



# Kader Frendi

Professor

Department of Mechanical and  
Aerospace Engineering



Dr. Kader Frendi obtained his graduate degrees from Brown University. In the fall of 1989, he joined Northeastern University in Boston as a Visiting Assistant Professor in the Mechanical Engineering Department. In the fall of 1990, Dr. Frendi joined NASA Langley Research Center as a research contractor in the Structural Acoustics Branch. During his years at NASA Langley, Dr. Frendi supported several key programs starting from the base program, which is fundamental research oriented, to the High Speed Civil Transport (HSCT) program and the Hyper-X program (known also as X-43A). Dr. Frendi made key contributions to these programs and his work was published in well-known journals. In the fall of 1999, Dr. Frendi joined the Mechanical and Aerospace Engineering Department at the University of Alabama in Huntsville as an Associate Professor. Dr. Frendi built a vibrant research program in Computational Fluid Dynamics and more specifically in unsteady flows and acoustics. Dr. Frendi attracted funding for his research from various agencies and NASA centers and built a powerful Beowulf cluster to support his research efforts. A transmission loss facility was also built to test panels and measure acoustic signatures. Dr. Frendi was awarded tenure and promotion to full professor by the fall of 2005. He also received the UAH Foundation Research and Creative Achievement Award and several NASA Certificates of Appreciation. Dr. Frendi served as Chairman of the MAE Department for three years, December 2007 to December 2010. He is an Associate Editor of the Journal of Propulsion and Power and an Associate Fellow of AIAA. He is also a member of ASME and Sigma Xi and sits on the board of Habitat for Humanity of Madison County.

## Contact Information:

University of Alabama in Huntsville  
301 Sparkman Drive, Huntsville, AL 35899  
kader.frendi@uah.edu; [www.uah.edu/mae](http://www.uah.edu/mae)  
[Link to personal Webpage](#)

## RELEVANT PUBLICATIONS:

1. Peugeot, J.W., Frendi, A., "Toward the Understanding of Flow-Induced Vibrations in Rocket-Engine Manifold", *Journal of Propulsion and Power*, DOI:10.2514/1.B34728, 2013.
2. Hahn, P.V., Frendi, A., "Interaction of Three-Dimensional Protuberances with a Supersonic Turbulent Boundary Layer", *AIAA Journal*, Volume 51, No. 7, pp. 1657-1666, 2013.
3. Fisher, A., Frendi, A., and Christopher, S.A., "Using Satellite Remote Sensing to Monitor Rocket Launch Induced Pollution", *International Journal of Remote Sensing*, Vol. 34, No. 1, January 2013, pp 60-72.
4. Al Musleh, A., and Frendi, A., "On the Effect of a Flexible Structure on Boundary Layer Stability and Transition", *Journal of Fluids Engineering*, Vol. 133, No. 7, July 2011, pp. 071103-1 to 071103-6.
5. Dunn, M.C., Shotorban, B., and Frendi, A., "Uncertainty Quantification of Turbulence Model Coefficients via Latin Hypercube Sampling Method", *Journal of Fluids Engineering*, Vol. 133, No. 4, April 2011, pp. 041402-1 to 041402-041402-7.
6. Frendi, A., Tosh, A., Girimaji, S." Flow Past a Backward Facing Step: Comparison of PANS, DES and URANS Results with Experiments," *International Journal of Computational Methods in Engineering Science and Mechanics*, Vol. 8, Issue 1, pp. 23-38, 2006.
7. Canabal, F., Frendi, A., "Study of the Ignition Over-Pressure Suppression Technique by Water Addition," *Spacecraft and Rockets*, Vol. 43, No. 4, pp. 853-865, 2006.
8. Abhijit, T., Frendi, A., "Effect of Decoupled Fluid Loading on Nonlinear Vibration of a Flat Plate," *Journal of Fluids & Structures*, Vol. 19, pp. 1117-1128, 2004.
9. Buhler, W. and Frendi, A., "Effect of Fluid Wall Shear Stress on Nonlinear Beam Vibration," *Journal of Sound and Vibration*, Vol. 270 (4-5), pp. 793-811, 2004.
10. Frendi, A., "On Flow Unsteadiness Induced by Structural Vibration," *Journal of Sound and Vibration*, Vol. 269, No. 1, pp. 327-343, Jan. 2004.