

POSTDOCTORAL FELLOWSHIPS IN UNCERTAINTY QUANTIFICATION APPLIED TO COMBUSTION SCIENCE



The Center for Uncertainty Quantification in Computational Science and Engineering (SRI-UQ) & the Clean Combustion Research Center (CCRC) at King Abdullah University of Science and Technology (KAUST) have several **fully funded postdoctoral fellowships** in the broad area of uncertainty quantification applied to combustion science.

Postdoctoral fellows will be involved in ongoing research activities focusing on the application of state-of-the-art techniques and frameworks in Uncertainty Quantification, Experimental Design, and Bayesian Inference to challenging problems in combustion science and technology. Examples of ongoing projects include:

- Application of Polynomial Chaos expansions to the quantification of uncertainty in chemical networks describing the kinetics of reactive systems.
- Implementation of Bayesian inference techniques to refine estimates of reaction rate parameters.
- Development and application of optimal experimental design methods to planning of laboratory measurements.

All research activities are carried out in a multi-disciplinary team comprising faculty, postdocs, and PhD students from Applied Mathematics and Engineering disciplines. The CCRC team features experts in numerical and experimental combustion. All projects include an experimental component, which is carried out at the CCRC's exceptional facilities and integrated synergistically with the modeling thrust.

Qualifications. A PhD in engineering with emphasis in the area of numerical combustion or a PhD in applied mathematics with emphasis in uncertainty quantification and/or high-performance computing.

Appointment Period. One, two and three-year appointments are available.

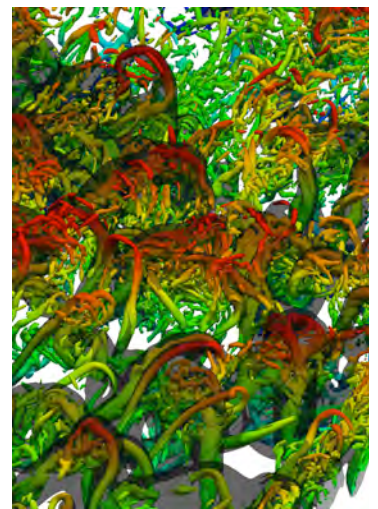
Salary & Benefits. We offer a very competitive salary on a graded system, adjustable depending on qualifications and seniority. Benefits include housing, medical, dental and life insurance for employees and their family, K-12 education for dependent children, relocation allowance, repatriation allowance, and 20 days vacation per annum. No income tax is paid in the Kingdom of Saudi Arabia.

Application & Inquiries. Applications will be reviewed until all positions are filled. Submit as a single PDF file: (a) cover letter, (b) detailed academic CV including a list of publications, (c) research statement, and (d) contacts of three references. Applications should be submitted to Profs. Fabrizio Bisetti (fabrizio.bisetti@kaust.edu.sa) and Omar Knio (omar.knio@kaust.edu.sa). Include the keyword "UQ-POSTDOC" in the Subject line. Please contact Profs. Bisetti & Knio for any questions related to the position.

About SRI-UQ & CCRC. The mission of the SRI UQ Center (SRI-UQ) is to become an internationally recognized Center for research in Uncertainty Quantification (UQ) and Verification and Validation. The center will advance the state of the art in UQ and VV methods, algorithms, and software while focusing on high-impact applications. The Clean Combustion Research Center (CCRC) conducts basic and applied research in the field of combustion. The CCRC research program synergistically combines experimental and computational approaches.

KAUST is an equal opportunity employer.

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Q-criterion and pressure iso-surfaces in a mixing layer. Data from Attili & Bisetti Phys Fluids (2012).

