

Faculty Positions in Mechanical Engineering

King Abdullah University of Science & Technology (KAUST)

King Abdullah University of Science and Technology (KAUST), located in Saudi Arabia, is an international graduate-level research university dedicated to advancing science and technology through bold and collaborative research and to addressing challenges of regional and global significance, thereby serving the Kingdom, the region, and the world. KAUST is committed to cutting-edge research in the globally significant areas of Energy, Water, and Food. In addition, KAUST emphasizes research on the Environment specifically the Red Sea and the discipline of Computational Science and Engineering serves as an enabling technology for all its research activities.

KAUST is located on the Red Sea at Thuwal (80km north of Jeddah). Newly opened in September 2009, KAUST is an independent and merit-based university and welcomes exceptional researchers, faculty and students from around the world. KAUST offers attractive base salaries and a wide range of benefits. Faculty enjoy secure research funding from KAUST and have opportunities for additional funding through several KAUST provided sources and through industry collaborations. Further information about KAUST can be found at <http://www.kaust.edu.sa/>.

Following positions are currently open in the Mechanical Engineering Program and a preference will be given to senior appointments:

• Experimental Combustion

We are seeking an individual with expertise in experimental combustion and laser diagnostic techniques. The candidate should have extensive experience working in the areas of turbulent premixed and non-premixed flames, pollutant formation, fuel characterization, and emission control. He/she should be well versed in a variety of laser-based optical measurement techniques such as PIV, PLIF, LII, Raman, IR spectroscopy, etc. Candidates are expected to have demonstrated the ability to work across broad interdisciplinary areas, strong theoretical background, ability to realize his/her research results in applied research, ability to synthesize new methodologies, and to reach out to industry. Candidate should have an excellent background in supervising students and excellent capabilities in teaching especially in the graduate level core subjects in thermodynamics, combustion, heat transfer, fluid dynamics, as well as to develop graduate subject(s) in his/her area of research.

• Combustion Kinetics

We are seeking an individual with expertise in theoretical/computational chemical kinetic models for gas phase chemistry, low-temperature combustion, and pollutant formation. The candidate is expected to have a PhD in Mechanical Engineering, Chemical Engineering, Chemistry or related discipline. He/she must have a solid background in the development of chemical kinetic mechanism for hydrocarbon fuels and fuel surrogates. Experience with experimental methods for the detection of transient radical species is desirable. It is expected that the selected candidate will develop a successful research program, and participate in graduate education and classroom instruction in thermal science and fluids courses. The candidate will also be considered for a joint appointment with the Chemical Engineering Program.

• Turbulent Combustion Modeling

We are seeking an individual with experience in computational combustion with emphasis on turbulent combustion. The successful candidate would have an established track record in one or more of the following research areas: application, development and validation of subgrid scale models for large-eddy simulation of nonpremixed, premixed and partially premixed turbulent combustion; direct numerical simulation of turbulent combustion; high-performance computing for combustion modeling and application of models to complex engineering problems; development of robust and accurate schemes for

the solution of the reactive Navier-Stokes equations. The candidate is expected to have a PhD in Mechanical Engineering, Chemical Engineering, Applied Mathematics or related discipline. It is expected that the selected candidate will develop a successful research program, and participate in graduate education and classroom instruction in thermal science and fluids courses.

• **Fluid Control**

We are seeking an individual with expertise in fluid dynamics and control theory. The candidate is expected to have a PhD in Mechanical Engineering or a related discipline. Based on the candidate's experience, the position will be filled at the full, associate or assistant professor level. He/she must have a solid background in one or more of the following areas: nonlinear control; robustness analysis; model reduction; nonlinear amplification of stochastic uncertainties; non-normal growth; transition to turbulence; applications of advanced control theory to achieve flow control in the context of turbulent combustion and flames. It is expected that the selected candidate will develop a successful research program, and participate in graduate education and classroom instruction in control theory and fluid control.

KAUST is a merit-based institution. The appointment, retention and promotion of faculty, and all the administrative and educational activities of the University will be conducted without regard to race, color, gender, or religion.

The Department of Mechanical Engineering at the University of California at Berkeley is an alliance partner participating in the KAUST Academic Excellence Alliance (AEA). This Alliance is designed to help build a research program at KAUST in the fields of Mechanical Engineering described above. As part of the AEA, UC Berkeley faculty will select top applicants and nominate them for faculty positions at KAUST. The responsibility for appointments and the determination of the terms of employment rest with KAUST. The recruited faculty will be employed by KAUST, not by the University of California at Berkeley.

To apply: submit application to <http://www.me.berkeley.edu/KAUST>. You will need a cover letter, curriculum vitae, statements of research and interest, teaching experience, and contact information for four references. Review of applications will begin immediately and will continue until all positions are filled. Questions may be directed to the Staff Program Coordinator Ms. Isabel Blanco at KAUST@me.berkeley.edu.