

# THE FLUX LINE

News of the Geomagnetism and Paleomagnetism Section of AGU

March 1, 2014

## Thanks for a successful Fall 2013 AGU meeting!

The Fall 2013 AGU meeting was the biggest yet with over 22,000 participants. GP had a successful meeting with 16 oral and 13 poster sessions. The GP business meeting was held Tuesday evening of the Fall meeting week. Richard Gordon, our GP president, presided. Cathy Constable was honored as the 2013 Gilbert Awardee. Dan Pomeroy, designer and builder of the portable coring drill used by many paleomagnetists, was recognized for his contributions to paleomagnetism. John Geissman made the presentation. Earlier on Tuesday Steve Cande gave the 2013 Bullard Lecture. The title of his talk was, “Kinematic constraints on the forces driving the rapid motion of India in the Late Cretaceous and early Cenozoic”. GP also recognized three new AGU Fellows: Catherine Johnson, Andrew Roberts, and Keke Zhang. Jaime Fucugauchi was recognized for receiving AGU’s 2013 International Award.



Cathy Constable giving her Gilbert Award acceptance speech at the 2013 GP business meeting at Fall AGU.



Steve Cande giving the 2013 Bullard Lecture at Fall AGU.



Richard Gordon, GP president, presiding over the 2013 GP business meeting at Fall AGU.



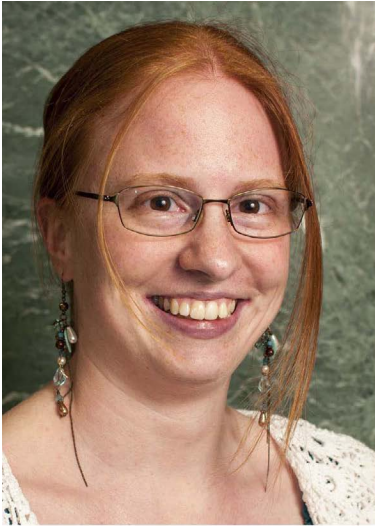
Dan Pomeroy receiving recognition at the GP business meeting for his gasoline powered core drill used by many paleomagnetists.

### **Biedermann, Strauss recognized for Outstanding Student Presentations at the Fall 2013 AGU meeting**

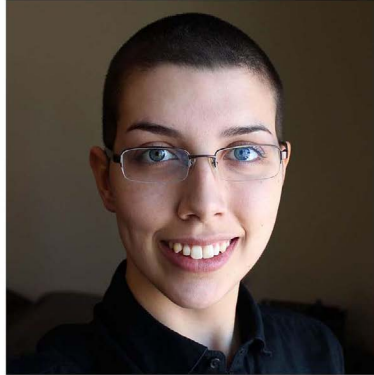
Andrea Regina Biedermann is a Ph.D. student in the Earth and Planetary Magnetism Group at ETH Zurich, where she works with Ann Hirt on the characterization of magnetic anisotropy of common rock forming minerals. In her AGU presentation, 'Magnetic Anisotropy of Single Crystals: Amphiboles, Pyroxenes, and Feldspars', Andrea reported on the anisotropy of magnetic susceptibility (AMS) in minerals from these three important rock-forming groups. Andrea's presentation at AGU showed that the directions of the principal susceptibilities are closely related to the crystallographic axes. Further, she showed that the degree of AMS generally increases with iron concentration within a given mineral group. Such information can be used to provide a deeper understanding of the magnetic fabric of a rock, with the goal of enabling quantitative modeling of AMS.

Becky Strauss is a Ph.D. student at the University of Minnesota. In her research, conducted with Joshua Feinberg of the Institute of Rock Magnetism, she explores the mechanisms of remanence in nontraditional geomagnetic materials, using correlative rock magnetic and nonmagnetic methods. Becky's primary research focus to date has been the magnetism of speleothems and their utility for paleomagnetic study. In her AGU talk,

“Magnetic remanence in stalagmites: Observations from electron microscopy and rock magnetism”, Becky discussed the varied assemblages of magnetic minerals in calcite stalagmites, as revealed by rock magnetic, microscopic, and chemical analyses. The results of this work were recently published in the AGU journal *Geochemistry, Geophysics, Geosystems* ( $G^3$ ). Becky looks forward to continuing her research on geomagnetic recording mechanisms and presenting more results at future AGU meetings.



**Andrea Biedermann**



**Becky Strauss**

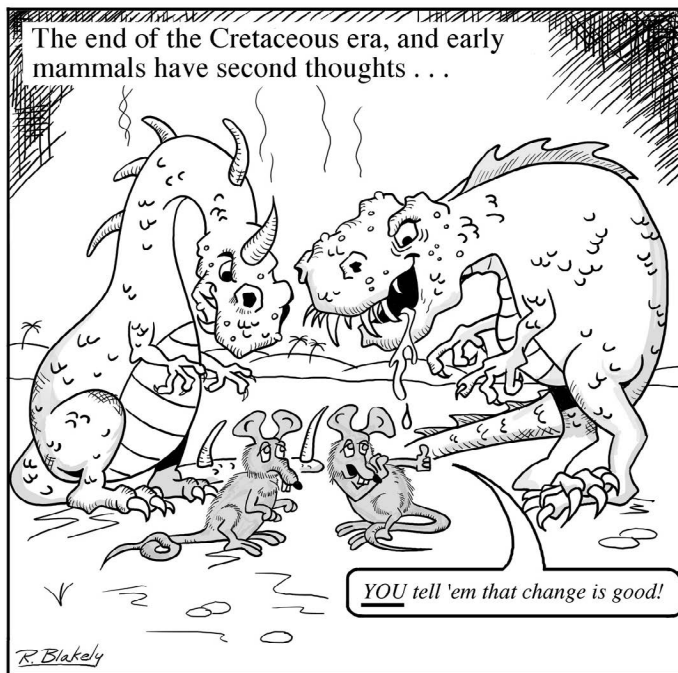
### **Lisa Tauxe the 2014 Franklin Medal winner**

Congratulations to Lisa Tauxe, who is the 2014 recipient of the Benjamin Franklin Medal in Earth and Environmental Science. This prestigious award is given by the Franklin Institute in Philadelphia to recognize outstanding contributions in engineering and the sciences. Lisa’s citation reads, “For the development of observational techniques and theoretical models providing an improved understanding of the behavior of, and variations in intensity of, the Earth’s magnetic field through geologic time.” Lisa will receive her medal on April 24, 2014 in Philadelphia. A symposium in her honor on April 23<sup>rd</sup> at the Academy of Natural Sciences will feature speakers John Tarduno, Dennis Kent, Jeff Gee, and Cathy Constable. For more information see the Franklin awards website: <http://www.fi.edu/franklinawards/>



### **Deadlines for AGU Award Nominations coming up soon!**

Time is short for nominating deserving colleagues for prestigious AGU awards. The deadline for Fleming Medal nominations, AGU Fellow, and Macelwane Award nominations is March 15, 2014. The nomination deadline for GP's Gilbert Award is April 15, 2014 this year, earlier than in previous years. Since this is an even-numbered year, the Gilbert Award is limited to young scientists-within 5 years of receiving their PhD and 36 years of age or younger by December 31, 2014. Jim Channell is coordinating efforts to get GP members nominated for the appropriate awards. Please contact him if you are planning on nominating someone.



### **Other News from the Geomagnetism and Paleomagnetism Section Business Meeting at the Fall 2013 Meeting of the AGU**

In addition to recognizing our new awardees, Fellows, and Bullard Lecturer, we were also able to discuss some proposed changes to the section bylaws at the GP section business meeting in December. The most visible of the proposed changes is a change in the name of our section to “Geomagnetism, Paleomagnetism, and Electromagnetism”. Richard Gordon explained that the change was being proposed as a way to make the section more inclusive. An open discussion by the members followed, and several came to the podium to express their support for the name change. The GP Executive Committee supports the name change and has prepared the short article below.

### ***Reorienting our section name for the 21st century: GPE***

Our section has great diversity within its ranks: we study processes occurring in the deepest part of the Earth's core via surface phenomena and atmospheric physics out to solar system planets; we work on fundamental and applied science, on both micro and macro scales, and on timescales stretching from the age of the Earth to sub-second frequencies. This amazing range of topics is to be commended.

Our name at the moment reflects two major components of our activities. Some would argue that our current title is perhaps already imprecise, since some of our members work on planetary magnetism; nothing is perfect in life. But there is an even more significant problem, in that the section title does not really properly represent a very active and significant portion of our membership, namely those working in electromagnetism per se. The community that uses electromagnetic methods for sub-surface investigation is a vigorous sub-discipline, as evinced by their very full program at recent AGU meetings. The name "Geomagnetism" does not really represent their interests.

As one of the smallest sections of AGU, we have, at times, struggled to remain influential within AGU. The current Executive Committee would like to do everything possible to maintain or even strengthen our numbers.

Colleagues working within induction, magnetotellurics, controlled source electromagnetism and other allied disciplines are increasingly valued in today's society and have seen an increase in numbers, but have sometimes chosen to align themselves with sections such as Tectonophysics or similar. It would be beneficial if we could provide them with a natural home within a section whose name is representative of their interests. The Executive Committee believes strongly that their natural home is our section, particularly because their intellectual and experimental expertise lies at the heart of the corpus of our membership.

Just as Louis Agricola's original journal *Terrestrial Magnetism and Atmospheric Electricity* changed its name in 1948 to the *Journal of Geophysical Research* that we have today, some things can benefit from being brought up to date. For this reason the Executive Committee is endorsing a change in the name of our section to GPE, or Geomagnetism, Paleomagnetism and Electromagnetism, to properly represent our membership. The third part of our title would draw strongly on the origins of our subject with Faraday, Maxwell and even Louis Agricola himself.

The bylaws of AGU state that such a change is a matter for the Executive Committee, but we would not be so presumptuous as to take such action without consulting the membership. A critical part of this exercise is the discussion and feedback of the members. We have already gauged member reaction through discussions at the GP business meeting this past 10th of December at AGU. While the support at the meeting was not unanimous, it appeared that there was a strong consensus for the name change. This consensus included many past and present elected leaders of the GP section. We now are investigating a method for broader feedback from the GP section this year, about

which you will be fully informed.

In closing, the Executive Committee believes that this simple move would be of overall benefit to the future relevance of our section within AGU. The new name would summarize well the activities of our members, and we commend it to you.

Andrew Jackson, Richard G. Gordon and the Executive Committee.

**Session proposals solicited for Fall AGU meeting**

Please consider submitting a GP session proposal for the Fall meeting. April 9<sup>th</sup> is the deadline for submitting session proposals for Fall AGU (15-19<sup>th</sup> December). Details on submitting a proposal can be found at

<http://fallmeeting.agu.org/2014/scientific-program/session-proposal-guideline/>.

**Newsletter contributions are welcome.**

We welcome news items of general interest to the GP community. Please keep them brief (150 words or less) and send to Ken Kodama (kpkodama@gmail.com).

—GP Executive Committee