

FULL CURRICULUM VITA

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EDUCATION

B.S. (physics)	1975	Harvey Mudd College
Ph.D. (oceanography)	1980	Massachusetts Institute of Technology/Woods Hole Oceanographic Institution Joint Program in Oceanography

OTHER QUALIFICATIONS

Chartered Statistician #1773	2003
Federal Communications Commission General Radiotelephone License (previously First Class Radiotelephone License) with Ship Radar Endorsement	1970

CONTINUING PROFESSIONAL EDUCATION

System Engineering for Project Managers, UCLA Extension	2003
Project Management Principles and Practice, UCLA Extension	2005
How to Document and Track Requirements Using DOORS	2008
Principles of System Engineering (PoSE), Raytheon Intelligence and Information Systems, Aurora, CO	2009

POSITIONS HELD

Senior Scientist	Deep Submergence Laboratory, Dept. of Applied Ocean Physics and Engineering, Woods Hole Oceanographic Institution	12/1999 to present
Senior Scientist	Dept. of Geology and Geophysics, Woods Hole Oceanographic Institution	12/1993 to 12/1999
Visiting Professor	Earthquake Research Institute, University of Tokyo	12/1998 to 1/1999
Guest Scientist	Earth and Environmental Sciences Division, Los Alamos National Laboratory	4/1983 to 1/1996
Associate Scientist with Tenure	Dept. of Geology and Geophysics, Woods Hole Oceanographic Institution	1/1992 to 12/1993
Visiting Investigator	Dept. of Geology and Geophysics, Woods Hole Oceanographic Institution	9/1991 to 1/1992
Member of the Technical Staff	Physics Research Division, AT&T Bell Laboratories	12/1986 to 10/1991
Associate Adjunct Professor	Institute of Geophysics and Planetary Physics, Scripps Institution of Oceanography	12/1986 to 12/1990
Associate Research Geophysicist	Institute of Geophysics and Planetary Physics, Scripps Institution of Oceanography	7/1985 to 12/1986
Staff Member	Earth and Space Sciences Division, Los Alamos National Laboratory	7/1985 to 7/1986
Adjunct Lecturer	Scripps Institution of Oceanography, University of California, San Diego	11/1982 to 11/1986
Assistant Research Geophysicist	Institute of Geophysics and Planetary Physics, Scripps Institution of Oceanography	1/1982 to 7/1985
Postdoctoral Research Geophysicist	Geological Research Division, Scripps Institution of Oceanography	6/1980 to 1/1982

PROFESSIONAL ACTIVITIES

National and International Service

2007 to present	System Engineer, Ocean Observing Initiative Cyberinfrastructure Implementing Organization
2004 to present	Project Scientist, Laboratory for Ocean Observatory Knowledge Integration Grid (LOOKING)
2007-2008	Expert witness for the claimant, Schlumberger vs EMGS, Patent Court, High Court of Justice, London, UK
2007-2008	Expert witness for the claimant, Schlumberger vs EMGS, Patent Court, The Hague, Netherlands
2005-2007	Member, ORION Engineering Committee
2002-2006	Observer, International Association of Geomagnetism and Aeronomy Working Group I-2 (Electromagnetic Induction in the Earth)
2003-2004	Chair, UNOLS Working Group on Ocean Observatory Facility Needs
2000-2004	Member, NEPTUNE Executive Team
2000-2004	Co-Chair, NEPTUNE System Engineering Team
1997-2004	Member (2000-2004) and Co-chair (1997-2000), Dynamics of Earth and Ocean Systems (DEOS) Steering Committee, Consortium on Ocean Research and Education
1996-2004	Member, Electromagnetic Studies of the Continents Facility Steering Committee
1992-2003	IRIS Ocean Cable Representative, International Cable Protection Committee
1990-2002	Member (1999-2002) and Chair (1990-1999), Steering Committee for Scientific Use of Undersea Cables, Incorporated Research Institution for Seismology and Joint Oceanographic Institutions
2000-2002	Member, Solid Earth Science Working Group, NASA
1997-2001	Member, Inter-Ridge Steering Committee and Chair, Working Group on Technology
1998-2000	Co-chair, Plate Scale Processes Working Group, DEOS
1993-1999	Chairman, IAGA/IASPEI/IAPSO Joint Committee on Scientific Reuse of

Submarine Cables

- 1996-1999 Member, Global Seismic Network Standing Committee, Incorporated Research Institutions for Seismology
- 1994 Member, Ad Hoc Panel on Scientific Applications of IUSS, Joint Oceanographic Institutions, July 14-15, 1994
- 1993-1994 Member, Geomagnetic Observatory Task Group, US Geodynamics Committee, National Research Council
- 1991-1994 Member, Steering Committee, Ridge InterDisciplinary Global Experiment (RIDGE)
- 1992-1994 Co-Program Element Coordinator, RIDGE Mantle Melt Experiment
- 1988-1991 Co-chair, Ad hoc Motional Electromagnetic Measurements Group, World Ocean Circulation Experiment
- 1987-1990 Member, New Jersey Sea Grant Advisory Board

Institutional Service

- 2007-2009 Member, Admissions Advisory Committee
- 2005 Chair, AOPE Department Head Search Committee
- 2004-2007 Co-Lab Head, Deep Submergence Laboratory
- 2003-2004 Steering Committee and Ocean Observing System Working Group Member, Access to the Sea Task Group
- 1998-2000 Member, Technical Staff Evaluation Council
- 1996-1997 Member, Strategic Planning Group on Access to the Sea
- 1996-1997 Member, Advisory Committee on Computing
- 1995 Member, Search Committee for Associate Director for Finance and Administration
- 1994-1995 Member, Admissions Advisory Committee

Editorial Duties

- 2002-2005 Guest Co-editor, special issue from Workshop on EM Induction, *Surveys in Geophysics*
- 2000-2002 Guest Editor, special issue on ocean observatories, *IEEE Transactions on Ocean Engineering*
- 1992-1997 Editor-in-chief, *Reviews of Geophysics*
- 1991-1992 Editor, *Reviews of Geophysics*
- 1987-1990 Associate Editor, *Journal of Geophysical Research*

Meeting Organization

- 2005-2006 Co-convenor, 4th International Workshop on the Scientific Use of Submarine Cables, Dublin, Ireland, 8-10 Feb 2006
- 2002-2003 Co-convenor, 3rd International Workshop on the Scientific Use of Submarine Cables, Tokyo, Japan, June 25-27, 2003
- 2000-2002 Co-chair, Program and Local Organizing Committees, 16th Workshop on Electromagnetic Induction, Santa Fe, NM, June 2002
- 1997-1998 Co-convenor, Long Term Monitoring of the Mid-Atlantic Ridge (MOMAR) Workshop, Interridge, Lisbon, Portugal, 28-31 Oct 1998
- 1995-1997 Chair, Program Committee, 2nd International Workshop on Scientific Use of Submarine Cables, Okinawa, Japan, Feb 25-28, 1997
- 1995-1996 Member, Program Committee, 13th Workshop on Electromagnetic Induction, Onuma, Japan, July 1996
- 1994-1995 Member, Steering Committee, International Ocean Network Workshop, Marseilles, France, 11-13 January 1995
- 1994 Co-convenor, Workshop on Technical Approaches for a Seafloor Geomagnetic Observatory, Woods Hole, MA, November 1994
- 1992-1994 Member, Program Committee, 12th Workshop on Electromagnetic Induction, Brest, France, August 1994
- 1993 Invited participant, Symposium on Coastal Oceanography and Littoral Warfare, Tactical Training Center, San Diego, 2-6 August 1993
- 1991 Invited participant and facilitator, Symposium on Naval Warfare and Coastal Oceanography, Naval Amphibious Base, Little Creek, VA, 29

April-2 May 1991

- 1990 Chair, Scientific Steering Committee, 1st Workshop on Scientific Uses of Undersea Cables, Honolulu, HI, 30 Jan-1 Feb 1990
- 1989 Chair, Steering Committee, ONR Workshop on Understanding the Oceanic Electromagnetic Environment: Status and Prospects
- 1989 Co-convenor, WOCE Workshop on Electromagnetic Measurements, Seattle, WA, 7-8 February 1989

CRUISE EXPERIENCE

<i>R/V Kairei</i>	Nov 2007	EM recovery
<i>R/V Kairei</i>	Dec 2005	EM deployments
<i>R/V Magnus Heinason</i>	Jul 2005	EM deployments
<i>R/V Roger Revelle</i>	Jun-Jul 2004	H2O servicing/Jason (chief scientist)
<i>R/V T.G. Thompson</i>	Sep-Oct 2003	H2O servicing/Jason (chief scientist)
<i>R/V Roger Revelle</i>	May 2002	Instrument recoveries (chief scientist)
<i>R/V Roger Revelle</i>	April 2001	Instrument deployments (chief scientist)
<i>R/V R.G. Sproul</i>	Sep 2000	Instrument tests (chief scientist)
<i>R/V T.G. Thompson</i>	Sep-Oct 1999	H2O servicing/Jason (chief scientist)
<i>R/V T.G. Thompson</i>	Aug-Sep 1998	H2O installation/Jason (chief scientist)
<i>R/V Atlantis</i>	Jun-Jul 1998	Alvin dives/vent light studies (chief scientist)
<i>R/V Atlantis</i>	Nov-Dec 1997	Alvin dives/vent light studies (chief scientist)
<i>R/V Melville</i>	May-Jun 1997	MELT EM recoveries (chief scientist)
<i>R/V T.G. Thompson</i>	May-Jun 1996	MELT EM deployments (co-chief scientist)
<i>R/V Atlantis II</i>	Apr 1996	Alvin dives/vent light studies(chief

		scientist)
R/V <i>Melville</i>	Mar-Apr 1995	EM deployments, Antarctic Circumpolar Current
R/V <i>R.G. Sproul</i>	Sep 1994	EM/tilt instrument tests, San Diego (chief scientist)
R/V <i>R.G. Sproul</i>	July 1994	EM/tilt instrument tests, San Diego (chief scientist)
R/V <i>Cape Hatteras</i>	Mar 1994	EM deployments, North Atlantic (chief scientist)
R/V <i>Endeavor</i>	Oct 1992	EM recoveries, North Atlantic (chief scientist)
R/V <i>Endeavor</i>	May 1992	EM deployments, North Atlantic (chief scientist)
R/V <i>Malcolm Baldrige</i>	Feb 1992	EM/pressure recoveries, Abaco area
R/V <i>Malcolm Baldrige</i>	Sep 1990	EM/pressure deployments, Abaco area
R/V <i>R.G. Sproul</i>	Jun 1990	Acoustic release testing (chief scientist)
R/V <i>Oceanus</i>	Aug 1989	Electrometer deployments, Gulf Stream
R/V <i>Le Suroit</i>	Mar-Apr 1989	EM deployments, Tahiti area
R/V <i>Thomas Washington</i>	May 1988	Big G bathymetric survey, North Pacific (co-chief scientist)
R/V <i>New Horizon</i>	Jul 1986	EM deployments, North Pacific (co-chief scientist)
R/V <i>New Horizon</i>	Sep 1983	Controlled source EM, North Pacific (co-chief scientist)
D/V <i>Glomar Challenger</i>	Jun-Jul 1980	Leg 74 paleomagnetism, Walvis Ridge
R/V <i>Atlantis II</i>	Jul 1977	Piston coring/heat flow, North Atlantic
R/V <i>Knorr</i>	Feb 1977	Heat flow, Galapagos Spreading Center
R/V <i>Alexander Agassiz</i>	Aug 1976	Magnetometer deployments, North

		Pacific
R/V <i>Moana Wave</i>	Jul-Aug 1974	Manganese nodule exploration, equatorial Pacific

EDUCATIONAL ACTIVITIES

Instructor	1997 to present	MIT 12.714, Computational Data Analysis
Postdoctoral advisor	2008 to present	Tetsuo Matsuno
Dissertation advisor	2002-2007	Anna P.M. Michel, "Laboratory evaluation of laser-induced breakdown spectroscopy (LIBS) as a new <i>in situ</i> chemical sensing technique for the deep ocean", Ph.D., MIT/WHOI Joint Program in Oceanography
Instructor	2007	Short (3 day) Course on Statistics, Dublin Institute for Advanced Studies, Ireland
Postdoctoral advisor	2001-2003	Pamela Lezaeta
Postdoctoral advisor	2002-2003	Kiyoshi Baba
Postdoctoral advisor	2001-2002	Sheri N. White
Guest student sponsor	2000	Kiyoshi Baba, Chiba University, Japan
Dissertation advisor	1994-2000	Sheri N. White, "Measurement of Ambient Light at Deep Sea Hydrothermal Vents", Ph.D., MIT/WHOI Joint Program in Oceanography
Guest student sponsor	1999	Takao Koyama, University of Tokyo
Outside examiner	1997	Katherine M. Edwards, "The application of modern statistical and numerical techniques to magnetotelluric data", Ph.D., Department of Physics, University of Queensland, Brisbane, Australia
Guest student sponsor	1995-6	Xavier Garcia, University of Barcelona, Spain
Guest investigator sponsor	1995-6	Dr. Nobukazu Seama, Chiba University, Japan

Dissertation committee member	1995	Stewart K. Sandberg, "Simultaneous modeling of transient electromagnetic and resistivity/induced polarization soundings to improve resolution in hydrogeological investigations", Ph.D., Department of Geosciences, Rutgers, The State University of New Jersey
Guest student sponsor	1995	Ikuko Fujii, Earthquake Research Institute, University of Tokyo
Chair, general examination committee	1995	Robert J. Greaves, MIT/WHOI Joint Program in Oceanography
Co-instructor (w/ Marcia McNutt)	1994-5	MIT 12.714, Computational Data Analysis
Guest student sponsor	1993-4	Ikuko Fujii, Earthquake Research Institute, University of Tokyo
Generals paper advisor and examination committee member	1993	Daniel Lizarralde, MIT/WHOI Joint Program in Oceanography
Outside examiner	1992	Ian James Chant, "Time-frequency Analysis of Magnetotelluric Signals", Ph.D., Department of Physics, University of Queensland, Brisbane, Australia
Dissertation advisor (informal)	1991	Martyn J. Unsworth, "Electromagnetic exploration of the oceanic crust with controlled sources", Ph.D., University of Cambridge
Dissertation committee member	1990	Krishnendu Ghosh, "Robust multivariate regression analysis of complex-valued data", Ph.D., Dept. of Statistics, Temple University
Dissertation committee member	1988	Scott J. Hills, "The analysis of microfossil shape: experiments using planktonic foraminifera", Ph.D., UCSD/SIO
Dissertation co-advisor	1987	Catherine Constable, "Some statistical aspects of the geomagnetic field", Ph.D., UCSD/SIO
Postdoctoral advisor	1985-6	Adam Schultz

Postdoctoral advisor (w/ C.S. Cox)	1983-5	Steven Constable
Co-instructor	1985	SIO 223, Geophysical Data Analysis
Co-instructor	1984	SIO 239, Seminar on EM Geophysics

PROFESSIONAL SOCIETIES

American Association for the Advancement of Science (M'81)

American Geophysical Union (M'76)

Institute of Electrical and Electronic Engineers (M'89, SM'02)

Royal Statistical Society (F'03)

International Council on System Engineering (M'06)

HONORS AND AWARDS

Senior Member, Institute of Electrical and Electronic Engineers (2002)

Who's Who in Science and Engineering (1992-present)

American Men and Women of Science (1988-present)

J. Robert Oppenheimer Fellowship, Los Alamos National Laboratory (1985-1986)

Ruth and Paul Fye Award for Excellence in Oceanographic Research, WHOI (1979)

NSF Graduate Fellowship (1975-1978)

Thomas Benjamin Brown Award for Research in Physics, Harvey Mudd College (1975)

Graduated with Distinction and Departmental Honors, Harvey Mudd College (1975)