US Army Corps of Engineers

Happy Holidays! We are still looking for some high quality structural engineers. We are wanting to hire up to two right now at the US Army Corps of Engineers Engineering Research and Development Center (ERDC) laboratories in Vicksburg, MS. We are recruiting for PhD or Master's level Research Civil Engineers to assist with research programs I am developing. I need 1-2 top performing students with excellent skills in structural analysis (finite element) and design. We do a tremendous amount of numerical simulation and algorithm development, so someone with good programming chops is desirable (MATLAB or similar). It is my goal to find capable engineers to assist with our current work and train them to both take over as PI on existing projects and to develop new work corresponding to their own interests and expertise. Eligibility for a SECRET security clearance is required for these positions, which itself requires US Citizenship. We are ready to hire as soon as the right candidates are found.

We are currently developing automated structural health monitoring systems for large civil structures of primarily steel construction. Our applications range from highway bridges and navigation lock gates to tactical mobile bridges for the military. We are utilizing a homegrown framework to integrate in-field sensing technology with numerical simulations (e.g. FEA) to provide real-time automated damage detection algorithms and then implement those through hardware solutions on real projects. We are also looking at the Digital Twin concept being explored by NASA and the Air Force for predicting remaining life and structural reliability in real-time.

Our laboratory supports the Army Corps' missions in both Civil Works and Military. We have scientists and engineers performing research in the fields of civil, structural, geotechnical, electrical, computational, environmental, hydraulic, construction, and materials engineering as well as many other areas of research physics. Our facilities are able to support full-scale structural tests, scale tests on a centrifuge, shake table testing, scale fluid-structure interaction models, explosive tests, and many others. There is tremendous opportunity for researchers to find an area of expertise and to take their ideas from concept to application. We have opportunities for students to obtain their PhDs while working on their normal research as well. More information about our laboratory can be found here: http://www.erdc.usace.army.mil/