

Curriculum Vitae

John Michael Hayes, born 6 September 1940

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Research Interests

The cycling of carbon in modern and ancient environments and its relation to the development of the global environment. Molecular aspects of biogeochemistry and microbial geochemistry, specifically the distributions of the stable isotopes of carbon, hydrogen, nitrogen, oxygen and sulfur between and within organic and inorganic compounds in sediments and in organisms. The technology of isotope ratio measurements (C, H, N, O) in organic materials. Organic compounds in ground water as hydrologic tracers. Organic cosmochemistry.

Education

B.S., Chemistry, English (Honors Program) Iowa State University, Ames, Iowa, May 1962.

Ph.D., Analytical Chemistry, Massachusetts Institute of Technology, Cambridge, Massachusetts, August 1966. Research Advisor, Professor Klaus Biemann.

Postdoctoral and Professional Experience

University of California, Berkeley, Department of Integrative Biology: **Visiting Scholar, May 2009-**

Woods Hole Oceanographic Institution, Department of Geology and Geophysics: Senior Scientist, August 1996-September 2006, **Scientist Emeritus, December 2006-**; Director, National Ocean Sciences Accelerator Mass Spectrometry Facility, August 1996-August 2005.

Harvard University, Department of Earth and Planetary Sciences: Professor of the Practice of Biogeochemistry, February 1997-January 2000. **Associate, Harvard University Center for the Environment, April 2012-**

Indiana University, Bloomington, Departments of Chemistry and of Geological Sciences: Chairperson, Geological Sciences, July 1994 - July 1996; Distinguished Professor of Biogeochemistry, April 1990 - July 1996; Professor, July 1977 - March 1990; Associate Professor, September 1974 - June 1977; Assistant Professor, January 1970 - August 1974 (adjunct appointment in Geological Sciences, 1970 - 1984; joint appointment 1984 - 1996).

Bureau of Mineral Resources, Geology, and Geophysics, Canberra, Australia: Visiting Scientist, January - June 1988.

Department of Earth and Space Sciences and Institute of Geophysics and Planetary Physics, University of California, Los Angeles: Visiting Research Geochemist, July 1979 - June 1980.

Organic Geochemistry Unit, Department of Organic Chemistry, University of Bristol, United Kingdom: NATO-NSF Postdoctoral Fellow, January - December 1969.

Chemical Evolution Branch, NASA Ames Research Center, Moffett Field, California: Research Scientist, March 1967 - December 1968 (Military Detainee, fulfilling active duty requirements as Captain, Medical Service Corps, U. S. Army).

U. S. Army: Trainee, January - March 1967.

Enrico Fermi Institute, University of Chicago, Chicago, Illinois: Postdoctoral Research Associate, October - December 1966.

Honors and Related Appointments

Fellow, American Academy of Microbiology, 2009

U. S. representative (one of three) on Scientific Advisory Structure Executive Committee (SASEC), Integrated Ocean Drilling Program, 2006-2009

Advisory Committees: School of Earth Sciences, Stanford University, 2003-2008; Department of Earth, Atmospheric, and Planetary Sciences, MIT, 2004-2009; Max Planck Institute for Marine Microbiology, 2005-2011; Research Center for Ocean Margins (chair), University of Bremen, 2005-2010.

Geochemistry Division Medal, The American Chemical Society, 2003

Goldschmidt Medal, The Geochemical Society, 2002

Fellow, American Geophysical Union, 2001

National Academy of Sciences, elected member, 1998; elected chair, Section 15 (Geology) 2006-2009

American Academy of Arts and Sciences, elected Fellow, 1998

Treibs Medal, The Geochemical Society, 1998

Urey Medal (jointly with Geoffrey Eglinton), European Association for Geochemistry, 1997

Geochemical Fellow, Geochemical Society and European Association for Geochemistry, 1996

Assoc. Dir., Earth Systems Evolution Group, Canadian Institute for Advanced Research, 1996-1998

H. Burr Steinbach Scholar, Woods Hole Oceanographic Institution, 1995

Krumbein Lecturer, University of Chicago, Northwestern Univ., Field Museum, 1995

Ingerson Lecturer (National Meeting), The Geochemical Society, 1994

Chair, Organic Geochemistry Division, Geochemical Society, 1987-1989

Fellow, John Simon Guggenheim Memorial Foundation, 1987-1988

Fellow, American Association for the Advancement of Science, 1986-

Member, publications committee, The Geochemical Society, 1983-1989, Chairman, 1984-1986

Chair, Gordon Conferences, Chemistry and Physics of Isotopes, 1983; Organic Geochemistry, 1988

Member, editorial board, *Precambrian Research*, 1977-1998; *Organic Geochemistry*, 1987-2004

Associate editor, *Geochimica et Cosmochimica Acta*, June 1971-March 1975

NSF Cooperative Graduate Fellow, M.I.T. 1964-66

Eastman Prize for outstanding graduate student in chemistry, M.I.T., 1962-4

Field Experience

Scuba diver, *C.M.A.S.* ** rating.

1976, 1977. Two short cruises, R/V *Knorr*. Gulf of Maine, North Atlantic. Collection of water samples and analyses of chlorofluoromethanes in seawater.

1979-1984. Twelve weeks geological field work: north Western Australia, biogeochemistry of stromatolitic community at Shark Bay, Proterozoic geology of Hamersley Basin and Fortescue Group, Archean geology near Marble Bar; northern Michigan, Minnesota, and Ontario, geology of Early Proterozoic sediments of the Southern and Superior Provinces; Maracaibo Basin, Venezuela, geology of Cretaceous, oil-prone sediments; South Africa, Archean sequence in Barberton Mountain Land; Early Proterozoic of Witwatersrand Basin; Early and Middle Proterozoic in northern Cape Province.

April-May, 2003. Five-week cruise to "Lost City" hydrothermal field. R/V *Atlantis, Alvin*. Collection of vent carbonates and analyses of microbial lipid biomarkers.

Professional Organizations

American Geophysical Union, Geochemical Society, European Association of Organic Geochemists

Publications

Two textbooks, four book chapters, and 203 papers on the subjects described above ("research interests").