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# NEWSLETTER

July/August  
2019

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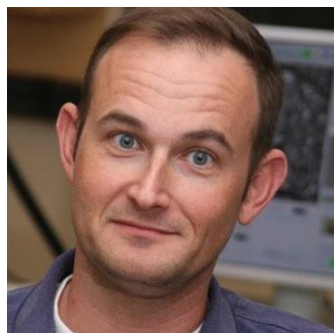
## New Faculty



Dr. Rebecca Bullard-Dillard, the Associate Vice Chancellor for Research and Sponsored Programs, has requested to return to a teaching and mentoring role in the Department of Chemistry and Physics. Dr. Bullard-Dillard came to UNCP 6 years ago and has been a true asset to research and scholarship at this university.

Dr. Bullard-Dillard will return to the Chemistry and Physics department to teach General Chemistry I; but, will also have two very important roles: to lead the Pembroke Undergraduate Research and Creativity Center (PURC) and working in coordination with OSRP, serving as the University's Research Compliance Officer.

Welcome, Dr. Bullard-Dillard.



Dr. Steven Singletary returns to the department as a clinical assistant professor. Dr. Singletary will be teaching General Chemistry Lab I and Physical Science I in the fall. He will also work as a clinical assistant with Dr. Paul Flowers in analytical chemistry and instrumental analysis. His expertise is in Materials Engineering, Aerospace Engineering, and Chemical Thermodynamics.

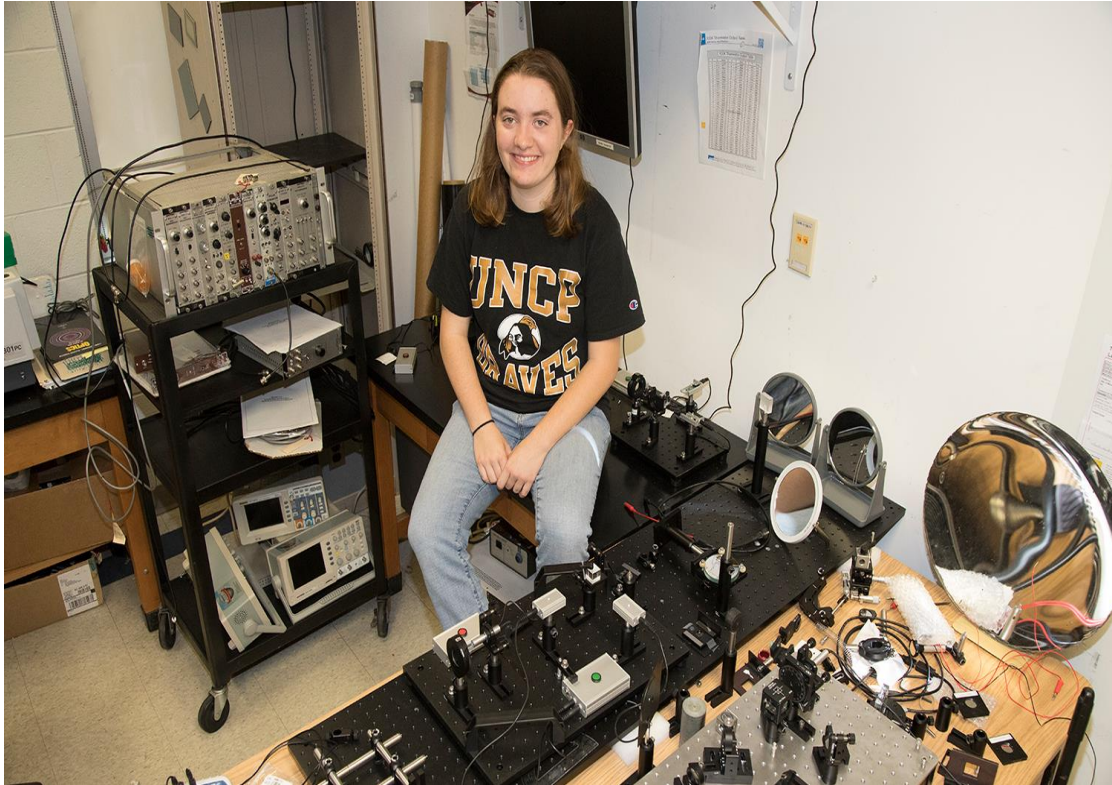
Welcome, Dr. Singletary.

## AAPT Fellow Award



The American Association of Physics Teachers' Awards Committee is delighted to announce that they have unanimously selected Dr. Jose D'Arruda for the honor as a Fellow of AAPT. Dr. D'Arruda will be recognized as part of an Awards Session at the AAPT 2020 Winter Meeting in Orlando, FL. Great job, Dr. D'Arruda!

## UNCP's Dana Lamberton Continues 3-plus-2 Program at NC State



Dana Lamberton spent long hours inside the labs in the Department of Chemistry and Physics at UNC Pembroke.

### July 2, 2019 | Mark Locklear, UNC Pembroke

PEMBROKE, NC – In 2016, UNC Pembroke and N.C. State University established a joint engineering degree program allowing students to spend three years at UNCP and two years at N.C. State and graduate with bachelor's degrees from both institutions.

Dana Lamberton was among the first cohort of students at UNCP to take advantage of the 3-plus-2 program. This summer, she becomes the first student to transition to N.C. State.

Under the program, UNCP students must complete the required courses for an applied physics degree, then transfer to NCSU to spend the next two years working toward a degree in mechanical engineering or electrical engineering.

"I decided to do mechanical engineering track," said Lamberton, a junior from Red Springs. "At first I was looking at electrical because honestly I didn't know much about the two fields of study, but after I learned a little bit more, I tended to be more interested in the things that dealt with mechanical engineering."

At the end of the program, Lamberton will have earned both a Bachelor of Science in Applied Physics and a Bachelor of Science in Engineering.

With a growing demand for engineers in the area, the 3-plus-2 program is designed for UNC Pembroke students who are interested in engineering or, like Lamberton, develop an interest in it after they get here.

“When I started at UNCP I didn’t know what I was going to do,” she said. “I was considering transferring to NC State for engineering, so when I learned about the 3-plus-2 program I thought it would be a good way to get my feet wet.”

Students must follow an intensive course load in order to complete all the requirements in time for the start of the fourth year at NCSU, which often means taking summer courses. To remain eligible for the program, students must maintain an overall 2.5 grade point average and a 3.0 average in all mathematics and science courses.

At UNCP, Lamberton participated in several research and development projects. She first gained valuable experience performing research—Mercury Concentration of the Lumber River Basin—in 2017 with Dr. Roland Stout and later Testing and Construction of Microscale Electrochemical Devices in 2018 with Dr. Paul Flowers.

She presented both projects at the Pembroke Undergraduate Research Conference (PURC) in 2018. This past spring, she performed simultaneous research, Study of Quantum Cryptography using a Thorlabs Apparatus, with Dr. Quinton Rice and with Dr. Bill Brandon, Educational Resources in Magneto-Optics: Faraday Rotation in F2 Glass. She presented posters summarizing those activities at PURC 2019.

Lamberton was a member of the Maynor Honors College and UNCP’s Rocket Team. During the 2018-2019 year, she served as the team captain. The team won first place for oral presentations at the 2019 First Nations Launch in Wisconsin in April.

“The impressive list of extracurricular activities Lamberton has participated in reflects the invaluable R&D (research and development) opportunities energetic students can obtain at UNCP,” said Brandon, associate professor in the Chemistry and Physics Department.

“Clearly, an NCSU professor would be well-advised to recruit her for their own R&D program.”

In an effort to provide access to students from all around the state who aspire to study engineering and computer science, the College of Engineering at NC State offers dual degree programs with several schools across North Carolina including Fayetteville State, North Carolina Central and UNC Pembroke.

“We are committed to providing opportunity and access to the engineering programs here at NC State to students from all four corners of the compass in our state,” said Dr. Jerome Lavelle, associate dean for academic affairs in the College of Engineering at N.C. State. “The dual degree partnership with UNC Pembroke provides an important linkage for the Southeast region. I am delighted that the seeds of this program, planted only a few short years ago, are now yielding excellent students matriculating to N.C. State.”

### ***Visit with David Green***

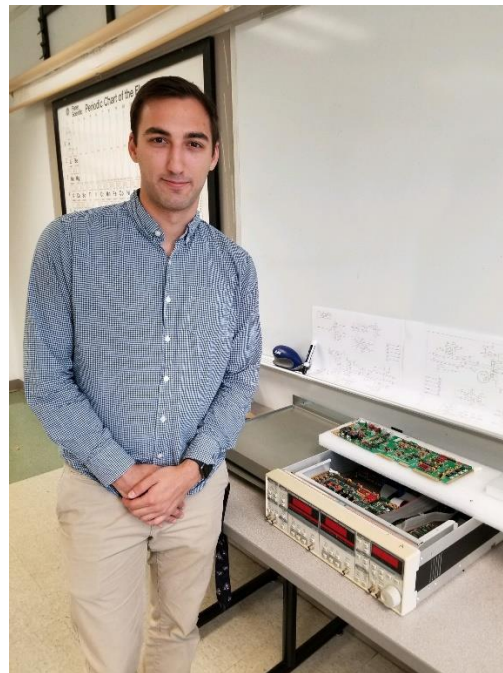
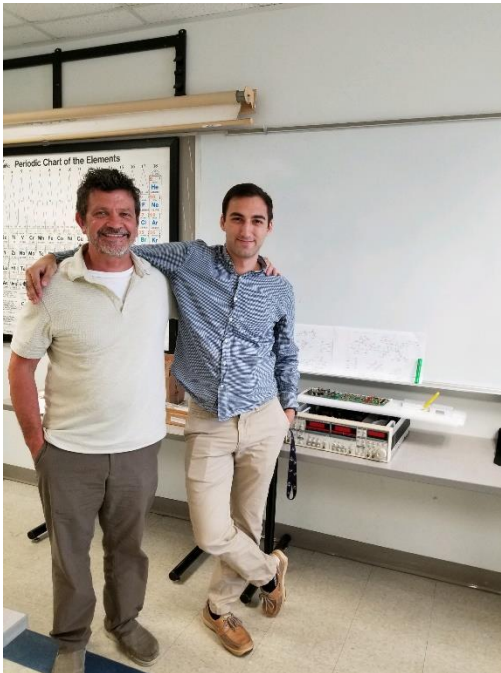




This past summer I was afforded an excellent opportunity to work an internship in the Biopharma industry. One of the pharma industry leaders, Pfizer offers the Student Summer Worker program and I applied. During the previous fall, the Pfizer plant in Sanford sent a company representative to the UNCP campus to tell us about the program. I found out about this opportunity through my professors and the Chm/Phys department email. I jumped at this chance to get my foot in the door at such a large company. I really did not know what to expect or where in the plant I would be working. I just wanted the chance to get to know the company and network with colleagues and other interns. I am so glad I took the chance. I worked over the summer on a couple of different projects. The plant in Sanford manufactures vaccine conjugants and is entering the exciting new field of gene therapy. It is a growing facility and our group of interns was tasked with investigating and proposing an innovative new colleague-learning plan to ensure the sustainability of the site. It was a challenging project and I learned a lot. At the end of the summer, we had to report on our finding and the proposed plan to the plant's senior leadership team. I also was given the lead on a project to gather three dimensional measurement data of the plant's warehouse inventory to aide in capacity management and supply chain forecasting. This was such a great experience and I am excited to have been invited back for next summer.

### ***Visit with Killian McDonald***

Killian McDonald, UNCP Spring 2018 graduate (BS - Applied Physics), has started his final year at NC State University. He is presently working toward a master's degree in electrical engineering (MSEE).



## ***UNCP Wins \$1M Grant for STEM Scholarships***

The number of students enrolling in upper division STEM-related programs at The University of North Carolina at Pembroke has increased nearly three times faster than the increase in total upper division enrollment in the last five years.

Maria Santisteban, a Biology professor, will administer the program along with grant co-authors **Rebecca Bullard-Dillard** and Rita Hagevik, professors of Chemistry and Biology, respectively.

Read more at: <https://www.robsonian.com/news/126563/uncp-wins-1m-grant-for-stem-scholarships>



## ***Fall 2019***

The departmental meeting was held August 8<sup>th</sup>. Following the meeting, lunch was provided by Jersey Mikes. Classes started on August 14<sup>th</sup>. Dr. Siva Mandjiny welcomes back all of the faculty, staff, and students. Let's make it a great year for everyone. ***Go Braves!***







