

Position Announcement

Postdoctoral Research Fellow in Engineering and Design Education

Applications are sought for a postdoctoral research fellow to support an NSF-funded Revolutionizing Engineering Departments (RED) project at Iowa State University. This five-year RED project is aimed at developing novel pedagogical approaches for transforming the current Electrical and Computer Engineering (ECE) department into a more agile, less traditional organization. Cross-functional teams (X-teams) will be formed in order to reshape the core technical ECE curricula to: (a) promote design thinking, systems thinking, professional skills such as leadership, and inclusion; (b) contextualize course concepts; and (c) stimulate creative, socio-technical-minded development of ECE technologies for future smart systems. The project includes ECE faculty as well as faculty from psychology, industrial design, political science and education. The postdoctoral research fellow will be involved in ongoing interdisciplinary and collaborative research projects focusing on educational applications spanning the fields of engineering education, design thinking and educational data mining. More detail on the project can be found at: <http://tiny.cc/tmfsfy>

Responsibilities

The successful candidate will be expected to assist in development of new pedagogical materials while using design thinking as the foundational methodology. Selected core courses in ECE at the sophomore and junior levels will be redesigned. She/he will closely work with engineering, design and education faculty in documenting how educators involved in the X-teams use design thinking to explore techniques to change existing curricula to create new pedagogical solutions. Through analysis of interviews and observations of educators' practices, and newly created teaching materials, the postdoctoral research fellow will help extract and characterize the strategies that are successful in creating new teaching approaches and assessing student performance from a new perspective. As part of the Postdoctoral Fellowship experience, applicants will receive mentoring for developing research proposals; and participation in career development and mentoring activities will be supported and expected. They will also receive support to develop their personal research aligned with the broad goals of our cross-disciplinary project.

Qualifications

The successful candidate must have a Ph.D. in one of the following disciplines: engineering education, engineering design, learning sciences, learning technology, or a related field. The candidate must demonstrate an academic record of scientific excellence and independent research; a strong interest in interdisciplinary education-focused research; an ability to work collaboratively; and an ability to communicate effectively. Applicants with a strong background in qualitative data management, assessment and evaluation, engineering education, or related topics are particularly encouraged to apply.

To Apply

Please submit a single PDF file to Dr. Diane Rover, drover@iastate.edu, including:

1. Cover letter
2. Detailed curriculum vita
3. Journal/conference paper sample
4. Names and email addresses of three references.

Review of applications will commence immediately and will continue until the position is filled. Full consideration will be given to applications received by February 1, 2017. It is anticipated that the appointment will begin in the Fall 2017 (or earlier, if possible).