Flight Test Engineering at Edwards Air Force Base (and how I got there)

Presentation by Nathan Cook (Physics ’95) at Harvey Mudd College

October 13, 2010

Abstract:

Flight test engineering is a unique discipline that requires a broad understanding of aerodynamics, mechanical systems, electronics, and software, coupled with a deep knowledge of a particular area, such as propulsion, flight controls, navigation, radar, targeting pods, electronic defense and attack, and armament. The US Air Force Flight Test Center at Edwards Air Force Base subjects the latest technology to rigorous testing to ensure a fully functional and highly effective capability is provided to America's war fighters, who cannot afford to have a malfunctioning or ineffective system when they need it most. A brief history of the speaker, Nathan Cook, Physics '95, and of the Flight Test Center is followed by a discussion of flight test engineering and opportunities for civilians in the US Air Force, including attending the USAF Test Pilot School as a civilian engineer.

Speaker’s Bio:

Nathan Cook is a US Air Force civilian flight test engineer. He is currently the lead for the F-16 weapons integration team at the 416th Flight Test Squadron, part of the Air Force Flight Test Center at Edwards AFB, CA. Nathan received a Bachelor of Science degree in physics from Harvey Mudd College in 1995, a master of education degree from Converse College in 1997, a master of science in mechanical engineering from the Georgia Institute of Technology in 2002, and graduated with class 07A from the US Air Force Test Pilot School as an experimental flight test engineer, receiving a master of science in flight test engineering in 2007. Before flight test, Nathan was a high school physics teacher in Spartanburg, SC, a live fire survivability test engineer at Wright-Patterson AFB, OH, and a community outreach engineer at Edwards AFB, CA. Nathan lives in California City, CA, with his wife Jennifer, and children Jackson, Delaney, and Drew.