



Millersville University

COLLEGE OF SCIENCE
AND TECHNOLOGY

2019-2020 Annual Report

Executive Summary

Dear Faculty, Staff, Alumni, and Friends of Millersville University,

This was definitely a year filled with unanticipated events! This past March, the campus moved to remote instruction and operations. While challenging, the faculty, staff, and students embraced our EPPIC values to guide conversations and discussions with one another and the surrounding community. Individuals were immensely flexible, patient, and compassionate toward one another while faculty and staff remained focused on students, their welfare, and their success.

It is a pleasure to summarize the diverse array of accomplishments undertaken by our faculty, staff, and students in the College of Science and Technology this past year. I am very proud of what they have achieved during this immensely challenging period of time. When you have a moment, please peruse this brief summary of student, staff, and faculty accomplishments. I want to thank my colleagues for all of their hard work and effort this past academic year and the students who persevered and overcame the obstacles placed before them.

I would also like to thank our donors and friends of the University. Thank you for supporting our students, the activities they participate in, and our faculty so that they may provide experiences that engage students in the disciplines they love and about which they are passionate. Much of the great work we have accomplished is facilitated by the generous support you provide – Thank You!

Although brief, I hope this year's report provides readers a glimpse into the outstanding work being undertaken by Millersville University students and their faculty.

Enjoy, stay healthy, and have a wonderful summer!

Sincerely,



Dr. Michael Jackson
Dean, College of Science and Technology
Millersville University



Mission

The mission of the College of Science and Technology is to prepare our students for a lifetime of professional work in our respective disciplines by providing the highest quality programs that lead to baccalaureate and master's degrees in the areas of Mathematics, Science, and Technology as well as doctoral degrees in Nursing. The College has a strong commitment to teaching and learning, research, outreach, and diversity. Furthermore, we provide general education for the larger student body and continue our long tradition of excellence in teacher preparation. The College provides leadership to community organizations and fosters collaborative partnerships that lead to opportunities for student research, internships, cooperative educational experiences, and pathways to employment.

Goals and Objectives

The College of Science and Technology will continue to distinguish itself as a center for excellence in the areas of mathematics, science, and technology that provides a dynamic academic environment in which students and faculty can grow professionally. We are committed to the preparation of graduates who solve problems, communicate effectively, work collaboratively, and demonstrate mastery of their disciplines.

Contribution to the University Strategic Plan

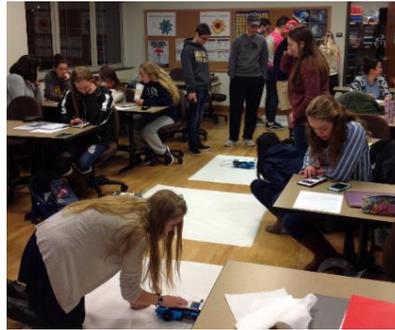
Departments integrate high-impact practices into their curriculum and degree programs in various ways, including:

- Internships: over 50 students participated in credit bearing internships, some of which had to be moved online due to COVID-19. Additionally, numerous students participated in non-credit bearing internships.
- Research: Over 100 undergraduate students participated in faculty-mentored experiences with numerous additional undergraduate and graduate students participating in research experiences that were incorporated directly into their courses.



Undergraduate students (all Class of 2020) conducting research in various labs and field stations: Lindsay Matter (B.S. Biology), Girum Erkalo (B.S. Chemistry), and Jordan Penn (B.S. Biology).

- Service Learning: Departments continue to integrate a range of projects and experiences into their courses. For example, students in Biology courses, led by Dr. Aaron Haines, conducted spotlight deer surveys for the Lancaster Central Park deer management program as well as biological surveys at Silver Mine Municipal Park.
- Study Abroad: 28 students within the College participated in study-abroad this past year in addition to two faculty-led study abroad courses taught by Dr. Len Litowitz (AEST) [ITEC 304, Summer: Iceland] and Dr. Ximena Catepillán (MATH) [MATH 102, Summer: Yucatán Peninsula].



(Left) Adam Weiner (B.S. Meteorology, Class of 2020) at the National Weather Service in Rayleigh NC as part of his internship for the NOAA Hollings Scholarship. (Center) The Mathematics Educators at Millersville University (MEMU) student organization at an outreach event. (Right) Dr. Wubah and President Wubah celebrating at the 9th Annual Breast-a-Ville, October, 2019.

Selected Highlights

Fundraising Accomplishments and Opportunities

The *Imagine the Possible* campaign (<https://imagine.millersville.edu/>), focused entirely on students, has been extended to enhance our ability to help alleviate the challenges they face as a result of the coronavirus (COVID-19) pandemic. This campaign has already surpassed \$40 million in funds raised for student scholarships, athletics, and to support a range of student experiences such as student faculty research, study abroad, and internships (to name just a few).

Along with the success of the campaign, this past year Millersville University held its most successful *One Day Give* event, raising \$291,867 with 1,331 gifts. For this event, the College raised over \$18,000, half of which served as a match provided to the Dean's Discretionary Fund. This includes funding in support of a plant growth chamber that was acquired for the Department of Biology.

Additionally, more than \$300,000 was donated to the College this year by more than 100 individuals along with the largest bequest in the College's history. Ms. Liselotte Wehrheim (Class of 1974) donated over \$3.5 million in support of her named scholarship for nursing students.



Ms. Liselotte Wehrheim (Class of 1974) (Left). President Wubah addressing attendees at the 2019 Celebrate Scholars luncheon (Center) and at Millersville University's 2019 Tribute Reception (Right).

This past year, contributions from about 200 individuals and organizations either created new or enhanced existing programs within the College. The new scholarships and awards that have been established include:

- George R. Anderson Mathematics Scholarship,
- Dr. Charles Scharnberger Geology Scholarship,
- The Stephen Daniel and Anna Funk Lockey '25 Nursing Scholarship,
- Harry A. '65 and Carolyn J. Lohss Manufacturing Engineering Scholarship,
- Harry A. '65 and Carolyn J. Lohss Geology Scholarship,
- Harry A. '65 and Carolyn J. Lohss Meteorology Scholarship,

- Stephen '73 & Linda '73 Williamson Math Scholarship,
- Stephen Focht '70 Science Scholarship,
- Miller-Averett Geography Scholarship,
- UGI Utilities, Inc. Community Safety Scholarship, and
- David R Morris '01 and Family Annual Award.
- The top 15 existing endowments and programs that received support this year were:
 - Liselotte R. Wehrheim Scholarship in Nursing,
 - Dr. R. Edward Rajaseelan Excellence in Chemistry Scholarship,
 - Liddell Field Study Endowment,
 - Karen A. Murley Student Undergraduate Research Fellowship Program in Chemistry,
 - College of Science & Technology-Miscellaneous Gifts (Dean's Discretionary Fund),
 - Paul J. McInerney Memorial Lecture Fund Endowment,
 - Diana's Dreamers: Determined to Defeat Breast Cancer Endowment,
 - Applied Engineering, Safety & Technology Facilities & Equipment Fund,
 - Earth Sciences Alumni Travel Endowment,
 - Dr. Paul G. Specht Occupational Safety and Environmental Health Alumni Scholarship,
 - Dr. William J. Yurkiewicz Undergraduate Research Fellowship,
 - Brent D. Frey Technology Education Scholarship,
 - Joyce Denelsbeck King '83 Scholarship for Women in STEM,
 - Edna Butler Cohen '27 Mathematics Scholarship, and
 - The Choi Family, Class of 1996, Biology Endowment for Anatomic Studies.



(Left) The Machine Safety Trainer donated to the Occupational Safety and Environmental Health program by the Machine & Process Safety Assessment (MPSA) group. (Center) Dr. Alex Johnson (AEST) and members of MU's SME (Society of Manufacturing Engineers) team receiving a grant in support of scholarships and student team competitions from the Gene Haas Foundation. (Right) Clark Miller (AETM Graphic Communication major) and Dr. Mark Snyder (AEST) at the Printing United Expo.

- A significant number and/or amount of contributions were also given to the following programs:
 - Steinman Foundations Intelligencer Printing Underclassmen Scholarship,
 - Edward Shane College of Science and Technology Research & Recognition Symposium,
 - Lehigh Valley Chapter American Society of Safety Engineers Scholarship,
 - Gail & Kenneth Twiford Biology Award,
 - Harold R. Weirich Memorial Lecture Endowment,
 - Gerald S. Weiss Chemistry Scholarship Endowment,
 - William McGroarty '82 Excellence in Printing Technology Award,
 - Dalton E. Smart Humanitarian Award Industry & Technology Department Endowment,
 - ISA Central Keystone Section Outstanding Student Annual Award,
 - Trudy Tyler Yefko '77 Biology Scholarship,
 - Donald E. Weiman Instructional Equipment Endowment,
 - Beth Ann Barry Memorial Scholarship Endowment in Computer Science,
 - James E. Koken Science Scholarship,

- James and Judith Hower Scholarship in Earth Sciences,
 - Scott and Deborah Jacobs Meteorology Scholarship,
 - Joseph and Anita Meier Memorial Scholarship,
 - Harry E. Canter Statistics Award Endowment,
 - Faraday Physics Scholarship,
 - STEAM Learning Program,
 - William B. McIlwaine Scholarship in Earth Sciences,
 - Meteorological Endowment in memory of Russell L. DeSouza,
 - Secondary Mathematics Education Scholarship,
 - Harry A. '65 and Carolyn J. Lohss Physics Annual Award,
 - STEM Inclusion Scholarship Fund, and
 - The Wubah Family Endowed Scholarship.
- The College has also benefitted from the support received for individual department programs, particularly those enhancing the variety of research and educational experiences being undertaken by our students. For example, the *Gene Haas Foundation* created the *Gene Haas Scholarship* and has provided funding for our *Society of Manufacturing Engineers Program* while our Watershed Education & Training Institute Program (WETi) received funding from the *Chestnut Grove Foundation*. Along with equipment donations, such as those provided by the *Machine & Process Safety Assessment (MPSA)* group, a range of department events were also supported (e.g. the Alumni & Friends reception at the American Meteorological Society's annual meeting was made possible through the support from *AccuWeather*, *Harris Corporation*, *Weather Trends International, Inc.*, and *Millersville University's Alumni Association*).
 - Major Sponsorships: We are grateful to the *Mr. and Mrs. William F. Brossman Charitable Foundation* for their generous and continued sponsorship of the Science Lectureship and Science Knowledge Competition Examination. We are also grateful for *Phoenix Contact Inc.*'s continued and generous sponsorship of the Glenna Hazeltine Women in Mathematics, Science, and Technology Conference and the Pennsylvania Central Region Science Olympiad. Unfortunately, due to COVID-19, several events were cancelled, including this year's Conference and the Edward Shane College of Science and Technology Research & Recognition Symposium.



(Left) Dr. Paul Sereno gives the public presentation for the Brossman Foundation and Ronald E. Frisbie Sr. Science Lectureship. (Right) Dr. Sereno joins MU faculty, staff and students with the students from the top three teams from the Science Knowledge Competition Examination. These events are sponsored by the Mr. and Mrs. William F. Brossman Charitable Foundation.

- The 35th Brossman Foundation and Ronald E. Frisbie Sr. Science Lectureship (speaker: Dr. Paul Sereno) was held at Millersville University, October 2019. The event was coordinated by Dr. Lyman Rickard (CHEM) and the lectureship committee. For the afternoon lecture, there were about 375 students in attendance with additional students viewing the presentation online while for the evening public lecture, there were about 275 individuals in attendance. The Science Knowledge Competition Examination had about 50 participants from 24 high schools across 8 counties. This event was supported by the *Mr. and Mrs. William F. Brossman Charitable*

Foundation. MU members of the lectureship committee were: Dr. Angela Cuthbert (GEOG), Dr. Sam Earman (ESCI), Mr. Ron Frisbie, Jr. (F&A), Dr. Tariq Gilani (PHYS), Dr. Nazli Hardy (CSCI), Ms. Lynnea Holler, Dr. Brent Horton (BIOL), Dr. Michael Jackson, Dr. Alex Johnson (AEST), Dr. Baoling Ma (MATH), and Ms. Carol Reichler.

- Dr. Kathryn Allen (CHEM) and Dr. Dan Albert (CHEM) led the PA Central Region Science Olympiad Competition held at Millersville University, February 2020. Approximately 650 area students (from over 50 teams) with their coaches, families, and other supporters attended this year's event. The success of this event was made possible through the efforts of over 100 volunteers, of which about 80 were MU faculty, staff, and students. This program was sponsored by *Phoenix Contact Inc.* The College also sponsored the interactive display *Microworld* by Genetic Moo that was available to the campus community from January – March 2020.
- The 33rd Summer Science Training Program (SSTP) was held during the 2019 summer at Millersville University. The program, coordinated by Dr. Ryan Wagner and Dr. Joel Piperberg (BIOL), included the participation of 20 MU faculty and staff. This annual program is offered in July to academically talented students entering grades 8 – 12. SSTP provides students with learning opportunities typically not available at the pre-college level through a wide range of academic disciplines in mathematics and science with a focus on intensive student-teacher interaction, advanced-level learning, and research and problem-solving experiences.

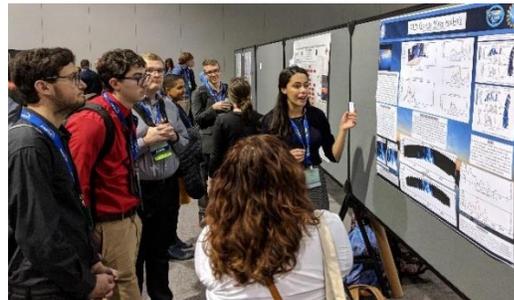
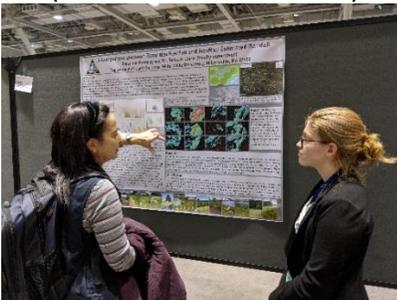


(Left) Damia Gonzalez Akimori (Biology major) and (Right) Steven Knauss (B.S. Chemistry and Applied Engineering and Technology Management, Class of 2020) at the 6th PASSHE STEM conference (2019). (Center) Dr. Piperberg (Biology) and participants in the 33rd Summer Science Training Program (SSTP).

Examples of Student Achievements

- Victoria Coutts (B.S. Biology, Class of 2017) received a Graduate Research Fellowship from the National Science Foundation while Karam Idrees (B.S. Chemistry, Class of 2018), Gillian Good (B.S. Chemistry, Class of 2019), Brandon Frey (B.S. Chemistry, Class of 2018), Amy-Charlotte Devitz (B.S. Biology, Class of 2017) were selected as Honorable Mentions.
- Cameron Gonteski, Robert Comodari and Elijah Crisden (Meteorology majors) are the recipients of the 2020 Ernest F. Hollings Scholarship funded through NOAA.
- Clark Miller (Applied Engineering & Technology Management Graphic Communication major), received the 'Best of Show' award in the *Tom Frecska Student Printing Competition* sponsored by the Specialty Graphic Imaging Association and held at the Printing United Expo.
- Damia Gonzalez Akimori (Biology major) received the Best Poster/Oral Presentation Award in Biology, Environmental Science, Health Science, and Psychology for her poster presentation entitled "Maternal Factors Affecting Egg Viability in Nematodes" at the 6th PASSHE STEM conference (2019).
- Jessica Whittemore (Chemistry major) received a 2nd place award in the Chemical Sciences division at the NIH sponsored Undergraduate Research Symposium on Chemical and Biological Sciences, University of Maryland Baltimore County (UMBC) (2019).

- Chemistry majors Gium Erkalo, Kyra Brakefield, and Autumn Peters were selected to participate in NSF-REU programs at the University of North Carolina-Chapel Hill, Tulane University, and Florida State University, respectively.
- Juanita Childs (Computer Science major) and Dr. Nazli Hardy (Computer Science) presented “Application of Cryptography: Public Key Infrastructure and Digital Signature,” at the Central Pennsylvania Open Source Conference, in Lancaster, PA (2019). Dr. Stephanie Schwartz (Computer Science) also presented at this conference.
- Catherine Whitaker (Meteorology major) was selected to participate in the ALPA (Airline Pilot Association) summer internship program for the 2020 summer.
- Chad Wiley (Meteorology major) is participating in a virtual internship experience through the NOAA Hollings Scholarship Internship program at Boulder, CO on Snowfall prediction and verification.
- Samantha Carlson (Meteorology major) accepted a summer internship with NASA Goddard creating Python code to simulate satellite measurements of neutral density.
- Adam Weiner (B.S. Meteorology, Class of 2020) presented “Improving Tornado Watch and Warning Lead Time: A Case Study of the April 25, 2014 Severe Weather Event in Eastern North Carolina,” 24th Severe Storms and Doppler Radar Conference, Central Iowa National Weather Association (2020).
- Ben Fellman (Meteorology major) was named to the 2020 CoSIDA Academic All-America Division II Men's At-Large Third Team.
- Kyle Ehmann (Ocean Sciences and Coastal Studies [OSCS] major) presented “Seasonal phytoplankton production at the New England shelf break front: observations using the coastal pioneer array’s submarine gliders,” at the Ocean Sciences Meeting 2020, San Diego, CA (2020). Samantha Ferguson (Biology major), Cassandra Este Alexander (B.S. OSCS, Class of 2019), and Dr. Robert Vaillancourt (Earth Sciences) were co-authors.
- Olivia Oxenrider (Geography major) participated in The Harrisburg Internship Semester (THIS) program.
- Christopher Higgins (B.A. Geography, Class of 2020) completed “The Case for an Aerotropolis at the Philadelphia International Airport” for the Department of Geography and the Honors College.
- Madison Martin (B.S. Mathematics, Class of 2020) passed the Society of Actuaries Exam FM (Financial Mathematics).



(Left) Rhiannon Fleming and (center) Gabriella Joelle (both Meteorology majors) presenting at the 100th American Meteorological Society Annual Meeting in January 2020, Boston, MA. (Right) PSAC Scholar-Athlete Ben Fellman (Meteorology major) at a tennis competition.

Examples of Faculty and Program Awards

- Dr. Thomas Bell (Applied Engineering, Safety & Technology) received the Wilkinson Meritorious Service Award from the International Technology and Engineering Educators Association.
- Dr. Mark Snyder (Applied Engineering, Safety & Technology) received the Paul T. Hiser Exemplary Publication Co-Award for his 2018 publication in the Journal of Technology Studies.

- Dr. John Wright, Jr. (Applied Engineering, Safety & Technology) received the Distinguished Service Citation from the Epsilon Pi Tau International Honor Society for Professions in Technology.
- Dr. John R. Wallace (Biology) received a Doctor of Humane Letters, Honoris Causa, from the School of Health Sciences, Philadelphia College of Osteopathic Medicine for his “many years of dedicated service and in recognition of (Wallace’s) exceptional career.”
- Millersville University is ranked #1 for the top online master’s degree in Emergency Management while the Online RN to BSN Program was ranked #4 in Pennsylvania.
- Millersville University’s Respiratory Therapy program, offered in collaboration with UPMC-Pinnacle-Lititz, received the Distinguished RRT Credentialing Success Award from the Commission on Accreditation for Respiratory Care.

Examples of Faculty Grants

- Dr. Kelly Kuhns (Nursing) serves as co-PI on Millersville University’s Opioid Workforce Expansion Program grant funded by the Health Resources and Services Administration for \$1,349,931.
- Dr. Jack Ogutu (Applied Engineering, Safety & Technology) received a NIOSH training grant (2020-2025), funded for \$240,000 by the National Institute for Occupational Safety and Health.
- Dr. Richard Clark (Earth Sciences) was awarded the Clairton Project contract (\$10,000) by the Allegheny County (PA) Public Health Department to conduct field research involving the Millersville University upper air profiling system at the Clairton Works in Clairton, PA (2019).
- Dr. Maria Schiza (Chemistry, Principal Investigator), Dr. Jeremiah K. Mbindyo (Chemistry), Dr. Christopher R. Hardy (Biology), and Dr. Charlton Wolfgang (Education Foundations), received \$287,234 in funding through the National Science Foundation’s Major Research Instrumentation program for their proposal “MRI: Acquisition of a Scanning Electron Microscope for Research and Training at Millersville University.”



(Left) Charles ‘Chuck’ Brooks (M.S.N. Family Nurse Practitioner, Class of 2020) working with COVID-19 patients. (Right) Co-authors of a National Science Foundation grant to acquire a new Scanning Electron Microscope (from left to right): Dr. Charlton Wolfgang (Education Foundations), Dr. Christopher Hardy (Biology), Dr. Maria Schiza (Chemistry), and Dr. Jeremiah Mbindyo (Chemistry).

Examples of Faculty Publications and Presentations

- Dr. Laura Weise Cross (Biology) co-authored “Intermittent hypoxia augments pulmonary vasoconstrictor reactivity through PKC/mitochondrial oxidant signaling,” *American Journal of Respiratory Cell and Molecular Biology*, Epub 2020 Feb 12. PMID: 32048876.
- Dr. Daniel Albert (Chemistry) authored: “Monte Carlo Uncertainty Propagation with the NIST Uncertainty Machine,” *Journal of Chemical Education*, <https://doi.org/10.1021/acs.jchemed.0c00096>.
- Dr. Dawn Lambert (Nursing) co-authored “Pain control: From the surgical unit to the school,” *Journal of Pediatric Surgical Nursing* (2020).

- Several faculty also worked on the next editions of their textbooks including Dr. Alex DeCaria (Earth Sciences) completing the 2nd edition of his textbook “Python Programming and Visualization for Scientists” and Dr. J. Robert Buchanan (Mathematics) completing the 4th edition of his textbook “An Undergraduate Introduction to Financial Mathematics.”
- Dr. Joe McCade (Applied Engineering, Safety & Technology) presented “Incorporating Computational Thinking into Pre-Service Preparation of Technology and Engineering Educators,” at the International Technology Education Association Conference in Baltimore, MD (2020).
- Dr. William Killian (Computer Science) co-presented the workshop “RAJA: Portable Performance for Large-Scale Scientific Applications” at SC19, The International Conference for High-Performance Computing, Networking, Storage, and Analysis, Denver, CO (2019).
- Dr. Sepideh Yalda (Earth Sciences) gave an invited panel presentation “Presidential Forum Session: The Future of Financial Weather and Climate Risk Management,” at the Annual Meeting of the American Meteorological Society, Boston, MA (2020).
- Dr. Derek Shanahan (Geography) presented the peer-reviewed paper “The City as Frontier Outpost: Criminal Quarters” at the Philosophy of the City Conference, Detroit, MI (2019).
- Dr. Cynthia Taylor (Mathematics) co-authored a presentation entitled “Using children’s literature as a foundation for rigorous mathematics tasks,” at the annual meeting of the School Science and Mathematics Association, Salt Lake City, UT (2019).
- Dr. Sean P. Hendrick (Physics) presented “Betelgeuse and the Death of Stars” at the North Museum Planetarium, Lancaster, PA (2020).



Millersville University students, faculty, and alumni at the 100th American Meteorological Society Annual Meeting in January 2020, Boston, MA.

Examples of Notable Alumni Achievements

- Dr. Jonathan Stoltzfus (Biology) and Faith Carranza (Class of 2019, Biology) co-authored: K. O. Ayode, F. R. Carranza, W. H. Cho, Z. Wang, S. A. Kliewer, D. J. Mangelsdorf, and J. D. C. Stoltzfus, “Dafachronic acid and temperature regulate canonical dauer pathways during *Nippostrongylus brasiliensis* infectious larvae activation,” *Parasites & Vectors*, 13(1):162 (2020). doi: 10.1186/s13071-020-04035-z.
- Dr. Cliff Stains (B.S. Chemistry, Class of 2002) Associate Professor of Chemistry at the University of Virginia, was a recipient of the 2019 MU Young Alumni Achievement Award.
- Bryant James (B.S. Chemistry, Class of 2013) earned a Ph.D. in chemistry from University of Michigan. He is a Process Engineer at Intel Corporation.
- Dr. Angela Rowe, (B.S. Meteorology, Class of 2005) was hired as an assistant professor in the Department of Atmospheric and Oceanic Sciences at the University of Wisconsin-Madison.
- Jennifer Vogt (B.S. Meteorology, Class of 2007) and colleagues received the National Weather Service Eastern Region Cline Award Winner: Meteorology: WFO Albany, NY - For outstanding College of Science and Technology 2019-2020 Executive Summary

forecasts, warnings and decision support services before and during the historic January 2019 snowstorm and extreme cold outbreak.

- Dr. Todd Sikora (Earth Sciences), Dr. Richard Clark (Earth Sciences) and Dr. Dan Eipper (B.S. Meteorology, Class of 2007; Ph.D. Penn State University) co-authored: D. T. Eipper, S. J. Greybush, G. S. Young, S. Saslo, T. D. Sikora, and R. D. Clark, "Lake-effect snowbands in baroclinic environments," *Weather Forecasting*, 34, 1657-1674 (2019).
- Scott Standish (B.A. Geography, Class of 1980) was named Director of Lancaster County Planning Commission.

Examples of Student 'Next Steps'

- Natalie Auman (B.S. Biology, Class of 2018) is a Lab Analyst with Alliance Pharma; Grace Smoot (B.S. Biology, Class of 2019) is an Environmental Specialist at Maryland Environmental Service; Abraham Sharp (B.S. Biology, Class of 2013) is an Environmental Scientist at Advantage Engineers; and Courtland Hess (B.S. Biology, Class of 2018) is an Entomologist with Stroud Research Lab.
- Shannon Davis (B.S. Biology, Class of 2019) started Veterinary School at the Ross University School of Veterinary Medicine.
- The following graduating seniors will be attending chemistry graduate programs with assistantships/fellowships in the fall: Steven Knauss (Cornell University), Kyra Brakefield (University of Oregon), Troy Smith (University of Arizona), Simona Gavrilovici (Northeastern University), and Thomas Przywara (The Ohio State University) while Jessica Sharrow will be attending Campbell University to pursue a D. Pharm and a Master's in Public Health degree.
- The following graduating seniors will be attending mathematics or statistics graduate programs with assistantships/fellowships in the fall: Maksim Melnichenko (University of Tennessee, Knoxville), Susan Lloyd (Penn State University), and Megan McGee (University of South Carolina).
- Destinee Holliman (B.S. Physics, Class of 2020) will attend the Medical Physics Program of the University of Pennsylvania.



(Left) Online celebration for graduating seniors in the Department of Computer Science. (Right) Students at the Biology Mentorship Program Winter Social with Dr. Brent Horton (Biology).

Potential Opportunities for the Next Academic Year

- Enhancing Educational Pathways for Students
 - SCTE faculty continue to investigate (and develop) new curricular programs and collaborative partnerships in consultation with area businesses and through feedback from experts across the national landscape. For example, this past year the following programs have been approved: B.S. degrees in Packaging Engineering Technology, Information Technology with an option in Healthcare Analytics, Environmental & Spatial Sciences as well as the Space Weather and Environment option in the M.S. degree in Integrated Scientific Applications and a sub-baccalaureate certificate in Population Health.
- Enhancing Student Success Initiatives

- Efforts will continue on improving the retention of students, particularly students traditionally underrepresented in STEM disciplines through programs such as the Biology Mentorship Program and the department's use of the '*Biology Toolbox*' initiative, the Department of Chemistry's peer learning program, and the Meteorology (MET) Mentorship Program.
- Enhancing Access to Cutting-Edge Technology
 - SCTE faculty and staff will continue to seek out and acquire financial support (both internal and external) to meet the instructional, scholarly, and service needs of departments and our students for a variety of equipment and computationally intensive activities. This includes working with members of Advancement to enhance donor support for the College of Science and Technology.

Opportunities to support the College of Science and Technology

The College has benefitted immensely through gifts and contributions from faculty, staff, alumni, and friends of the University. Some on-going priorities for the College include:

- **Priority 1 Supporting Student Experiences:** (e.g., High Impact Education Practices such as research, internships, hands-on laboratory/classroom activities) through new and existing initiatives (including naming opportunities). Some potential examples include:
 - equipment Acquisition and Maintenance Endowment,
 - faculty/Student Research (support for supplies, travel, summer awards, etc.),
 - field Experiences (supplies, travel such as van rental and driver costs),
 - internships (stipends for unpaid internships; travel and sustenance for students), and
 - student professional development (attending conferences and workshops).
- **Priority 2 Scholarships:** The College is fortunate to have many scholarships with each department having at least one scholarship. With increasing costs and more than 80% of our students seeking need-based tuition support scholarships, more support can always be used.
- Other initiatives exist of varying size, from small (student travel and supplies grant program) to large (targeted facilities projects). Some examples of potential targeted facilities projects include:
 - Design and construction of a fabrication and prototyping facility for the College, particularly for Applied Engineering, Safety and Technology (and space for public-private partnerships).
 - Roddy Pond field station (to develop the Roddy Pond into an on-campus field station).
- Finally *Imagine the future...* our long-term facility aspirations
 - New Data Science facility for Computer Science, Information Technology, Earth Sciences, Emergency Management, Geography, and Physics;
 - New facility for Biology, Chemistry, and any other disciplines requiring fume hoods and specialized HVAC systems.
 - New facility housing Health Sciences including Nursing, Respiratory Therapy, Pre-Athletic Training, etc. This facility can also include public-private clinical spaces, simulation labs, etc.



Providing impactful educational experiences is what the College of Science and Technology is about!

