

STEM ARTICLE – DR. MONICA ALLEN

March 22, 2017

“AIR FORCE ENGINEER LIGHTS THE WAY”

“My parents raised my sisters and me to believe we could do anything.”

That’s the kind of deep support that propelled Dr. Monica Allen to the top of her field. Inspired early to use her imagination and math skills to solve problems, she was captivated by any project that involved light, from beautiful diffraction patterns to reflections in a kaleidoscope. Today, the study of light is the centerpiece of her mission to devise ground-breaking optical technologies for the Air Force.

As Lead Investigator for the Air Force Research Laboratory (AFRL), Dr. Allen plays a vital role in advancing state-of-the-art munitions and weapon systems. She is the Senior Research Electronics Engineer for the Munitions Directorate, leading a research team of Air Force and academic collaborators. Their focus? Push the boundaries of technology to solve critical problems facing the military.

“My work revolves around optical imaging and conducting cutting-edge research in the fields of nanophotonics and plasmonics,” Dr. Allen explained.

These highly-specialized fields are the key to enabling big breakthroughs in sensing technologies. Used in applications such as night vision, biosensors, and nanoscale GPS devices, these technologies enable the rapid transfer of information to help warfighters see all around them, no matter the environmental conditions.

A Sense of Purpose Drives Allen’s Air Force Career

Dr. Allen was in graduate school when 9/11 occurred. The attack against her homeland awoke a sense of purpose. She knew she wanted to use her education to impact the nation in a positive way. After earning her Ph.D. and working in industry for a few years, she was ready. When the perfect job opened up with the Air Force Civilian Service, she took it. Like so many other civilian Air Force employees, Dr. Allen found both her calling and a collaborative culture. Dr. Allen is considered a true asset to the Air Force known for her perspective and teamwork.

“I try to inspire trust through mutual respect and personal responsibility,” she said. “I strongly believe people work best when they feel they are making a contribution and are appreciated for it.”

Because the Air Force has provided a supportive environment, Dr. Allen’s contributions continue to increase. For example, her plasmonic devices research efforts have become the baseline for miniaturized optical sensors and infrared detectors for Department of Defense applications. These applications are critical to command, control, and communications efforts to keep troops informed and aware of threats.



Among other notable achievements, she was handpicked to lead a tri-service munitions working group where she facilitated collaborative discussions between 24 universities and three AFRL directorates. More recently, Dr. Allen received the 2017 STEM award in the Senior Investigator category at the Black Engineer of the Year Award (BEYA) Conference, a coveted award that reflects a lifetime of achievement.

Leading and Mentoring Others for Lasting Impact

Dr. Allen is a strong advocate for bringing others along in their careers. She has mentored more than 20 scientists and engineers through the AF Mentoring Program. She's also active in educational outreach, ranging from the AFRL Scholars Program to serving as an academic advisor for students earning graduate degrees.

Dr. Allen is candid about the importance of mentors in her success. She credits her parents as early influencers, inspiring her imagination in science. In school, her research and academic advisors were largely influential, helping build self-confidence. Today, she credits Jeffrey, her husband, as her biggest mentor.

"We are a team and he always has my back," she said.

Likewise, she considers the Air Force family and revels in the freedom to pursue extraordinary research opportunities while balancing the demands of a vibrant family life.

"I achieved my dream to be a scientist. I'm proud to work on our nation's most critical security and defense problems at the Air Force Research Laboratory *and* be a wife and a mother. I didn't have to choose. My Air Force career allowed me to do both. Now my 4-year-old son says he wants to be 'a scientist - just like mama!'"

Dr. Allen is one of more than 180,000 Air Force civilians who make up the Air Force Civilian Service and contribute to the nation's defense through their dedication and innovation.

STEM Opportunities Span Career Fields and Locations

For individuals seeking an outstanding career opportunity in STEM fields, consider the Air Force Civilian Service. Like Dr. Allen has discovered, the Air Force offers exceptional opportunities to be part of a community that's passionate, highly-skilled and dedicated to the mission. Visit <https://afciviliancareers.com> to discover a great career match.

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(ABRIDGED VERSION)

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That’s the kind of deep support that propelled Dr. Monica Allen to the top of her field. A Lead Investigator for the Air Force, Dr. Allen’s groundbreaking work in the fields of munitions and weapons systems led to a prestigious honor. She recently received the 2017 STEM award in the Senior Investigator category at the Black Engineer of the Year Award (BEYA) Conference, a coveted award that reflects a lifetime of achievement.

After 9/11, Dr. Allen knew she wanted to use her education to impact the nation in a positive way. When the perfect job opened up with the Air Force Civilian Service, she took it. Like many other civilian Air Force employees, Dr. Allen found both her calling and a collaborative culture.

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For outstanding STEM career opportunities, consider the Air Force Civilian Service. Like Dr. Allen discovered, the Air Force offers the chance to be part of a community that’s passionate, highly-skilled and dedicated to the mission. Visit <https://afciviliancareers.com> to discover a great career match.

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