PENROSE MEDAL TO SUSAN KIEFFER

Dr. Susan Kieffer will receive the Penrose Medal of the Geological Society of America (GSA). The Penrose Medal is awarded in recognition of eminent research in pure geology, for outstanding original contributions or achievements that mark a major advance in the science of geology. Dr. Kieffer is the Walgreen Endowed Chair and Center for Advanced Study Professor of Geology and Physics at the University of Illinois at Urbana-Champaign. We reproduce here excerpts of the citation by Steve Marshak:

“Susan Werner Kieffer’s career in geology has spanned 45 years—so far. In this time, she has led an amazing journey through the breadth of the discipline, a journey that has yielded profound insight into an incredible diversity of subjects, including mineral thermodynamics, meteorite impacts, explosive eruptions of geysers and volcanoes, and the hydraulics of rapids. Her work creatively combines calculations with observations.”

“What theme ties Sue’s scientific contributions together? They involve fast flows and intense shocks. While most geologists ponder events that take thousands to millions of years, Sue focuses on those that happen in seconds to minutes. What makes Sue’s work great is that she takes foundational concepts—such as how atoms vibrate in a mineral lattice or how supersonic gases blast from a rocket nozzle—and makes them geological.”

“Sue’s fundamental contributions have been recognized by many honors, including membership in the National Academy of Sciences and the American Philosophical Society, a MacArthur “genius award,” and the Day Medal of GSA. It is more than appropriate that her many original advances to our understanding of geology—from the microscopic to the megascopic scale—has now resulted in her receipt of the 2014 Penrose Medal.”

NEW MEMBERS ELECTED TO THE U.S. NATIONAL ACADEMY OF SCIENCES

Four prominent members of our community recently became members of the U.S. National Academy of Sciences. They were among the 84 new members and 21 foreign associates from 15 countries recognized for their distinguished and continuing achievements in original research. Membership is a widely accepted mark of excellence and is considered one of the highest honors a scientist can receive.

Timothy L. Grove is the Cecil & Ida Green Professor of Geology and associate department head of the Department of Earth, Atmospheric, and Planetary Sciences, Massachusetts Institute of Technology, Cambridge. Grove’s research focuses on the processes that have led to the chemical differentiation of the crust and mantle of the Earth and on the processes of formation and evolution of the interiors of other planets, including the Moon, Mars, and meteorite parent bodies. Combining geology, geophysics, and geochemistry to interpret the thermal histories of geologic materials, his group studies magma-generation processes, crystal growth and nucleation, phase transitions in minerals, diffusion in crystalline solids and silicate melts, and the time dependence of diffusion-controlled processes. He holds a PhD from Harvard (1976) and has been a professor at MIT since 1979. He is a member of the American Academy of Arts and Sciences, a fellow of the Mineralogical Society of America, the American Geophysical Union, and the Geochemical Society, and is the recipient of the 2014 Goldschmidt Award of the Geochemical Society. He was president of the American Geophysical Union from 2008 to 2010. He is the executive editor of Contributions to Mineralogy and Petrology.

Peter Kelemen is the Arthur D. Storke Professor and Chair of the Department of Earth & Environmental Sciences at Columbia University. He combines geochemical and geophysical techniques to study Earth processes. He is working on the genesis and evolution of oceanic and continental crust, subduction zone processes, new mechanisms for earthquake initiation, geologic capture and storage of CO2 (CCS), and reaction-driven cracking processes in natural and engineered settings, with application to CCS, geothermal power generation, hydrocarbon extraction, and in situ mining. At Columbia, he teaches the popular course Earth Resources for Sustainable Development, as well as courses and seminars on petrology and geochemistry. Kelemen was a founding partner of Dihedral Exploration (1980–1992), consultants specializing in exploration for mineral deposits in steep terrain, with contracts in Canada, Alaska, and Greenland. Research and climbing have taken him to Peru, India, Oman, the Aleutian Islands, 7500 meters above sea level in Pakistan, and 5500 meters below sea level via submersibles along the Mid-Atlantic Ridge.

Thorne Lay is a Distinguished Professor of Earth and Planetary Sciences at the University of California Santa Cruz, where he has been located since 1990. Previously he was a faculty member at the University of Michigan, after receiving his PhD in geophysics from the California Institute of Technology in 1983. His research area is seismology, and includes studies of large earthquake ruptures, the internal structure of the Earth, and seismic monitoring of nuclear-testing treaties. He is the author of 411 research publications, including 5 books, 286 publications in refereed books and professional journals, and 120 technical reports, book reviews, news items, and conference proceedings. He is an elected fellow of the American Academy of Arts and Sciences and the American Association for the Advancement of Sciences. He received the Harry Fielding Reid Medal of the Seismological Society of America and the Macelwane Medal of the American Geophysical Union.

Édouard G. Bard, professor, Collège de France, Aix-en-Provence, France, was elected as a foreign associate. He earned his master’s degree in 1985 at the geological engineering school at Nancy (ENSIG) and his doctoral degree in 1987 at the University of Paris 11–Orsay. He conducted research in Columbia University’s Lamont Doherty Earth Observatory as a postdoctoral fellow in 1988 and as an associate research scientist in 1989. He then returned to France, where he joined the Commissariat à l’énergie atomique (CEA), and then started teaching as a professor at the University of Aix-Marseille in 1991 and at the Collège de France in 2001. His studies are at the interface of climatology, oceanography, and geology. His main objective is to understand the natural functioning of the ocean–atmosphere system on timescales ranging from a few decades to several million years. Indeed, climate variations involve mechanisms with very different time constants. It is thus necessary to have a long-term perspective in order to distinguish the respective impacts of geological, astronomical, and anthropogenic forcings.

In 2013, he received the Alfred Wegener Medal from the European Geosciences Union and the Werner Petersen Award from the Helmholtz Center for Ocean Research (GEOMAR Kiel). In 2014, he also received the Prince Albert I Medal of the Oceanographic Institute of Monaco.
Discover More

The Next Generation Thermo Scientific™ GC-IRMS solution provides a significant step forward in analytical performance and capability for compound-specific isotope analysis meeting the analytical challenges of today’s rapidly expanding isotope ratio world. The isotopes $^{13}$C, $^{15}$N, $^{18}$O and $^2$H in complex GC mixtures provide scientists with a wealth of information uncovering the history and origin of samples.

using Next Generation GC-IRMS

- Visit thermoscientific.com/GC-IRMS

Thermo Scientific GC-IRMS Solution
Delta V™ Isotope Ratio MS
TRACE™ 1310 GC
GC IsoLink II™ Preparation Unit
Conflo IV™ Universal Interface

Healthy Lifestyle  Food Authentication  Sports Performance  Environmental Forensics  Energy Exploration
YOUR RESEARCH DRIVES A BRIGHTER FUTURE

Introducing a new way to publish your research: Wiley Open Access

Make your research freely available and immediately accessible to read, download and share – consider publishing your article in one of Wiley’s NEW Open Access journals.

In addition, you can now opt to submit your papers using OnlineOpen for these renowned journals:

Learn more about Open Access and submitting papers at www.wiley.com/go/openaccess-elements

INVESTING IN TECHNOLOGY AND NEW IDEAS

Research communities are at the forefront of creating tomorrow’s knowledge. Wiley’s tools and services are developed with you in mind. We’re working hard to create the solutions you need: flexible, visual and deeply interactive.

Introducing the Anywhere Article
Any Format, Any Device, Any Time

Now you can immediately access research that is clear and communicable – whenever you need it and wherever you are.

Readable Functional Mobile

The Anywhere Article improves your reading experience of articles on Wiley Online Library.

Start using the Anywhere Article in your research – look out for the Enhanced Article (HTML) on WileyOnlineLibrary.com today!

Connect with us
Join our online communities and receive regular news and product updates

facebook.com/earthsciencecommunity @earth_wise earth-pages.com wiley.com/email
PARTNERING FOR YOUR SUCCESS

Our long track record as the world’s leading society publisher is built on a strong mix of talent, breadth of experience and technical excellence.

Wiley are the proud publishing partner of over 950 societies globally, including the American Geophysical Union, and are happy to offer exclusive discounts for members. If you’re a member of any societies, ask if a Wiley discount is included in your members’ benefits.

Wiley is the proud publisher of the American Geophysical Union’s book program.

AGU Members save 35% when they order directly from Wiley.

Discover more, download sample content and order at www.wiley.com/go/earthscience-elements

Most of Wiley’s books are now available as e-books, meaning you can access them anytime and anywhere from your e-reading device. You can purchase them directly from Wiley.com or your preferred online retailer.