Lunch ‘n’ Learn
21 July 2023
Reassessing Neil Armstrong’s “First Man” Flight in the X-15
Guest Speakers: Timothy Takahashi & William Lorenzo, Arizona State University

Abstract: This talk showcases ASU’s newly developed hypersonic vehicle Stability & Control screening methodologies to reconstruct and reassess Neil Armstrong’s X-15 flight as showcased in the 2018 movie “First Man.” We provide insight on the hypersonic stability and controllability problems experienced by high-speed bank-to-turn vehicles. We also aim to explain key aspects of the North American X-15 flight 3-4-8 and compare the truth of the flight to what was depicted in cinema. We will show Armstrong’s inadvertent “atmospheric skip” was the result of overlooked inherent lateral-directional airframe instabilities and explain why the X-15 program (shortly after Armstrong’s near crash) flew most further flights with a revised ventral tail configuration.

Biography: Timothy Takahashi is the Professor of Practice in Aerospace Engineering at the Ira A Fulton Schools of Engineering at Arizona State University. Over his long career spanning industry (including times at Lockheed, Northrop and Raytheon) and academia, he has been a frequent visitor to Wright Patterson AFB. He is a veteran of the Lockheed Martin X-33 SSTO program, and was Phase I Flight Sciences engineer at Raytheon Missile Systems on their entries to the ONR/DARPA RATTLLRS and DARPA Falcon competitions. William Lorenzo graduated from Arizona State University in December 2022 with a B.S. Graduate in Aerospace Engineering. He is presently working on M.S. in Aerospace Engineering at Arizona State University. This summer, Will is a visiting student scholar at AFIT.

Time: 11:45 am
Location: China Garden Buffet 112 Woodman Dr. Dayton, OH 45431
Lunch: You will be able to purchase the buffet