

THE FLUX LINE

News of the Geomagnetism and Paleomagnetism Section of AGU

October 2011

Joe Kirschvink: 2011 William Gilbert Award recipient

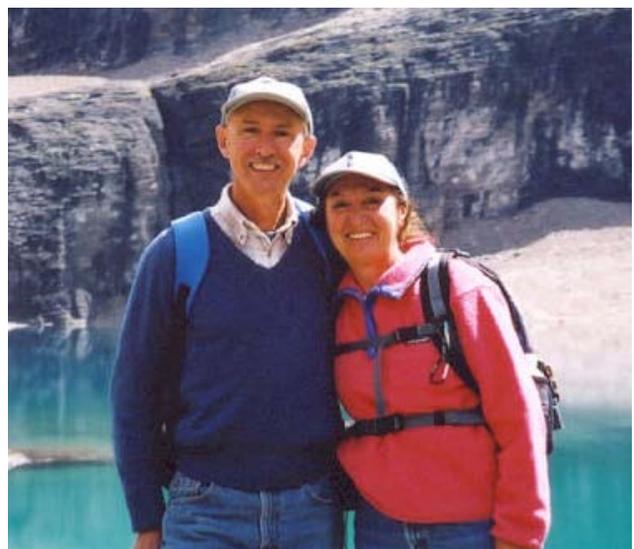
We are pleased to announce that Joe Kirschvink is our 2011 recipient of the William Gilbert Award. The Gilbert Award is presented by the GP Section for outstanding and unselfish work in magnetism of Earth materials and of the Earth and planets. Joe is the Van Wingen Professor of Geobiology at the California Institute of Technology and widely recognized as an international leader in the study of biogenic magnetite, magnetic field sensitivity in animals, advances in paleomagnetic instrumentation and data analysis, the paleomagnetism of Mars, catastrophic climatologic events including the Snowball Earth hypothesis, the geologic time scale, the “Cambrian explosion”, and true polar wander. The Gilbert Award will be presented to Joe at the GP Business Meeting and Reception in San Francisco, December 6.

GP Activities at the 2011 Fall AGU Meeting

- AGU received more than 20,000 abstracts for the 2011 Fall AGU Meeting, a dramatic increase over previous years. The GP Section received 285 abstracts, also a significant increase over past years (269 in 2009 and 225 in 2010). GP presentations will fill 22 primary sessions, 13 oral and 9 poster, and run from 8 am Monday morning to late afternoon Friday. Plan your travel accordingly! Thanks very much to Laurie Brown, GP Secretary, for organizing our talks, posters, and sessions!
- The GP Business Meeting and Reception will be held Tuesday evening, December 6, 6:30-8:00 pm, in Grand Ballroom B of the InterContinental Hotel.
- The Bullard Lecture will be 5:00 pm, Tuesday, in Moscone 103. Please see the following article.
- The AGU Honors Ceremony and Reception will be held 7:00 pm Wednesday. Come and congratulate our new GP honoraries. Rixiang Zhu and Dominique Jault will receive AGU Fellowship, and Carlo Laj will be given the 2011 AGU Excellence in Geophysical Education Award. Adam Maloof will receive the Macelwane Award. (Adam is a paleomagnetic practitioner, although not a formal member of GP.)
- The GP Section is sponsoring a GP Student Breakfast at 6:45 am on the Monday of AGU week. The event will take place in the Sierra I room of the San Francisco Marriott Marquis. This first-ever event will provide GP students an opportunity to meet their peers and ask questions of GP officers. Sign up is available as part of AGU registration. Attendance is limited, so register early. Students with questions can contact Julie Bowles (jbowles@umn.edu). And thanks to Julie for organizing this event!
- The AGU Student Breakfast (different from the GP event above) will be Tuesday, December 6, in Salon 7 of the San Francisco Marriott Marquis.
- Once again, GP will participate in the Outstanding Student Paper Award, and Laurie Brown will be pulling together a panel of volunteer judges.
- Discounted meeting registration and housing reservations end on November 1.

David Dunlop, 2011 Bullard Lecturer

David Dunlop of the University of Toronto will present the 2011 Edward Bullard Lecture. Dave is a recognized leader in rock magnetic research, with applications to paleomagnetism, plate tectonics, and crustal magnetic anomalies. The Bullard Lecture is a GP Section award given annually at the Fall AGU Meeting as part of the AGU Bowie Lecture Series. Dave will talk on *Rock Magnetism: Successes and Mysteries*. His presentation will take place in Room 103, Moscone South, Tuesday evening, 5 pm.



David Dunlop with Ozden Ozdemir at Lake Oesa in the Canadian Rocky Mountains, 2011

Complete GP Session Lineup, Fall AGU Meeting, 2011

The following is a list of all primary GP sessions at the 2011 Fall AGU Meeting. It does not include the many sessions in which GP has joint sponsorship.

Monday

Poster presentations (Halls A-C)

GP11A. Geomagnetism and Paleomagnetism General Contributions; 8:00-12:20 PM

Oral presentations (Room 304)

GP11B. Planetary and Meteorite Magnetism I; 8:00-10:00 AM

GP12A. Modeling and Interp. of Satellite, Observatory, Marine, & Airborne Magnetic Data I; 10:20-11:50 AM

GP13A. Reversals, Excursions, Paleointensity, and Volcanic Processes I; 1:40-3:40 PM

GP14A. Reversals, Excursions, Paleointensity, and Volcanic Processes II; 4:00-6:00 PM

Tuesday

Poster presentations (Hall A-C)

GP21A. Modeling and Interp. of Satellite, Observatory, Marine, & Airborne Magnetic Data II; 8:00-12:20 PM

GP21B. Planetary and Meteorite Magnetism II; 8:00-12:20 PM

GP23A. Reversals, Excursions, Paleointensity, and Volcanic Processes III; 1:40-6:00 PM

Oral presentations (Room 304; Bullard Lecture in Room 103)

GP23B. Models and Observations of the Geomagnetic Field Including Dynamo Studies I; 1:40-3:40 PM

GP24A. Bullard Lecture (Video On-Demand); 5:00-6:00 PM

GP24B. Models and Observations of the Geomagnetic Field including Dynamo Studies II; 4:00 -5:00 PM

Wednesday

Poster presentations (Hall A-C)

GP31A. Models and Observations of the Geomagnetic Field Including Dynamo Studies III; 8:00-12:20 PM

GP33A. Earth Processes Through Mineral and Rock Magnetism Eyeglasses II Posters; 1:40-6:00 PM

Oral presentations (Room 304)

GP32A. Earth Processes Through Mineral and Rock Magnetism Eyeglasses I; 10:20-12:20 PM

GP33B. Crustal Imaging With Potential Fields: Appl. to Tectonics, Hazards, and Resources I; 1:40-3:40 PM

GP34A. Crustal Imaging With Potential Fields: Appl. to Tectonics, Hazards, and Resources II; 4:00-6:00 PM

Thursday

Poster presentations (Halls A-C)

GP41A. Crustal Imaging With Potential Fields: Appl. to Tectonics, Hazards, and Resources III; 8:00-12:20 PM

Oral presentations (Room 308)

GP43A. Paleogeomagnetic Change Studies, Including Lake Sediments I; 1:40-3:40 PM

Friday

Poster presentations (Halls A-C)

GP51A. Magnetostratigraphy and Remagnetization of Sediments I; 8:00-12:20 PM

GP51B. Paleogeomagnetic Change Studies, Including Lake Sediments II; 8:00-12:20 PM

Oral presentations (Room 304)

GP53A. Magnetostratigraphy and Remagnetization of Sediments II; 1:40; 3:40 PM

GP54A. Magnetostratigraphy and Remagnetization of Sediments III; 4:00-6:00 PM

Special session in honor of Jean Francheteau

In honor of the life and career of Jean Francheteau, GP is co-sponsoring a special session at the 2011 Fall AGU Meeting featuring the following series of posters and talks:

T23D. Recent Advances and Concepts in Plate Tectonics and Seafloor Spreading Processes I Posters
1:40 PM - 6:00 PM; Halls A-C

T32B. Recent Advances and Concepts in Plate Tectonics and Seafloor Spreading Processes II
10:20 AM - 12:20 PM; Room 2012

T33I. Recent Advances and Concepts in Plate Tectonics and Seafloor Spreading Processes III
1:40 PM - 3:40 PM; Room 2012

T34D. Recent Advances and Concepts in Plate Tectonics and Seafloor Spreading Processes IV
4:00 PM - 6:00 PM; Room 2012

Jean Francheteau passed away July 21, 2010. A tribute to his career was included in the October 2010 issue of *The Fluxline*.

Thanks again to 2G Enterprises!

As in years past, 2G Enterprises will underwrite part of the cost of the GP Business Meeting and Reception. The event will take place Tuesday evening of the Fall AGU Meeting. See earlier article for time and place.

New *G-Cubed* Theme on mineral magnetism and paleomagnetism

Geochemistry, Geophysics, Geosystem (G-Cubed) has announced a new thematic issue dedicated to mineral magnetism and paleomagnetism. Magnetic measurements and imaging provide unique and valuable data for a wide range of applications in the geo- and planetary sciences, notably in tectonics, paleoclimate, and paleoenvironmental research; studies of the Earth's deep interior; and exploration of planetary surfaces and interiors. The official title of the theme is "Magnetism from Atomic to Planetary Scales: Physical Principles and Interdisciplinary Applications in Geo- and Planetary Sciences." As the title implies, the theme covers the full gamut of magnetic research, from modeling of atomic and nanoscale magnetic properties to satellite, airplane, ship, and undersea magnetic surveys. Additional information is available at <http://www.agu.org/journals/gc/theme.shtml?collectionCode=ATOMIC2&journalCode=GC>.

Post-doc and early-career opportunities

- **Institute for Rock Magnetism**, Minneapolis. Support is provided for up to 10-day research visits in three areas: Visiting Research Fellows, U.S. Student Fellows, and researchers whose primary goal is to use the u-channel magnetometer system. Applications are accepted twice per year (April 30, October 30). Contact IRM (irm@umn.edu) or visit the web page at www.irm.umn.edu.
- **Dublin Institute for Advanced Studies**, Ireland. Applications are invited for a four-year, fixed-term post-doctoral fellowship to work within IREITHERM, a new research initiative to develop a holistic understanding of Ireland's low-enthalpy geothermal energy potential. Applications are requested by October 30, 2011.
- **U.S. Geological Survey Mendenhall Research Fellowship Program**, various locations. The Mendenhall Research Fellowship Program provides opportunities for recent PhD graduates (within 5 years of PhD) to conduct concentrated research in a variety of earth-science topics and in association with selected USGS professional staff. The next cycle of research opportunities will be announced in November 2011, with earliest start dates in October 2012. Monitor the USGS website (geology.usgs.gov/postdoc) for late-breaking information.

Post docs on the move

We continue the tradition of listing GP post docs, providing brief bios and contact information. If you are a GP post doc, please send your information to *The Flux Line*.

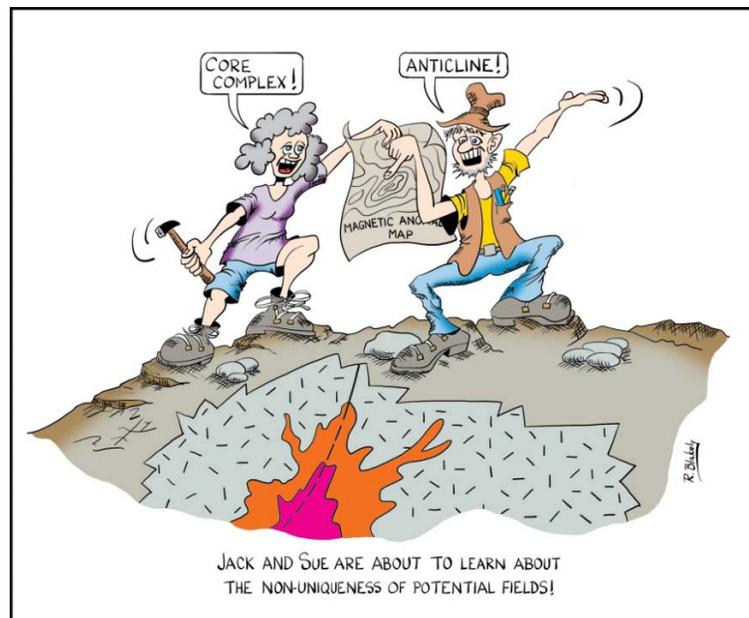
- **Gelvam Hartmann:** PhD from the University of São Paulo (Brazil) and Institute de Physique du Globe de Paris (France). Currently a Post Doctoral Researcher at the University of São Paulo (Department of Geophysics) working on archeomagnetism in South America, with emphasis on intensity variations over the past five centuries. gelvam@iag.usp.br; gelvam@gmail.com
- **Nicola Pressling:** PhD from the University of Leeds. Currently a NERC Research Fellow at the University of Southampton working on the structural and magmatic evolution of the ocean crust from reoriented IODP cores. N.J.Pressling@soton.ac.uk.
- **Natalia S. Bezaeva:** PhDs from M.V. Lomonosov Moscow State University (Russia) and Aix-Marseille III University (France). Currently a Post Doctoral Research Associate at the M.V. Lomonosov Moscow State University (Faculty of Physics, Earth Physics Department) working on magnetic properties of terrestrial and extraterrestrial rocks and their relation to the evolution of the Earth and solar system. bezaeva@physics.msu.ru
- **Greig Paterson:** PhD from the National Oceanography Centre, University of Southampton. Currently a Young International Research Fellow at the Institute of Geology and Geophysics, Chinese Academy of Sciences, Beijing, working on the paleomagnetism (with an emphasis on paleointensity) of the Emeishan large igneous province in SW China. greig.paterson@mail.igcas.ac.cn.
- **Chris Davies:** PhD from the University of Leeds. Currently a Green Scholar at Scripps Institution of Oceanography working on outer core evolution and geodynamo modeling. In April 2011 will begin a NERC Research Fellowship at the University of Leeds. cjdavies@ucsd.edu.
- **Maxwell Brown:** PhD from the University of Liverpool. Previously an NSF-supported research associate at the Institute for Rock Magnetism, University of Minnesota, working on paleointensity methodologies. Maxwell began a post-doc position at GFZ Potsdam in January 2011, where he conducts research on the evolution of the Holocene geomagnetic field. mcbrown@gfz-potsdam.de.

INCOG: A new communication tool for GP members

Dhananjay (Tiku) Ravat has put together a new Facebook group called INCOG, designed for the **I**Nternational **C**ommunity of **G**eophysicists interested in geologic interpretations. INCOG has similarities to existing listservers (like *gpmag* and *grvmag*), but with greater focus on geologic applications and interdisciplinary studies. INCOG is primarily for the exchange of ideas, information, data links, models, and modeling advice. Tiku views INCOG as a broad, interdisciplinary group of researchers applying magnetic, gravity, paleomagnetic, electromagnetic, seismic, lidar, and remote sensing applications to geologic problems. In other words, pretty much anything pertaining to lithospheric studies.

Planetary-mag.net: A tool for calculating magnetic fields

Mike Purucker announces a new website, planetary-mag.net, that allows users to calculate magnetic fields expected throughout the Earth



system, as well as around other planets and moons that host internal magnetic fields. The website is provided in the interest of stimulating research and education in geomagnetism and comparative planetology. The website is in beta-test mode now but will be fully functional by the Fall AGU Meeting. Modeling source codes are provided with support for spherical harmonic evaluations based on open source packages and Comprehensive model codes (Sabaka et al. 2004). The Earth system uses the CM4 model and offers options to calculate the magnetic field from core/lithospheric, primary/induced magnetospheric, primary/induced ionospheric, and in situ (coupling) current sources. Send feedback to Mike Purucker (michael.e.purucker@nasa.gov).

Melbourne IUGG/IAGA wrap up

The Melbourne IUGG/IAGA 2011 meeting was attended by some 3500 geophysicists from 91 countries. The weather was nearly perfect all through the meeting, and the city offered great sight-seeing and an outstanding range of food possibilities. IAGA and the GP section had the lion's share of the meeting once again, with presentations on a host of interesting and cutting-edge research. The details of the Division V scientific reviews, meeting programs, data and model issues, business meetings, and special publications can be found at the the IAGA Division V website: <http://www.bgs.ac.uk/iaga>. [*Contributed by Tiku Ravat*]

Swarm science and validation opportunity

The Swarm Science and Validation Opportunity call is now open. The purpose of the call is twofold: (1) to solicit contributions from the community to the validation of Swarm Level 1b data products, and (2) to further develop the Swarm user community by establishing PI-led projects and having a first overview of the many research activities planned. The proposal deadline is October 31, 2011. Please refer to the dedicated call website for detailed information: <http://eopi.esa.int/SwarmSVO>.

T.S. Liu and paleomagnetic contributions to knowledge of past global change

At the XVIII Congress of the International Union for Quaternary Research (INQUA) held in Bern 21-27 July 2011, a special session recognized the seminal contributions of Professor T.S. Liu (1917–2008) to our understanding of past global change via magnetic records of loess/paleosol sequences. Four invited talks from world leaders paid tribute to the life and work of Professor Liu and demonstrated that, although the field is now mature, much remains to be done. Can the elusive goal of quantitative paleoclimatology be achieved? Can site-specific variability be unravelled? The task is an important one. It offers the opportunity to map past global change, and thereby check the results of numerical general circulation models, which, in turn, offer one of the best means of understanding the climatic Armageddon that awaits us. The oral presentations were accompanied by a lively poster session covering the Chinese Loess Plateau, Korea, Serbia, Bulgaria, and Alaska. Contemporaneous data from marine sediments in the Pacific Ocean were also reported. [*Contributed by Ted Evans*]

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INQUA Congress Bern, 21st July 2011. Friedrich Heller kicks off Session 59: *The magnetostratigraphic and environmental magnetic work of T.S. Liu and its continuing consequences*. The screen behind Friedrich shows Liu Tungsheng in his late eighties animatedly addressing a 2006 meeting in Beijing. (Photo courtesy of Ramon Egli).

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 Rick Blakely (blakely@usgs.gov).

—GP Executive Committee