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. 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: 81 students from seven departments within the College enrolled in 251 credits, including students pursuing their MDST degree in Environmental Health and Emergency Management. An additional 33 students engaged in internships through OSEH 440 and multiple students participated in non-credit internships.
- Undergraduate Research: students from all departments including EHEM participated. There were over 240 credits of Independent Study (IS) courses taught during the past year. Over 150 distinct students participated in over 150 projects (including projects conducted outside IS courses).

Student presentations at 2017 Made in Millersville.
Dr. Rich Clark (ESCI) with Meteorology students and alumni at the 97th meeting of the American Meteorological Society.

- Study Abroad: Faculty-led study abroad courses were provided by Dr. L. Litowitz (AEST), ITEC 304 [Winter: Costa Rica] along with service learning experiences led by Drs. Karen Rice (Social Work) and Kelly Kuhns (NURS) and Professor Pryzybylkowski (NURS) [included students from the Departments of Nursing and Biology]). Other students were able to participate in international experiences through individual work with faculty.

Students from ITEC 304 at Mistico Park in Costa Rica with the Arenal volcano in the background (partially blocked by clouds).
• First-Year Seminar/Experience: Seven departments within the College have faculty teaching UNIV 103 courses.

• Service Learning: 26 courses from AEST, BIOL, CHEM, ESCI, GEOG, MATH, NURS, and UNIV.

Selected Highlights

College Events and Programs

• The College is extremely grateful for the support it has received from individuals and outside organizations. Several major contributions this past year established or enhanced the following programs: the Keiser Graduate Assistant Scholarship Endowment, the Keiser Instructorship for the School of Science and Mathematics, the Richard Sasin Scholarship in Chemistry, the Robertson School of Science and Mathematics Instructorship, the Starbrad Excellence in Science Award Endowment, the Dr. Paul G. Specht Occupational Safety and Environmental Health Alumni Scholarship Endowment, the Philip C and Karen Ashkar Murley ’63 Science Scholarship Endowment, the Karen Ashkar Murley ’63 Freshman Scholarship Endowment, and the Stanton/Crompton Innovation Leadership Fund Endowment. We are also grateful to the Brossman Foundation for their continued sponsorship of the Science Lectureship, Glenna Hazeltine’s and Johnson & Johnson’s continued sponsorship of the Women in Mathematics, Science, and Technology Conference and Phoenix Contact Inc’s continued sponsorship of the Science Olympiad.

• Dr. Mehmet Goksu (PHYS), Dr. Aimee Miller (CHEM), and Dr. Katie Allen (CHEM) led the PA Central Region Science Olympiad Competition held at Millersville University, March 25, 2017. The successful hosting of this event was made possible through the efforts of over 100 volunteers, of which about 20 were MU faculty/staff and 42 were MU students. Due to their efforts, over 850 students from 23 middle schools and 35 high schools participated in this year’s event. This event was sponsored by Phoenix Contact Inc.

• The 30th Women in Mathematics, Science, and Technology Conference was held at Millersville University, April 4, 2017. The event, coordinated by Dr. Nazli Hardy (CSCI) and the conference committee, hosted ≈ 240 participants from 48 area middle schools and high schools and was supported by the Hazeltine Family and Johnson & Johnson Consumer Products U.S.A. That evening, a showing of 'Hidden Figures' was shown to ≈ 200 members of the University and Public (supported by the Office of the Provost and SCTE) and followed by a discussion led by panelists Dr. Sharon Brusic (AEST), Dr. Carol Hepfer (BIOL), and Dr. Zenaida Uy (PHYS). MU members of the conference committee were: Dr. Judy Cebra-Thomas (BIOL), Dr. Angela Cuthbert (GEOG), Dr. Carol Hepfer (BIOL), Ms. Marianne Frantz, Dr. Michael Jackson, Dr. Xin Li (PHYS), Dr. Baoling Ma (MATH), Dr. Louise Manfredi (AEST), Dr. Maria Schiza (CHEM), Dr. Cynthia Taylor (MATH), Dr. Sepideh Yalda (ESCI), and Dr. Barb Zimmerman (NURS).
The 32nd Brossman Foundation and Ronald E. Frisbie Science Lectureship was held at Millersville University, November 17, 2016. The event, coordinated by Dr. Lyman Rickard (CHEM) and the lectureship committee, hosted ≈ 400 attendees from grades 3 – 9 with over 100 virtual attendees for the afternoon presentation, ≈ 40 attendees for science competition, and ≈ 200 attendees from the general public. This event was supported by the Brossman Foundation and Ronald E. Frisbie and this year’s program included the Science Knowledge Competition Examination. MU members of the lectureship committee were: Dr. Mark Atwater (AEST), Dr. Angela Cuthbert (GEOG), Dr. Nazli Hardy (CSCI), Dr. Sam Earman (ESCI), Dr. Tariq Gilani (PHYS), Ms. Lynnea Holler, Dr. Brent Horton (BIOL), Dr. Michael Jackson, Ms. Carol Reichler, and Dr. Delray Schultz (MATH).

The College of Science and Technology hosted the 3rd Annual PASSHE Undergraduate Research Conference in Science, Technology, Engineering and Mathematics at Millersville University on November 4, 2016. There were 77 presentations from students at ten PA State System Universities and over 140 attendees at the conference.

The 30th Summer Science Training Program (SSTP) was held during the 2016 Summer at Millersville University. The program, coordinated by Dr. Ryan Wagner and Dr. Joel Piperberg (BIOL), included the participation of 20 Millersville University 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 and a focus on intensive student-teacher interaction, advanced-level learning, research and problem-solving experiences.

Students in the College of Science and Technology accounted for more than half of the nearly 200 presentations given at this year’s Made In Millersville.

Student Achievements

Jennifer L. Houtz (BIOL – see photo below) was a recipient of the 2017 Barry Goldwater Scholarship and Excellence in Education while Karam B. Idrees (CHEM) received a 2017 Honorable Mention.

Jenn Houtz (BIOL) in the Ecuadorian Amazon with a wire-tailed manakin.

Jesse Torres, Mikael Baez, and Kierstin McDonald (AEST) developed the “Marauders Basketball Party Pack” that was selected by the Association of Independent Corrugated Converters (AICC) as the First Place winner in the Design to an Opportunity – Structural category. Thelmelis Abreu,
Katie Heilenman, Gabriela Mata-Lopez, and Kyle Welker (AEST) developed the “MU March Madness Party Pack” that was selected as the Second Place winner in the same category and the Third Place winner in the Graphics category (Dr. Mark Snyder – AEST, faculty advisor).

- The MU Robotics Team (see photo below) placed 2nd in the 2016 ATMAE National Robotics Competition. Student team members were: Cody Martin, Joseph Wright, Kevin Wagner, Ian McDonald, Quentin Kilgore, Tyler Baldwin, Daniel Vazquez, Randy Mercado, Luke Yount, Andrew Miller, Rob Curtis, Samuel Brennan, Michael Wiles, Ibragim Pashaliev, Samuel Hahn, Asim Riaz, and Connor Moyer (Dr. Mehmet Goksu – PHYS and Dr. John Wright – AEST, faculty advisors).

![The MU Robotics Team at the 2016 ATMAE National Competition.](image)

- The MU Programming Team won the Pennsylvania Association of Computer and Information Science Educators (PACISE) Programming Contest. Student team members were: Ryan Peterson, Ian Murry, and Steve Zelek (CSCI) (Mr. Todd Echterling, advisor, Information Technology).
- Jamie Thorpe (CSCI) received the Best Undergraduate Student Paper Award for her article “Using Machine Learning to Identify Phishing Attacks” at PACISE 2017 (research advisor: Dr. Stephanie Schwartz, CSCI).
- Mary Gilbert and Erin Jones (ESCI) were the recipients of the NOAA Hollings Scholarship.
- Kristen Pozsonyi (ESCI) received a $3,000 award to travel to the 28th International Lidar-Radar Conference in Bucharest, Romania, for her peer-reviewed paper “Measurements at FP3 in Support of PECAN Scientific Objectives Using MPL-111 Lidar” (research advisors: Dr. Rich Clark and & Dr. Todd Sikora, ESCI).
- Kayli Thomas (BIOL) received the Outstanding Undergraduate Student Award from the Entomology Society of Pennsylvania (research advisor: Dr. John Wallace, BIOL).
- The Millersville University Student Chapter of the American Chemical Society (ACS) (faculty advisors: Dr. Lyman Rickard and Dr. Steven Kennedy, CHEM) received a Commendable Award from the ACS.
- Christopher Soell (EMGT) was the recipient of the Best Student Research Poster at the International Association of Emergency Managers (research advisor: Dr. Sepideh Yalda, ESCI).
- Quyen Do, Wyatt Lyter, and Aubrey Merced (MATH) passed the Actuarial Exam P: Probability.
The following students won awards at the Technology and Engineering Education Collegiate Association (TEECA) eastern regional conference: 1st place, Technology Challenge (Joshua Handshaw, Abbey Sweeney, David Wacker, & Shane Waters) and Poster Session (Marie Leatherman & Brittany Myers) team events, 2nd place, Manufacturing (Garrett Chellis, Rebecca Howell, Carla DiStasio, & Lauren Wood – see photo below) and Problem Solving (Hannah Card, Brittany Myers, Amanda Piergallini, Abbey Sweeney, Shane Waters, & Spencer Hall-Yurasits) team events (Dr. Sharon Brusic and Dr. Len Litowitz (AEST), faculty advisors).

The Manufacturing team at the TEECA Eastern Regional Conference and their award.

Students at the 253rd American Chemical Society National Meeting.

Faculty Awards

- Dr. Mehmet Goksu (PHYS) received Millersville University’s Educator of the Year award (2017).
- Dr. Joseph McCade (AEST) received the Silver Service Award at the annual Technology & Engineering Education Association of PA (TEEAP) conference in recognition of lifetime service.
- Dr. John Wright Jr. (AEST) was selected as an Association of Technology, Management & Applied Engineering (ATMAE) Senior Fellow.

College of Science and Technology 2016-2017 Executive Summary
Notable Alumni Achievements

- Dr. Thomas Bernhardt (CHEM, Class of 1996) was the recipient of the 2016 Young alumni Achievement Award. He is Professor of Microbiology and Immunobiology, Harvard Medical School, and spent April 6th in the department teaching the Advanced Biochemistry class, giving informal presentations on his research, career, graduate school, and summer research opportunities in his lab to chemistry and biology students as well as a seminar presentation on “The Problem of Resistance and Makes a Good Antibiotic: Lessons from Penicillin.”
- Michael Gau (CHEM, Class of 2012), defended his thesis earned his Ph.D. from Temple University. His research director was Dr. Michael Zdilla (CHEM, Class of 2000).
- Dr. Duane Hagelgans (OSEH, Class of 1998) received the 2017 Millersville University Distinguished Alumni Award.

External Grants or Contracts Funded

- Dr. Alex Johnson and Dr. Len Litowitz (AEST) received a grant for bench top machine tools in an educational setting from the DART Foundation.
- Dr. Brent Horton (BIOL) received a Research Opportunity Award from the National Science Foundation (NSF) to support new collaborative research with colleagues at Wake Forest University that includes conducting research in Ecuador.
- Dr. Rich Clark (ESCI) received a three-year grant from the NSF’s Division of Atmospheric and Geospace Science for the proposal “Synergistic Environments in Graduate and Undergraduate Education in Atmospheric Instrumentation and Measurement Training (SEGUE)”. The grant will be conducted in collaboration with the National Center for Atmospheric Research, Earth Observing Laboratory and the COMET instructional design team.
- Dr. Angela Cuthbert (GEOG) is partnering with colleagues at Shippensburg University on the project “Inventory of Historic Preservation Ordinances in Pennsylvania Municipalities” that received funding from the Center for Rural Pennsylvania.
- Dr. Len Litowitz (AEST), Erin Moss (MATH), and Dr. Cynthia Taylor (MATH) co-authored the College Assistance Migrant Program (CAMP) grant with colleagues from the College of Education and Human Services that was funded by the US Department of Education, Office of Elementary and Secondary Education (CFDA 84.149A).
- Dr. Stephanie Schwartz (CSCI) coordinated a grant from the National Institute of Standards and Technology that provided funding for four students to participate in the Summer Undergraduate Research Fellowship program at NIST in Summer 2017.

Suggested Areas for Improvements

- Continuing the good work the College is already achieving.
- Improve the retention of calculus- and non-calculus-ready students, particularly students traditionally underrepresented in STEM disciplines. This includes supporting the Department of Biology’s pilot peer mentoring program for students traditionally underrepresented in the discipline.
- Continue to explore ways of offering online courses in support of the University’s General Education program.
- Acquiring financial support (both internal and external) to meet the instructional, scholarly, and service needs of the faculty and students for programs that are extremely equipment and computationally intensive. This includes working with members of Advancement to enhance donor support for the College of Science and Technology.
- Exploring new partnerships, both formal (affiliation agreements) and informal.