

Greetings, from EES — we are happy to report on our activities/progress over the last couple of years, since distribution of our last Newsletter. This has been a time of great change in the department(!) — parts of this transformation have originated from departures and arrivals of faculty and staff and parts have been related to better positioning the department in the context of recent University strategic planning.

Professors Ed Evenson, Don Morris, and Ken Kodama recently retired, each a mainstay contributor to the department with incredible commitment to the Lehigh experience and success of our undergraduate and graduate students. Assistant Professors Michelle Spicer, J. P. Balmonte, Meredith Townsend, and Jordan Abell have recently joined us, injecting energy, ideas, and new perspectives and contributing lines of research that will afford our students incredible opportunities. During these years of hiring, we've had fantastic support from adjunct instructors and I'd like to in particular note the two year involvement of Dr. Mariah Hoskins (Ph.D. EES 2020) as a Visiting Assistant Professor.

There have been key changes in EES staffing, with EES Technical Assistant Linda Zaoudeh's arrival in January, 2022, and EES Coordinator Andrea Goff's departure in June, 2022. Andrea had been in EES for seven years, becoming the face of the department and providing calm organization during the pandemic years. Libby Seyfried (EES Business Manager), departed from EES in June, 2024, after five years in EES. Jillian Jacoby joined us in June, 2022, as the new Coordinator, and Jamerson Baynard recently began as the new EES Business Manager.

We were very sad to announce the passing of Professor Ed Evenson (on Aug. 7, 2023), a long-time member of the Geological Sciences/EES family whose passion for geology and being in the field positively impacted so many. He and P. B. Myers developed and for many years ran Geology Field Camp, which has been central to our earth sciences curriculum for 40+ years.

I have recently completed my service as the EES Department Chair, handing the baton to Professor Bob Booth as the new Chair. Bob will I know deliver calm, thoughtful leadership as we continue the transformation. During my time as Chair, I've been struck by the high level of engagement of the EES faculty, dedicated efforts of our staff members, and support in all forms from the broader EES community. I encourage alumni and other friends to contact us with ideas and suggestions, visit us and otherwise participate actively if in the area. Your financial contributions will be key as we continue the transformation, allowing us to take initiative in scientific discovery and engagement with society and seek new ways to inspire, engage, and mentor our students.

Onward!

C FIFT

Gray E. Bebout Professor of Earth and Environmental Sciences Department Chair (2019-2024)

A Special Thanks to our Donors!

Your donations are incredibly important to our venture. particularly in this time of transformation, with hiring of new faculty (and related startup costs) and our plan to pursue new initiatives in scholarship and instruction. All in EES thank you for your participation in our quest!

Congratulations to the Class of 2022

Undergraduate Students - Spring, 2022

Evelyn Batres - BA-EES | Rachel Condon - BA-EES | Kendall O'Farrell - BA | Sarah Truxel - BA-EES

Stella Buckley - BS-EES | Ethan Fuchs - BS-EES | Alyssa Gengaro - BS-EES | Christine Mosley - BS-EES | Fred Newlin - BS-EES | Karsen O'Rourke - BS-EES | Zoe Madsen - BS-EES | Sedona Boyle - BS-EES (Fall, 2022)

Graduate Students - Spring, 2022, and Fall, 2022

Heidi Cunnick - PhD | William Dowd -MS | Connor Downing - MS

Field Camp 2024

Report from Prof. Frank Pazzaglia: Field camp 2024 is in the history books. We had a great time and due to the hard work, clever planning, and ingenuity of Camp Director Steve Peters, we brought field education fully into the 21st century. Because of the hard work of camp TAs Sedona Boyle, Henry Price, and Gianna Greger, the camp was both successful and safe. More importantly, the transition to a fully electronic platform for the collection, assembly, and processing of field data in 2024 offers a transformative way to teach students and prepare them for the rapidly evolving job market. I encourage any faculty member to reach out to us to learn more about the apps we use on a cell phone or iPad platform to teach field data collection and analysis. From an EES Undergraduate Instruction Committee perspective, it would be great if we could adopt these apps and this technology throughout our curriculum so that our students are well-versed when they graduate. I encourage graduate students with interest in experiencing professional development skills afforded by TAing camp to express interest in being a TA for 2025 to either me or Steve Peters.



Photo on the previous page: Banner is a photograph of Idaho's Pioneer Range, near where EES 341 runs several of its exercises, specifically in Wildhorse Canyon, where one of the EES 341 campsites is located.

Congratulations to the Class of 2023

Undergraduate Students - Spring, 2023

Cole Beckerman - BA-EES | Austin Burkhart - BA-EES | Sarah Elsayed - BA | Tabitha Nowak- BA-EES | Giovanna Paone - BA-EES | Henry Price - BA | Michael Sisselberger- BA-EES

Gabriela Birardi - BS-EES | Fabian Chavez Hernandez - BS-EES | Madison Hernandez - BS-EES | Isabella Jacovone - BS-EES | Kiella Jackson - BS-EES | Calista Marzolino - BS-EES | Alexandra Patterson - BS-EES | Ajah Quawly - BS-EES

Graduate Students - Spring, 2023

Christopher Andrade - MS | Jared Kodero -MS | Scott Moyer - MS | Vicki Jagdeo - MS | Mariah Matias - MS | Hongcheng Guo - PhD | William Dowd - PhD

PhD Dissertations and MS Theses (2022 and 2023)

May 2022

Connor Downing MS, Advisor Jill McDermott

"A time series of hydrothermal vent fluid geochemistry preceding the next eruption at 9°50'N East Pacific Rise"

Heidi Sue Cunnick PhD, Advisor Joan Ramage

"Predictive Mapping and Monitoring of Vegetation Change in Northern Latitudes Peatlands Using Nested Scales of Spectral Data in Remotely Sensed Imagery

Christopher Andrade MS, Advisor Ben Felzer (graduated in January, 2023)

"Future (2020-2099) Carbon and Water Dynamics of Lehigh and Northampton Counties Based on Land Use and Land Cover Changes"

May 2023

Jared Kodero MS, Advisor Ben Felzer

"Vegetation Shift from Forest to Shrublands or Grasslands in the Western U.S. Due to Warming, Droughts, and Fire"

Vicki Jagdeo MS, Advisor Joan Ramage (graduated in January, 2024)

"Remote Sensing of Snowmelt and Freeze/Thaw in the Kuparuk Basin, Alaska"

Scott Moyer MS, Advisor Dork Sahagian

"Use of Pele's Tears and Spheres as an Indicator of Lava Fountain Height in Hawaiian Volcanoes" **Mariah Matias MS**, Advisor Joan Ramage

"Remote Sensing of Snowscapes and Caribou (Rangifer tarandus) Movement in the Northwest Territories of Canada"

Hongcheng Guo PhD, Advisor Peter Zeitler

"Investigating Helium Diffusion Systematic with Continuous Ramped Heating Analysis: New Insights and an Application in the Altai Mountains"

William ("Billy") Dowd PhD, Advisor Jill McDermott

"Geochemistry of fluids and gasses in the deep continental subsurface and deep-sea hydrothermal vents: Abiotic and biotic interactions in extreme environments"

Meet Our New Faculty!

Michelle Spicer, Ph.D., University of Pittsburgh

Research in my lab focuses on understanding the development and maintenance of diversity. We use large-scale field experiments and observational studies to parse apart the drivers of community assembly in both old-growth and heavily disturbed forest ecosystems. By highlighting diverse yet understudied groups of plants, epiphytes and understory herbs, our research expands ecological theory and provides strategies to sustain high-diversity ecosystems in the future.



There's a lot more to the forest than just the trees!



J. P. Balmonte, Ph.D., University of North Carolina, Chapel Hill

Our lab investigates microbial structure and their roles in carbon cycling in various aquatic systems, from rivers, to the deep sea, to polar regions. We conduct field, experimental, and lab work, and use bioinformatic, molecular, and microbiological tools to answer these questions:

How rapidly do microbes degrade organic matter, what enzymes do they use, and how do these rates change along gradients (e.g., hydrostatic pressure, temperature, salinity, etc.)?

How sensitive are microbes and their carbon degrading activities in response to environmental perturbations, including those brought upon by climate-related and anthropogenic changes?

How can we use time series datasets of microbial structure and function to project changes in biogeochemical cycles in the future?

Meredith Townsend, Ph.D., Stanford University

My research group is focused on answering one of the most important questions in earth science:

How are magmas and fluids transported and stored throughout the crust and how do they interact?

Our primary methods of research include:

Field-based geological investigations

Development of physics-based models

Integration of geophysical and geological data through numerical models





Jordan Abell, Ph.D., Columbia University (LDEO)

My group performs research spanning the fields of paleoclimatology, paleoceanography, geology, and archaeology. To investigate this broad range of topics, we combine geochemical measurements (with a specific focus on noble gases) with climate modeling and field work. This interdisciplinary approach allows us to investigate a variety of questions:

What was atmospheric and ocean circulation like during a warmer-than-present world? How did the land, ocean, and atmosphere interact over the last several million years? What are the feedbacks between the climate system and ever-changing landscapes? What can we learn about past civilizations from chemistry of archaeological sediments?

Welcome Jillian Jacoby!

In June, 2022, we welcomed Jillian Jacoby as **EES Coordinator** and she rapidly became central to all departmental operations. Jillian came to EES with a wealth of experience in management, having worked for many years in real estate. Her educational background is in special and elementary education, in addition to real estate. This background prepared her well for coordination of an academic department, with all of it's moving parts at times seemingly unrelated and fragmenting even the most carefully planned day/week/month.

Thank you Jillian for your dedication to supporting all we do, patiently managing the chaos that can at times enter STEPS room 109 (and your e-mail INBOX)!



Other EES Arrivals and Contributors

Also during 2022 and 2023, we saw the arrival of **Cheri Gilbert**, EES Office Assistant (start date of December, 2022). Cheri added much-needed back-up for Jillian Jacoby in the main office, as the main contact person in the outer office during the key high-traffic mid-day hours. Unfortunately, Cheri has now moved to a position at Lafayette — we all wish her the best in this new role!

We have now hired **Lissette Caligiuri** to provide this key additional support in the EES outer office - Lissette began work in August, 2024. Welcome to Lehigh and to EES, Lissette!

Another arrival in 2024 was **Jamerson Baynard**, the new EES Business Manager (start date July, 2024). **Stay tuned for a story on Jamerson (and Lissette) in the next EES Newsletter**. Welcome, Jamerson!

We thank our postdocs, who have contributed hugely to our scientific mission!

Dr. Francesco Pavano, who worked with Frank Pazzaglia and Ken Kodama on active tectonics in Sicily, Italy
Dr. Kelden Pehr, in Jill McDermott's group, who works on ancient lipid biomarkers and ocean biogeochemistry
Dr. Franziska Keller, working with Meredith Townsend, recently on magmatic evolution at Mount St. Helens and Aso
Dr. Alex Wickham-Piotrowski, working in Anne Meltzer's group on subduction zone seismicity (focused on Ecuador)

Laurel Humphreys joined us as a Lab/Field Technician, supporting Michelle Spicer's community ecology group.

Thank You to Our Adjunct Instructors

We'd like to acknowledge and thank the Adjunct Professors who have assisted us in managing high enrollments and needs to cover key courses in our undergraduate curriculum. We thank **Mariah Hoskins** (Ph.D. EES, 2020), **Leslie Tintle** (M.S. EES, 2019), **Franziska Keller**, and **Francesco Pavano** (the latter two EES Postdoctoral Fellows) for their assistance offering our gateway courses. **Mariah** also taught EES 201 (Seismology) in the Fall, 2021 (see the **related story in our last newsletter**) and she continued as a two-year Visiting Assistant Professor (VAP), again focussing on delivery of gateway courses.

Dr. Kristen Heroy taught a College Seminar, a gateway course, and also at the 300-level, and was a key contributor to EES during the 2022-2023 academic year. Very sadly, Kristen passed away in March, 2024 (see **In Memoriam**).

Student Awards

2022

Undergradate Awards

Karsen O'Rourke - Donnel Foster Hewett Award | Christine Mosley - Munford Award Alyssa Gengaro - Handwerk Award

Graduate Awards

Juan Felipe Bustos Moreno - P. B. Myers Best Teaching Assistant Award

Graduate Symposium Awards

Hongcheng Guo - Best Talk | **William 'Billy' Dowd** - Best Poster

2023

Undergradate Awards

Sedona Boyle, Tabitha Nowak - Donnel Foster Hewett Award | **Gabriela Birardi** - Munford Award | **Henry Price** - Handwerk Award

Graduate Awards

Jared Kodero - P. B. Myers Best Teaching Assistant Award

Graduate Symposium Awards

Alexis Stansfield - Best Talk | **Mahboubeh Boueshagh** - Best Poster

Research of Ph.D. student Juan Bustos Moreno

In July/August, 2022, Juan Bustos Moreno (and Ph.D. advisor Gray Bebout) visited French/Italian Alps exposures of high-pressure-metamorphosed basaltic and ultramafic breccias. This sampling was done as a part of his study of carbon dioxide release from such rocks when subducted to depths of 30-50 kilometers, information that bears on consideration of convergent-margin carbon cycling. The two primary field areas Juan visited are in the Lago Nero area, Italy, and in Ubaye Valley, France. This work is an extension of thesis research conducted by former EES Masters student Tiffany Baumann, who continues to be involved

in the study. Work remaining to be done includes detailed electron microprobe analyses of minerals produced by metamorphic reactions releasing carbon dioxide and thermodynamic modeling of those reactions.

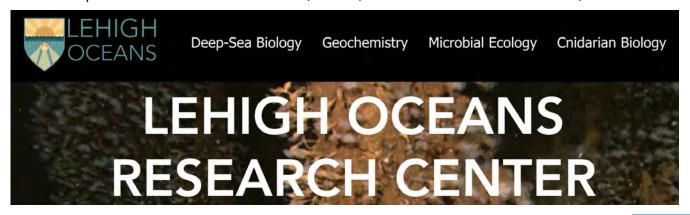
Field photo: Juan hiking to examine such rocks near a rifugio above St. Veran, France, the highest-elevation village in the European Alps. Juan presented his field observations and oxygen and carbon isotope data at the 2023 Goldschmidt Conference held in Lyon, France.



Establishment of the Lehigh Oceans Research Center

The Lehigh Oceans Research Center at Lehigh University is a consortium of researchers studying the ocean system and the life within it. Its interdisciplinary research combines fieldwork, laboratory, and computational approaches. Current expertise groups include the Balmonte Lab of Microbial Ecology and Biogeochemistry, the Layden Lab of Cnidarian Neurobiology, McDermott Lab of Marine and Subsurface Geochemistry, the Herrera Lab of Deep-Sea Ecology and Evolution, and Jordan Abell's GP3 Laboratory (paleoclimatology, paleoceanography, geology, and archaeology).

Associate Professor Jill McDermott was selected by CAS Dean Robert Flowers to be the Director of this new center, initiated in January, 2024, with Assistant Professor JP Balmonte and now Assistant Professor Jordan Abell (the latter as of August, 2024) also representing EES. The existence of this center will draw attention to our department and its research programs. Also, it will be a formalized collaboration with another CAS department and naturally lead to other cross-talk with Biological Sciences, likely synergizing new research. The efforts of these faculty, and their students and postdocs, will further "put us on the map" in the realm of ocean sciences (after all, that's 71% of the Earth's surface!).



Research of M.S. student Sedona Boyle

Sedona Boyle, EES BS '22, currently an EES M.S. student, is researching the Boulder Front fault in the Northern Basin and Range Province of central Idaho. At least 9 distinct segments make up the SW-dipping Boulder Front fault which spans over 18 km. Determination of the rupture history of the most prominent segment at Boulder Creek and its possible linkage with neighboring segments is the driving force behind this project. In order to calculate the rupture history, Sedona first had to use GPS equipment in the field to record elevation and distance data of seven profiles perpendicular to the length of the scarp. These profiles were uploaded to MATLAB and analyzed using two different models, single-slip and continuous slip, to provide maximum and minimum age constraints of previous ruptures. Radiocarbon dating has also been utilized as a tool to date younger deposits with less offset, showing that multiple surface ruptures have occurred along the fault.

Another component of the project has been to create a surficial deposit map of the area including features such as terraces, moraines, bedrock, and alluvium. This map was created in the field over the past two summers and was compiled digitally using ArcGIS Pro. A related regional study will determine the cause of tectonic deformation in the extensional system by calculating erosion and uplift rates from ¹⁰Be concentrations in sand collected in catchments along the valley. This fault system may extend south towards the tourist destination of Sun Valley, Idaho, posing a seismic hazard to infrastructure and local populations.



EES Undergraduate Students in the Field

Field Research Supervised by Professor Ben Felzer

Green Restaurant Program (EAC members Beth Behrend, Elisabeth Cichonski, and Ben Felzer) – **Alyssa Klinger and Emilie Cohen**: Students explored economic and carbon benefits of restaurants in Bethlehem adapting a reusable takeout container program for leftovers. Based on program at Tiffin restaurants. Meets several targets of Bethlehem Climate Action Plan (FW1.1 and FW1.7). They surveyed 27 restaurants in Bethlehem and explored environmental impacts of styrofoam vs aluminum vs plastic containers. Results of the survey found that 29% of restaurants were interested in participating in a reusable container program, while 57% might be interested. Spring 2022

Tree Ordinance Review/Revision (Ben Felzer, Brian Nicas (EAC), David Shaffer (City Forester)) – **Kendall O'Farrell**: Kendall wrote the Bethlehem Urban Forest Master Plan that is now under review by the City as part of the CAP process. She based the plan on those from other nearby similarly-sized cities. The plan contains 5 elements: 1) tree inventory, 2) assessment, 3) urban forest management, 4) addressing climate change, and 5) environmental justice issues. She also made site visits to several parks on the South Side to identify those in need of additional tree cover. The City Forester used these recommendations last year to plant new trees in McNamara Park and Madison Parks. Spring 2022



Air quality in Bethlehem (Ben Felzer in coordination with Breena Holland): **Violette Bonvalet, Christian Martinez** (Christian also did summer intern): Violette and Christian helped design a project to monitor the effect of traffic (idling vs highway) on PM2.5 in the Bethlehem area by identifying 7 locations to set up Purple Air monitors. We set up several of these monitors during the summer. They helped with the process of calibrating the monitors relative to the Department of Environmental Protection (DEP) monitor at Freemansburg. They also explored the meteorological effects of wind and temperature inversions on PM2.5 by comparing to the DEP data and Lehigh WeatherNet. Spring/Summer 2023

Replanting vegetation for warehouses – Miyawaki approach (Ben Felzer and Bob Booth: Esther Cisnersos-Ramos, Tessa Dougan, Lauren Hagerty, Isabella Jacavone). The students tested the Miyawaki approach, a method of reforesting more dense and diverse tree species (8 species per square meter) within a small area rather than a traditional approach used by developers of planting one (usually non-native) species per square meter. We set up four 10x10 m plots in Wayne Grube Memorial Park in Northampton County: 1) traditional landscaping, 2) Miyawaki sapling plot, 3) Miyawaki seedball plot, and 4) natural succession plot. Our focus was on native nut trees to provide a food source for local wildlife. The students took initial measurements of soil nutrients to serve as a baseline. They presented their results at Northampton County Council Meeting in April. Spring 2023.

Balmonte Research Group

JP Balmonte's research group has had a busy year in the lab and in the field. During the 2023-2024 academic year, JP set up his lab and recruited and trained two PhD students, five Lehigh undergraduates, and one visiting undergraduate from Tohoku University in Japan through the US-Japan STEM-Tomodachi program (**Photo 1**). This coming fall, one PhD student and two undergraduates will be joining Balmonte's lab.



Fieldwork has taken off for several projects. In February, PhD student Alex Korbobo began a time series to quantify microplastics and identify harmful microplastic-associated microbes in the Schuylkill River—a project funded by the Pennsylvania Sea Grant. In May, JP led a cruise to the North Atlantic as Chief Scientist (**Photo 2**), as part of his NSF project studying the effect of high hydrostatic pressure in microbial carbon cycling. On this cruise, JP brought PhD students Noemi Schollmeyer and Alex Korbobo and Lehigh undergraduate Ava Niemczyk as members of the scientific party, along with collaborators from Germany, Denmark, and Croatia (**Photo 3**). In July, PhD student Alex Korbobo led an extensive 3-week long sampling for

microplastics from headwaters of the Schuylkill River all the way to the Delaware Bay. And, finally in August, JP began a time series to understand how microbial carbon cycling is changing in a high Arctic fjord (Kongsfjorden in Svalbard). This work, funded in part by a Lehigh FIG (Faculty Innovation Grant), is in collaboration with scientists from India, Germany, and Norway, and will be carried out in the Arctic for one full year by rotating scientists, including JP, Lehigh PhD students Noemi Schollmeyer, Holly Stapelfeldt, and Alex Korbobo, and Visiting Postdoctoral Researcher Emelia Chamberlain from Woods Hole Oceanographic Institution.



In Memoriam

Professor Emeritus Edward Evenson died August 7, 2023, at his home in Mackay, ID. He was 81. As a teacher and mentor, Ed helped launch scores of careers. He founded the Lehigh University Field Camp and led the program for more than 40 years. Outside the classroom he guided countless undergraduate students as many encountered Earth sciences for the first time, changed their majors, and went on to top graduate programs. Many graduate students benefitted from his expansive understanding of geologic processes, and some would go on to be close colleagues and collaborators. He was a glacial geologist who worked extensively -- and almost exclusively -- at high latitudes and high elevations. He earned widespread acclaim as a prolific scientist and educator.



We were deeply saddened to hear of the passing of **Dr. Kristen Heroy** on March 9, 2024. Kristen taught in EES as an adjunct instructor during the 2022-2023 academic year. We did not have long to get to know Kristen, but all who worked with her appreciated her commitment to teaching and enthusiastically connecting with and engaging students in ways that the students noted in course evaluations and conversations. When Kristen passed away, she had been preparing to teach in EES as a Visiting Assistant Professor during the 2024-2025 year.

Thank You To Our Recent Donors

Air Products Foundation Leonard D.. Ancuta Martin J Andrejko David M. Barnés Brittany A. Bartlett Tiffany M. Baumann Thomas P. Becker Alan I. Benimoff Nancy D. Bevilacqua Robert Bevilacqua Barett E. Borry Ketih A. Brugger Lori Ann Buckert Patrick A. Burkhart Christy L. Burkart Bobb and Joan E. Carson Kristin M. Carter Chevron Corporation Walter Conway Ellie R. Cyr Christopher S. Downing Ruth Eni ExxonMobil Foundation Stephanie Gann GlaxoSmithKline Foundation Kellen and Rachel Gunderson Barker G. Hamill Bruce R. Hargreaves Lynn Hoxie IBM Corporation Tony and Ellen Imhof Noel M. Johnson Kathleen Keman

Eric S. Klein Thomas J. Kruzshak Gary G. Lash Merritt B. Lewis Christy X. Li Frank R. Luther Craig and Corrine Madsen Ann F. Marchioni Robert C. Marshall Daniel A. Minguez PPL Corporation Paul B. Myers III Richard B. Palmer Tom Pasquini Jonathan Price Maria P. Pruitt Nolan L. Rothkopf Roger Sassen Ariella T. Scalese Bob and Meg Scamman Ernst M. Jr. Schaefer Curtis and Kathi Schmidt Lane D. Schultz Martin Q. Selzer Amy E. Shotmeyer H. Galt Jr. Siergrist Kevin F. Simons Jeff Strasser Anna L. Summerfield Cora L. Summerfield Andrea Jo Wagner Cathy E Withers Peter K. Zeitler

And Special thanks!

We'd like to acknowledge Tony and Ellen Imhof for establishing an endowment for long-term support of students enrolled in EES 341, and now a second endowment to support experiential learning for EES undergraduate students!

Also, special thanks to **Bob and Meg Scamman**, who have made several extremely generous contributions to our departmental discretionary fund, one in honor of Dr. Ed Evenson and one in memory of Dr. Paul B. Myers, in general to support environmental field studies and cross-disciplinary environmental-geological studies.

Again, THANK YOU

An Invitation to Get Involved and Support Your Department

The faculty and staff would like to extend an invitation to alumni to stay in contact with EES and to get involved with your Department. Contact us and let us know how you would like to be involved.

Many of the programs we offer in EES that allow us to excel in education and research are made possible by endowed accounts and annual donations by alumni. We are always looking to augment our resource base for graduate and undergraduate research, EES field programs, and Departmental laboratory and educational facilities. We thank you, in advance, for your consideration and support. If you are in a position to donate, please choose your method of payment below:

Prefer to donate online? Visit the Lehigh giving page as indicated below to make a secure online donation mylehigh.lehigh.edu/makeagift

- 1. enter "Donation Amount,"
- 2. click "Areas of Support,"
- 3. click "I want to select my own funds." then use the drop down for "Fund Options" to get to "College of Arts and Sciences" and choose "Other-CAS."
- 4. enter "EES unrestricted" in the comments section

To make a donation to support the EES graduate programs

Go to: mylehigh.lehigh.edu/eesgraduate
To make a donation to support field programs
Go to: mylehigh.lehigh.edu/vicjohnson
Don't forget about a possible company match.

Name:
Adress:
I prefer my gift to go to:
Unrestricted \$
EES Graduate Programs \$
EES Field Programs \$
Total Personal Donation \$

Please send the above information with your check payable to Lehigh University. Mail to:

Jamerson Baynard
Department of Earth & Environmental Sciences
Lehigh University, 1 W. Packer Ave.
Bethlehem, PA 18015-3001

