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EDUCATION

- Ph.D. Massachusetts Institute of Technology, Mechanical Engineering, 1982
- S.M. Massachusetts Institute of Technology, Mechanical Engineering, 1979
- S.B. Massachusetts Institute of Technology, Mechanical Engineering, 1977

PROFESSIONAL HISTORY

- The Walter A. and Hope Noyes Smith Chair for Excellence in Oceanography, 2015-present
- Interim Director, WHOI Center for Marine Robotics, 2013-2014
- Senior Scientist, Deep Submergence Laboratory, Department of Applied Ocean Physics & Engineering, Woods Hole Oceanographic Institution, 2008-present.
- Member, Research Board, Gulf of Mexico Research Initiative, 2010-present
- Tenured Associate Scientist, Deep Submergence Laboratory, Department of Applied Ocean Physics & Engineering, Woods Hole Oceanographic Institution, 1992–2008.
- Associate Scientist, Deep Submergence Laboratory, Department of Applied Ocean Physics & Engineering, Woods Hole Oceanographic Institution, 1988-1992.
- Fellow, WHOI Earth-Ocean Exploration Institute, 2001-2004
- Adjunct Researcher, Institute for Exploration, Division of the Sea Research Foundation, 1997-present.
- Assistant Scientist, Deep Submergence Laboratory, Department of Ocean Engineering, Woods Hole Oceanographic Institution, 1984-1988.
- Visiting Investigator, Woods Hole Oceanographic Institution, Department of Ocean Engineering, 1983.
- Lecturer/Research Associate, Massachusetts Institute of Technology, Department of Mechanical Engineering, 1982-1984.
- Departmental Instructor, Massachusetts Institute of Technology, Department of Mechanical Engineering, 1979-1980.
- Research Assistant, Massachusetts Institute of Technology, Department of Mechanical Engineering, 1977-1979; 1980-1982.
- Engineering Assistant, Charles Stark Draper Laboratory, 1973-1977.

AWARDS

- Lockheed Award for Ocean Science & Engineering: Presented by the Marine Technology Society to an individual who has demonstrated the highest degree of technical accomplishment in the field of marine science, engineering or technology, Presented October 2009.
- The Walter A. and Hope Noyes Smith Chair for Excellence in Oceanography, 2015-present

PROFESSIONAL AFFILIATIONS

Pi Tau Sigma
Marine Technology Society
IEEE Oceanic Engineering Society
American Geophysical Union

RESEARCH INTERESTS

Robotics, applying principles of automation to remotely operated and autonomous underwater vehicles to add capability and ease of use; design of vehicles including the Medea/Jason remotely operated vehicle system and Sentry autonomous underwater vehicle; precise control, navigation and positioning; robotics for mid-water science.

PROFESSIONAL ACTIVITIES

- Gulf of Mexico Research Initiative (GoMRI) Research Board member 2011-present
- WHOI Marine Ops Committee, 2016-present
- Member of WHOI SciSec, 2007-2009
- Topic chair, Oceans 2007, MTS/IEEE
- WHOI Scientific Staff Committee, 2005-2007
- WHOI Retirement Task Force, 2006
- International Federation of Automatic Control (IFAC) Technical Committee on Marine Systems
- IEEE Robotics and Automation Society, Technical Committee on Underwater Robotics
- Deep Submergence Operations Group Reorganization
- Deep Submergence Advisory Committee (DSAC)
- National Research Council, Committee on Undersea Vehicles and National Needs
- Regional Editor, Mechatronics, 1990-2000
- Member, IEEE Oceanic Society Administrative Committee
- Member, NSF Submersible Science Study Committee
- Member, WHOI Search Committee for AOPE Department Chairman, 1991
- Member, WHOI Computers and Communications Committee, 1991
- Member, WHOI Seagoing Facilities Committee, 1989-1990
- Member, WHOI Search Committee for Institution Director, 1988

TEACHING ACTIVITIES

Advisor or co-advisor for MIT-WHOI Joint Program Students:

Nastasia Winey	(entered program 6/2017)
Brooks Reed	Ph.D. (12/2014)
M. Jordan Stanway	Ph.D. (11/2011)
Harold Jensen	S.M. (5/2009)
Cara LaPointe	Ph.D. (04/2009)
Michael Jakuba	Ph.D. (12/2006)
Edward Snow	Ph.D. (04/1999)
Philip LeBas	O.E. (08/1997)
Eric Burian	S.M. (07/1996)
Helen Huang	O.E. (07/1995)
Michael Hajosy	S.M. (08/1994)
Chris Willy	S.M. (08/1994)

Todd Morrison	S.M.	(06/1993)
Franz Hover	Ph.D.	(05/1992)
Thomas Woodford	S.M.	(09/1991)
Hagen Schempf	Ph.D.	(08/1990)
John Cooke	O.E.	(09/1989)
Dave Dipietro	S.M.	(12/1988)
David Delonga	Ph.D.	(11/1988)
Greg Vaughn	O.E.	(09/1988)
Fred Thwaites	S.M.	(05/1986)

OCEANOGRAPHIC CRUISES

- 2017 Sentry, Roc Hits Cruise, Costa Rica, RV Atlantis
- 2016 Sentry, 8 20N (Siqueiros) Seamounts, RV Atlantis
- 2016 Sentry, El Faro Voyage Data Recorder search, RV Atlantis
- 2015 Sentry/Jason, Axial Seamount, Sentry Expedition Leader, RV Thomas G. Thompson
- 2015 Sentry/Jason, Havre Volcano mapping, Sentry Expedition Leader, RV Roger Revelle
- 2014 Sentry, Iron Eaters of Loihi cruise, RV Falkor, Hawaii, Sentry Expedition Leader.
- 2014 Sentry/Alvin, Acid Horizon, Seep mapping, Gulf of Mexico, Sentry Expedition Leader, RV Atlantis
- 2013 Sentry, Seeps 2013, Seep mapping and sampling Southern California, RV Atlantis
- 2013 Sentry, Methane Seeps Gulf of Mexico, mission programming, data analysis, E/V Nautilus
- 2013 Sentry, Development of detachment faults at intermediate magma supply, mission programming, data analysis, R/V Knorr, Sentry Expedition Leader
- 2012 Sentry, natural seep survey on the Blake Ridge, data analysis, science and student liason, R/V Okeanos Explorer (remote participant)
- 2012 Sentry/Tow Cam hydrothermal exploration to the Chile Triple Junction, mission programming, data analysis, R/V Melville, Sentry Expedition Leader
- 2011 Sentry/Jason exploration of natural oil and gas seeps, Southern California, AUV mission programming, data analysis, R/V Atlantis, Sentry Expedition Leader
- 2011 Nereus testing for DARPA DSOP program, R/V Atlantic Explorer
- 2011 Sentry/TowCam survey of deep coral habitats near the Deep Water Horizon Oil Spill, AUV mission programming, data analysis, R/V McArthur II, Sentry Expedition Leader
- 2011 Kermadec Arc, Expedition leader, AUV mission programming, data analysis
- 2010 Sentry/Alvin survey of deep coral habitats near the Deep Water Horizon Oil Spill, Expedition leader, AUV mission programming, data analysis, R/V Atlantis
- 2010 Sentry/ Jason, Regional Scale Observatory Mapping Cruise, Expedition Leader/mission programming/data analysis; Juan de Fuca Ridge, R/V *Thomas G. Thompson*,
- 2010 Sentry, Gulf of Mexico, Rapid Response to Deep Horizon oil spill, R/V *Endeavor*,
- 2010 Sentry/ Alvin, Galapagos, R/V *Atlantis*
- 2010 ABE, Chile Triple Junction, R/V *Melville*
- 2009 Nereus Mid_Cayman Rise, AUV mission programming, navigation, data analysis, RV *Cape Hatteras*,
- 2009 Sentry/ Alvin Santa Barbara and Santa Monica Basins, AUV mission programming, data analysis, RV *Atlantis*,
- 2009 Sentry, Gulf of Mexico, AUV mission programming, data analysis, mapping, RV *Brooks McCall*,
- 2009 Nereus, Challenger Deep, Marianas Trench, Navigation, data systems, RV *Kilo Moana*,
- 2008 ABE, Hydrothermal vent exploration, AUV Team Leader/mission programming/data analysis; East Pacific Rise 2°S, R/V *Da Yang Yi Hao*,
- 2008 Sentry, Regional Scale Observatory Mapping Cruise, Expedition Leader/mission

programming/data analysis; Juan de Fuca Ridge, R/V *Thomas G. Thompson*,
2008 Sentry, Test cruise, Expedition Leader/mission programming/data analysis, R/V *Oceanus*
2008 ABE, mapping deep sea corals, Tasmanian Seamounts, AUV Team Leader/mission
programming/data analysis; R/V *Southern Surveyor*
2007 ABE, mapped Brothers Volcano and created first map of a submarine arc volcano; AUV Team
Leader/mission programming/data analysis; FS *Sonne*
2007 ABE, discovery and photography of first hydrothermal vents on Southwest Indian Ridge; AUV
Team Leader/mission programming/data analysis; R/V *Dayang Yihao*
2006 ABE/Jason2, Hydrothermal exploration and mapping, Manus Ridge, R/V *Melville*
2006 ABE/ROV Quest, Hydrothermal exploration, Southern Mid Atlantic Ridge, R/V *Meteor*
2006 Sentry deep water trials, Bermuda, R/V *Atlantis*
2005 ABE/HROV fiber optic cable trials, R/V *New Horizon*
2005 ABE/Jason2 Cable route and observatory node site survey, Juan de Fuca Ridge,
R/V *Thompson*
2005 ABE Hydrothermal vent field discovery, Southern Mid Atlantic Ridge,
RRS *Charles Darwin*
2004 ABE Hydrothermal vent discovery, Eastern Lau Spreading Center, RV *Kilo Moana*
2004 ABE Hydrothermal vent mapping, Juan de Fuca Ridge, R/V *Atlantis*
2003 Expedition2003, archaeological excavation, Black Sea, R/V *Knorr*
2003 ABE/SM2000/Photomosaicking, New England Seamounts, R/V *Atlantis*
2003 ABE/SM2000 Lost City mapping and exploration, R/V *Atlantis*
2002 Jason2 Sea Trials, Astoria Oregon, R/V *Atlantis*
2002 ABE and SM2000, Explorer Ridge, R/V *Thomas G. Thompson*
2002 ABE, Galapagos Rift, R/V *Atlantis*
2002 ABE/Alvin, Central Anomaly Magnetic High #2, 9° North EPR, R/V *Atlantis*
2001 ABE/DSL120A, Central Anomaly Magnetic High, 9° North EPR, R/V *Atlantis*
2001 Alvin/DSL120A test cruise, Bermuda, R/V *Atlantis*
2000 ABE cruise, FLOW MOW 2000, hydrothermal vent mapping, R/V *Thompson*
2000 ALGRAV 2000, DSV Alvin, gravity measurements at 9° North EPR, R/V *Atlantis*
1999 Hawaii 2 Observatory repairs (H2O), navigation watchstander, R/V *Thompson*
1999 SE Mediterranean Sea, deep water archeology with Jason, R/V *Northern Horizon*
1999 Southern East Pacific Rise, autonomous geophysical mapping with ABE, R/V *Atlantis*
1998 Hawaii 2 Observatory (H2O), navigation watchstander, power system analysis, R/V *Thompson*
1998 Jason IX Guaymas, fine scale mapping and sampling, Chief Scientist, R/V *Atlantis*
1998 AOSN Labrador Sea, Automatic control for homing and docking, R/V *Knorr*
1997 Edifice Rex, Juan de Fuca Ridge, Three dimensional mapping and imaging
of hydrothermal vent structures, , R/V *Atlantis*
1997 Skerki Bank, Tyrennian Sea, Head of Ocean Engineering, mapping and excavation of deep water
shipwreck sites, SVSS *Carolyn Chouest*
1997 Jason/Medea, DSL120, Argo II, Survey of the M/V Derbyshire, Japan, R/V *Thompson*
1996 ABE and Jason Lava Flow Mapping, Juan de Fuca Ridge, R/V *Thompson*
1996 Odyssey AUV Docking Trials, Buzzards Bay, MA
1996 Jason Project VII, Florida Keys Marine Sanctuary, SVSS *Carolyn Chouest*
1995 ABE Deep Water Engineering Trial, Blanco Escarpment, R/V *Atlantis II*
1995 ABE Lava Flow Mapping Cruise, Juan de Fuca Ridge, R/V *Atlantis II*
1994 Deep Testing of ABE, Precise Sampling with Alvin, R/V *Atlantis II*
1993 Jason IV, Guaymas Basin, DSVSS *Laney Chouest*
1993 ARSRP with Jason and DSL-120, R/V *Knorr*
1993 Lusitania, with Jason, R/V *Northern Horizon*
1991 Crest Project, JASON, Juan De Fuca, DSVSS *Laney Chouest*
1991 Deepwater Dumpsite 106, JASON, R/V *Betty Chouest*

- 1990 Bangor Survey, JASON & AMS120, DSVSS *Laney Chouest*
- 1990 JASON Project - *Hamilton/Scourge*, Lake Ontario
- 1989 JASON Project – Mediterranean Sea, *Star Hercules*
- 1989 Deepwater JASON Tests, Bermuda Rise
- 1989 Bangor Survey using JASON & AMS120, DSVSS *Laney Chouest*
- 1988 DP/Cable Dynamics, Mediterranean Sea, R/V *Knorr*
- 1988 Bangor Survey using JASON, R/V *McGaw*
- 1987 ARGO Engineering Cruise, Tongue of the Ocean, Bahamas, M/V *Seacon*
- 1987 DP Test Cruise, Site D (39°W 70°N), R/V *Knorr*
- 1985 Titanic Discovery Cruise, ARGO & ANGUS, R/V *Knorr*
- 1984 ARGO Test Cruise, RV *Knorr*

REFEREED PUBLICATIONS

- [1] Yoerger, D.R. and J.-J.E. Slotine, Robust Trajectory Control of Underwater Vehicles, IEEE Journal of Oceanic Engineering, Vol. OE-10, No. 4, pp. 462-470, October 1985.
- [2] Yoerger, D.R., J.B. Newman, and J.-J.E. Slotine, Supervisory Control System for the JASON ROV, IEEE Journal of Oceanic Engineering, Vol. OE-11, No. 3, pp. 392-400, July 1986.
- [3] Yoerger, D.R. and J.-J.E. Slotine, Task Resolved Motion Control of Vehicle-Manipulator Systems, International Journal of Robotics and Automation, Vol. 2, No. 3, pp. 144-151, 1987.
- [4] Slotine, J.-J.E. and D.R. Yoerger, A Rule-Based Inverse Kinematics Algorithm for Redundant Manipulators, International Journal of Robotics and Automation, Vol. 2, No. 2, pp. 86-89, 1987.
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- [7] Grosenbaugh, M.A., D.R. Yoerger, F.S. Hover, and M.S. Triantafyllou, Drag Forces and Flow-Induced Vibrations of a Long Vertical Tow Cable-Part II: Unsteady Towing Conditions, ASME Journal of Offshore Mechanics and Arctic Engineering, Vol. 113, pp. 199-204, August 1991.
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- [15] Whitcomb, L.L. and D.R. Yoerger, Preliminary Experiments in Model-Based Thruster Control for Underwater Vehicle Positioning, IEEE Journal of Oceanic Engineering, Vol. 24, No. 4, pp. 495-506, October 1999.
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