

## STEM STARS

### **Kimberli Jones, Ph.D.**

**Hill Air Force Base Civilian F-16 Aircraft Structural Integrity Program Engineer – Individual Aircraft Tracking Subject Matter Expert**



Kimberli Jones completed a Ph.D. in mechanical engineering at the University of Utah, studying corrosion, fatigue, and structural integrity of aerospace materials. While at the University of Utah, Kim worked as a mechanical engineering lab manager and research assistant, helping other students, evaluating research proposals, testing various materials such as aluminum, titanium, and steel alloys, and providing metal corrosion fatigue and environmental testing. Kim now works as a civilian engineer for the U.S. Air Force. Civilian workers have no military commitment, but work with the greatest aircraft in the world. Kim is responsible for structural integrity of the worldwide F-16 fleet. She has been working with the F-16 Aircraft Structural Integrity Program at Hill Air Force Base for 16 years, where she led development of the F-16 Common Inspection Reporting Engine (online aircraft inspection reporting) and the Health of the Fleet analysis online database. She provides technical oversight for F-16 nondestructive inspection and data analysis. She is also a co-chair for a NATO Applied Vehicle Technology activity. Kim worked for 5 years with Science Applications International Corporation and now works as a civilian engineer for the United States Air Force at Hill Air Force Base, where she has been for the last 11 years and has received many awards for her outstanding achievements. Kimberli's STEM career journey started when she was encouraged to take math and science classes by excellent middle and high school teachers. She has always loved aircraft and space technology, so mechanical engineering was a good, broad subject for her to select for her major. During her career, she ended up working on structural integrity which she says has been a great place to land. On a more personal side, Kim participated in various bands in high school and at the University of Utah. She also spends time volunteering for STEM events and has mentored high school girls, along with developing STEM curriculum and activities. Kim loves the outdoors and enjoys hiking, biking, canyoneering, and backpacking. (pictures follow)



Studying metal fatigue can save lives. Watch the following video on how metal fatigue caused an F-15 cockpit to literally shear off in-flight.

Short (:52): U.S. Air Force F-15 in-flight break-up animation

<https://www.youtube.com/watch?v=2R7BWrgmgac>

In depth (3:35):

<https://www.military.com/video/military-aircraft-operations/aviation-accidents/f-15-in-flight-breakup/661029574001>

Test metals yourself and learn more about what Kimberli works on by doing the following activity, "Do Materials Get Tired?"

Link to activity: [http://pspb.org/nano/media/Fatigue\\_Paperclips\\_MS\\_Lab\\_V2.pdf](http://pspb.org/nano/media/Fatigue_Paperclips_MS_Lab_V2.pdf)

*If you want to find out about STEM Outreach options with Hill Air Force Base scientists and engineers, please contact Alison Sturgeon email: [alison.sturgeon.1@us.af.mil](mailto:alison.sturgeon.1@us.af.mil), phone 801.775.2518*