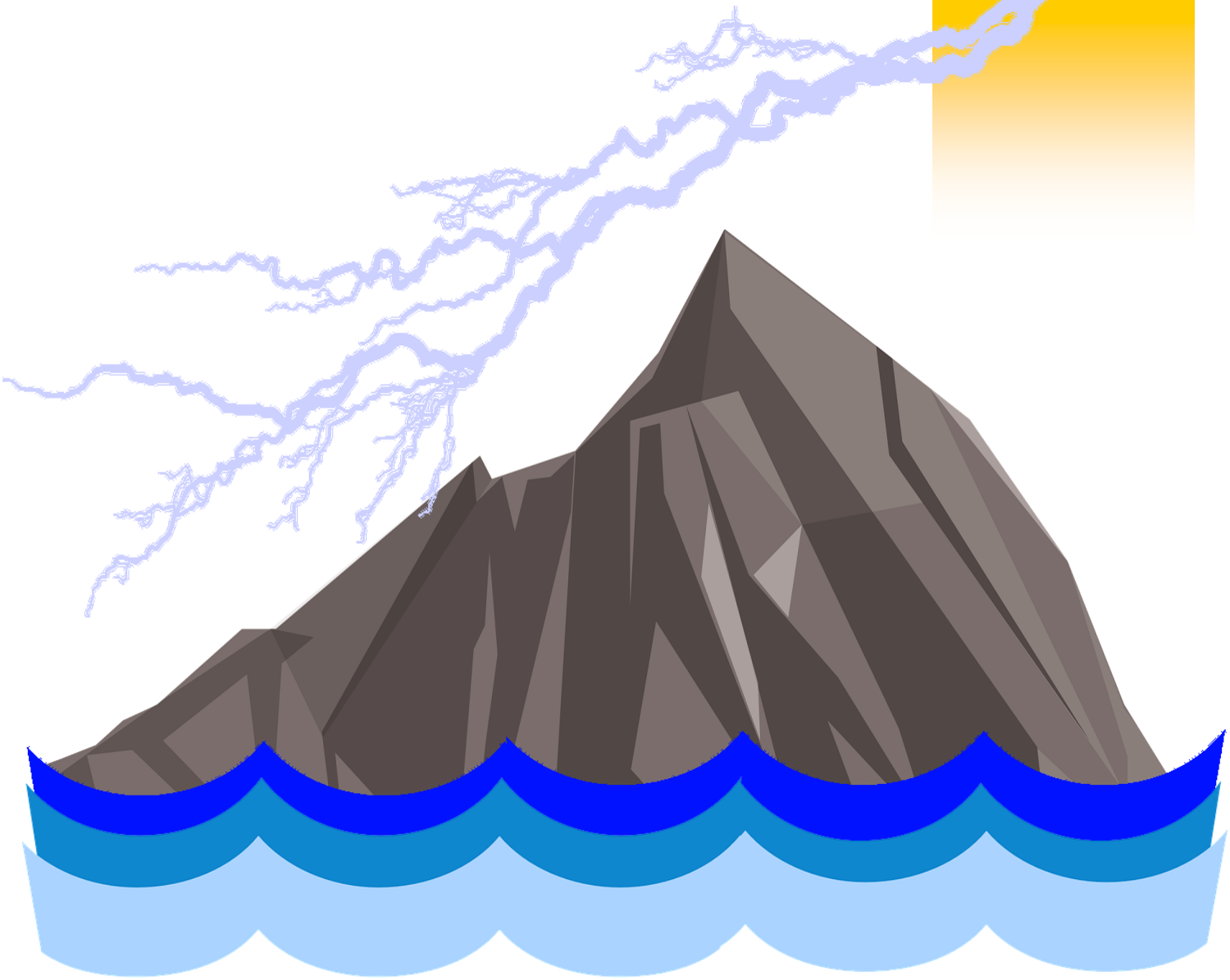
Millersville University

Department of Earth Sciences

PROVIDING A LEARNING EXPERIENCE IN THE EARTH SCIENCES THAT IS SECOND TO NONE

Special Alumni Edition 2018 Newsletter



Jessica Taheri

ALUM 'MAKING WAVES' WITH HER PH.D

Jessica graduated with a BS in Meteorology from Millersville University in 2013 with a minor in mathematics. While at Millersville she was active in AMS, Campus Weather Service and as a meteorology mentor. Jessica had three different internships during her time at Millersville, including forecasting and research opportunities, which she is confident fully prepared her for life after graduation. Upon graduation, she worked at Versar, Inc. in Germantown, MD as a government contractor forecasting for the US Department of Homeland Security. In 2015 Jessica continued her education and started graduate school at the University of Wisconsin – Madison to pursue a Ph.D. in Atmospheric Sciences. She works primarily as a research assistant, but has also spent a semester as a teaching assistant. Her current interests are synoptic meteorology and atmospheric dynamics. The project she is working on involves a combination of her previous experiences and interests: investigating how differences in physics packages within weather models can impact the forecast downstream waviness of high-amplitude weather events across the northern hemisphere. She hopes to obtain a job in the private-sector after she receives her Ph.D., particularly with a focus in management.

Brian Loughnane

SKY IS THE LIMIT WITH EYES ON THE GROUND

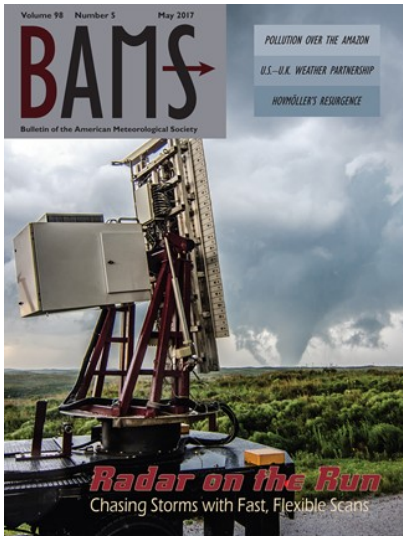
Brian received his Earth Science-Geology Bachelors degree from Millersville University in 1986. While at Millersville he was an Army ROTC scholarship student. He received an educational delay from the Army to attend graduate school. After Millersville Brian attended Purdue University where he earned his Masters degree in Engineering Geology/Hydrogeology. After obtaining his Masters degree he served three years as an Engineer Officer within the country of "West Germany." He was one of the first American Officers to cross into the former "East Germany" after the wall came down and the two countries united. After fulfilling his military commitment he became a geologist within the Environmental Consulting field. He's been on this career path for over 25 years. During his career Brian has: assisted communities develop their groundwater resources for public water supply purposes; assisted with quarry/mining resource projects; managed groundwater quality/pollution control projects; managed Superfund projects; assisted clients as a technical expert with environmental litigation/legal issues; and, assisted clients in managing real estate portfolio environmental risk and liability issues. Currently, he oversees a department of 12 geologists whose projects are located throughout the eastern half of the United States.

Jim Kurdzo

WHAM, BAMS, THE RADAR MAN

Jim (Meteorology '09) is a Radar Systems Scientist at the Massachusetts Institute of Technology. Jim earned a Ph.D. in Meteorology from the University of Oklahoma in 2015, an M.S. in Electrical and Computer Engineering from the University of Oklahoma in 2013, an M.S. in Meteorology from the University of Oklahoma in 2011, and a B.S. in Meteorology from Millersville University of Pennsylvania in 2009. His research has focused within the realm of atmospheric weather radars, with foci in optimization, digital signal processing, radar network design, and high-temporal/spatial resolution phased-array/dual-polarimetric observations of supercell thunderstorms and tornadoes. He has been funded under the auspices of the national SENSR/MPAR initiative since 2008, a program that is working to develop the next generation of weather radars in the United States. Jim participated in both years of the VORTEX2 tornado project, coordinated the PX-1000 transportable radar during PECAN, and led the OU Advanced Radar Research Center's Spring convective field program from 2012-2015, in which he directed field operations of the Atmospheric Imaging Radar. He now studies applications of polarimetric and phased-array weather radar for aviation at MIT.

Jim was recently the lead author on an article featured on the cover of the Bulletin of the American Meteorological Society. The article, titled "Observations of Severe Local Storms and Tornadoes with the Atmospheric Imaging Radar," is a summary of 4 years' worth of data collected by the Atmospheric Imaging Radar (AIR) in the central Plains. The AIR is a mobile tornado-scale radar that is capable of scanning an entire volume (including a tornado and its parent supercell) every 6 seconds, making it one of the fastest-scanning weather radars in the world. Jim lead the data collection team from 2012-2015, resulting in the collection of dozens of supercell datasets and more than 10 tornadoes at close range. The article describes four of these cases in detail.



http://journals.ametsoc.org/doi/full/10.1175/BAMS-D-15-00266.1

Our Vision

Provide learning experiences in the earth sciences that is second to none.

ENS Ricardo K. Uribe, USN

NAVY OFFICER PROVIDES VITAL WEATHER SUPPORT

Originally a native of Philadelphia, PA, ENS Uribe graduated from Millersville in 2014 with a BS Meteorology degree, Departmental and University Honors. While at Millersville he was heavily involved in the NASA DISCOVER-AQ and NWS/CSWR projects, conducting field data acquisition, quality control, and analysis with a team of fellow student researchers. The leadership demands and operational tempo of field work appealed to him, so in 2016 he applied to join the US Navy and attended Officer Candidate School in Newport, Rhode Island. On October 21st, 2016 he earned his commission as a Meteorology/Oceanography Officer. Currently ENS Uribe is assigned to the Joint Typhoon Warning Center, Pearl Harbor, Hawaii as a Command Duty Officer (CDO). As CDO he writes and coordinates the release of typhoon and tsunami products to aid decision makers across the entire span of the Indian and Pacific Oceans. In addition, he is a Division Officer and leads a group of 5 enlisted sailors. During his tour ENS Uribe will pursue an MBA from University of Hawaii at Manoa. In the future, ENS Uribe plans to attend the Naval Postgraduate School for an MS in Meteorology. For his next tour he is working on orders with Naval Special Warfare, where he would provide direct support to SEAL and Expeditionary units operating in the field.

Lisa Dubas

MU GEOLOGY ALUM SEEKS TO MASTER GIS

After receiving a Bachelor of Science degree in Geology from Millersville University in 1996, Lisa chose to attend Wright State University in Dayton, Ohio for a Masters degree in Hydrogeology. Through that program she learned about groundwater modeling, aquifer test analysis, and contaminant transport modeling. She worked as a geologist in consulting for six years in Ohio and Arizona, before transitioning to a Hydrologist position in the Groundwater Modeling section at the Arizona Department of Water Resources (ADWR). Lisa's job for almost seven years was to build geology datasets for regional groundwater models. She left state employment and worked as a GIS Geologist for a local startup mining company. Her background in geology, hydrogeology and GIS (Geographic Information Systems) helped her to become an integral part of the company, which included mostly geologists and hydrogeologists. After four years working in mining she returned to ADWR to work as a Water Resources Specialist in the Adjudications unit, which provides technical and administrative support to the Arizona adjudications court. Lisa works on special projects requested of her unit by a court representative. In the fall of 2016 she went back to school part time to get a Masters in Geographic Information Systems through Penn State World Campus. GIS has become a very important tool in geology, hydrogeology, hydrology, and the earth sciences since she took her first GIS class at Millersville University in 1995. She expects to complete her GIS degree in 2018.

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EARTH SCIENCES

Earl B. Frederick

RETIRED CARTOGRAPHER MAPPING OUT A NEW GAME?

After graduating in 1969, Earl took several Geology graduate courses while running a part-time map-making company out of Lancaster House (don't tell the authorities!). In 1973, he was hired as an instructor in the Marine Science Consortium's Pre-college Oceanography Program in Lewes, DE and Wallops Island, VA. He held that position for four and a half years, helping develop the original field programs in marsh, rocky shoreline and beach environments.

In 1977, he was "stolen" by a company that was a contractor to NASA on the base at Wallops Island. That project was (and still is) a groundbreaking program that uses lasers mounted in an aircraft to map water depths, tree heights and ground, water and ice surfaces around the world. 85% of the continental U.S. beaches were mapped co-operatively with the USGS. Water waves were mapped to study energy fields in the ocean and most enduring has been the flying and re-flying of flightlines (since 1991) in Greenland, Antarctica and Chile in NASA's experiments to track surface elevation changes of polar ice.

Earl retired from full-time fieldwork and data processing in 2010, and has been working part-time since then processing the ice-mapping data. He plans to change to "occasional" work status after November 2017.

Earl remains active in environmental issues as the Chair of the Accomack County (VA) Wetlands Board, reviewing applications from property owners that wish to affect wetlands in the county. He has also been tutoring English to speakers of other languages for the past seven years.

Earl owes much to his professors in the years between 1965-1972: Dr. Ford and Misters Lord and Schneider in the Geography Dept., Mr. Bellaire and Drs. Davis, DeSouza, Geschwendtner, Jordan, McIlwaine, Oostdam, Nichols, Ross and Stauffer of the Earth and Space Science Department. These professors showed him the excitement of being inquisitive, not always the path to 4.0 GPA, but absolutely the best way.

Our Mission: The Department of Earth Sciences provides an enlightening environment for learning with a contemporary curriculum in each of five disciplines tuned to workforce demand and augmented by opportunities for research, independent study, and internships.

Erica Dolinar

DOCTOR IN PROGRESS AND CINEPHILE CAPITALIZES ON NASA CAPITOL

Erica received her B.S. in Meteorology from Millersville University in the Fall of 2011. Since then, she has completed a Master's degree (2014) and is in the process of completing a PhD (anticipated for 2018) in Atmospheric Sciences at the University of North Dakota. Her advisor, Dr. Xiquan Dong, has been extremely supportive in her pursuit of studying the impacts of clouds on the Earth radiation budget from satellite data (e.g., CloudSat, CALIPSO, CERES), climate model simulations (e.g., CMIP5), and radiative transfer modeling. During her time at UND, Erica published three peer-reviewed papers, and has been awarded the NASA Earth and Space Science Fellowship ($90,000). Additionally, Erica has had the privilege of working with Drs. Jonathan Jiang and Hui Su at the Jet Propulsion Laboratory (JPL, summer 2013) in Pasadena, CA where she completed work related to her M.S. thesis, titled "Evaluation of CMIP5 simulated clouds and TOA radiation budgets using NASA satellite observations." Furthermore, she spent a summer (2016) at NASA Langley Research Center in Hampton, VA working with Dr. Norman Loeb and the CERES Science Team. Erica also has an interest in weather related disaster/Sci-Fi movies. Some of her free time is spent brainstorming ideas for a movie screenplay together with other graduate students and faculty.

Daniel Berndt

PROUD GRAD ENSURES THE SAFETY OF THE PUBLIC

Daniel, with a lifelong passion for the weather and earth sciences, chose Millersville University to earn his Bachelor's Degree in Meteorology, recognizing the distinctive academic rigor of the program and finding that the best meteorological education in the state comes from MU. Not wishing to settle down, he immediately continued his education at the black and gold, this time earning his Master's Degree in Emergency Management by 2015. The unique combination of these renowned degrees has enabled him to move along an innovative, but equally superlative track compared to the traditional and highly competitive workforce arms of broadcasting, forecasting, and research known to this science. Expressing utmost credit to the plethora of immersion and experience derived from being an MU graduate, Daniel accepted the position of Safety & Emergency Management Specialist for Dickinson College in Carlisle, PA. Daniel routinely manages aspects of Environmental Health & Safety, Emergency Management, and Risk Management, while simultaneously using his weather knowledge in various capacities as needed. Berndt serves on Dickinson's emergency response Core Team and is regularly called upon in a consulting capacity for meteorological guidance to numerous departments such as Facilities Management, Public Safety, and Admissions at various points throughout the academic year.

Tom Renkevens

DIVISION CHIEF GOES THE DISTANCE

Tom Renkevens is the Division Chief of the Satellite Products and Services Division (SPSD) for the National Oceanic and Atmospheric Administration's (NOAA) National Environmental Satellite Data and Information Services (NESDIS) located at the NOAA Center for Weather and Climate Prediction in College Park, MD since May of 2015. In this position, Mr. Renkevens oversees many aspects of satellite data product generation from polar and geo-stationary satellites, as well as the broadcast services (such as Search and Rescue (SARSAT) and Data Collection (Argos and GOES DCS), GVAR, LRIT, Geonetcast-Americas) on the NOAA satellites as well as the 24x7 functions for remote sensing analysis of volcanoes, tropical cyclones, fires, and oil spills and user services and outreach functions of the Division. He serves as the United States representative to the International Argos OPSCOM (Operational Committee) and is the Department of Commerce backup representative to the inter-agency Civil Applications Committee (CAC). He is also a co-chair of the Satellite Products and Services Review Board (SPSRB) that is a process to bring new satellite data products into operations from not only NOAA satellites, but Non-NOAA (i.e. NASA, DOD, and International Partners) satellites as well. Related to the SPSRB, he is a line office representative for the GORWG (GOES Operational Requirements Working Group) and LORWG (Low-Earth Operational Requirements Working Group) to assist with current and future (i.e. GOES-R and JPSS) satellite product requirements.

Tom has been with NOAA for more than 20 years, and his education includes a Bachelor of Science degree in Meteorology with Honors and a Math Minor and a Master of Science Degree in Meteorology from the University of Oklahoma in Norman, OK, where he did some tornado chasing. He is an active weather watcher including a severe weather spotter for the National Weather Service office in Sterling, VA and reports daily rainfall as well as maintains a backyard weather station.

The Department of Earth Sciences will celebrate its 50th Anniversary during the 2018-2019 academic year. Stay tuned for information on celebratory events.

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Tim Dye

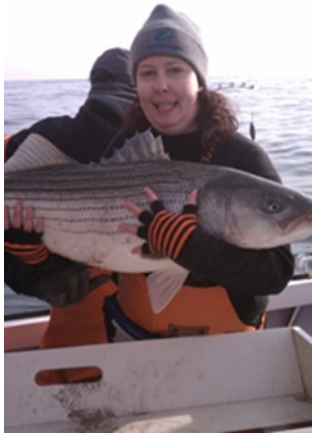
QUALITY ALUM CONCERNED WITH AIR QUALITY

Tim Dye has over 25 years of experience in environmental field monitoring, data management, and public communication. A visionary and entrepreneur, he has created air quality and meteorological applications both domestically and internationally. He is a widely recognized leader in air sensors and Internet of Things (IoT) technologies for environmental applications. While at Sonoma Technology, Tim developed innovative systems for air-quality data management systems and forecasting programs for public outreach (www.AirNow.gov, www.StateAir.net, www.SmogCity2.org). Tim has the proven ability to transform traditional programs by using a mixture of technology, creativity, and leadership. Tim is now the principal officer of TD Environmental Services, which specializes in innovative solutions to address air quality and weather challenges.

Laura M. Lee

MU OCEANOGRAPHY ALUM CATCHES THE BIG FISH

Laura received her B.S. in Oceanography (Option: Biological Oceanography) from Millersville University in December 1997. She received the Paul Nichols Earth Sciences Scholarship her junior year. After graduating, she took a semester off and worked as an education specialist at the North Museum of Nature and Science in Lancaster, PA. In the fall of 1998, she began her graduate studies in Fisheries and Wildlife Sciences at North Carolina State University in Raleigh, NC and received her M.S. in 2005. Since 2001, Laura has been working as a stock assessment scientist for various agencies including the Atlantic States Marine Fisheries Commission, the Rhode Island Division of Fish and Wildlife, the Virginia Marine Resources Commission, and currently with the North Carolina Division of Marine Fisheries. For the last six and a half years, she has headed up the state of North Carolina's stock assessment program as their senior stock assessment scientist. She studies the population dynamics of marine, estuarine, and diadromous fishes and some invertebrates. Laura is responsible for estimating the size of fish stocks and estimating harvest rates using statistical models. This information is used by fishery managers to determine the necessity for management to ensure the sustainability of important marine resources. While her focus is on the assessment of species at the state level, she also works on assessing species at the regional, coast-wide, and international levels.



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What's going on this year?

EARTH SCIENCES

Millersville University Meteorology (R. Clark, T. Sikora, and B. Billings) led a research partnership with three other universities (Penn State, Rutgers, and University of Baltimore-Baltimore County) for a two week educational deployment of the University of Wyoming King Air aircraft (UWKA) in early November 2017. Funded by NSF, this Student Experience in Airborne Research-Mid Atlantic Region (SEAR-MAR) will serve as the stimulus for over 100 undergraduate and graduate students to be immersed in the study of the atmosphere using an airborne platform.

Members of the Submersible Research Team prepare to survey the Chincoteague Channel to study sediment transport in the area. Members include Geoinformatics graduate student Nathan Murry, undergraduate students from Ocean Sciences and Coastal Studies (OSCS) and Applied Engineering Science and Technology (AEST), Amanda Hardin and Michael P. Wiles. Dr. Joseph McCade (AEST) and Dr. Ajoy Kumar (OSCS) are the faculty advisors. The M3 sonar system used for the survey can be seen on the right side of the picture.

Millersville University Department of Earth Sciences is proud to announce the accomplishment of four meteorology students who are recipients of the NOAA Ernest F. Hollings Undergraduate Scholarship. Amber Liggett (right)and Alyssa Cannistraci (left) are members of the Hollings Class of 2016, while Mary Gilbert (center, left) and Erin Jones (center, right)belong to the Class of 2017. The Hollings Scholarship offers students many unique opportunities including an orientation program, professional development and networking with Hollings peers and NOAA scientists, financial assistance, and an internship experience at one of NOAA's laboratories or centers nationwide.

"400 in 4"

EARTH SCIENCE ALUMNI TRAVEL AWARD

Many of you can remember as students attending your first major professional conference such as the Annual Meeting of the American Meteorological Society. Recall the powerful impression it made on you in seeing the breadth of the enterprise, the vitality of your community, the reach of your discipline, and the future prospects and career opportunities, and to know that you were being annointed into this community at this meeting. You may also recall that it probably didn't cost that much out-of-pocket to attend this meeting. Behind the scenes many of us were going after everyone and anyone who could provide some funding to help defray the costs.

As our programs have grown, the number of students hoping to present their research or simply attend these meetings has concurrently grown. Forty students attended the AMS meeting in Phoenix in 2015.

The Earth Sciences Alumni Travel Award, affectionately known as "400 in 4" because we aspire to raise $400,000 in four years, is an endowment program inspired by five alumni as a way of giving back by defraying the costs to future students attending the conferences and professional meetings. If each alumnus/alumna would pledge a gift of $250 per year for four years, the spendable income on the accrued principal would be about $20,000. With that amount, plus the usual sources of additional funding, we could go a long way to offsetting the cost of transportation, lodging, and conference registration for many students.

This experience is invaluable but each year it is getting progressively more expensive to take large deserving groups to professional meetings. A small commitment from you will help to provide today's student with the same type of experience that you had during your capstone years at Millersville. Please be generous and help us create this endowment on behalf of Earth Sciences alumni group, the endowment in your name.

Richard D. Clark

Chair, Department of Earth Sciences

"400 in 4"