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## WINNERS OF THE 2008 SOCIETY MEDALS AND AWARDS



### *The 2008 Abraham-Gottlob-Werner Medal in Silver to David C. Rubie*

Dave Rubie is honored for his fundamental research into the physical and chemical state of the Earth and the dynamic processes within the Earth's interior. Through innovative high-pressure experiments, Dave was able to test and quantify hypotheses concerning the kinetics of metamorphic reactions and the relationship between rheology and phase transformations in the deep Earth. His results helped to shape modern views on key subjects, such as the mechanisms of high-pressure mineral preservation in metamorphic rocks and the driving forces of plate tectonics. Through his investigations of mineral transformation mechanisms, particularly those involving the high-pressure modifications of olivine, he connected processes at the atomic level with consequences at a global scale. His research into element fractionation and viscosity in silicate melts under extreme conditions allowed the development of quantitative models describing the differentiation of the proto-Earth through the development of a deep, global magma ocean. His numerous publications in high-quality journals are a testament to his seminal work in the fields of mineralogy, geochemistry, and geophysics.

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Ulrich Bismayer (left) presents the Abraham-Gottlob-Werner Medal to Martin Okrusch

### *The 2008 Abraham-Gottlob-Werner Medal in Silver to Martin Okrusch*

Martin Okrusch is honored for his extensive research in the field of regional petrology. The crystalline rock series in orogenic belts of the Earth's continental crust record comprehensive evidence of the geodynamic evolution of the continents. Martin Okrusch has characterized the petrology and geochemistry of igneous rocks, and especially the metamorphism of rocks under various conditions of pressure and temperature as a function of time, in order to trace the plate-tectonic history of the areas in question. Key case studies are represented by the Hellenides, with the blueschist belts of the Cyclades and the metamorphic rocks of Samos and Crete; the basement rocks of the Pan-African Damara orogenic belt; the Kaoko Belt and pre-Pan-African basement of Namibia; as well as the basement series of central Germany and Bavaria. The results of these studies have led to fundamental progress in our understanding of the geodynamic evolution of these areas. Martin Okrusch's work is documented in 198 publications, book chapters, and abstracts.

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### *The Victor-Moritz-Goldschmidt Award for 2008 to Thorsten Kleine*

The work of Thorsten Kleine on the early history of the solar system and the early Earth is characterized by highly precise analytical methods and completely new concepts. These have led to new fundamental results. Thorsten Kleine used and systematically improved  $^{182}\text{Hf}/^{182}\text{W}$  isotope systematics as a dating

method. An important result of his doctoral thesis is the finding that the  $^{182}\text{W}/^{184}\text{W}$  ratio of Earth is two orders of magnitude higher than that of chondrites. The age of the Earth's core is therefore younger than assumed so far. This result, published in *Nature*, represents an imperative reference for all work on Hf/W systems. The exciting work of Thorsten Kleine covers many thematic fields, including numerical modeling, the accretionary and core-formation history of the Earth, early

core formation in planetoids, the late accretion of chondritic mother bodies, the thermal history of eucrites, and the age of the Moon. Turning around previous ideas, he has shown that iron meteorites are older than chondrites; this has led to new concepts on the formation of asteroids in the solar system. In awarding this medal to Thorsten Kleine, the German Mineralogical Society honors an extremely productive and innovative young scientist with a strong international reputation.



### *The Paul-Ramdohr Award 2008 to Toni Schulz*

The Paul-Ramdohr Award is given to recognize an outstanding presentation at the annual DMG meeting by a young graduate or postgraduate student. Toni Schulz is honored for his talk entitled "Formation and Evolution of the Solar System and Its Planets" at the annual meeting of the German Mineralogical Society in Berlin. Toni is a student at the University of Cologne.

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## ADVANTAGES AND DISADVANTAGES OF CURRENT GEOSCIENCE EDUCATION

The organizing committee of the 86<sup>th</sup> annual meeting of the German Mineralogical Society (14–17 September 2008 in Berlin) held a special session entitled "Developments in Geoscience Education and Public Outreach" and chaired by Lutz Hecht (Berlin). The main part of this session consisted of a panel discussion with the focus "Advantages and Disadvantages of Current School and University Education." Alan Morgan (University of Waterloo, Canada) presented the invited keynote lecture entitled "Earth Science, Education, Public Outreach and Our Future World." Professor Morgan, who is an internationally recognized specialist in public outreach and geoscience education topics, highlighted some major challenges and presented possible solutions.

The panel team (A. Morgan, U. Bismayer, F. Langenhorst, P. O'Brien, S. Venke) and the audience pointed out major problems at both the national and international level. These include (1) a low recognition of the importance of geosciences by politicians and society in general (except, for example, after the occurrence of some natural disaster or a drastic increase in petroleum prices, or during the discussion of climate change); (2) a decrease in the quality of university education or student knowledge after the recent reorganization of the study system in Germany (installation of the bachelor/master system, Bologna process, etc.); (3) problems with accreditation and quality management of university study programs; and (4) a very poor representation of geoscience subjects in school education, coupled with a major deficiency in the geoscience knowledge of teachers. Many problems can be solved only by continual, additional, and joint effort by scientists and lecturers to promote the Earth sciences to the public and to improve Earth science education. However, this requires dramatically increased support from university authorities and national science organizations, since, in most cases, activities to improve education and public outreach are still of relatively low importance during the evaluation of both Earth scientists and Earth science institutions. Many problems in Earth science education at schools and universities can only be solved with the support of regional authorities and/or national politics. There is an urgent need to set up and improve the quality of international standards for geoscience education and also to convince politicians to modify the educational system. We strongly recommend that national and international geoscience organizations increase the exchange of information and coordinate their activities.

**Lutz Hecht**, Humboldt-University Berlin