

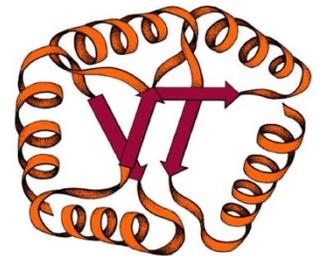


# ENGEL HALL NEWS

BIOCHEMISTRY @  
VIRGINIA TECH

SPRING 2018

## Cheers to the *Class of 2018!*



Please join us as we congratulate the Class of 2018 on their graduation and welcome them as alumni of the Virginia Tech Department of Biochemistry.

On May 11, 2018, Virginia Tech President Tim Sands and College of Agriculture and Life Sciences Dean Alan Grant conferred Bachelor of Science degrees upon 149 students from the College of Agriculture and Life Sciences and the College of Science.

These exceptional graduates represent diverse collegiate experiences and career aspirations. They have had an impact on our department, and we, along with the faculty and staff of the Department of Biochemistry wish them a bright and successful future!



# Class of 2018: Juan Hernandez leads inside and outside the classroom

WRITTEN BY TIFFANY WOODALL  
PHOTO BY CHRISTINA FRANUSICH



Juan Hernandez accepts an Aspire! Award for Preparing for a Life of Courageous Leadership in March 2018.

Juan Hernandez serves as the president of [Tech DREAMers](#), a campus organization whose mission is to foster a community inclusive of DREAMers at Virginia Tech by advocating and educating others as to what DREAMers are, making resources available to all DREAMers that make higher education more obtainable, and advocating for immigration reform both at the state and federal levels.

A senior from Salem, Virginia, studying biochemistry in the College of Science with a minor in chemistry, Hernandez said he is most proud of his Mexican heritage and being a Mexican immigrant here in the United States. Getting involved with Tech DREAMers helped him find his place at Virginia Tech. While leading a campus organization has

certainly influenced his experience, the highlight of his collegiate career came inside the classroom as a teaching assistant for the Biochemistry Lab course during the fall 2017 semester.

“It was an incredible experience,” Hernandez said. “I made a great connection with the students in my class, and even though it was an immense amount of work, it was always very fulfilling to help the students advance their knowledge. This would not have been possible if it was not for the experience and reputation I gained by joining Dr. Dennis Dean’s research group.”

Hernandez was originally recruited to work in Dean’s lab as part of a cohort of undergraduate students who were supported by the Bill &

Melinda Gates Foundation to study biological nitrogen fixation. He works closely with a research scientist to figure out how complex proteins that contain metals are assembled. Most of his responsibility involves using recombinant DNA techniques and performing background work for protein purification.

“I have persuaded Juan to continue working in my laboratory because he does a good job and our lab members enjoy working with him,” said Dean, professor of biochemistry and director of the Fralin Life Science Institute. “Over the years, I have had numerous undergraduate students work in my lab, and many of them have been very talented and gone on to have great careers. I expect the same for Juan. He has a great combination of talents, including natural intelligence, curiosity, an ability to perform experiments without a great deal of supervision, a willingness to take pointed criticism, and a great sense of humor.”

Hernandez is the recipient of an [Aspire! Award](#) for Preparing for a Life of Courageous Leadership, largely for his service to and advocacy for the community of undocumented students at Virginia Tech. He is also the recipient of a [Presidential Initiative Scholarship](#) scholarship. He’ll graduate with a 3.93 overall GPA and Dean’s List with Distinction honors.

The Tech DREAMers organization earned an Outstanding Achievement by an Organization award from Virginia Tech for hosting “I am an Immigrant Day” in April 2017 – an event that Hernandez played an instrumental role in organizing – as well as a Presentation Track Award by Housing and Residence Life for the presentation, “How to provide a more inclusive environment for undocumented students” in January 2017.

# Senior Spotlights



## Camille Schrier

Newtown, PA

BS Biochemistry  
BS Systems Biology

Being a Virginia Tech Biochemistry student was one of the most rewarding experiences of my life thus far. I not only learned how to be a proficient and confident biochemist, but more importantly, how to effectively problem solve. Virginia Tech Biochemistry provided me with a hands-on educational experience with professors who were willing to help, and wanted to see me succeed. After graduation, I will be continuing to use my biochemistry skills and education as I pursue a Doctor of Pharmacy at Virginia Commonwealth University in Richmond, VA beginning this fall.



## Jesse Pinkman

Chesapeake, VA

BS Biochemistry  
BS Biological Sciences

When I first enrolled here at Virginia Tech in the fall semester of 2014, I had no idea what experiences and adventures lay before me, or what it meant to be a part of this community as a Hokie. Being the first person in my family to pursue a scientific field felt both overwhelming and daunting at the time, until I found my home in the Department of Biochemistry. In addition to possessing a prestigious academic reputation, this department differentiates itself through its strong sense of community – it is not just a cohort of colleagues, but also a family.

When I first enrolled here at Virginia Tech in the fall semester of 2014, I had no idea what experiences and adventures lay

Virginia Tech’s motto of “Ut Prosim” (That I May Serve) is much more than a slogan – it’s a lifelong commitment to service. While serving as an undergraduate teaching assistant for both freshman biology and general chemistry, I had the opportunity to share my knowledge and passion for these subjects and discover my calling to teaching. After graduating with dual degrees in Biological Sciences and Biochemistry, I will be pursuing a PhD in Molecular Biology and Biochemistry at the University of Notre Dame this fall in alignment with my overall goal of becoming a professor. The most influential mentors in my life have always been educators, and I am excited to be that role model for the next generation of scientists in the near future!



## Ami Patel

Woodbridge, VA

BS Biochemistry  
College of Science Dean’s  
Leadership Council

Coming to Virginia Tech, I knew majoring in biochemistry would be challenging, but I’m glad that I made that decision. I really enjoyed the biochemistry courses, especially the lab class, and I am grateful for all of the support that I received from professors like Dr. Helm. Along the way, I met some of my best friends in biochemistry and I will miss my time at VT. I’m excited to be continuing my education at Kornberg School of Dentistry in Philadelphia after graduation!



## Sam Park

Richmond, VA

BS Biochemistry  
VT REEL  
Fellowship

For the past year and a half, I was able to perform undergraduate research in Dr. Gillaspys plant biochemistry lab and become connected with the biochemistry department. Through this lab I received hands on experience performing biochemical experiments and I had the opportunity to participate in the VT REEL: "Securing Our Food" fellowship last summer. In this program I learned about the issues basic and applied scientists face in industries such as food production, agriculture and environmental science. The experiences this program and the biochemistry department provided have given me the skills and knowledge to be able to help solve some of these issues. Until this past year I was unsure of what my plans were after graduation, but with the help of my lab and professors I realized I have a passion for research and that I should pursue graduate school. I wanted to enter the applied sciences to become a better-rounded scientist and have a broader scope of the agriculture industry so that I can best apply myself. I am very happy to have been accepted into the University of Arkansas for an M.S. degree in Crop, Soil and Environmental Science... go Razorbacks!

majoring in biochemistry and successfully completing the computer science minor, which I believe was the best decision I have made here. I have been involved in undergraduate research, where I learned novel techniques to learn and analyze data using my computational and research skills and partook in other opportunities including the biochemistry club and joining a fraternity. Biochemistry taught me how to challenge myself and tailored my learning towards my goal of becoming a surgeon. Computer science allowed me to critically think and solve more mathematical problems. Thus, I am very proud to be a Hokie and am especially grateful for the biochemistry program. After graduation, I plan on applying to medical schools and using the expertise I've attained from college courses to help me reach my goals.



## Thomas Finley

Las Vegas, NV

BS Biochemistry  
Phi Beta Kappa

Being a Biochemistry undergraduate at Virginia Tech has given me the opportunity to "demystify" the

processes of life. That is not to say that I now know everything making a body tick - far from it! Rather, I was taught some key concepts in biochemical pathways such as enzymology, proteomics, and genetics. Biochemistry fuses the molecular-scale thinking of chemistry, considering reactivities and interactions, with the cellular-scale paradigm of biology, recruiting ideas of pathway and homeostasis. Together, these areas educate the pupil in how to think about the processes of life. I most enjoyed learning about enzymes because they can catalyze so many different reactions; sometimes it almost seemed that one could just wave their hands and say, "Oh, enzymes do that!" That may sound flippant, but I believe that enzymes will be a critical component to a greener, healthier future. After graduation, I will have a few weeks of rest and relaxation at home in Las Vegas before I set out to Philadelphia. I have been accepted into a teaching fellowship program with St. Joseph's University and will be teaching 6th grade science and a religion class at St. Frances Cabrini Regional Catholic School. I look forward to handing on what I have learned at Virginia Tech, both in and out of the classroom!



## Hytham Soueid

Williamsburg, VA

BS Biochemistry  
Minor in Computer Science

At the age of four, my twin brother was diagnosed with type 1 diabetes. From then, my interest in biology, chemistry, and other life sciences constructed my

decision to pursue biochemistry. During my past four years at Virginia Tech, I was able to be involved in many opportunities and have met many helpful people along the way. I have formed close relationships with fellow colleagues and learned from the faculty and advising staff of our department. I accredit this to my pursuit of



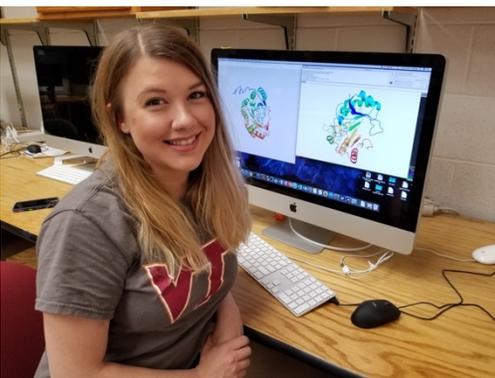
## Eryney Marrogi

McLean, VA

BS Biochemistry

While I have enjoyed being in Blacksburg and the surrounding area (photo is from a hike to Bald Knob), the best part of my experience in the biochemistry department has been, by far, my relationship with faculty. Specifically, my experience has been heavily influenced by the tremendous membership of both Drs. David Bevan and Anne Brown. My sophomore year I entered their lab with a project idea, and they gave me the support and guidance needed to run with it. I wholeheartedly believe no one else would have the trust to simply let an undergraduate student do their own thing, but I am grateful they did. Starting in July I will be joining the Harvard Department of Immunology and Infectious Disease with a focus in vector biology and genetic engineering.

Tech working towards a master's degree and focusing on computational biochemistry. I am looking forward to seeing what more I can learn from the Virginia Tech Biochemistry Department!



## Amanda Sharp

Southern California

BS Biochemistry

My experience with the Biochemistry Department has far exceeded my expectations. The educational aspect has real life application and big picture ideas. While the curriculum is rigorous, it is supported with a willing and capable faculty. I feel confident I will be able to apply my new set of skills in a lab environment going forward. My favorite experience is working in the Bevan and Brown Lab. I was able to obtain skills working in research with real responsibilities and high expectations. This lab allowed me to foster my biochemistry skills and guided my passion into the bioinformatic field.

Following graduation, I am excited that I will be continuing my biochemistry education here at Virginia



## Katherine Olson

Sterling, VA

BS Biochemistry  
BS Environmental Science

When I first came to Virginia Tech as a quivering, uncertain, changed-my-major-four-times freshman, I had no

idea what I was getting myself into, and no idea what kind of incredible opportunities I would encounter - and I definitely never predicted I would graduate fluent in a second language and preparing for a career in a foreign country. It was all by chance, really - I happened to join a lab group in which all the members at the time were from China, and out of nothing more than curiosity and the hope of being able to gossip with my labmates, I blindly dove into it and fell in love with the challenge and excitement of learning Chinese. I self-taught for over a year before deciding to actually go to China, which I still knew virtually nothing about, for a lab project and an internship. I couldn't get enough. I returned again the next summer and winter break for a couple of internships and the more time I spent there, the more opportunities I unearthed. The combination of an academic background in environmental science and biochemistry got me into all kinds of adventures, from being a Chinese-English onsite interpreter at a water resources conference to touring wastewater treatment plants, from teaching science to children in a rural village to working with local environmental organizations on industrial pollution investigations, from interning in a microbiology company to having great conversations with strangers in hostels about environmental economics. This September, I will be starting a Master's degree program at Nanjing University for environmental engineering with a research focus on industrial wastewater treatment and resource recovery, and I am confident that the well-rounded science background I have gotten at Virginia Tech will be a perfect stepping stone to a challenging and exciting career.



## Aarash Roshandel

Gainesville, VA

BS Biochemistry

As a pre-med student, I knew that it was important to get research experience during my time at Virginia Tech. I was extremely skeptical that I would enjoy undergraduate research because I had not enjoyed any of the labs I had taken, and my vision of a researcher at this point in my life was like most of the general public: an antisocial person in a small basement lab working alone. In addition, I had heard some horror stories of undergraduate researchers that only washed dishes and did grunt work. Despite the negative perception, I decided to give it a real effort. My thought process was, if I did not like it, then I could just explain to medical schools that I gave it a shot, but it was not for me. At the end of my sophomore year, my friend, Anroux Mey, referred me to a post-doctorate fellow in his lab. Although there was some skepticism because I was a biochemistry major and the lab, being a translational glial biology lab, was looking for neuroscience students, I managed to express my value as a biochemistry student as well as my passion for the projects I would be working on and secured the position. I quickly learned that my entire perception of research was wrong. I learned that researchers are actually very social and collaborative. I became extremely passionate about contributing, in even a small way, to the frontier of science and medicine. In addition, I realized the importance of having a great foundation in all subjects of science.

Dr. Sontheimer's lab had a very unique dynamic. I was trained to become an independent researcher, but I was also taught how to be an exceptional team player. I was truly spoiled with the amount of invaluable experiences that I gained from working in this lab. I was exposed to many levels of researchers: experienced undergraduate students, graduate students, medical students, neurosurgery residents, post-doctorate fellows, and principle investigators. I developed my professionalism and improved my ability to work in teams.

After a year of working in the lab, I asked to be exposed to every element of research. I knew that I wanted to be

a doctor, but I realized that my view of medicine was changing. The idea of being a physician-scientist really excited me. My new vision for my career involved pairing bedside patient care to the bench-top. I wanted to be part of the movement toward personalized medicine, and that required a foundation in basic science research. I wanted to make sure that I was truly passionate about research.

Therefore, I wanted to expand my role from just doing experiments to also analyzing data, asking questions, proposing experiments, learning about securing research funds, writing papers and grant proposals, etc. As an undergraduate, I understood that it was not possible to fulfill all these goals, but my mentor, Dr. Umans, did a phenomenal job of exposing me to as much as she could. She would make an effort to teach me about the things that I was unable to gain experience in and I will forever be grateful for it.

I was given a project with a high degree of both basic science and clinical relevance. I later was presented the opportunity to first-author a paper. I was challenged to write the entire paper, and this exposed all the things I did not know. And instead of relying on the neurosurgery resident on my project to write the medical background behind the project, Dr. Umans challenged me to learn it myself. This allowed me to do more research on the background of my project and gain better understanding of the clinical relevance of my research. In addition to writing a paper, I was able to develop my presentation skills. I presented my research at a lab meeting as well as at a poster presentation. I was also exposed to many other research presentations from graduate students to new faculty candidates.

## Congratulations, Graduates!



## Class of 2018: Caitlin Swecker named CALS Outstanding Senior in Biochemistry

Caitlin Swecker, of Monterey, VA, is obtaining a degree in biochemistry, with minors in chemistry and animal and poultry sciences. She has excelled academically with dean's list recognition, is the recipient of the Gamma Sigma Delta Junior Award of Merit, and was a member of the Virginia Tech Honors Residential College. Along with her stellar academic achievements, Caitlin has also excelled outside of the classroom as an animal care technician at the Virginia-Maryland College of Veterinary Medicine, and through an internship at SRI International, where she completed

research to discern optimal peptide characteristics for cancer cell targeting. Caitlin has taken on leadership roles in several faith-based organizations, including Cru campus ministry, and has led youth at Northstar Church in Blacksburg. She has continued her dedication to service through the Appalachian Service Project, where she participated in home repairs. All of these experiences have led Caitlin to choose a life of service. Ultimately, Caitlin plans on practicing veterinary medicine in an underserved area, in addition to conducting research on



food and animal care in these underserved areas.



Haley Meade, of Pound, Virginia, is obtaining a BS degree in biochemistry as well as a BA degree in religion and culture from the College of Liberal Arts and Human Sciences, with minors in chemistry and Appalachian studies. She is a superb student who has received

## Class of 2018: Haley Meade named COS Outstanding Senior in Biochemistry

dean's list recognition for all eight of the semesters in which she has been enrolled, is enrolled in the University Honors College, and has received numerous scholarships in both COS and CLAHS. Haley has been very engaged in undergraduate research at the VA-MD College of Veterinary Medicine, where she completed a Fralin Undergraduate Research Fellowship. As a student, she has volunteered as a Peer Health Educator with the Health Education and Awareness Team as a Mission Friends Instructor through Blacksburg Baptist Church, as a Summer Language Tutor with the Blacksburg Refugee Partnership, as the Lead Tutor with the Student Success Center at Virginia Tech since August 2016, as an undergraduate student teaching assistant with the Department of

Biological Sciences, and as a Global Health Leadership Field Study Intern with the Edward Via College of Osteopathic Medicine. Beyond Virginia Tech and its local community, Haley has volunteered with The Health Wagon in Wise, VA, the Remote Area Medical Health Fair in Wise, VA, the Norton Community Hospital in Norton, VA, and with the Mountain Comprehensive Health Corporation in Whitesburg, KY. Through her experiences, Haley has developed her aspiration to pursue a career in medicine, with particular emphasis on supporting rural communities. As such, Haley co-founded and is the current president of the Virginia Rural Health Association at Virginia Tech. Haley will be attending the UVA School of Medicine in the fall.

# Elizabeth Bose becomes first Hokie to win a women's golf collegiate event

The Virginia Tech women's golf team posted a three-round total of 18-over 882 and finished in fourth place at the Hurricane Invitational on Wednesday, March 7, 2018. The three-day event was played at the par 72, 6,150-yard Biltmore Golf Course in Coral Gables, Florida.

Tech posted a 295 in Monday's first round and had a 298 in Tuesday's second round. The Hokies' final round 1-over 289 was the best round of Wednesday.

Elizabeth Bose, (pictured center) a Biochemistry major, won the event for the Hokies. The junior from Norfolk, Virginia shot a final round 2-under 70 on Wednesday to claim her first collegiate title. She defeated a trio of golfers, Renate Grimstead of Miami and Rylee Pedigo and Valerie Tanguay of Oklahoma, by one stroke. Bose becomes the first-ever Virginia Tech women's golfer to win a collegiate event.



## Spring Tweets



Pablo Sobrado

@SobradoLab

Congratulations Didier!!! Great seminar and MS thesis defense!



Dan Slade

@TheSladeLab

There are now two more official PhD candidates in the Slade Lab after @AriUmana and @blake\_e\_sanders passed their prelims! Congrats! #proudpi



Anne Brown

@Biochem\_Anne

@bevan\_lab tried on some VR goggles to see the dispersion of people in a disaster. Cool work from @BiocomplexityVT



Glenda Gillaspay

@BiochemVT

Biochemistry congratulates Karen on 40 years of service to VT



Chloe Lahondere

@Lahondere\_Lab

The snow is finally gone (at least for now...), I am so excited to begin doing field work! See you soon @MLBS\_UVA ! #WomenInSTEM @vtbiochem @virginia\_tech



COLLEGE OF AGRICULTURE AND LIFE SCIENCES  
**BIOCHEMISTRY**  
VIRGINIA TECH.

## Alumni Awards

April 20, 2018



### Outstanding Recent Undergraduate Alumna

**Christina G. Tise**  
2009, B.S. Biochemistry

Christina is currently enrolled at the University of Maryland School of Medicine. During her time there she completed her Ph.D. in Epidemiology and Human Genetics and will begin a residency at Stanford in the fall in the Pediatrics/Medical Genetics program upon completion of her degree.

Christina has been published several times in the areas of Personal Medicine and Genomics, and Personal Genomes in Medical Education, to name a few. Christina volunteered throughout her time with Virginia Tech and beyond. While here in Blacksburg, she worked with the Raft Crisis Hotline providing paraprofessional phone counseling to the New River Valley community. Most recently she has volunteered as a school science ambassador and with several youth groups in Baltimore.

Pictured in the photos are CALS Dean Alan Grant, the award winner, CALS Alumni Association President Dixie Dalton, and Biochemistry Department Head Glenda Gillaspay.

### Outstanding Recent Graduate Alumnus

**S. Wyatt Chocklett**  
2009, M.S. Biochemistry

Wyatt is currently the Chief Operating Officer for the Doctors Hospital of Sarasota in Florida. In this capacity, Wyatt is managing the design, construction, and opening of the Doctors Hospital in Lakewood Ranch ER, a multi-million dollar free-standing department expected to treat 10,000 patients in its first year.

Wyatt previously served on the board of Linda's Hop, a non-profit that focused on fundraising and community awareness of pancreatic cancer. Currently he is a participant of Leadership Sarasota, a program hosted by the Sarasota Chamber of Commerce that works to connect community leaders to local industries. Wyatt is invested in the health and wellness of his community and does his best to ensure that the projects undertaken by his group meet the needs of the community.



### Distinguished Alumnus

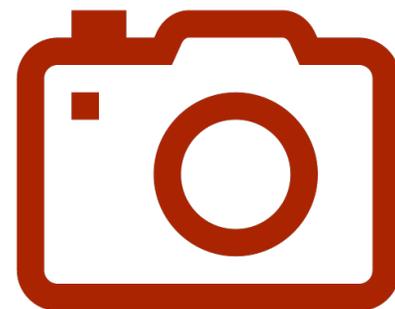
**William 'Bill' Clemons, Jr.**  
1995, B.S. Biochemistry

Bil is a Professor of Biochemistry at the California Institute of Technology. He has a dedicated and demonstrated focus on training members of underrepresented minority groups throughout his career, and most recently was recognized with the Dr. Fred Shair Award for Programming Diversity in 2017.

Although, this is not his only recognition, he has also received the NIH Pioneer Award, the Burroughs Wellcome Career Award in Biomedical Sciences, in addition to the Damon Runyon Cancer Research Foundation Fellowship at Harvard Medical School.

During their visits back to campus for this annual event, this year's awardees made appearances in several in-major classes, including Dr. Gillaspay's BCHM 4116 General Biochemistry lecture, where current students had the opportunity to learn about and to ask the awardees questions about their careers related to the field of biochemistry.

# IN THE CLASSROOM: SNAP SHOT



Bil Clemons '95, winner of the 2018 CALS Distinguished Alumni Award for Biochemistry, visited Dr. Biswarup Mukhopadhyay's section of BCHM 4124: Laboratory Problems in Biochemistry and Molecular Biology. Junior and senior level students had a great time interacting with the CalTech professor, who took the same class nearly 25 years ago!

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