



## BIOGRAPHICAL SKETCH

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STEVEN (STEVE) JACOBSEN is Associate Professor of Earth and Planetary Sciences at Northwestern University. He was a Humboldt Postdoctoral Fellow at Bayerisches Geoinstitut in Bayreuth, Germany, and the Barbara McClintock Postdoctoral Fellow at the Geophysical Laboratory, Carnegie Institution of Washington. Jacobsen is a mineral physicist using principles of condensed matter physics and materials science to study the composition and structure of Earth's interior from atomic to geophysical scales. He is primarily interested in the role of volatiles, especially H<sub>2</sub>O, in controlling geophysical processes and Earth's evolution. He developed an ultrasonic technique for the diamond-anvil cell, known as GHz-ultrasonic interferometry, which is used to measure acoustic velocities in Earth and planetary materials at mantle conditions. Focusing on the influence of water on material properties and melting, Jacobsen is working to map mantle water content from dense seismic data coming in from the USArray. In the area of materials science, Jacobsen's recent work has focused on design, synthesis, and characterization of superhard materials. Jacobsen is active in research and development at the National Laboratories, especially the Advanced Photon Source at Argonne and the National Synchrotron Light Source-II at Brookhaven. Jacobsen has published over 80 papers and holds one U.S. patent in the areas of geophysics, mineralogy, materials science, condensed matter physics, and planetary science. He served as Distinguished Lecturer of the Mineralogical Society of America and received a Distinguished Teaching Award from Northwestern University. Jacobsen's research has been supported by a NSF-CAREER award, a David and Lucile Packard Fellowship, and grants from the DOE/NNSA. He recently received the Bessel Award of the Alexander von Humboldt Foundation and a Presidential Early Career Award for Science and Engineering (PECASE) from the Obama Administration. At Northwestern, Jacobsen was Associate Master of the Public Affairs Residential College from 2009-2014, and he serves on the Administrative Board of The Graduate School. Jacobsen currently serves on the National Research Council Committee on Seismology and Geodynamics and is Associate Editor of Geophysical Research Letters. He received his B.A. in geology and Ph.D. in geophysics from the University of Colorado, Boulder.