

Summer 2012

JOHNS HOPKINS
UNIVERSITY

The Morton K. Blaustein Department of
Earth & Planetary Sciences

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Note from the Morton K. Blaustein Chair

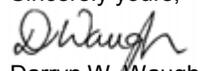
Welcome to the Summer 2012 edition of the Earth and Planetary Sciences Newsletter. The items in this newsletter show there has, as usual, been a lot of activities within EPS, and that members of the department continue to be recognized for their achievements (a special congratulations to Darrel Strobel for being awarded the 2012 Kuiper Award of the Division of Planetary Sciences of the American Astronomical Society for his outstanding contributions to planetary sciences).

The big news within the last six months, for me at least, is that my term as Chair of EPS ended on June 30, and Professor Tom Haine has taken over the helm. The last five and a half years as the Department Chair has been an enjoyable experience, but I am looking forward to returning my focus to research and teaching (in fact, as I am on sabbatical, my focus will be solely on research for this academic year).

There have been a lot of positive changes in EPS over this period. This includes the arrival of four junior faculty, who are all doing extremely well (as can be seen by several articles in this newsletter). We have introduced a "Global Environmental Change and Sustainability" undergraduate major that is proving to be very popular. There has also been a growth in the "Earth and Planetary Sciences" major, as well the number of students in our classes. The number of graduate students has also increased, with large cohorts joining us the last two years. There has also been growth in synergies with other departments at JHU. Examples include enhanced collaborations with the JHU Applied Physics Laboratory (joint appointments and supervision of graduate students), and new programs with Schools of Engineering and Public Health on research and training in the intersection between water, climate and health. Finally, we completed a multi-stage strategic planning process that has defined a clear path for continued growth and success.

In closing, I thank Tom for agreeing to serve as the new Chair and wish him an enjoyable and successful time.

Sincerely yours,



Darryn W. Waugh

Tom Haine–New Chair



It is a great pleasure and privilege to take over leadership of E&PS from Darryn Waugh. Darryn's accomplishments are manifold and he should be congratulated for having achieved so much as Chair. He has been a tireless advocate for our Department, often without recognition, and made wise decisions at every turn. I hope to continue expanding our teaching and research activities, to raise our profile, to strengthen our collaborative ties with other departments, and to improve our academic excellence. We live in an era when Earth & Planetary Sciences directly affects everyone. I will strive to ensure that our Department leads the world in teaching, understanding, and applying geoscience for the benefit of us all. I welcome your feedback and comments

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Upcoming Seminars & Lectures

Benton Lecture – October 25, 2012

➤ Andy Watson @ 4:00 PM–Olin Hall

Bromery Seminar Series – 12:00 PM on Thursdays

Check our website for any changes <http://eps.jhu.edu>

- September 13–TBA
- September 20–Mike Evans
- September 27–Ross Salawitch
- October 4–TBA
- October 11–TBA
- October 18–Peter Olson
- November 1–Paul Block
- November 8–Susan Lozier
- November 15–African Climate Workshop–Kerry Cook
- November 29–Chris Little
- December 6–Amala Mahadevan

AGU Meeting December, 2012

Alumni Reception to be held on Wednesday, December 5, 2012 from 7:00 – 10:00 pm @ the Intercontinental San Francisco in the Sutter Room. Invitations will be mailed. Please contact Kristen Gaines @ Kgaines@jhu.edu if you would like to attend. We hope to see you there.

Thank You to Our Donors

We are indebted to the following alumnae, alumni, friends, and organizations for contributing to the Department from January 1 to June 30, 2012.

Mr. Michael A. Aurelia III
James Gerald Brophy, PhD
H. Edward Clifton, Ph.D
Exxon Mobil Foundation
John H. Fournelle, Ph.D
Shemin Ge, Ph.D
Peter A. Geiser Ph.D
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Thomas J. Tourek Ph.D
David A. Vanko Ph.D
Stuart A. Weinstein, Ph.D
Huifang Xu, Ph.D

Please accept our apologies if we missed your name on the above list. If you will let us know, we would be most grateful, and will make sure we acknowledge your gift in the next newsletter. Your gifts mean more to us than you may realize. We are a small department. We remember all of our alumni and we are heartened to see that, through your gifts, you still support and are interested in the Department and its scholarly activities. Some of the things your gifts allow us to do are: admit more graduate students, pay for student summer field and laboratory work, maintain Singewald Field Camp and purchase equipment, teaching and research materials that are not covered by the department's operating budget. Your generous gifts make a significant difference to the Department of Earth & Planetary Sciences and we thank you

Ernst Cloos Memorial Lecture – April 4, 2012

Linda Elkins – Tanton, Director of the Carnegie Institution for Science's Department of Terrestrial Magnetism, delivered the Ernst Cloos Memorial Lecture entitled "Formation of Habitable Planets: Where Does the Water Come From?" on Wednesday, April 4th at Olin Hall, with a reception that followed. The Lecture was funded through The Ernst Cloos Endowment funds. The Ernst Cloos Memorial Scholars program was established in 1975 to commemorate the life and career of Professor Ernst Cloos, Chairman of the Johns Hopkins University, Department of Geology. The program enables outstanding persons to spend time in Earth & Planetary Sciences to meet with students and faculty, leading seminars, and delivering the annual Cloos Lecture.



Linda Elkins-Tanton



From left to Right: Darryn Waugh, Linda Elkins-Tanton, Dimitri Sverjensky

In The News



Darrell Strobel

2012 Kuiper Award

The Division for Planetary Sciences of the American Astronomical Society awarded Dr. Darrell Strobel with the 2012 Gerard P. Kuiper prize for outstanding contribution to planetary science. Congratulations! To read more go to:

<http://dps.aas.org/prizes/2012>



From Left to Right: Darryn Waugh, Darrell Strobel and Greg Ball

In The News (Continued)



Thomas Haine



Kathy Szlavecz



Inga Koszalka

Big Data

Drs. Thomas Haine, Kathy Szlavecz, and Inga Koszalka were interviewed in the *Johns Hopkins University Arts and Sciences* magazine in the Spring 2012 edition. Science is drowning in bits and bytes of information; Krieger School researchers are casting a lifeline. To read more go to:

<http://krieger.jhu.edu/magazine/v9n2/big-data/>



Renaud Deguen

Renaud Deguen, a postdoc in E&PS was awarded the 2012 Doornbos Memorial Prize at the 13th Symposium of SEDI in July in recognition of outstanding work on the Earth's deep interior. The prize is awarded to a young scientist by the Committee on Studies of the Earth's Deep Interior, in association with their biennial meetings. It is given in honor of the Dutch seismologist, Durk Doornbos. Congratulations!



Ben Passey

They Were What They Ate: Study Reveals Pre-Human Relatives Ate Only Forest Foods

Ben Passey interviewed by Lisa De Nike in a Johns Hopkins University news release says "We know that if you are a hominin, in order to get to the rest of the world, at some point you must leave the forests, and our ancestors apparently did so." To read more go to:

<http://releases.jhu.edu/2012/06/27/they-were-what-they-ate-study-reveals-pre-human-relatives-ate-only-forest-foods/>



Naomi Levin

Newly Discovered Foot Points on the Hominin Block

"We're just at the beginning of understanding the environmental context for this important fossil. It will be a critical part of understanding this hominin, its habitat and the role that the environment played in its evolution." To read more go to:

http://krieger.jhu.edu/magazine/2012/05/professor-discovers-remains-of-ancient-human-ancestor/?utm_source=exclusives&utm_medium=eblast&utm_content=Levin&utm_campaign=spring2012

for more from the paper in March 28 issue of Nature go to:

<http://www.nature.com/nature/journal/v483/n7391/full/nature10922.html>



Jessica Noviello

Jessica Noviello learned she has become the first student approved for a new interdisciplinary minor course of study. The new Space Science and Engineering minor is designed to prepare students to enter careers in space science and space engineering, either directly in a professional capacity in labs and industry, or as students in graduate programs. Congratulations! To read more go to: <http://gazette.jhu.edu/2012/02/27/first-in-space/>



Natalie Bray

Natalie Bray received a Provost's Undergraduate Research Award (PURA) and will be doing research on the effects of increasing CO₂ on leaf litter palatability and chemistry for soil animals. Congratulations! To read more about what PURA is go to: <http://web.jhu.edu/administration/provost/pura/index.html>. To read more on the research Natalie has been doing go to: <http://gazette.jhu.edu/2012/04/23/digging-into-research/>

Summer Programs

It has been a busy time for summer programs. Lucas Winch is a student at BPI (Baltimore Polytechnic Institute) who is enrolled in our Geoscience Ingenuity internship program here in EPS, funded by the National Science Foundation. His intern project is to reconstruct the locations of major flood basalt eruptions through geologic time to search for their common origin. He is learning to use scientific software including MATLAB and GPLATES for this project, as well as visiting the labs in Olin Hall.

Two high school seniors from Friends School spent a month in Olin Hall. Beverly Lasan and Samuel Keamy-Minor worked with Naomi Levin, Kathy Szlavecz and their students on several projects. They helped in cataloging the EPS fossil and rock collection, digging soil and earthworms in the field (including a species new to science!), and building a greenhouse chamber for growing isotopically labeled tree seedlings. We enjoyed having them in our groups, and it was surely nice to have two sets of extra hands in the field!

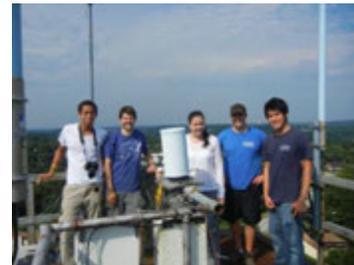
This summer three interns are working in Kathy Szlavecz's lab: Natalie Bray JHU-EPS major; Jason Hu, JHU-Chemical-Biochemical engineering major; and Kenny Harvey, a physics major from Carleton College. Natalie continues analyzing soil samples from the Smithsonian Environmental Research Center. Jason is conducting independent research. His project compares riparian soils from restored and unrestored segments of suburban streams in Baltimore County. Kenny is an REU (Research Experience for Undergraduates) student supported by NSF-MIRTHE (Mid-Infrared Technologies for Health and Environments). He works closely with Scott Pitz, graduate student in E&PS in several sensor-related projects.



Left to Right:
Peter Olson, Molly Broom, Evan Reynolds and Lucas Winch



Beverly Lasan,
Samuel Kamy-Minor



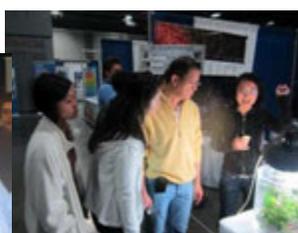
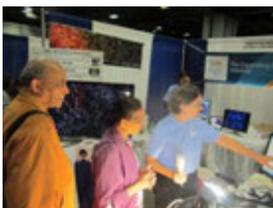
Left to Right:
Kenny Harvey, Mike Bernard, Natalie Bray, Scott Pitz and Jason Hu

Congratulations to Our Graduates

On May 20, 2012, the Department had four students graduate from our Ph.D program: **Lijun Xia, Ryan Currier, Michael Simms and Benjun Wu**. In addition, Masters Degrees were awarded to **Adam Fuller, Patrick Griffin, Alex Fuller, Sara Rivero-Calle, Scott Pitz and Lynnae Quick**. The Department awarded Bachelor's Degrees to the following students: E&PS Majors **Arielle Alpert, George Reynolds, and Miles Wimbrow**; and GECS majors **Alexandra Cohen, Alyson Friedensohn, Candace Rossi, Paul Ryberg, Joni Sliger, Keith Spangler and Guy Van Syckle**. We would like to extend our congratulations to all of you.

USA Science and Engineering Festival

The 2nd USA Science and Engineering Festival, called the "Woodstock of Science," was held on April 28-29 in the Washington, DC Convention Center (<http://www.usasciencefestival.org/>). More than 150,000 people attended this weekend event. EPS again had two projects in the JHU IDIES (Institute for Data Intensive Science) booth. Our exhibit focused on the carbon cycle by demonstrating CO₂ uptake by plants and CO₂ production via respiration by plants and animals. Mike Bernard helped set up the experiments, and Chih-Han Chang, Scott Pitz, Lijun Xia and Kathy Szlavecz took turns hosting the booth.

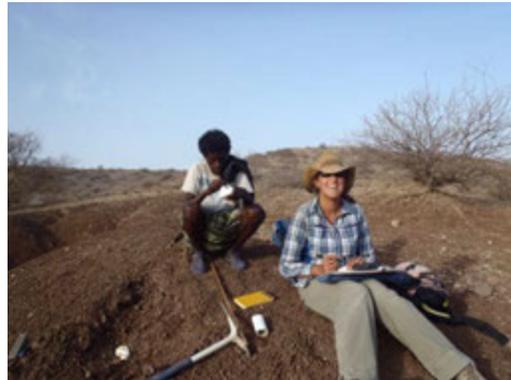


Field Trip 2012: Ethiopia, Woranso–Mille and Gona

The Levin research group conducted fieldwork in Ethiopia this February and in South Africa in early March. Research in Ethiopia took place in the Afar rift of Ethiopia at two different research sites, Woranso-Mille and Gona. Both sites contain rich records of human evolution and Naomi's work focuses on reconstructing the paleoenvironmental histories of the region during the last 6.5 million years. Naomi travelled from Ethiopia to meet up with first-year graduate student, Sophie Lehmann, in South Africa, where Sophie got started on her doctoral research on the Pleistocene dune system at Elandsfontein, 100 km north of Cape Town. Sophie's field work was supported by the Palmer field fund.



Sophie Lehmann, pointing to what remains of an old trench into a ridge of ferricrete in Pleistocene dune deposits on the western coast of South Africa. Photo credit: Naomi Levin.



Naomi Levin in the Afar region of Ethiopia this February helping to collect paleomagnetic samples from the early Pliocene Sagantole Formation with the aid of a local Afar. Photo credit: Dan Peppe.

Field Trip 2012: Ethiopia with Ben Zaitchik

Assistant Professor Ben Zaitchik returned to Ethiopia this June to continue ongoing research on the impacts of climate variability in the Blue Nile Highlands. He and EPS graduate student Fisseha Birhane met with colleagues from Addis Ababa University, the Nile Basin Initiative, and the Ethiopian Environmental Protection Agency and National Meteorological Agency to present recent research results and to discuss applications to seasonal precipitation forecasts and climate change adaptation. The trip also included a field survey in rural areas of Choke Mountain, where the research team--which also included Department of Geography and Environmental Engineering graduate student Mitra Ebrahimi--recorded information on land use and discussed agricultural practices with local farmers.



Ben Zaitchik and graduate student Mitra Ebrahimi on a field survey with colleagues from Addis Ababa University and the Ethiopian Ministry of Agriculture.



Recently installed soil conservation terraces on Choke Mountain. EPS researchers are studying the efficacy of these structures in a changing climate.

Alumni Corner

Attention all Alumni- If you have something you would like to share in the next edition, please provide us information by email to ktrent2@jhu.edu

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Bruce Parker -- (PhD 1985) Bruce's recent 'popular' historical science book "The Power of the Sea: tsunamis, storm surges, rogue waves, and our quest to predict disasters" was released in a paperback edition by Palgrave Macmillan on March 13, two days after the one-year anniversary of the 2011 Japan tsunami. This edition has an added chapter about that devastating tsunami, which asks (and answers), the question: "How could 25,000 people be killed by a tsunami in a country that was supposed to be the most tsunami-aware nation in the world?" It includes stories of how school children survived the tsunami, providing compelling evidence for the importance of tsunami preparedness in saving lives. To see more about the book go to: [Facebook.com/thePoweroftheSea](https://www.facebook.com/thePoweroftheSea) or ThePowerOftheSea.com.

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