CURRICULUM VITAE

DANIEL P. SCHRAG

Education:

B.S. 1988, Yale University (Geology & Geophysics and Political Science)
Ph.D. 1993, University of California at Berkeley (Geology)

Ph.D. Dissertation Supervisors:
Donald J. DePaolo (U.C. Berkeley)
Frank M. Richter (Univ. of Chicago)

Post-Doctoral Supervisor:
John M. Hayes (Indiana Univ.)

Honors:

James B. Macelwane Medal, American Geophysical Union (2001)
MacArthur Fellow (2000)
Technology Review TR100 – 100 young innovators for the next century (1999)
Ocean Drilling Program Fellowship (Berkeley) (1992)
Samuel Lewis Penfield Prize in Mineralogy (Yale) (1988)
Katherine K. Walker Prize in Political Science (Yale) (1988)
Frank M. Patterson Prize in Political Science (Yale) (1987)

Professional Experience:

Sturgis Hooper Professor of Geology, Harvard University	2009-
Professor of Environmental Science and Engineering, Harvard University	2007-
Professor, Dept. of Earth and Planetary Sciences, Harvard University	2000-
Associate Professor, Dept. of Earth and Planetary Sciences, Harvard University	1997-2000
Assistant Professor, Dept. of Geosciences, Princeton University	1994-1997
Visiting Researcher, Indiana University	1993
Geologist, Newmont Mining	1988

Memberships:
American Geophysical Union; Geochemical Society; American Meteorological Society; American Academy for the Advancement of Science; Canadian Institute for Advanced Research

Service:
Professional: President's Council of Advisors on Science and Technology (2009-2017); Board of Reviewing Editors, *Science* (2002-2005); Associate Editor, *Geochem., Geophys., Geosyst.* (1999-); Advisory Committee for Earth Institute of Columbia University (2002-)

University: University Center for the Environment (Director); Science, Technology, and Public Policy Program (Director); Environmental Science and Engineering (co-Area Dean, Paulson School of Engineering and Applied Sciences) Committee on Oceanography; Board of Tutors for Environmental Science and Public Policy; Committee on Collections for Earth and Planetary Sciences; Faculty Advisory Committee on Affiliated Housing

Research Interests:
Application of geochemistry to problems concerning the geologic record of climate change, history of the oceans and atmosphere, and interactions between the environment and life on Earth and other planets

Publications

157. Lorrey, AM, Brookman, TH, Evans, MN, Fauchereau, NC, Macinnis-Ng, C, Barbour, MM, Criscitiello, A, Eischeid, G, Fowler, A, Horton, TW, and Schrag, DP. Stable oxygen isotope signatures of early season wood in New Zealand kauri *(Agathis australis)* tree rings: Prospects for palaeoclimate reconstruction. *Dendrochronologia,* 40, 1-14, 2016.

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155. Dagon, K and Schrag, DP. Exploring the Effects of Solar Radiation Management on Water Cycling in a Coupled Land-Atmosphere Model. *Journal of Climate,* 29(7), 2635-2650, 2016.

154. Smith, EF, Macdonald, FA, Petach, TA, Bold, U, and Schrag, DP. Integrated stratigraphic, geochemical, and paleontological late Ediacaran to early Cambrian records from southwestern Mongolia. *GSA Bulletin,* 128(3-4), 442-468, 2016.

153. Bold, U, Smith, EF, Rooney, AD, Bowring, SA, Buchwaldt, R, Dudas, FO, Ramezani, J, Crowley, JL, Schrag, DP, and Macdonald, FA. Neoproterozoic stratigraphy of the Zavkhan Terrane of Mongolia: The backbone for Cryogenian and early Ediacaran chemostratigraphic records. *Amer. Journal of Sci.,* 316(1), 1-63, 2016.

152. Petersen, SV and Schrag, DP. Antarctic ice growth before and after the Eocene-Oligocene transition: New estimates from clumped isotope paleothermometry. *Paleoceanography,* 30(10), 1305-1317, 2015.

151. Martindale, RC, Strauss, JV, Sperling, EA, Johnson, JE, Van Kranendonk, MJ, Flannery, D, French, K, Lepot, K, Mazumder, R, Rice, MS, Schrag, DP, Summons, R, Walter, M, Abelson, J, and Knoll, AH. Sedimentology, chemostratigraphy, and stromatolites of lower Paleoproterozoic carbonates, Turee Creek Group, Western Australia. *Precambrian Research,* 266, 194-211, 2015.

150. Kuntz, LB, Laakso, TA, Schrag, DP, and Crowe, SA. Modeling the carbon cycle in Lake Matano. *Geobiology,* 2015.

149. Smith, EF, Macdonald, FA, Crowley, JL, Hodgin, EB, and Schrag, DP. Tectonostratigraphic evolution of the c. 780–730 Ma Beck Spring Dolomite: Basin Formation in the core of Rodinia. *Geological Soc., London, Special Publications,* 424, 2015.

148. Gothmann, AM, Stolarski, J, Adkins, JF, Schoene, B, Dennis, KJ, Schrag, DP, Mazur, M, and Bender, ML. Fossil corals as an archive of secular variations in seawater chemistry since the Mesozoic. *Geochim. Cosmochim. Acta,* 160, 188-208, 2015.

147. Linsley, BK, Wu, HC, Dassié, EP, and Schrag, DP. Decadal changes in South Pacific sea surface temperatures and the relationship to the Pacific decadal oscillation and upper ocean heat content. *Geophys. Res. Lett.,* 42, 2015.

146. Higgins, JA and Schrag, DP. The Mg isotopic composition of Cenozoic seawater—evidence for a link between Mg-clays, seawater Mg/Ca, and climate. *Earth Planet. Sci. Lett.,* 416, 73-81, 2015.

145. Petersen, SV and Schrag, DP. Clumped isotope measurements of small carbonate samples using a high-efficiency dual-reservoir technique. *Rapid Commun. Mass Spectrom.,* 28, 2371–2381, 2014.

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143. Creveling, JR, Johnston, DT, Poulton, SW, Kotrc, B, Maerz, C, Schrag, DP, and Knoll, AH. Phosphorus sources for phosphatic Cambrian carbonates. *GSA Bulletin,* 126(1-2), 145-163, 2014.

142. Laakso, TA and Schrag, DP. Regulation of atmospheric oxygen during the Proterozoic. *Earth Planet. Sci. Lett.,* 388, 81-91, 2014.

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140. Shoemaker, JK, Schrag, DP, Molina, MJ, and Ramanathan, V. What role for short-lived climate pollutants in mitigation policy? *Science,* 342, 1323-1324, 2013.

139. Jordaan, SM, Anadon, LD, Mielke, E, and Schrag, DP. Regional water implications of reducing oil imports with liquid transportation fuel alternatives in the United States. *Environ. Sci. Technol.,* 47, 11976-11984, 2013.

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oceans, and the first appearance of the Ediacara biota and bilaterian trace fossils in northwestern Canada. *Chem. Geol.,* 2013.

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135. Ashkenazy, Y, Gildor, H, Losch, M, Macdonald, FA, Schrag, DP, and Tziperman, E. Dynamics of a Snowball Earth ocean. *Nature,* 495, 90-93, 2013.

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131. Schrag, DP. Geobiology of the Anthropocene, in *Fundamentals of Geobiology,* edited by A Knoll, D Canfield, and K Konhauser. John Wiley & Sons, Ltd., Chichester, UK, 425-436, 2012.

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Brief of *amicus curiae* in support of the respondents. American Electric Power Company, Inc., et al., v. State of Connecticut, et al. *Supreme Court of the United States,* No. 10-174, 2011.

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113. Shoemaker, JK and Schrag, DP. Subsurface characterization of methane production and oxidation from a New Hampshire wetland. *Geobiology,* 8, 234-243, 2010.

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106. Halevy, I, Pierrehumbert, RT, and Schrag, DP. Radiative transfer in CO_2-rich paleoatmospheres. *J. Geophys. Res.–Atmospheres,* 114, 2009.

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98. Macdonald, FA, Jones, DS, and Schrag, DP. Stratigraphic and tectonic implications of a newly discovered glacial diamictite-cap carbonate couplet in southwestern Mongolia. *Geology,* 37, 123-126, 2009.

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95. Anchukaitis, KJ, Evans, MN, Wheelwright, NT, and Schrag, DP. Stable isotope chronology and climate signal calibration in neotropical montane cloud forest trees. *J. Geophys. Res.,* 113, 2008.

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