applicable for a variety of hazards, can accommodate models with high degree of complexity, and can also provide enhanced decision support even for real-time applications.

**About CSU:** Colorado State University, with an enrollment of approximately 32,000 students, is located in Fort Collins, Colorado, a community of approximately 156,000 people located at the foothills of the Rocky Mountains about 65 miles (105 km) north of Denver, that is routinely recognized as one of the most desirable places to live in the USA. Fort Collins residents enjoy an expansive park and natural area program with extensive biking, hiking and walking trails. More information about Fort Collins and CSU can be obtained at http://www.visitftcollins.com/ and http://www.colostate.edu/visiting-campus.aspx.

**About CEE at CSU:** The CEE Department at CSU is recognized both nationally and internationally for education, research, and service and outreach, and is ranked 31 among such programs in the USA. The Department offers undergraduate degrees in both civil engineering and environmental engineering, and both M.S. and Ph.D. degrees in civil engineering. The faculty, research associates and students in the CEE Department are conducting cutting edge research in numerous areas of both civil and environmental engineering. More information about CEE at CSU can be found at http://www.engr.colostate.edu/ce/.