

Postdoctoral Fellowship

An opening for a postdoctoral fellowship has become available in the Clean Combustion Research Center (CCRC) at KAUST, Saudi Arabia, in *experimental high-pressure combustion*, with a focus on *pressure gain* and/or *hydrogen combustion* for propulsion applications. The new hire will work with an active valve resonant pulse combustor available in CCRC's high-pressure combustion laboratory [1]. The new hire will be expected to design and implement innovative solutions to improve the performance of this bespoke device so that significant pressure gain may be achieved at elevated ambient pressure (up to 15 bar), representative of practical applications. Durability, throtability, stability and, and exhaust emissions are key aspects that will need to be considered too. The new hire will also work with CCRC's bespoke high-pressure combustion duct (HPCD) and will be required to work collaboratively with other researchers at KAUST.

Qualifications

The ideal candidate should have:

- Ph.D. in aerospace engineering or mechanical engineering,
- Strong experimental background
- Experience in propulsion research/applications and in turbulent combustion
- Strong skills in technical writing including a history of peer-reviewed publications in high-impact journals, such as *Combustion and Flame*, *Proceedings of the Combustion Institute*, *Journal of Propulsion and Power*, or similar,
- Experience in mechanical design and with commercial software such as *Solidworks*.

Benefits

The new hire will receive a competitive salary, free housing, medical and dental insurance, relocation allowance, and yearly air travel allowance. At CCRC, postdoctoral fellow contracts are typically for 1 year, renewable up to 2 times.

How to apply

Interested candidates should send a CV to Dr. Thibault Guiberti (thibault.guiberti@kaust.edu.sa) and Prof. William Roberts (william.roberts@kaust.edu.sa). The start date is as soon as possible.

For any questions directly contact Dr. Thibault Guiberti.

Thibault F. Guiberti

Research Assistant Professor

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[1] J.C. Lisanti, X. Zhu, T.F. Guiberti, W.L. Roberts, *Active valve resonant pulse combustor for pressure gain combustion applications*, *Journal of Propulsion and Power*, 38 2022 (<https://doi.org/10.2514/1.B38226>)