

Featured Alumnus Wes Langston (c/o '05)

An open letter to Stetson physics majors

As I reflect on my time at Stetson, the one thought I come back to repeatedly is gratitude—gratitude for the challenges... gratitude for the experiences... and gratitude for the accountability, encouragement, and overall education that Stetson and, specifically, the Stetson Physics Department provided me. It's quite an honor to be this year's featured alum, and I'm humbled to write to the current students. While I view my own story as less than exciting in many ways, I still remember the benefits of hearing about the various paths of past Stetson physics alumni, and hopefully, you'll be encouraged by mine.

I entered my freshman year at Stetson in 2001 with a decent work ethic but no idea what I wanted from life. Like many physics majors, I favored math and science in high school, and I thought engineering or medicine would make good careers, but I really had no clue what either entailed. If I'm honest, I spent most of my childhood in Tallahassee more interested in playing baseball than figuring out what I wanted to be when I grew up, and while that changed early on at Stetson, baseball remained a big part of my life through my time playing ball in DeLand.

My time at Stetson was a whirlwind of trying to balance baseball with my studies, but not long after arriving in DeLand, I realized that physics provided a challenge and curriculum that piqued my academic interests. From Day 1, in the absence of specific career aspirations, I set my sights on technical grad school and got to work. To claim I enjoyed that first semester may be a bit of a stretch, but I didn't hate the work, and by the end of that first fall, I was committed to getting my physics degree.

As I look back on that time, even if it was partially by accident, majoring in physics instead of one of the other sciences or math was the one of the best decisions of my life. While I didn't immediately fall in love with physics like some do, that would come later. The one thing I immediately recognized was that a physics undergraduate degree would provide me options both for grad school and a career

Wes Langston's Overview

Professional Experience

Strategic Planner,
Northrop Grumman
Corporate Analysis Center
Falls Church, VA
November 2015-present

Systems Engineering Associate,
Northrop Grumman
Electronic Systems
Colorado/L.A./Melbourne, FL/
Falls Church, VA
Oct 2013-Oct 2015

System Engineer/Architect,
Northrop Grumman
Electronic Systems
Baltimore, MD/Hyderabad, India
RF Antenna Design Engineer,
Northrop Grumman
Electronic Systems
Baltimore, MD

Education

Georgia Institute of Technology
Atlanta, GA
MSME – Acoustics
2007-2009

Auburn University
Auburn, AL
MBA – Supply Chain Management
2005-2006

Stetson University
DeLand, FL
BS – Physics
2001-2005

and having options became my sole objective during my time at Stetson. Not fully knowing whether the sciences were the place for me long term, in addition to taking all of the upper level physics electives that were offered, I also took all the business prerequisites for MBA programs as well. I actually remember reading the past featured alum letters from folks who were brain researchers at Stanford and medical doctors and realized that the range of opportunities provided by a physics degree is unrivaled, and this really inspired me to look beyond the next semester, year, or even degree and see possibilities that I'd never even considered before. Ten years after graduation, I continue to stand by the assertion a B.S. in physics opens more doors than any other major—just be prepared for difficult decisions choosing between what will inevitably be good options.

Today, I can't imagine not having the background that majoring in physics provides me. More than any of the specific theories or concepts, studying physics at Stetson taught me how to think and problem solve in a way that's benefited me every day in roles ranging from basic research to corporate strategy. The perspective gained through challenging physics studies is unlike engineering or the other sciences because studying physics forces you to really wrestle with fundamentals. To excel, you must develop intuition and understand how to define and solve problems—not just how to plug numbers into an equation. It's not easy, but it's worth it because understanding those fundamentals unlocks creativity in a way that translates especially well to solving all types of real life problems. Within my business, I've repeatedly found that it's this creativity of thought that sets the many physics majors apart from the rest of the technical (and non-technical) workforce.



Today, I live in Falls Church, VA with my beautiful wife and two girls. I married my wife Ashley back in December 2014, and she and her (and now my 😊) amazing daughters Lucianna (age 7) and Isabella (age 6) moved up to Falls Church from Florida about six months later. Needless to say, life's been a whirlwind since leaving Stetson, but I wouldn't have it any other way. The girls and I spend most of our free time exploring our new home, and since we're only about 15 minutes from Washington DC, there's a lot to explore. We love the DC museums, the zoo, and the National Mall, and I'm still a sports nut at heart, so being in an area with so many professional sports teams is great!



As for my career, after finally finishing grad school at Auburn (Auburn football National Championship Game with my dad pictured left) and Georgia Tech, I was hired into a rotational program at the Northrop Grumman Electronic Systems sector in Baltimore, MD where I started as a design engineer. I studied acoustics and wave propagation in grad school, so going to work for a defense electronics firm who specializes in radar and advanced antenna technologies was a great fit. I started in the

RF Antenna group designing Active Electronically Scanned Arrays (AESA's) primarily for Air Force electronic warfare applications. After about a year, I was presented with the opportunity to move to Hyderabad, India to manage a few suppliers on the Indian Navy's P-8I submarine hunter aircraft



program (pictured left). I spent about a year in India doing everything from program management to systems engineering, and when I returned to Baltimore, it was a natural fit to bring the Indian electronics back into our labs to lead the integration effort with the rest of the Northrop Grumman Electronic Support Measures (ESM) system (basically an RF receiver to identify threat radars—kind of like a scanner you would carry in your car to detect police radar... only way cooler ☺). I also began to fly with the US Navy as the P-8A aircraft entered operational testing which was truly a great experience as I sat with our customer and saw how they used (and abused) our system to perform their missions.

After a couple years as a systems engineer on the P-8 program, I was fortunate enough to move onto a new program as a system architect where I was responsible for turning an interesting idea into a real product. In this role, I got to do front-end electronic warfare system design on an incredibly advanced system. There aren't many places you can go to find the resources and expertise of the US DoD and defense industry, and this was one experience that really made me appreciate the ability of our country to turn ideas into extremely complex hardware and software solutions that protect our soldiers and, in turn, keep us safe. For all its bureaucracy, the DoD buys some pretty cool things.



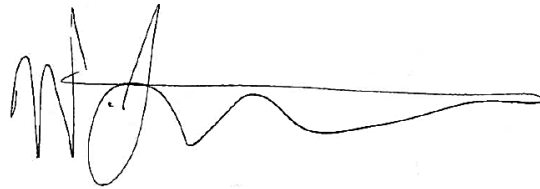
During this time in my career (mid 2013), I was chosen to participate in a leadership development program called the Systems Engineering Associates program. This two year program provided me the opportunity to see much of the corporation through four six-month rotations. I worked on missile defense research and development in Colorado Springs, an aircraft carrier-based stealthy Unmanned Air Vehicle (UAV)

in Los Angeles (the predecessor to X-47B pictured left), the new trainer jet for the U.S. Air Force in Melbourne, FL and Los Angeles, and finally, in our corporate think tank at the corporate office in Falls Church, VA. It's been an exciting time to be at the corporate office as Northrop Grumman was recently selected to build the next stealth bomber for the US Air Force, the Long-Range Strike Bomber (LRS-B). Northrop is known across the industry for the advanced technology that we build (even by U.S. defense standards) including the B-2 stealth bomber and some of the most advanced UAV's in the world. The LRS-B program is right in the wheelhouse of everything we do well as a company from advanced stealthy flying wings to stealth subsystems like the radar and communications systems on both the F-35 and F-22 fighters. It's been a thrill to be on such a great team for the last 6+ years.

As my career has transitioned from advanced research and electronics design to systems engineering and more recently to the strategic side of our business, I am continually becoming more and more grateful for my physics education and for the well-rounded foundation that Stetson provided me. My technical background provides me perspective to understand the technical aspects of our business and the art of the possible, and I'm able to apply the problem solving abilities I learned through my physics studies to everything that I do. I sit squarely between our technical and program teams and executive management, and being able to perform the translation between the groups while providing potential solutions has proven invaluable.

In closing, I'd like to encourage the current and future Stetson physics students to dream big and appreciate your time in DeLand. The faculty and staff in the Stetson Physics Department are second to none. I still remember calling Dr. Glander in the middle of the night to come to the lab to lend us his PC administrator privileges so that we could complete an assignment. I was hesitant, but my lab partner Renee Dickinson (now Butler) was confident he wouldn't mind, and sure enough, he arrived with a smile and stayed for an hour to help us. Having studied at one of the best research and engineering universities in the world, I can honestly say that the learning environment doesn't get any better than the Stetson Physics Department. I'd additionally like to encourage the current and future students to get out (during the summers and other breaks especially) to explore new opportunities—internships, summer studies, conferences, etc. By far the easiest time to try new things and explore the world is during your time in school, so be bold and take the initiative to get out and see the world. Use this time to figure out what you want and don't want out of life, and never compromise who you become in the process. You never know what inspiration awaits!

Good luck and God bless in all you do!

A handwritten signature in black ink, consisting of a series of loops and a long horizontal stroke extending to the right.