

## NATIONAL ACADEMY OF SCIENCES HONORS HAP McSWEEN



Harry Y. (Hap) McSween Jr., Chancellor's Professor and Distinguished Professor of Science at the University of Tennessee, has been awarded the J. Lawrence Smith Medal of the National Academy of Sciences ([www.nasonline.org/programs/awards/j-lawrence-smith-medal.html](http://www.nasonline.org/programs/awards/j-lawrence-smith-medal.html)). Hap is being honored for his pioneering studies of the igneous and metamorphic histories of the parent planets of the chondritic and achondritic meteorites, with particular emphasis on his work

on the geological history of Mars based on studies of Martian meteorites and spacecraft missions to the planet. The medal and prize of \$25,000 are awarded for recent original and meritorious investigations of meteoritic bodies. The award, which is given every three years, was established after a gift from Sarah Julia Smith in memory of her husband and has been presented since 1888.

Hap, along with 16 others who have made major contributions to science, will be recognized at a ceremony on April 30, 2012, during the National Academy of Sciences' 149<sup>th</sup> annual meeting.

Many congratulations, Hap!

## IMA MEDAL TO DAVID GREEN



David Green from Tasmania has been selected as the winner of the third IMA Medal for excellence in mineralogical research. He follows Frank Hawthorne and Charles Prewitt in receiving this honor, which recognizes outstanding original research in mineralogy during the recipient's career.

David Green was born and educated in Tasmania and had his first acquaintance with ultramafic and related rocks in 1956 when mapping an ultramafic complex in northern Tasmania. This interest in ultramafic rocks continued with his PhD research on the Lizard Peridotite, under C. E. Tilley at Cambridge. Following his PhD he was recruited by the Australian National University to work with A. E. Ringwood. Their first collaboration led to the creation of the "pyrolite" model, a prediction of the petrological character of the upper mantle. These two eminent scientists brought research in geoscience a major step forward by combining high-pressure and high-temperature equipment with the electron microprobe. The "new experimental petrology" led to three classic papers on the application of petrological studies to global tectonics, the gabbro to eclogite reactions and the genesis of basaltic magmas.

David Green has been adept at selecting significant petrological observations or hypotheses and devising experimental strategies to investigate them. He has studied a wide range of topics, including mineral assemblages of peridotites and basalts at high pressures, the experimental calibration of mineral geothermometers and geobarometers, the reasons for compositional variability of basaltic magmas including the roles of carbon and hydrogen, the genesis of carbonatite magmas, the identification of carbonatite metasomatism in the Earth's lithosphere, the origins of and relationships among lunar basalts, and the nature of the lunar interior.

Throughout his career, David Green has built research teams applying complementary approaches to diverse problems related to the petrology and geochemistry of natural rocks. He has remained active in science since retirement, recently making a significant contribution to discussion of the influence of H<sub>2</sub>O in nominally anhydrous minerals on the melting of peridotite, which was published in *Nature* in 2010.

## ACADEMIA EUROPAEA RECOGNIZES EARTH SCIENTISTS

Eight Earth scientists were recently elected as members of the Academia Europaea ([www.acadeuro.org](http://www.acadeuro.org)), an international, non-governmental, not-for-profit association of individual scientists and scholars. Members are drawn from some 35 European countries and eight non-European countries. Membership is currently around 2300 and covers the natural sciences, humanities and letters. Founded in 1988, the Academia Europaea organizes workshops, conferences, and study groups; publishes the *European Review* and other academic materials; and provides expert advice on European science policy matters.



**Olivier Appert** (CEO of IFP Energies nouvelles) is an engineer with extensive experience in the energy

sector in various French and international positions.



**Jon Blundy** is a petrologist interested in all things magmatic, from melting of the mantle to granite

emplacement and the underground machinations of explosive volcanoes. He has made important contributions to understanding the partitioning of trace elements between crystals and melts. Jon is based at the University of Bristol (UK).



**Georges Calas** is a professor of mineralogy at Université Pierre et Marie Curie, Paris.

He has published on structure/property relationships linked to transition elements and radiation defects in minerals and glasses, and he also has interests in environmental mineralogy, nuclear waste management, and materials science.



**Herbert Huppert** is an emeritus professor in theoretical geophysics at Cambridge University. He

has published widely on the principles of fluid mechanics as related to Earth sciences, meteorology, oceanography, and geology.



**Paolo Papale** is renowned for his research activities in the physics of volcanism. He is contributing to the estab-

lishment of a multidisciplinary, integrated approach to the study of volcano dynamics and to the forecasting of volcanic hazards.



**Tuija I. Pulkkinen** is well known for her work on solar-terrestrial plasma physics, especially on plasma pro-

cesses that transfer energy from the solar wind to the near-Earth space environment and to the ionosphere.



**Yanick Ricard's** research on the relations between the density variations in the mantle and the

Earth's gravity field linked the paleogeography of the Earth to present-day mantle anomalies as revealed by seismic tomography and satellite geodesy.



**Tilman Spohn** is the director of the Institute of Planetary Research of the German Aerospace

Center and a professor of planetary physics at the Westfälische Wilhelms Universität Münster. He specializes in the thermodynamics of planetary interiors, the habitability of planets and the role of life in their geologic evolution.

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