



Fenghong FAN

Home Country
China

Degree
PhD in Civil Engineering

Expertise
Geopolymer Technology
in Civil Engineering

Research Focus
Applications of Geopolymer
in Civil Infrastructures

Host University
Louisiana State University,
United States

Fellowship Awarded
2012

Fenghong Fan was born in a small village in Hunan Province, China, and is one of five children. Fenghong's decision to study Civil Engineering was inspired following the construction of an important bridge in her home town, but was soon closed to heavy vehicles due to unsafe vibration.

Fenghong received several scholarships to attend Hunan University, Changsha, China, where she gained Bachelor's and Master's degrees in Civil Engineering. During her studies she focused her research projects on bridge design, and during internships she participated in the experimental evaluation and testing of designs for several bridges in China. After receiving her first degree, Fenghong helped to support and teach undergraduates. She is a member of several professional organizations, including the American Society of Civil Engineering, American Concrete Institute, and Society of Women Engineers.

Fenghong chose to do her PhD research at Louisiana State Institute as it is where Professor "Steve" C.S. Cai is based. He has a special interest in bridge design and in applications of advanced materials, which complements her interest in the application of new materials in civil engineering. Fenghong's research focus is the development of geopolymer-based inorganic adhesives for the repair and rehabilitation of infrastructures, for recycling waste concrete, and also as surfacing materials of bridge decks, especially on steel bridges. Geopolymers are a class of inorganic polymers formed by reacting silica-rich and alumina-rich solids with a high alkaline solution. Geopolymers can possess excellent physical properties such as high thermal and chemical stability, high compressive strength, and resistance to water penetration.

Following her studies, Fenghong plans to become a Professor and PhD supervisor at Hunan University, from where she will try to encourage more female students to pursue careers in science and engineering.