
# Chad Eberhart

Graduate Research Assistant

Department of Mechanical and
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## BIO:

Mr. Chad J. Eberhart is currently a doctoral candidate in Mechanical Engineering. His work supports lab-scale research of liquid rocket combustion processes toward development of experimental and analytical techniques to determine parameters for low-order performance and stability ratings of combustion devices. Mr. Eberhart's dissertation topic is on the combined self-pulsation dynamics of liquid rocket swirl-coaxial injection.

Mr. Eberhart has been a Wernher von Braun Propulsion Fellow at UAH since 2010. He was recognized as the Outstanding Graduate Student of 2011 by the Department of Mechanical & Aerospace Engineering. Mr. Eberhart has professional experience in a variety of fields, including the precision optics, biotech, and pharmaceutical industries through co-op positions at Corning Tropel Corp., Bausch & Lomb Inc., and Sanofi-Pasteur Inc., respectively.

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**RELEVANT PUBLICATIONS:**

1. Eberhart et al., "Propellant Throttling Effects on Self-pulsation of Liquid Rocket Swirl-coaxial Injection," AIAA paper 2012-4202.
2. Eberhart et al., "A Mechanistic Assessment of Swirl Injection by X-ray Radiographic and Optical Techniques," AIAA paper 2012-3746.
3. Frederick et al., "Temporally- and Spatially-resolved Digital Imaging Diagnostics for the Evaluation of Liquid Rocket Injector Dynamics and Combustion Stability Phenomena," UAH URII proposal 2012.
4. Eberhart et al., "Near-field Film Thickness Measurements on an LPRE Swirl Injector Spray," AIAA paper 2011-5928.
5. Eberhart et al., "Effects of Variable Chamber Pressure on Swirl Coaxial Injection: A Cold Flow Study," AIAA paper 2010-6665.