EGU Today

DAILY NEWSLETTER
FROM THE GENERAL ASSEMBLY

WEDNESDAY
APRIL 22
2009

Union Award Presentations and Medal Lectures

Grasping the geodynamo: David Gubbins to receive Arthur Holmes Medal

Since Einstein described the origin of the Earth's magnetic field as one of the greatest unsolved problems of science, this phenomenon has been studied thoroughly by physicists and geologists. Arthur Holmes, after whom this award is named, made an important contribution to so-called dynamo theory in 1944 by suggesting that convection might take place in the Earth's mantle. Indeed, convection is a critical factor in the genesis of the geodynamo, as David Gubbins will show in his medal lecture, even though it is the deeper convection in the earth's core that defines Earth magnetism. Gubbins, a research professor at Leeds University, studies the still largely unknown processes at the boundary of the Earth's solid inner and liquid outer core, as well as at the core-mantle boundary. Convection and heat flux between these layers are responsible for the behaviour of the magnetic field, including geomagnetic reversals. The causes behind these reversals are still a major topic of debate.

Oral Programme

Welcome by Gerald Ganssen and Tuija Pulkkinen, 13:30

365 days under antarctic ice, A Djamel Tahi film
by Roland Schlich and Claude Lorius, 13:35

Union Medal and Award Ceremony, 15:30

Boundless Science
by Fred Spilhaus, 16:15

Alexander von Humboldt
Medal Lecture, 16:45

Alfred Wegener
Medal Lecture, 17:30

Arthur Holmes
Medal Lecture, 18:15

Reception
19:00 - 20:00

The Arthur Holmes Medal and Alfred Wegener Medal are two equally-ranked most prestigious awards made by the Union, and they are reserved for scientists who have achieved exceptional international standing in solid Earth, atmospheric, hydrological or ocean sciences, defined in their widest senses, for their merit and their scientific achievements.

US1, Wednesday 13:30-20:00, Room D
Convener: Gerald Ganssen

Live online broadcasting of Union Medal Lectures, Award Ceremony and Press Conferences

Everone is cordially invited to watch the Union Medal Lectures and Press Conferences live and online. Please also refer to http://meetings.copernicus.org/egu2009/special_events/index.html for more information.

www.webstream.at/egu

Weather forecasting: Lennart Bengtsson to receive Alfred Wegener Medal

With hurricane Katrina still fresh in our memory, a question that rises frequently these days is: will global warming increase the strength and frequency of storms? Lennart Bengtsson, a Swedish meteorologist with 50 years experience in weather forecasting, will be awarded the prestigious Alfred Wegener Medal for his notable contributions to climate modelling. Bengtsson, a former director of the Max Planck Institute for Meteorology, will present his latest findings on extratropical cyclones and their impact on this century's climate change. On this occasion he will receive the Alfred Wegener Medal & Honorary Membership. This award, named after the discoverer of continental drift, is presented each year to a scientist who has achieved exceptional international standing in atmospheric, hydrological or ocean sciences. For Bengtsson, it crowns a long and remarkable career.

Looking for life on Mars: Rafael Navarro-Gonzáles to receive Alexander von Humboldt Medal

Deserts on Earth can be so inhospitable that hardly any form of life can survive there. Traces of life may be present in the soil, but are difficult to find. Rafael Navarro-Gonzáles, a biochemist at the National Autonomous University of Mexico, studies life in such extreme environments. His most renowned research focussed on the Atacama Desert, west of the Andes Mountains and one of the driest and oldest deserts in the world. Here, he managed to indicate the presence of organic material by conducting incubation experiments. For the search for life on Mars, this is an interesting finding as the geological circumstances in the Atacama Desert are similar to those on Mars. Both NASA and ESA are now testing their new equipment there. In the autumn of 2011, the Mars Science Laboratory will be launched. Navarro-Gonzáles will receive the Alexander von Humboldt Medal, awarded each year to a scientist from a developing country, for his outstanding scientific achievements.

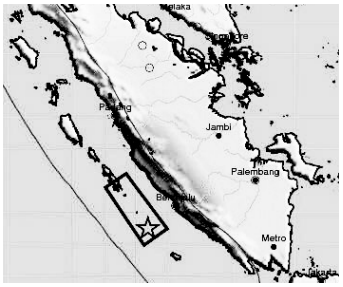
Today's EGU Medal Lectures

Milutin Milankovic Medal
Pascale Braconnot
ML19, 10:30–11:15, Room 13

Outstanding Young Scientist Lecture
Junguo Liu
ML27, 15:30–16:00, Room 32

Sumatra: 2100 km of broken up plate boundary

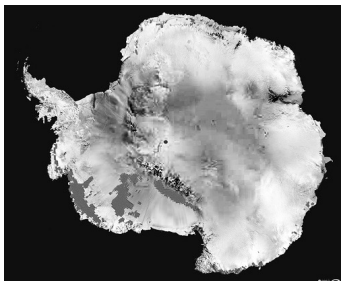
Subduction of the Indian and Australian plates has recently generated a sequence of great earthquakes. Only 400 km of this 2500 km plate boundary has remained unbroken in just four years. And another M8+ event may likely occur soon. The potential for associated tsunamis is clear. The Sumatran margin also has a high density of volcanic centres, which might be reactivated in response to seismic activity. This session brings together scientists working on all aspects of the geology and geophysics of Sumatra, especially focussing on earthquake, tsunami and volcanic hazards.



NH11.1/G23/GD14/GMPV20/SM3.2/TS6.7, Wednesday 08:30-10:00, Room 30
Convener: John McCloskey

Southern Ocean variability

The Southern Ocean is a key area in modern climate research. Climate models predict that the Southern Ocean overturning circulation will slow down as a result of global warming. This would cause a decrease in the amount of carbon dioxide absorbed by the ocean and a positive feedback on climate change. Processes in the Southern Ocean also influence the nearby Antarctic ice sheet, and hence, affect the pattern and rate of global sea-level rise. The Southern Ocean is remote, the environment is hostile, and historical data are scarce. Speakers in this session have unlocked this area with new tools and measurements. **OS10, Wednesday 15:30-19:00, Room 4**
Convener: Hartmut Hellmer



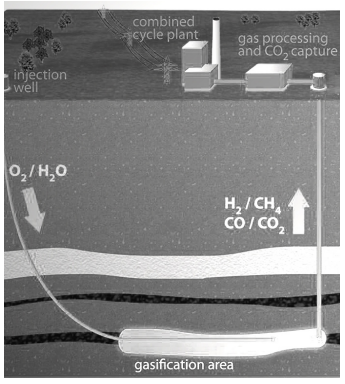
Topography as an expression of the dynamic Earth system

Topography is the most obvious manifestation of Earth's dynamic history. Processes on all time scales, from erosion to isostasy and mantle dynamics, leave their imprint on topography as we observe it today. This session discusses the link between topography and deep processes. Are the mechanisms that create uplift a patchwork of different effects, or do major underlying lithospheric processes exist? **SM1.6/EG11/GD16/TS3.2, Wednesday 14:15-19:00, Room 17**
Convener: Jörg Ebbing

The Scandes mountains in central Norway were formed by a plate collision and later sculptured by ice.

Deep coal deposits: Warranty for long term energy production?

Sustainable coal technologies play an important role in future energy generation. Northern Europe, the United States, China, India and many other regions world-wide possess extensive coal deposits, which can provide additional energy supply for about 250 years. As most of these deep coal deposits do not allow their extraction by conventional mining methods, their utilisation for energy production is not yet economically feasible. Hence new technologies are required for sustainable production, also involving the reduction of associated CO_2 emissions. **ERE 8, Wednesday 17:30-19:00, Room 2**
Convener: Thomas Kempka



Climate change puts further stress on China's water supply

In China, a country where population growth, increasing food demand and industrial development all have contributed to water scarcity, climate change now poses a significant threat to sustainability. As climate change puts further stress on China's water supply, Junguo Liu investigated how climate change will affect China's future need for irrigation water. The results are alarming. In the period 2021-2030, the total irrigation water demand in China will be more than twice of what was used in the 1991-2000 period. China will have to formulate and effectuate appropriate water and food policies to counter the adverse effects of climate change.
ML27, Outstanding Young Scientist Lecture, Wednesday 15:30-16:00, Room 32
Convener: Alberto Montanari

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