

## Professor Barbara A. Romanowicz Recognized as the 2019 Marcus Milling Legendary Geoscientist

ALEXANDRIA, Va. - The American Geosciences Institute (AGI) is pleased to recognize Dr. Barbara A. Romanowicz, Professor in the Graduate School, University of California at Berkeley, and Chaire de Physique de l'Interieur de la Terre, College de France, Paris, with the 2019 Marcus Milling Legendary Geoscientist Medal.

Romanowicz is recognized for her unparalleled contributions to understanding the structure and dynamics of the Earth's mantle and core, her development of essential geophysical infrastructure, and her leadership of the Cooperative Institute for Deep Earth Research (CIDER). Over her 40-year career, Romanowicz has revealed the inner workings of our planet with innovative studies of the structure of Earth's mantle and core. She has made foundational contributions to geophysical infrastructure including, in particular, networks of seismic stations that are used by thousands of seismologists.

Romanowicz's research using seismic data to resolve the structure of the mantle and core employs innovative seismological theory and sophisticated numerical methods. What elevates the impact of her studies, however, is the way she uses the Earth structures that she observes to improve understanding of fundamental Earth processes, often linking seismology, geodynamics, mineral physics and geochemistry.

Through her work with global mantle tomography, Romanowicz has greatly advanced the understanding of the large-scale structure of the lower mantle and how it connects to mantle convection. One of Romanowicz's fundamental findings is that structure in the lowermost mantle is dominated by two regions with low seismic shear wave velocities - one in Pacific and one beneath Africa. Today these features are commonly called LLSVPs (large low shear velocity provinces) by the community. Romanowicz has also given generously of her time to build lasting infrastructure for the geoscience community. She led the development of Geoscope from 1981 to 1990, building a global network of broadband seismic stations that still records superb seismic data today. As the Director of the Berkeley Seismological Laboratory from 1991 to 2011, she modernized and expanded the Berkeley network of broadband seismic stations in northern California, co-founded and developed the Bay Area Regional Geodetic Array and the Northern California Earthquake Data Center, and established the Rapid Earthquake Data Integration program.

According to colleague Peter Shearer, Professor of Geophysics at the University of California San Diego, Romanowicz is "one of the world's leading seismologists," not only because she has made many fundamental contributions to both theoretical and observational seismology, but also because she has supervised some 50 Ph.D. students and postdocs.

Louise Kellogg, Distinguished Professor of Earth and Planetary Sciences at the University of California, Davis, calls Romanowicz a "pioneer" who has served as an elected member of the US National Academy of Sciences, the American Academy of Arts and Sciences, the Academie des Sciences, France, and an elected foreign member of the Polish Academy of Sciences.

Romanowicz said she was honored by the award and "humbled by the list of prior recipients, including Hiroo Kanamori, who is one of my heroes." She said that professionally she is most proud of "having been able to contribute both scientifically, as well as to the development of infrastructure in my field of geophysics, specifically seismology."

Romanowicz also reflected on why geoscience is important: "First, we live on planet Earth, so we should be curious about its history and evolution through geological times, how it came to be what it is, its present-day dynamics and in particular why we have plate tectonics. Second, mitigating natural disasters cannot be done effectively without understanding the processes that shape the earth, both in its interior and its external envelopes."

AGI directly, or in cooperation with its Member Societies, makes a number of awards each year to recognize particular excellence in the geosciences. In addition, AGI works with its Member Societies to foster nominations of deserving geoscientists for consideration in a number of National Science Awards. To learn more about AGI awards like the Marcus Milling Legendary Geoscientist Medal, go to <https://www.americangeosciences.org/awards>.

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