

BRIAN THOMAS GLAZER

ADDRESS

University of Hawaii (UH)
Department of Oceanography
205 Marine Science Building
1000 Pope Rd.
Honolulu, HI 96822

(808) 956-6658 phone
(808) 956-9225 fax
glazer@hawaii.edu
@glazer

http://www.soest.hawaii.edu/oceanography/glazer/Brian_T._Glazer/Home.html

RESEARCH, TEACHING, AND SERVICE INTERESTS

The long-term vision that drives my research, teaching, and service is to develop an understanding of the synergy between geochemical processes and biological diversity and function. In pursuit of this over-arching goal, I have also made it a high priority to minimize sampling artifacts for measuring many biologically important chemical species in the environment through further development of in situ measurement techniques and instrumentation. Working toward these objectives requires creative and interdisciplinary collaboration with international experts in a variety of subdisciplines, provides a host of diverse research opportunities in exciting and undersampled environments, and results in high-quality peer-reviewed publications spanning aspects of aquatic chemistry, chemical oceanography, sedimentary geochemistry, hydrothermal microbiology, chemosynthetic biochemistry, ocean observing technology, and solid-state sensor development; it's great fun!

EDUCATION

- 2004 University of Delaware, Marine Studies, Ph.D.
Dissertation Advisor: George W. Luther III, Ph.D.
Dissertation: *The oxic-anoxic interface: synergy between geochemistry and microbial ecology.*
- 2000 University of Delaware, Marine Studies, M.S.
Thesis Advisor: Kent S. Price, Ph.D.
Thesis: *Analysis of physical, chemical, and biological factors inhibiting growth and restoration of submerged vascular plants in Delaware's Indian River and Rehoboth Bays.*
- 1997 Pennsylvania State University, Biology, B.S., & Marine Science Minor

PROFESSIONAL HISTORY

- 2011-present UH Oceanography, Associate Professor, Regular Graduate Faculty, *Full*
- 2007-present UH Ocean and Resources Engineering, Cooperating Graduate Faculty
- 2008-2011 UH Oceanography, Assistant Professor, Regular Graduate Faculty, *Full*
- 2006-2007 UH Oceanography, Assistant Professor, Regular Graduate Faculty, *Associate*
- 2004-2006 UH NASA Astrobiology Institute, Postdoctoral Fellow
- 1997-2004 DE Center for the Inland Bays (EPA NEP), Technical Consultant
- 1997-2004 University of Delaware, Graduate Research Assistant
- 1997 Pennsylvania State University, Undergraduate Research Assistant

FELLOWSHIPS AND AWARDS

- 2012-2013 Hanse-Wissenschaftskolleg Institute for Advanced Study Sabbatical Fellowship, Delmenhorst, Germany, University of Bremen host institution
- 2009 Consortium for Ocean Leadership U.S. Science Support Program Travel Award, Integrated Ocean Drilling Program *INVEST Conference*
- 2008 University of Hawaii University Research Council *Faculty Travel Fund Award*
- 2004-2006 University of Hawaii NASA Astrobiology Institute Postdoctoral Fellowship
- 2004 University of Delaware Graduate College of Marine Studies *E. Sam Fitz Award*, in recognition of student displaying greatest aptitude for professional development in marine studies
- 2002 Delaware Sea Grant student award in recognition of research excellence
- 1999 Thomas H. Hinkle Award for exemplary research involving Delaware's Inland Bays

RESEARCH

CITATION INDEX (*Google Scholar report of 39 peer-reviewed articles since 2001*):

	All	Since 2013
Citations	2111	1023
h-index	23	19
i10-index	30	25

PUBLICATIONS

Currently in revision:

- (2) Fogaren, K, Hannides, AK, **Glazer, BT**, Sansone, FJ. Fine-scale spatial variability of nutrients in nearshore rippled permeable sediments. *In revision, Estuarine, Coastal and Shelf Science*.
- (1) Clague, DA, Paduan, JB, Caress, DW, Moyer, CL, **Glazer, BT**, Yoerger, DR. Structure and lava flow morphology on Loihi Seamount from High-resolution mapping. *submitted, Frontiers of Geoscience*.

Published:

- (39) Rouxel, O, Toner, B, Germain, Y, **Glazer, BT**. (2018) Geochemistry and iron isotopic insights into hydrothermal iron oxyhydroxide deposit formation at Loihi Seamount. *Geochimica Cosmochimica Acta*, 220:449-482, doi:10.1016/j.gca.2017.09.050.
- (38) Tully, BJ, Wheat, CG, **Glazer, BT**, Huber, JA. (2018) A dynamic microbial community with high functional redundancy inhabits the cold, oxic seafloor aquifer. *The ISME Journal*, 12(1):1-16, doi:10.1038/ismej.2017.187. Epub 2017 Nov 3.
- (37) Fassbender, AJ, et al. (*with 73 coauthors*) (2017) Perspectives on chemical oceanography in the 21st century: participants of the COME ABOARD meeting examine aspects of the field in the context of 40 years of DISCO. *Marine Chemistry*, 196:181-190.
- (36) Proemse, BC, Murray, AE, Schallenberg, C, McKiernan, B, **Glazer, BT**, Ostrom, N, Bowie, A, Wieser, ME, Kenig, F, Doran, P, Edwards, R. Iron redox cycling in a sub-glacial lake in Antarctica. *Biogeochemistry Letters*, DOI 10.1007/s10533-017-0346-5.
- (35) Scott, JJ, **Glazer, BT**, Emerson, D. (2016) Bringing microbial diversity into focus: high-resolution analysis of iron mats from the Loihi Seamount. *Environmental Microbiology*, 19(1):301-316, doi:10.1111/1462-2920.13607.
- (34) Chan, CS, McAllister, SM, Leavitt, AH, **Glazer, BT**, Krepski, ST, Emerson, D. (2016) The architecture of iron microbial mats reflects the adaptation of chemolithotrophic iron oxidation in freshwater and marine environments. *Frontiers in Microbiology*, 7:796. doi:10.3389/fmicb.201600796.
- (33) Meyer, JL, Jaekel, U, **Glazer, BT**, Wheat, CG, Hulme, SM, Girguis, PR, Huber, JA. (2016) A distinct and active bacterial community in cold oxygenated fluids circulating beneath Mid-Atlantic seafloor. *Scientific Reports*, 6, Article #:22541, doi:10.1038/srep22541.
- (32) Escoube, R, Rouxel, O, Edwards, K, **Glazer, BT**, Donard, OXF. (2015) Coupled Ge/Si and Ge isotope ratios as geochemical tracers of seafloor hydrothermal systems: A case study at Loihi Seamount and EPR 9-10°N. *Geochimica et Cosmochimica Acta*, 167: 93-112.
- (31) Jungbluth, SP, Lin, HT, Cowen, JP, **Glazer, BT**, Rappe, MS. (2014) Phylogenetic diversity of microorganisms in seafloor crustal fluids from Holes 1025C and 1026B along the Juan de Fuca Ridge flank. *Frontiers in Microbiology*, 5: 119; doi: 10.3389/fmicb.2014.00119.
- (30) Fram, JP, Pawlak, GR, Sansone, FJ, **Glazer, BT**, Hannides, AK. (2014) Miniature thermistor chain for determining surficial sediment porewater advection. *Limnology & Oceanography: Methods*, 12: 155-165.
- (29) Hannides, AK, **Glazer, BT**, Sansone, FJ. (2014) Extraction and quantification of microphytobenthic pigments within calcareous reef sands. *Limnology & Oceanography: Methods*, 12: 126-138.
- (28) Briggs, R, Ricardo, A, Ruttenberg, K, **Glazer, BT**. (2013) Constraining sources of organic matter to tropical coastal sediments: consideration of nontraditional end-members. *Aquatic Geochemistry*, 19: (5-6):543-563.

- (27) Orcutt, BN, LaRowe, DE, Biddle, JF, Colwell, FS, **Glazer, BT**, Reese, BK, Kirkpatrick, JB, Lapham, LL, Mills, HJ, Sylvan, JB, Wankel, SD, Wheat, CG. (2013) Microbial activity in the deep marine biosphere: progress and prospects. *Frontiers In Microbiology*, doi: 10.3389/fmicb.2013.00189.
- (26) Cowen, J.P., Copson, D., Jolly, J., Hsieh, C.-C., Matsumoto, R., **Glazer, B.T.** et al. (2012) Advanced instrument system for real-time and time-series microbial geochemical sampling of the deep (basaltic) crustal biosphere., *Deep-Sea Research I*, 61: 43-56.
- (25) Wheat CG, Jannasch, HW, Kastner, M, Hulme, S, Cowen, J, Edwards, KJ, Orcutt, B, **Glazer, B.** (2011) Fluid sampling from oceanic borehole observatories: designs and methods for CORK activities (1990-2010). *IODP Exp.327 Reports*, MS 327-109, doi:10.2204/iodp.proc.327.109.2011.
- (24) Edwards, KJ, **Glazer, BT**, Rouxel, O, Bach, W., Emerson, D, Davis, RE, Toner, B, Chan, C , Tebo, BM, Staudigel, H., Moyer, CL. (2011) Ultra-diffuse hydrothermal venting supports Fe-oxidizing bacteria and massive unbrackish water deposition at 5000m off Hawaii. *The ISME Journal*, doi:10.1038/ismej.2011.48.
- (23) **Glazer, BT** and Rouxel, OJ. (2009) Redox speciation and distribution within diverse iron-dominated microbial habitats at Loihi Seamount. *Geomicrobiology Journal*, 26:8, 606-622.
- (22) Gaidos, E, Marteinsson, V, Thorsteinn, T, Johannesson, T, Rafnsson, AR, Stefansson, A, **Glazer, BT**, Lanoil, B, Skidmore, M, Han, S, Miller, M, Rusch, A, Foo, W. (2009) An oligarchic microbial assemblage in the anoxic bottom waters of a volcanic subglacial lake. *The ISME Journal*, 3(4): 486-497.
- (21) Sansone, FJ, Pawlak, G, Stanton, T, McManus, MA, **Glazer, BT**, DeCarlo, EH, Bandet, M, Sevadjan, J., Stierhoff, K, Colgrove, C, Hebert, AB, Chen, IC. (2008) Kilo Nalu: Physical/Biogeochemical dynamics above and within permeable sediments. *Oceanography*, 21(4): 173-178.
- (20) Luther III, GW, **Glazer, BT**, Ma, S, Trouwborst, RE, Moore, TS, Metzger, E., Kraiyya, C, Waite, T, Druschel, GK, Sundby, B, Taillefert, M, Nuzzio, DB, Shank, TM, Lewis, B. (2008) Use of voltammetric solid-state (micro)electrodes for studying biogeochemical processes: laboratory measurements to real time measurements with an in situ electrochemical analyzer (ISEA). *Marine Chemistry*, 108: 221-235.
- (19) Sørensen, K, **Glazer, BT**, Hannides, A., Gaidos, E. (2007) Spatial structure of the microbial community in sandy carbonate sediments. *Marine Ecology Progress Series*, 346:61-74.
- (18) Mottl, MJ, **Glazer, BT**, Kaiser, RI, Meech, K. (2007) Water and astrobiology. *Chemie der Erde* 67: 253-282.
- (17) Gaidos, E, **Glazer, BT**, Thorsteinnsson, T, Johannessen, T, Skidmore, M, Stefansson, A, Lanoil, B, Marteinsson, V, Einarsson, B, Gislason, S, Kjartansson, V, de Camargo, L, Kristjansson, J, Miller, M, Roberts, MJ, Sigurosson, G, Sigurosson, O. (2007) A simple sampler for subglacial water bodies. *Journal of Glaciology*, 53(180):1-2.
- (16) Lewis, B., **Glazer, BT**, Montbriand, PJ, Luther III, GW, Nuzzio, DB, Ma, S, Theberge, SM. (2007) Short-term and interannual variability of redox-sensitive chemical parameters in hypoxic/anoxic bottom waters of the Chesapeake Bay. *Marine Chemistry*, 105:296-308.
- (15) Cowen, JP, Fornari, DJ, Shank, TM, Love, B, **Glazer, BT**, Treusch, A, Holmes, C, Soule, SA, Baker, ET, Tolstoy, M, and Science Party *R/V New Horizon*. (2007) Rapid response to a volcanic eruption at the East Pacific Rise Crest near 9°50'N. *EOS*, 88(7) 81-83.
- (14) Tolstoy, M, J. P. Cowen, E. T. Baker, D.J. Fornari, K.H. Rubin, T.M. Shank, F. Waldhauser, D.R. Bohnenstiehl, D.W. Forsyth, R.C. Holmes , M.R. Perfit, R.T. Weekly, **B.T. Glazer**. (2006) A Seafloor Spreading Event Captured by Seismometers: forecasting and characterizing an eruption. *Science*, 314(5807):1920-1922.
- (13) Trouwborst, RE, Clement, BG, Tebo, BM, **Glazer, BT**, Luther III, GW. (2006) Soluble Mn(III) in suboxic zones. *Science*, 313:1955-1957.
- (12) **Glazer, BT**, Luther III, GW, Konovalov, SK, Freiderich, GE, Trouwborst, RE, Romanov, AS. (2006) Spatial and temporal variability of the Black Sea suboxic zone. *Deep Sea Research II*, 53:1756-1768.
- (11) **Glazer, BT**, Luther III, GW, Konovalov, SK, Freiderich, GE, Nuzzio, DB, Trouwborst, RE, Tebo, BM, Clement, BG, Romanov, AS. (2006) Documenting the suboxic zone of the Black Sea via high-resolution real time redox profiling. *Deep Sea Research II*, 53:1740-1755.
- (10) Roden, EE, Sobolev, D, **Glazer, BT**, Luther III, GW. (2004) Potential for microscale bacterial Fe redox cycling at the aerobic-anaerobic interface. *Geomicrobiology Journal*, 21:379-391.
- (9) Luther III, GW, Ma, S, Trouwborst, RE, **Glazer, BT**, Blickley, M, Scarborough, RW, Mensinger, MG. (2004) The roles of anoxia, H₂S, and storm events in fish kills of dead end canals of Delaware Inland Bays. *Estuaries*, 27(3): 551-560.
- (8) Wommack, KE, Sundberg, A, Helton, RR, **Glazer, BT**, Cary, SC. (2004) An instrument for collecting discrete large-volume water samples. *Deep Sea Research I*, 51(11): 1781-1792.

- (7) **Glazer, BT**, Marsh, AM, Stierhoff, K, Luther III, GW. (2004) The dynamic response of optical oxygen sensors and voltammetric electrodes to temporal changes in dissolved oxygen concentrations. *Analytica Chimica Acta*, 518(93-100).
- (6) Luther III, GW, **Glazer, BT**, Ma, S, Trouwborst, R, Shultz, BR, Druschel, G, Kraiya, C. (2003) Iron and sulfur chemistry in a stratified lake: evidence for iron rich sulfide complexes. *Aquatic Geochemistry*, 9:87-110.
- (5) Konovalov, SK, Luther III, GW, Freiderich, GE, Nuzzio, DB, Tebo, BM, Murray, JW, Oguz, T, **Glazer, BT**, Clement, BG, Murray, K, Romanov, AS. (2003) Lateral injection of oxygen via mixing of water masses creates fingers of oxidizing potential in the Black Sea. *Limnology and Oceanography*, 48(6):2369-2376.
- (4) Rozan, TF, Taillefert, M Trouwborst, RE, **Glazer, BT**, Ma, Shufen, Herszage, J, Valdes, LM, Price, K, Luther III, GW. (2002) Iron-sulfur-phosphorus cycling in the sediments of a shallow coastal bay: implications for sediment nutrient release and benthic macroalgal blooms. *Limnology and Oceanography* 47(5):1346-1354.
- (3) **Glazer, BT**, Cary, SC, Hohmann, L, Luther III, GW. (2002) Sulfur speciation and microbial characterization of an intertidal salt marsh microbial mat. in *Environmental Electrochemistry: Analysis of trace element biogeochemistry*. Taillefert, M and Rozan, TF eds. American Chemical Society Symposium Series 811:283-304.
- (2) Taillefert, M, Rozan, TF, **Glazer, BT**, Herszage, J, Trouwborst, RE, Luther III, GW. (2002) Seasonal variations of soluble organic Fe(III) in sediment porewaters as revealed by voltammetric microelectrodes. in *Environmental Electrochemistry: Analysis of trace element biogeochemistry*. Taillefert, M and Rozan, TF eds. American Chemical Society Symposium Series 811: 247-264.
- (1) Luther III, GW, **Glazer, BT**, Hohmann, L, Popp, JI, Taillefert, M, Rozan, TF, Brendel, PJ, Theberge, SM, Nuzzio, DB. (2001) Sulfur speciation monitored in situ with solid-state gold amalgam voltammetric microelectrodes: polysulfides as a special case. *Journal of Environmental Monitoring*. 3: 61-66.

Conference proceedings and abstracts:

- (82) Yoon, H., **Glazer, BT**, Lio, HI, Asuncion, B, Thompson, PR. (2018) Enabling real-time tide measurements and site-specific sea level forecasting for improved resource management in the coastal zone, Ocean Sciences, Portland, OR.
- (81) **Glazer, BT**, Lio, HI. (2017) Low-cost embedded systems for democratizing ocean sensor technology in the coastal zone. AGU Fall Meeting, New Orleans, LA.
- (80) Hannides, AK, Fogaren, KE, **Glazer, BT**, Sansone, FJ. (2017) Highly abundant and well-mixed microphytobenthos in shallow subtidal calcareous reef sands. Benthic Ecology Meeting, Myrtle Beach, SC.
- (79) Clague, D, Paduan, Moyer, C, **Glazer, BT**, Caress, D, Yoerger, D, Kaiser, K. (2016) Structure and evolution of Hawaii's Loihi Seamount from high-resolution mapping. American Geophysical Union Annual Meeting, San Francisco, CA.
- (78) **Glazer, BT**, Lio, HI. (2016) Application of emerging open-source embedded systems for enabling low-cost wireless mini-observatory nodes in the coastal zone. Ocean Science Meeting, New Orleans, LA.
- (77) McAllister, SM, Polson, SW, **Glazer, BT**, Chan, CS. (2015) Using metatranscriptomics to understand the roles of Fe(II)-oxidizing microbes in marine hydrothermal vents. American Geophysical Union Annual Meeting, San Francisco, CA.
- (76) **Glazer, BT** and Lio, HI. (2015) An inexpensive, open-architecture wireless sensor platform for initiating a distributed coastal zone observing network and engaging STEM audiences. American Geophysical Union Annual Meeting, San Francisco, CA.
- (75) Fogaren, KE, Hannides, AK, Sansone, FJ, **Glazer, BT**. (2015) Fine-scale spatial variability of nutrients in nearshore permeable sediments. Chemical Oceanography Gordon Research Conference.
- (74) Rouxel, O, Bekker, A, Slack, J, **Glazer, BT**. (2015) Seafloor hydrothermal deposits: modern analogues for Precambrian iron formations. Goldschmidt Conference, Prague, Czech Republic.
- (73) Kraft, B, Wankel, SD, **Glazer, BT**, Huber, JA, Girguis, PR. (2015) Microbial nitrogen cycling in cold oceanic crustal fluids at North Pond. Goldschmidt Conference, Prague, Czech Republic.
- (72) **Glazer, BT**, Toner, BM, Sturm, A, Girguis, PR, Huber, JA. (2015) Aerobic carbon and iron interactions in subseafloor crustal fluids at North Pond IODP CORK observatories, Mid-Atlantic Ridge. Goldschmidt Conference, Prague, Czech Republic.
- (71) Williams, A, **Glazer, BT**. (2014) Optimizing solid-state sensors for analyses of microbial activity in aqueous environments. Ocean Science Meeting, Honolulu, HI.
- (70) Sturm, A, Toner, B, Girguis, P, Huber, JA, **Glazer, BT**. (2014) Aerobic and microaerophilic C-Fe-Mn interactions in subseafloor hydrothermal fluids at North Pond, Mid-Atlantic Ridge. Ocean Science Meeting, Honolulu, HI.

- (69) Hannides, A, Sansone, F, **Glazer, BT**. (2014) Microphytobenthic primary producers in calcareous sands: abundance, diversity, and function. Ocean Science Meeting, Honolulu, HI.
- (68) **Glazer, BT**, Hannides, A, Rogers, K, Sturm, A. (2014) Diversity of microbial habitats and biogeochemical processes at Loihi Seamount. Ocean Science Meeting, Honolulu, HI.
- (67) Meyer, JL, Jaekel, U, Girguis, PR, **Glazer, BT**, Huber, JA. (2013) Microbial life in cold, hydrologically active oceanic crustal fluids. American Geophysical Union Annual Meeting, San Francisco, CA.
- (66) Girguis, PR, Jaekel, U, Dittmar, T, Meyer, J, **Glazer, BT**, Huber, JA. (2013) Microbial transformations of carbon in crustal aquifer fluids at North Pond, Mid-Atlantic Ridge. American Geophysical Union Annual Meeting, San Francisco, CA.
- (65) Chan, C, McAllister, S, Leavitt, A, Emerson, D, Moyer, CL, **Glazer, BT**. (2013) Fe-oxidizing microbes are hydrothermal vent ecosystem engineers at the Loihi Seamount. American Geophysical Union Annual Meeting, San Francisco, CA.
- (64) **Glazer, BT**, Hannides, AK, Rogers, K, Sturm, A. (2013) Diversity of microbial habitats and biogeochemical processes at Loihi Seamount. CDEBI Annual Meeting, Marina, CA.
- (63) **Glazer, BT**, Sansone, FJ, Fram, JP, Pawlak, GR, Hannides, AK, Murphy, JL, Fogaren, K. (2013) In situ electrochemical techniques for discerning fluxes in surficial permeable sediments. American Chemical Society National Meeting, New Orleans, LA.
- (62) Jaekel, U, Dittmar, T, Meyer, J, Huber, J, **Glazer, BT**, Girguis, P. (2012) Transformations of organic matter in the deep biosphere at North Pond. American Geophysical Union Annual Meeting, San Francisco, CA.
- (61) Sansone, FJ, Fram, JP, **Glazer, BT**. (2012) Sediment fluxes in permeable sediments calculated from temperature-verified modeling of porewater motion combined with in situ chemical measurements. Ocean Sciences Meeting, Salt Lake City, Utah.
- (60) **Glazer, BT**. (2012) In situ electrochemistry in extreme environments: from seafloor hydrothermal vents to the deep subsurface biosphere. Ocean Sciences Meeting, Salt Lake City, Utah.
- (59) **Glazer, BT**, Matzinger, M, Cowen, J. (2011) Chemical speciation and oxidation kinetics of iron and sulfur in subseafloor basement fluids on the Juan de Fuca Ridge Flanks. American Geophysical Union Annual Meeting, San Francisco, CA.
- (58) Murray, AE, Ostrom, NE, **Glazer, BT**, McKay, CP, Kenig, F, Loffler, F, Fritsen, CH, Doran, PT. (2011) Stable isotopic signatures in Lake Vida brine reveal evidence of both abiotic and biotic processes. American Geophysical Union Annual Meeting, San Francisco, CA.
- (57) **Glazer BT**, Fram, J, Murphy, J, Fogaren, K, Sansone, F. (2011) Redox dynamics resulting from chemical and physical fluxes in surficial permeable sediments. Goldschmidt Conference Meeting, Prague, Czech Republic.
- (56) Lin, HT, Cowen, JP, Amend, J, Albert, D, **Glazer, BT**, Matzinger, M, Rappe, M, Jungbluth, Boettger, J. (2010) Organic chemistry of fluids from sediment-buried young basement: discrete sampling from ODP borehole 1301A & 1025C. American Geophysical Union Annual Meeting, San Francisco, CA.
- (55) Cowen, JP, Lin, HT, Rappe, M, Jungbluth, S, **Glazer, BT**, Matzinger, M, Amend, J, Boettger, J. (2010) Window into sediment-buried basement biosphere: fluid sampling from CORK observatory seafloor platforms, Juan de Fuca Ridge Flanks. American Geophysical Union Annual Meeting, San Francisco, CA.
- (54) **Glazer BT**, Chen IC, Matzinger M, Murphy J. (2010) Understanding the biogeochemistry of redox gradients in diverse marine environments using in situ voltammetry. American Chemical Society National Meeting. San Francisco, CA, USA.
- (53) **Glazer BT** and Chen IC. (2010) In situ redox chemistry at a cabled coastal observatory: preparing for longer-term voltammetric deployments. Ocean Sciences Meeting. Portland, Oregon, USA.
- (52) Cowen J, Lin, H, Rappe, M, Jungbluth S, **Glazer BT**, Matzinger M. (2010) New developments in the collection of high integrity fluid samples from the deep subseafloor basement (basaltic crust) aquifer for geochemical and microbial ecological studies. Ocean Sciences Meeting. Portland, Oregon, USA.
- (51) Edwards KJ and the *Juan de Fuca-North Pond CORK Team (presented by BT Glazer)*. (2010) Subsurface microbial observatories to investigate the deep ocean crust biosphere: development, testing, and future. Ocean Sciences Meeting. Portland, Oregon, USA.
- (50) Briggs RA, Ricardo A, Ruttenberg KC, **Glazer BT**. (2010) Linking source, abundance, and lability of organic matter to metabolic activity and sediment redox conditions. Ocean Sciences Meeting. Portland, Oregon, USA.
- (49) Chen IC, Murphy JL, **Glazer BT**. (2009) In situ voltammetry at a cabled observatory: techniques for studying redox cycling. Subseafloor ocean biosphere and borehole observatory science workshop. Kailua-Kona, Hawaii, USA.

- (48) Matzinger MT, **Glazer BT**, Cowen JP, Rappe MS. (2009) An in situ electrochemical analyzer for studying redox speciation in subsurface basement fluids at IODP CORK observatories. Subseafloor ocean biosphere and borehole observatory science workshop. Kailua-Kona, Hawaii, USA.
- (47) Orcutt, B, Becker, K, Cowen, J, Edwards, K, Fisher, A, Girguis, P, **Glazer, BT**, Huber, J, Nealson, K, Schrenk, M, Wheat, G. (2009) Subsurface microbial observatories to investigate the deep ocean crust biosphere— development, testing, and future. A white paper submitted to the *IODP New Ventures in Exploring Scientific Targets (INVEST)* Conference, Bremen, Germany.
- (46) Cowen, JC, Lin, HT, **Glazer, BT**, Rappe, M, Matzinger, M, Jungbluth, S, Jones, R, Olson, E, Albert, D, Amend, J. (2009) The biogeochemistry and ecology of deep sediment-buried basement biosphere: Juan de Fuca Ridge Flanks. Goldschmidt Conference, Davos, Switzerland.
- (45) **Glazer BT**, and O Rouxel. (2009) Iron cycling at an ultradiffuse seafloor hydrothermal system at the base of Loihi Seamount: a seafloor expression of the subsurface. Goldschmidt Conference, Davos, Switzerland.
- (44) **Glazer, BT**, Chen, IC. (2009) Automated voltammetric profiling across the sediment-water interface at the Kilo Nalu coastal observatory, Oahu, Hawaii. ASLO Aquatic Sciences Meeting, Nice, France.
- (43) Briggs, RA, Ruttenger, KC, **Glazer, BT**, Sulak, D. (2009) Relative bioavailability of dissolved organic phosphorus versus phosphate in Fe-rich coastal sediments. ASLO Aquatic Sciences Meeting, Nice, France.
- (42) **Glazer, BT**, Cowen, JP, Rappe, M, Matzinger, M, Ricardo, A. (2008) Real-time detection of redox species in basement fluids accessed through IODP CORK observatories. American Geophysical Union Annual Meeting, San Francisco, CA.
- (41) Cowen, JP, **Glazer, BT**, Rappe, M, Lin, HT, Matsumoto, R, Matzinger, M, Mojica, K, Nakata, L, Ricardo, A, Jungbluth, S, Albert, D, Amend, J. (2008) The biogeochemistry and ecology of deep sediment-buried basement biosphere: Juan de Fuca Ridge Flanks. American Geophysical Union Annual Meeting, San Francisco, CA.
- (40) **Glazer, BT**, Chen, IC, Briggs, RA, Ricardo, A. (2008) Biogeochemical and geomicrobial characterizations across redox gradients in diverse aquatic environments using voltammetric microelectrodes. ASLO Summer Meeting, St. John's, Newfoundland, Canada.
- (39) Chen, IC and **Glazer, BT**. (2008) Connecting an in situ electrochemical analyzer to the Kilo Nalu nearshore observatory for real-time and continuous voltammetric measurements in sandy sediments. ASLO Summer Meeting, St. John's, Newfoundland, Canada.
- (38) **Glazer, BT** and Briggs, RA. (2007) In situ chemical profiling of an extremely low-temperature hydrothermal system at Lō'ihi Seamount, Hawai'i. American Geophysical Union Annual Meeting, San Francisco, CA
- (37) **Glazer, BT**, Briggs, RA, Nuzzio, DB, Heshiki, Z, Edwards, KJ, Moyer, CL, Emerson, D, Tebo, BM, Staudigal, H. (2007) In situ redox chemistry of hydrothermal fluids at the Loihi Seamount Microbial Observatory. Goldschmidt Conference, Cologne, Germany, *Geochimica et Cosmochimica Acta* 71(15): A328 Suppl. S.
- (36) Gaidos, E, Thorsteinsson, T, Johannesson, T, Stefansson, A, **Glazer, BT**, Skidmore, M, Lanoil, B. (2007) Subglacial lakes and life at the volcano-ice interface. Volcano-Ice Interactions Workshop II, Vancouver, BC.
- (35) Cowen, JP, **Glazer, BT**, Rappe, M, Amend, J, Giovannoni, S, Kenig, F. (2007) Microbial ecology within aging (off-axis) ocean basement fluids: ODP borehole observatories. NSF Microbial Observatories/Microbial Interactions and Processes Principal Investigator's Meeting and Workshop, Washington, D.C.
- (34) Briggs, RA, Ruttenger, KC, **Glazer, BT**. (2007) Diurnal shifts in surficial oxygen in sandy and muddy sediments: impacts on benthic nutrient fluxes. ASLO Ocean Sciences Meeting, Santa Fe, NM.
- (33) Briggs, R.A., Ruttenger, K.C. and **Glazer, B.T.** (2007). *Diurnal shifts in surficial oxygen in sandy vs. muddy sediments: Impacts on benthic Iron Geochemistry*. 32nd Albert L. Tester Memorial Symposium, March 21-23, 2007, University of Hawaii at Manoa, p.19-20.
- (32) Tolstoy, M., Cowen, JP, Baker, ET, Fornari, DJ, Rubin, KH, Shank, TM, Waldhauser, F, Bohnenstiehl, DR, Forsyth, DW, Holmes, RC, Love, B, Perfit, MR, Weekly, RT, Soule, SA, **Glazer, BT**, Science Party R/V New Horizon, Science Party R/V/ Knorr. (2006) Forecasting and characterizing the recent eruption at 9deg50'N on the East Pacific Rise using Ocean Bottom Seismometers. American Geophysical Union Annual Meeting, San Francisco, CA
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- (30) Cowen, JP, **Glazer, BT**, Rappe, M, Fisher, A, Becker, K, Davis, E, Jannasch, H, Wheat, G. (2006) Methods, tools, and strategies for biogeochemical interaction studies in deep-sea chemosynthetic environments. European Geophysical Union Annual Meeting, Vienna, Austria.

- (29) Cowen, JP, **Glazer, BT**. (2006) Improved access to aging ocean basement fluids for geomicrobiology. Astrobiology Science Conference, Washington, D.C.
- (28) **Glazer, BT**, Cowen, JP, Copson, D, Harris, D, Jolly, J, Nuzzio, DB, Becker, J, Rappe, M. (2006) A seafloor instrument package for in situ geochemical measurements concurrent to in situ filtration. ASLO Ocean Sciences Meeting, Honolulu, HI.
- (27) Sørensen, KB, **Glazer, BT**, Hannides, A, Gaidos, E. (2006) The microbial community of carbonaceous marine sediment in Hawaii. ASLO Ocean Sciences Meeting, Honolulu, HI.
- (26) Cowen, JP, **Glazer, BT**, Rappe, M, Kenig, F, Fisher, A, Copson, D, Harris, D, Jolly, J, Nuzzio, D. (2005) Improved access to aging ocean basement biosphere for microbial geochemical studies. American Geophysical Union Annual Meeting, San Francisco, CA.
- (25) Cowen, JP, Taylor, C, **Glazer, BT**. (2005) Toward qualitative improvements in access to aging ocean basement biosphere. 2005 International Ocean Research Conference, Paris, France.
- (24) **Glazer, BT**, Luther, GW, Trouwborst, RE, Tebo, BM, Konovalov, SK, Romanov, A. (2005) Relationship between the dynamics of lateral oxygen injection and Mn/S redox chemistry in the oxic-anoxic transition of the Black Sea water column. International Ocean Research Conference, Paris, France.
- (23) Trouwborst, RE, Druschel, GK, Kraiya, C, **Glazer, BT**, Howard, R, Tebo, BM, Webb, SM, Lewis, BL, Luther III, GW. (2005) Soluble Mn(III) complexes: reductants/oxidants in the Black Sea and Chesapeake Bay suboxic zones. International Ocean Research Conference, Paris, France.
- (22) **Glazer, BT** (2005) The oxic-anoxic interface: synergy between geochemistry and microbial ecology. Dissertations Symposium on Chemical Oceanography (DISCO XIX), Waikoloa, Hawaii.
- (21) **Glazer, BT**, Cowen, J. (2005) Combining in situ voltammetry and molecular biology to characterize geomicrobial synergy within diverse aquatic redox gradients. NASA Astrobiology Institute Biennial Meeting, Boulder, CO.
- (20) Brown, MV, Boal, AK, **Glazer, BT**, Binsted, K, Gaidos, E. (2005) Molecular level interactions between organisms and environment. NASA Astrobiology Institute Biennial Meeting, Boulder, CO.
- (19) **Glazer, BT**, Luther III, GW, Coyne, KJ, Cary, SC. (2005) In situ voltammetry as a tool to aid microbial community composition and metabolic analyses of a microbial mat. ASLO Ocean Sciences Meeting, Salt Lake City, UT.
- (18) Moore, TS; Waite, TJ; Kraiya, C; Tsang, J; Janzen, CP; Luther, GW, Nuzzio, DM; **Glazer, BT**; Shank, TM (2005) Development of an in situ electrochemical analyzer (ISEA) for deep-sea hydrothermal vent work. ASLO Ocean Sciences Meeting, Salt Lake City, UT.
- (17) Luther III, GW, Nuzzio, DB, Taillefert, M, **Glazer, BT**. (2005) Exploring the chemistry of diverse marine environments using in situ voltammetry. American Chemical Society Meeting, San Francisco, CA.
- (16) Cowen, JP, Giovannoni, S, Kenig, F, Taylor, C, Rappe, M, **Glazer, BT**. (2004) Microbial activity within sediment-buried ocean basement. Dark Energy: The deep oceanic biosphere workshop, Woods Hole, MA.
- (15) Druschel, G, Emerson, D, **Glazer, BT**, Kraiya, C, Sutka, R, Luther III, GW. (2004) Environmental limits of the circumneutral iron-oxidizing bacterial isolate ES-1: Field, culture, and kinetic results from voltammetric analyses. Goldschmidt Conference, Copenhagen, Denmark, *Geochimica et Cosmochimica Acta* 68(11): A387 Suppl. S
- (14) **Glazer BT**, Luther III, GW, Freiderich, GE, Konovalov, S, Trouwborst, RE, Druschel, G, Kraiya, C, Romanov, A. (2004) Temporal and spatial variability of the Black Sea suboxic zone. ASLO Ocean Research Conference, Honolulu, HI.
- (13) Freiderich, GE, Uysal, T, Tugrul, S, Luther III, GW, **Glazer, BT**, Murray, JW. (2004) Inorganic carbon between the surface and the anoxic zone of the Black Sea. ASLO Ocean Research Conference, Honolulu, HI.
- (12) Luther III, GW, **Glazer, BT**, Nuzzio, DB, Theberge, SM, Lewis, BL. (2004) In situ voltammetry: a solid-state sensor for monitoring estuarine redox dynamics. ASLO Ocean Research Conference, Honolulu, HI.
- (11) Kraiya, C, Ma, S, Trouwborst, RE, **Glazer, BT**, Luther III, GW. (2004) Voltammetric studies of dissolved oxygen and sulfur on gold, gold-amalgam, and bismuth-on-gold electrodes. ASLO Ocean Research Conference, Honolulu, HI.
- (10) Clement, BG, Tebo, BM, Kraiya, C, **Glazer, BT**, Luther III, GW. (2004) Oxygen is the oxidant of Mn(II) in the Black Sea suboxic layer. ASLO Ocean Research Conference, Honolulu, HI.
- (9) Trouwborst, RE, Druschel, GK, Kraiya, C, **Glazer, BT**, Howard, R, Webb, SM, Tebo, BM, Lewis, BL, Luther III, GW. (2004) Soluble Mn(III) complexes present in suboxic regions of the Black Sea and Chesapeake Bay. ASLO Ocean Research Conference, Honolulu, HI.

- (8) Luther III, GW, **Glazer, BT**, Trouwborst, RE, Ma, S, Druschel, GK, Kraiya, C, Shank, T, Nuzzio, DB. (2004) In situ electrochemical analyzer (iSEA) monitors chemical redox parameters in diverse marine environments. Ocean Research Interactive Observatory Networks (ORION) Workshop, San Juan, Puerto Rico.
- (7) **Glazer, BT**, Cary, SC, Luther III, GW. (2003) Diurnal characterization of chemical and microbial components in a Mid-Atlantic salt marsh microbial mat. ASLO Ocean Sciences Meeting, Salt Lake City, Utah.
- (6) Luther III, GW, **Glazer, BT**, Konovalov, SK, Freiderich, GE, Nuzzio, DB, Trouwborst, RE, Romanov, AS. (2003) In situ voltammetry as a tool to study the redox chemistry of the Black Sea interface. Proceedings of the 2nd international conference on the Eastern Mediterranean and Black Seas, Ankara, Turkey.
- (5) **Glazer, BT**, Cary, SC, Hohmann, L, Luther III, GW. (2002) In situ sulfur speciation using Au/Hg microelectrodes as an aid to microbial characterization of an intertidal salt marsh microbial mat. ASLO Ocean Sciences, Honolulu, HI.
- (4) Luther III, GW, **Glazer, BT**, Freiderich, GE, Konovalov, SK, Romanov, A, Trouwborst, R, Nuzzio, DB. (2001) In situ voltammetric detection of oxygen and sulfur species in the western Black Sea. Chemical Oceanography Gordon Research Conference, Tilton, NH.
- (3) Price, K.P. and **B.T. Glazer**, Data analysis for the development of nutrient criteria for estuaries in Delaware. 2001, Department of Natural Resources and Environmental Control: Dover, DE.
- (2) Taillefert, MT, Rozan, TF, **Glazer, BT**, Herszage, J, Trouwborst, RE, Luther, GW (2000) Seasonal variations of soluble Fe(III) in sediment porewaters as revealed by voltammetric microelectrodes. American Chemical Society Meeting, Washington, DC.
- (1) **Glazer, BT**, Price, KS. (1999) Epiphytic accumulation on *Zostera marina* transplanted to Delaware's coastal bays, Benthic Ecology Meeting, Baton Rouge, LA.

RESEARCH SUPPORT (\$5,944,133 since 2004)

Pending research support (none currently pending):

Current research support (\$1,505,122):

- (4) Title: Oceanographic Technological Innovations and Solutions
Lead PI: Brian T. Glazer (UH)
coPI: none
Source of Funds: *Posner Family Foundation*
Project Location: UH
Total Award Amount: \$50,000
Proposed Start/End Dates: 1/1/2018 to 12/31/2018
Person-months committed to the project: 1 mo/yr.
- (3) Title: SMART Ala Wai: Strategic Monitoring and Resilience Training in the Ala Wai Watershed
Lead PI: Brian T. Glazer (UH)
coPI: 20 faculty from 8 departments at UHM
Source of Funds: *University of Hawaii at Manoa Strategic Initiative*
Project Location: UH
Total Award Amount: \$600,000
Proposed Start/End Dates: 12/1/2017 to 6/30/2019
Person-months committed to the project: 1 mo/yr.
- (2) Title: Adapting emergent embedded systems, mesh network telemetry, and 3D printing for low-cost water level sensors to measure tides and coastal flooding
Lead PI: Brian T. Glazer (UH)
coPI: none
Source of Funds: *Schmidt Marine Technology Partners*
Project Location: UH
Total Award Amount: \$150,000 to UH
Proposed Start/End Dates: 1/1/2018 to 7/30/2019
Person-months committed to the project: 1 mo/yr.
- (1) Title: Democratizing access to ocean observing technology with emerging low-cost embedded systems
Lead PI: Brian T. Glazer (UH)
coPI: none
Source of Funds: *NSF, OCE-Ocean Technology and Interdisciplinary Coordination*
Project Location: UH
Total Award Amount: \$780,234 to UH
Proposed Start/End Dates: 7/1/2017 to 6/30/2020 (award documents being finalized as of 8/30/17)
Person-months committed to the project: 2 mo/yr.

Past research support (\$4,439,011):

- (21) Title: Adapting emergent embedded systems, mesh network telemetry, and 3D printing for low-cost water level sensors to measure tides and coastal flooding
Lead PI: Brian T. Glazer (UH)
coPI: none
Source of Funds: *Schmidt Marine Technology Partners*
Project Location: UH
Total Award Amount: \$74,888 to UH
Proposed Start/End Dates: 7/1/2017 to 6/30/2018
Person-months committed to the project: 1 mo/yr.
- (20) Title: Public participation in STEM Research (PPSR): Blending cultural and environmental resilience with contemporary technology: cutting-edge environmental sensor workshop for loko I'a
Lead PI: Brian T. Glazer (UH)
coPI: none

Source of Funds: *NSF, OCE-Ocean Technology and Interdisciplinary Coordination*

Project Location: UH

Total Award Amount: \$49,941 to UH

Proposed Start/End Dates: 7/1/2017 to 6/30/2018

Person-months committed to the project: 0.25 mo/yr.

- (19) Title: Development and deployment of distributed mini-observatory nodes to couple STEM training with coastal biogeochemistry.
Lead PI: Brian T. Glazer (UH)
coPI: none
Source of Funds: *NSF, OCE, OTIC*
Project Location: UH
Total Award Amount: \$296,983 to UH
Proposed Start/End Dates: 8/1/2015 to 7/31/2017
Person-months committed to the project: 2 mo/yr.
- (18) Title: Biogeochemical monitoring of the impacts of invasive mangrove removal and potential El Nino effects on He'eia Fishpond
Lead PI: Brian T. Glazer (UH)
coPI: Kathleen Ruttenberg (UH)
Source of Funds: *NOAA Sea Grant*
Project Location: UH
Total Award Amount: \$9,957
Start/End Dates: 9/15/2014 to 8/31/2015
Person-months committed to the project: 0.5 mo/yr.
- (17) Title: Collaborative Research: Characterization of microbial transformations in basement fluids, from genes to geochemical cycling
lead PI: Julie Huber (Marine Biological Lab)
coPIs: Brian T. Glazer (UH), Peter Girguis (Harvard)
Source of Funds: *NSF, OCE Biological Oceanography*
Project Location: MBL, UH, Harvard
Total Award Amount: \$379,137 to UH
Start/End Dates: 06/01/2011 to 5/31/2015
Person-months committed to the project: 1 mo/yr.
- (16) Title: Identifying C-Fe-Mn interactions within suspended particulates in hydrothermal basement fluids.
PI: Brian T. Glazer (UH)
coPI: none
Source of Funds: *Alfred P. Sloan Foundation, Deep Carbon Observatory*
Project Location: UH
Total Award Amount: \$15,022
Start/End Dates: 6/1/2014 to 11/30/2014
Person-months committed to the project: 1 mo/yr.
- (15) Title: Upgrade of an in situ electrochemical analyzer (ISEA)
PI: Brian T. Glazer (UH)
coPI: none
Source of Funds: *NSF, OCE, OTIC*
Project Location: UH
Total Award Amount: \$69,603
Start/End Dates: 9/1/2013 to 8/31/2014
Person-months committed to the project: 1 mo/yr.
- (14) Title: Dynamics of redox transformation and porewater transport in surficial permeable sediments
PI: Brian T. Glazer (UH)

coPI: Frank Sansone (UH)
Source of Funds: NSF *Chemical Oceanography*
Project Location: UH
Total Award Amount: \$682,071
Start/End Dates: 09/01/2010 to 8/31/2014

- (13) Title: Impact of invasive mangrove removal on He`eia Fishpond biogeochemistry
PI: Kathleen Ruttenberg (UH)
coPI: Brian T. Glazer (UH)
Source of Funds: NOAA Seagrant
Project Location: UH
Total Award Amount: \$60,000
Start/End Dates: 2/1/2012 to 1/31/2014
Person-months committed to the project: 1 mo/yr.
- (12) Title: Chemical sensor development for microbially-relevant scales of space, time, and concentration
PI: Brian T. Glazer (UH)
coPI: none
Source of Funds: Center for Dark Energy Biosphere Investigations (NSF STC) *via USC*
Project Location: UH
Total Award Amount: \$50,000
Start/End Dates: 6/1/2011 to 10/30/2013
Person-months committed to the project: 1 mo/yr.
- (11) Title: The role of bottom sediments in nutrient cycling in He`eia Fishpond, II
PI: Kathleen C. Ruttenberg (UH)
coPI: Brian T. Glazer (UH), Carrie Holl (HPU), Margaret Anne McManus (UH)
Source of Funds: NOAA *University of Hawaii Sea Grant College Program*
Project Location: UH
Total Award Amount: \$179,955
Anticipated Start/End Dates: 02/01/2009 to 01/31/2012
Person-months committed to the project: 0.5 mo/yr.
- (10) Title: Microbial ecology of ocean basement aquifers: ODP Borehole Observatories
PI: James P. Cowen, (UH)
coPI: Brian T. Glazer (UH) Michael S. Rappe (UH), Jan P. Amend (WUSTL)
Source of Funds: NSF *MCB 06-04014*
Project Location: UH
Total Award Amount: \$1,204,355 to UH
Anticipated Start/End Dates: 3/1/2007 to 2/28/2012
Person-months committed to the project: 1.5 mo/yr.
- (9) Title: Collaborative Research: High resolution bacterial mat sampler for operation with deep submergence vehicles
PI: Chip Breier (WHOI)
coPI: Dave Emerson (Bigelow), Brian T. Glazer (UH)
Source of Funds: NSF *Ocean Technology and Interdisciplinary Coordination*
Project Location: WHOI
Total Award Amount: \$416,422; \$8,696 *subcontract to Glazer*
Start/End Dates: 10/01/2009 to 9/30/2011
- (8) Title: North Pond Deep Subseafloor Microbial Biosphere, Phase II
PI: Brian T. Glazer (UH)
coPI: none
Source of Funds: Gordon and Betty Moore Foundation *via USC*
Project Location: UH

Total Award Amount: \$219,000
Start/End Dates: 06/01/2008 to 5/30/2011

- (7) Title: In situ electrochemical profiling of Lake Vida, East Antarctica
PI: Brian T. Glazer (UH)
coPI: none
Source of Funds: NASA Astrobiology Institute, *Director's Discretionary Fund*
Project Location: UH
Total Award Amount: \$24,830
Start/End Dates: 10/01/2010 to 9/30/2011
- (6) Title: Workshop on the Subseafloor Ocean Biosphere and Borehole Observatory Science
PI: Jan Amend (WUSTL)
coPIs: James P. Cowen (UH), Andy Fisher (UCSC), Brian T. Glazer (UH)
Source of Funds: Consortium for Ocean Leadership *US Science Support Program*
Project Location: WUSTL
Total Award Amount: \$40,000
Start/End Dates: 09/01/2009 to 11/30/2009
- (5) Title: In situ voltammetry integrated with a cabled nearshore observatory
PI: Brian T. Glazer (UH)
coPI: Kim Binsted (UH)
Source of Funds: NSF *OCE 06-48637*
Project Location: UH
Total Award Amount: \$250,464
Start/End Dates: 05/01/2007 to 08/31/2009
- (4) Title: The role of bottom sediments in nutrient cycling in He'eia Fishpond
PI: Kathleen C. Ruttenberg (UH)
coPIs: Brian T. Glazer (UH), Margaret Anne McManus (UH)
Source of Funds: NOAA *University of Hawaii Sea Grant College Program*
Project Location: UH
Total Award Amount: \$89,218
Anticipated Start/End Dates: 02/01/2007 to 01/31/2009
- (3) Title: In situ voltammetric profiling of iron-oxidizing microbial mats at Loihi Seamount
PI: Brian T. Glazer (UH)
coPI: none
Source of Funds: NSF *MCB 06-53265 via USC*
Project Location: subaward to UH
Total Award Amount: \$19,707
Start/End Dates: 09/01/2007 to 08/31/2008
- (2) Title: Integrated geochemical and microbial characterization of ridge-flank basement fluids
PI: James P. Cowen, (UH)
coPI: Brian T. Glazer (UH)
Source of Funds: NOAA *Ocean Exploration*
Project Location: UH
Total Award Amount: \$151,458
Start/End Dates: 1/1/2005 to 12/31/2005
- (1) Title: Integrated characterization of microbial communities associated with aquatic redox gradients
PI: Brian T. Glazer (UH)
coPI: none
Source of Funds: NASA *University of Hawaii Astrobiology Institute Postdoctoral Fellowship*
Project Location: UH

Total Award Amount: \$156,000
Start/End Dates: 7/1/2004 to 6/30/2006

Unfunded proposals:

- (24) Title: Utilizing emergent, affordable, open-source electronics for expanding access to coastal monitoring capability.
PI: Brian T. Glazer (UH)
coPI: none
Source of Funds: *NOAA, IOOS, Ocean Technology Transition Project*
Project Location: UH
Total Award Amount: \$1,430,657 to UH
Proposed Start/End Dates: 10/1/2017 to 9/30/2020
Person-months committed to the project: 2 mo/yr.
- (23) Title: Characterization of the sources and interactions of reactive nitrogen in the North Pacific Ocean.
PIs: M. Hastings (Brown Univ.), Brian T. Glazer (UH)
Source of Funds: *NSF, OCE, Chemical Oceanography*
Project Location: UH
Total Award Amount: \$97,919 to UH
Proposed Start/End Dates: 9/1/2017 to 8/31/2020
Person-months committed to the project: 0.5 mo/yr.
- (22) Title: EAGER:MAKER: Engaging environmental science students and coastal communities with DIY embedded systems, mesh network telemetry, and 3D printing.
Lead PI: Brian T. Glazer (UH)
coPI: none
Source of Funds: *NSF, Engineering*
Project Location: UH
Total Award Amount: \$291,910 to UH
Proposed Start/End Dates: 6/1/2017 to 5/31/2019
Person-months committed to the project: 2 mo/yr.
- (21) Title: COLLABORATIVE RESEARCH: Hydrothermoelectric power generation running novel sensor systems for transformative deep-sea science.
Lead PI: Beth Orcutt (Bigelow)
CoPIs: Brian T. Glazer (UH), Andrew Fisher (UCSC), Keith Scidmore (Maritime Applied Physics Corp.)
Source of Funds: *NSF, OCE, OTIC*
Project Location: UH
Total Award Amount: \$1,888,737 (\$497,382 to UH)
Proposed Start/End Dates: 8/1/2015 to 7/31/2017
Person-months committed to the project: 2 mo/yr.
- (20) Title: Establishing a regional ahupua`a biogeochemical network: Blending cultural and environmental resilience with contemporary research and technology sciences through open-source ideas and data.
Lead PI: Brian T. Glazer (UH)
coPIs: Kathleen Ruttenberg, James Potemra, Michael Guidry, Ruth Gates
Source of Funds: *NOAA, NOS, Regional Coastal Resilience Grants Program*
Project Location: UH
Total Award Amount: \$999,467 to UH, plus \$513,997 non-Federal match
Proposed Start/End Dates: 12/1/2015 to 11/30/2018
Person-months committed to the project: 2 mo/yr.
- (19) Title: Collaborative Research: Leveraging genomics and in situ experiments to enable discovery of cryptic microbial activity in deep oceanic crust.
Lead PI: Beth N. Orcutt (Bigelow)
coPIs: Michael Rappé, Brian T. Glazer (UH)

Source of Funds: NSF, *OCE*, *BIO*
Project Location: UH
Total Award Amount: \$831,281 to UH
Start/End Dates: 10/1/2015 to 9/30/2018
Person-months committed to the project: 2 mo/yr.

- (18) Title: Development and distribution of a mini thermistor chain instrument as a proxy for measuring coastal porewater fluxes
PI: Brian Glazer (UH)
coPI: Francis Sansone (UH)
Source of Funds: NSF, *OCE*, *OTIC*.
Project Location: UH
Total Award Amount: \$768,438
Requested Start/End Dates: 9/1/2014 to 8/31/2017
Person-months committed to the project: 1 mo/yr.
- (17) Title: Carbon and nutrient remineralization and associated porewater fluxes in nearshore permeable sediments
PI: Francis Sansone (UH)
coPI: Brian Glazer (UH)
Source of Funds: NSF, *OCE*, *Chem. Oc.*
Project Location: UH
Total Award Amount: \$627,883
Requested Start/End Dates: 9/1/2014 to 8/31/2017
Person-months committed to the project: 1 mo/yr.
- (16) Title: Collaborative Research: The changes in composition of organically stabilized Fe during hydrothermal plume dispersal into the deep ocean
PI: Brandy Toner (Univ. Minnesota)
coPIs: Brian Glazer (UH), John Breier (WHOI)
Source of Funds: NSF, *OCE*, *Chem. Oc.*
Project Location: UH
Total Award Amount: \$709,175 (\$168,285 to UH)
Requested Start/End Dates: 8/1/2014 to 7/31/2016
Person-months committed to the project: 1 mo/yr.
- (15) Title: Geochemical Kinetics and Bioenergetic Constraints on Microbial Competition in Massive Iron Deposits
PI: Brian T. Glazer (UH)
coPI: none
Source of Funds: NSF, *OCE*, *MGG*
Project Location: UH
Total Award Amount: \$373,987
Requested Start/End Dates: 9/1/2013 to 8/31/2016
Person-months committed to the project: 1 mo/yr.
- (14) Title: Collaborative Proposal: Connecting CORK 1362A to NEPTUNE-Canada Cabled Network for Deep Biosphere Studies
PI: James P. Cowen (UH)
CoPIs: Brian T. Glazer (UH), Mike Rappe (UH), Peter Girguis (Harvard)
Source of Funds: NSF, *OCE*, *ODP*
Project Location: UH
Total Award Amount: \$702,089
Requested Start/End Dates: 9/1/2013 to 8/31/2016
Person-months committed to the project: 1 mo/yr.
- (13) Title: Microscale ecology and functional diversity of permeable sediments
PI: Brian T. Glazer (UH)

Source of Funds: NSF, *OCE, Chemical Oceanography*
Project Location: UH
Total Award Amount: \$281,151
Requested Start/End Dates: 9/1/2013 to 8/31/2015
Person-months committed to the project: 0.5 mo/yr

- (12) Title: Impact of redox oscillations on coupled phosphorus-iron cycling in marine sediments
PI: Kathleen Ruttenberg (UH)
coPI: Brian T. Glazer (UH),
Source of Funds: NSF *Chemical Oceanography*
Project Location: UH
Total Award Amount: \$659,642
Requested Start/End Dates: 1/1/2012 to 12/31/2015
Person-months committed to the project: 1 mo/yr.
- (11) Title: Collaborative Research: Origin, evolution and significance of massive microbial iron deposits at the base of Loihi Seamount
PI: Brian T. Glazer (UH)
coPI: Katrina Edwards (USC)
Source of Funds: NSF *OCE MGG*
Project Location: UH
Total Award Amount: \$268,209 to Glazer
Requested Start/End Dates: 01/01/2011 to 12/31/2014
Person-months committed to the project: 0.5 mo/yr.
- (10) Title: Instrumentation and software advancements for integrating in situ redox chemistry with cabled observatories
PI: Brian T. Glazer
coPI: Kimberly Binsted (UH)
Source of Funds: NSF *Ocean Technology and Interdisciplinary Coordination*
Project Location: UH
Total Award Amount: \$596,425
Requested Start/End Dates: 08/01/2009 to 07/30/2011
Person-months committed to the project: 1 mo/yr.
- (9) Title: Redox variability in the suboxic zone of permeable sediments
PI: Brian T. Glazer (UH)
coPIs: Francis Sansone (UH), Kathleen Ruttenberg (UH)
Source of Funds: NSF *Chemical Oceanography*
Project Location: UH
Total Award Amount: \$644,923
Requested Start/End Dates: 08/01/2009 to 07/30/2012
Person-months committed to the project: 0.5 mo/yr.
- (8) Title: Submarine groundwater discharge into He'eia Fishpond, Oahu: Impact on nutrient and trace metal cycling and ecological implications
PI: Kathleen Ruttenberg (UH)
coPIs: Brian T. Glazer (UH), M. McManus (UH)
Source of Funds: USGS *WRR*
Project Location: UH
Total Award Amount: \$175,002
Requested Start/End Dates: 09/01/2009 to 08/31/2012
Person-months committed to the project: 1 mo/yr.
- (7) Title: Collaborative Research: Origin, evolution and significance of massive microbial iron deposits at the base of Loihi Seamount

lead PI: Olivier Rouxel (WHOI)
coPIs: Brian T. Glazer (UH), Katrina Edwards (USC)
Source of Funds: NSF *OCE MGG*
Project Location: UH
Total Award Amount: \$268,209 to Glazer
Requested Start/End Dates: 01/01/2009 to 12/31/2010
Person-months committed to the project: 0.5 mo/yr.

- (6) Title: Collaborative Research: The basalt-hosted biosphere at North Pond, a seafloor Mid-Atlantic ridge-flank microbial observatory
lead PI: Geoff Wheat (UA)
coPIs: Keir Becker (UM), James Cowen (UH), Katrina Edwards (USC), Andrew Fisher (UCSC), Peter Girguis (Harvard), Brian T. Glazer (UH), Julie Huber (MBL)
Source of Funds: NSF *IODP*
Project Location: UH
Total Award Amount: \$912,933 to UH
Requested Start/End Dates: 01/01/2009 to 12/31/2011
Person-months committed to the project: 0.5 mo/yr.
- (5) Title: Collaborative Research: Identifying sources, chemical speciation, and oxidation kinetics for iron delivery from Loihi Seamount
lead PI: Brian T. Glazer (UH)
coPIs: Katrina Edwards (USC), Olivier Rouxel (WHOI)
Source of Funds: NSF Chem Oc
Project Location: UH
Total Award Amount: \$650k, (\$255,709 to Glazer)
Requested Start/End Dates: 01/01/2008 to 12/31/2010
Person-months committed to the project: 0.5 mo/yr.
- (4) Title: High-resolution in situ redox profiling of mid-ocean ridge hydrothermal plumes at Juan de Fuca and Gorda Ridges
PI: James P. Cowen, (UH)
coPI: Brian T. Glazer (UH)
Source of Funds: NSF *RIDGE 2000*
Project Location: UH
Total Amount Requested: \$173,143
Requested Start/End Dates: 9/1/2006 to 8/31/2008
- (3) Title: Geomicrobiology of neutrophilic iron-oxidizing bacteria at Loihi Seamount
PI: James P. Cowen, (UH)
coPI: Brian T. Glazer (UH)
Source of Funds: NASA *Exobiology*
Project Location: UH
Total Amount Requested: \$289,386
Requested Start/End Dates: 6/1/2006 to 5/31/2009
- (2) Title: Development of in situ voltammetric sensors for geomicrobial characterization of ocean crust at borehole observatories
PI: James P. Cowen, (UH)
coPI: Brian T. Glazer (UH), Donald B. Nuzzio (Analytical Instrument Systems, Inc.)
Source of Funds: ONR
Project Location: UH
Total Amount Requested: \$839,530
Requested Start/End Dates: 1/1/2005 to 12/31/2007

- (1) Title: Incorporating high-resolution real-time redox profiling into studies of buoyant to neutrally buoyant hydrothermal plumes
PI: James P. Cowen, (UH)
coPI: Brian T. Glazer (UH)
Source of Funds: NSF *RIDGE 2000*
Project Location: UH
Total Amount Requested: \$142,904
Requested Start/End Dates: 2/1/2005 to 1/31/2007

RELEVANT FIELD EXPEDITIONS

Research cruises

- (21) July 2014 – R/V *Falkor* – AUV *Sentry*, expedition chief scientist & *Schmidt Ocean Institute* lead PI, Loihi Seamount, Hawaii.
- (20) April 2014 - R/V *Maria S. Merian* – ROV *JASON-II*, cruise participant, North Pond; H. Villinger, K. Becker co-chief scientists
- (19) March 2013 – R/V *Thompson* – ROV *JASON-II* & AUV *Sentry*, cruise participant, Loihi; C. Moyer chief scientist
- (18) April 2012 – R/V *Maria S. Merian* – ROV *JASON-II*, cruise participant, North Pond; W. Bach, K. Edwards co-chief scientists
- (17) September 2011 – R/V *Ka'imikai-o-Kanaloa* cruise participant, 1 DSV *Pisces V* dive, Loihi Seamount; Gary Goldstone (*NatGeoTV*) expedition leader
- (16) June 2011 – R/V *Atlantis* – ROV *JASON-II*, cruise participant, Juan de Fuca Ridge; A. Fisher (UCSC) chief scientist
- (15) July 2010 – R/V *Atlantis* – ROV *JASON-II*, cruise participant, Juan de Fuca Ridge; J. Cowen (UH) chief scientist
- (14) September 2008 – R/V *Thompson* – ROV *JASON-II*, cruise participant, Loihi Seamount; K. Edwards (USC) chief scientist
- (13) July 2008 – R/V *Atlantis* cruise participant, 4 DSV *Alvin* dives, Juan de Fuca Ridge; J. Cowen (UH) chief scientist
- (12) October 2007 – R/V *Kilo Moana* – ROV *JASON-II*, cruise participant, Loihi Seamount; C. Moyer (WWU) chief scientist
- (11) October 2006 – R/V *Melville* – ROV *JASON-II*, cruise participant, Loihi Seamount; K. Edwards (USC) chief scientist
- (10) May 2006 – R/V *New Horizon* cruise participant, 9°N East Pacific Rise; J. Cowen (UH) chief scientist
- (9) September 2005 – R/V *Atlantis* cruise participant, 1 DSV *Alvin* dive, Juan de Fuca Ridge; A. Fisher (UCSC) chief scientist
- (8) March 2005 – R/V *Thompson* cruise participant, Juan de Fuca Ridge/Endeavour Field; J. Cowen (UH) chief scientist
- (7) November 2003 – R/V *Atlantis* cruise participant, 3 DSV *Alvin* dives, 9°N East Pacific Rise; C. Cary (UD) chief scientist
- (6) August 2003 – R/V *Cape Henlopen* cruise participant, Chesapeake Bay; G. Luther (UD) chief scientist
- (5) April 2003 – R/V *Knorr* cruise participant, Black Sea; J. Murray (UW) chief scientist
- (4) August 2002 – R/V *Cape Henlopen* cruise participant, Chesapeake Bay; G. Luther (UD) chief scientist
- (3) October 2001 – R/V *Atlantis* cruise participant, 2 DSV *Alvin* dives, 9°N East Pacific Rise; C. Cary (UD) chief scientist
- (2) May 2001 – R/V *Knorr* cruise participant, Black Sea; G. Luther (UD) chief scientist
- (1) January 2000 – R/V *Atlantis* cruise participant, 1 DSV *Alvin* dive, Guaymas Basin; C. Cary (UD) chief scientist

Glacial and subglacial

- (2) October-December 2010 – Subglacial lake expedition participant, Lake Vida, McMurdo Dry Valleys, Antarctica; P. Doran (UI) chief scientist
- (1) June 2006 – Subglacial lake expedition participant, Vatnajökull Ice Cap, Iceland; E. Gaidos (UH) chief scientist

Coastal and inland

Extensive small boat operations and equipment deployments in inter-and sub-tidal coastal environments; Delaware Bay, Chesapeake Bay, Delaware, Maryland, and Virginia Inland Bays, Oahu, Kauai, Molokai, Maui, Hawaii 1997-present.

TEACHING AND MENTORING*formal course instruction:*

semester	course	# students	credit hrs.	instructor evaluation	role (BG %) *lead instructor
Fall 2018	OCN-401 Biogeochemical Systems	12	3	<i>tbd</i>	25%
Fall 2018	OCN-418 Advanced Environmental Monitoring Systems & Measurements	8	3	<i>tbd</i>	*100%
Spring 2018	OCN-623 Chemical Oceanography	6	3	<i>tbd</i>	*50%
Spring 2018	OCN-318 Intro Environmental Monitoring & Measurements	12	3	<i>tbd</i>	*100%
Fall 2017	OCN-418 Advanced Environmental Monitoring Systems & Measurements	12	3	<i>tbd</i>	*50%
Fall 2017	OCN-401 Biogeochemical Systems	19	3	<i>tbd</i>	25%
Spring 2017	OCN-623 Chemical Oceanography	6	3	A: 2 B: 1 C: 2	*75%
Fall 2016	OCN-418 Advanced Environmental Monitoring Systems & Measurements	8	3	A: 8	40%
Fall 2016	OCN-401 Biogeochemical Systems	17	3	A: 15 B: 2	*25%
Spring 2016	OCN-623 Chemical Oceanography	11	3	A: 3 B: 6 C: 1	*75%
Spring 2016	OCN-490 Communication of Research Results	15	2	A: 10 B: 1	50%
Fall 2015	OCN-401 Biogeochemical Systems	14	3	A: 6 B: 2 C: 1	26%

Spring 2015	OCN-623 Chemical Oceanography	8	3	A: 2 B: 2 C: 2	38%
Fall 2014	OCN-401 Biogeochemical Systems	13	3	A: 9 B: 3	19%
Spring 2014	OCN-623 Chemical Oceanography	7	3	A: 3 B: 3 F: 1	*53%
Fall 2013	OCN-637 Aquatic microbial geochemistry	8	3	A: 6 B: 2	*100%
Fall 2013	OCN-401 Biogeochemical Systems	3	3	A: 1	16%
<i>Sabbatical during Fall 2012 & Spring 2013</i>					
Spring 2012	OCN-623 Chemical Oceanography	10	3	A: 1 C: 1	*20%
Fall 2011	OCN-401 Biogeochemical Systems	6	3	A: 6	23%
Spring 2011	OCN-623 Chemical Oceanography	15	3	A: 5 B: 4 C: 2	*87%
Fall 2010	OCN-401 Biogeochemical Systems	13	3	A: 7 B: 2 C: 3 D: 1	19%
Spring 2010	OCN-623 Chemical Oceanography	15	3	A: 11 B: 3	52%
Fall 2009	OCN-643 Aquatic geomicrobiology	6	3	A: 2 B: 3 C: 1	100%
Fall 2009	OCN-401 Biogeochemical Systems	13	3	A: 9 B: 1	16%
Spring 2009	OCN-623 Chemical oceanography	13	3	A: 7 B: 5 C: 1	30%
Fall 2008	OCN-401 Biogeochemical Systems	14	3	A: 10 B: 1	26%
Fall 2008	OCN-643 Aquatic geomicrobiology	1	3	course canceled	course canceled
Spring 2008	OCN-623 Chemical oceanography	12	3	A: 4 B: 6 C: 1	33%
Fall 2007	OCN-401 Biogeochemical Systems	8	3	A: 6 C: 1	19%

Professional staff employed:

2015-present – Hou In Lio, Embedded Systems Engineer
2018-present – Cory Yap, Field Technician

Postdoctoral advising:

2011-2015 – postdoctoral advisor, Arne Sturm (UH-Oceanography), supported by Glazer NSF projects, currently technician at University of British Columbia
2011-2015 – postdoctoral advisor, Angelos Hannides (UH-Oceanography), supported by Glazer NSF project, currently tenure-track assistant professor at Coastal Carolina University
2011-2012 – postdoctoral advisor, Rebecca Briggs (UH-Oceanography), supported by Glazer CDEBI project, currently Program Officer at National Sea Grant office
2010-2011 – postdoctoral advisor, Jonathon Fram (UH Oceanography), supported by Glazer NSF project, currently assistant professor at Oregon State University, and associate systems engineer for the Ocean Observing Initiative

Graduate student and postdoctoral mentoring:

current:

2018-present – M.S. advisory committee research host/advisor, Nico Frøehberg, (University of Gothenburg, Sweden)
2018-present – M.S. advisory committee chair, Kirstin Thompson, (UH Oceanography)
2018-present – M.S. advisory committee chair, Sean Mahaffey, (UH Oceanography)
2017-present – M.S. advisory committee member, Aka Beebe, (UH Oceanography)
2017-present – Ph.D. advisory committee member, Carlo Caruso, (UH Oceanography)

past:

2017-2018 – M.S. advisory committee member, Paula Moehlenkamp, (UH Oceanography)
2011-2017 – Ph.D. advisory committee member, Kristen Fogaren (UH Oceanography), supported by Glazer-Sansone NSF project
2012-2014 – Ph.D. advisory committee member, Sean Jungbluth (UH-Oceanography), supported by Cowen-Glazer-Rappe NSF project
2011- 2012 – M.S. advisory committee member, Danielle Hull (UH Oceanography)
2010-2013 – M.S. advisory committee member, Kathryn MacDonald (UH Oceanography), supported by Ruttenberg-Glazer-McManus Sea Grant project
2009-2012 – Ph.D. advisory committee chair, Jennifer Murphy, (UH-Oceanography), supported by Glazer startup funds, Glazer-Binsted NSF project, Ruttenberg-Glazer-McManus Sea Grant project, and Oceanography Department Teaching Assistantship
2008-2012 – Ph.D. advisory committee member, Huei-Ting Lin (UH-Oceanography), supported by Cowen-Glazer-Rappe NSF project
2008-2011 – M.S. advisory committee chair, Michael Matzinger, (UH-Oceanography), supported by Cowen-Glazer-Rappe NSF project
2007-2011 – M.S. advisory committee member, Chip Young (UH-Oceanography), supported by Ruttenberg-Glazer-McManus Sea Grant project
2006-2011 - Ph.D. advisory committee member, Rebecca Briggs (UH-Oceanography), supported by Ruttenberg-Glazer-McManus Sea Grant project
2008-2010 – Academic advisory committee member, Sean Jungbluth, (UH-Oceanography), supported by Cowen-Glazer-Rappe NSF project
2007-2008 – Academic advisory committee member, Patrick Drupp (UH-Oceanography)
2007-2009 – Academic advisory committee member, Yajuan Lin (UH-Oceanography)
2007-2009 - M.S. advisory committee chair, In Chieh Chen (UH-Ocean and Resources Engineering), supported by Glazer-Binsted NSF project, successfully defended M.S. 10/2009.
2008-2009 – M.S. advisory committee member, Brian Jaress (UH-Information and Computer Sciences Department), supported by Glazer-Binsted NSF project, successfully defended M.S. 10/2009.
2005-2006 – M.S. research project coadvisor, Bryan Norman (UH-Information and Computer Sciences Department)
2005-2006 – M.S. research project coadvisor, Kayo Fujiwara (UH-Information and Computer Sciences Department)

undergraduate students advised and employed:

current:

2017-present – Haley DeTure (UH-Mechanical Engineering)
2017-present – Ben Thrun (UH-Mechanical Engineering)

2017-present – Kasey Sugano (UH-Mechanical Engineering)
2015-present – Amanda Wong (UH-Global Environmental Science)
2015-present – Eric Welch (UH-Global Environmental Science)

past:

2015-2017 – Caleb Hsu (UH-Global Environmental Science)
2013-2016 – Tiana Tran (UH-Global Environmental Science)
2011-2014 – Whitney Ko (UH-Global Environmental Science)
2011-2014 – Gavin E. Mura (UH-Global Environmental Science)
2011-2014 – Rose S. Matthews (UH-Global Environmental Science)
2011-2013 – Kelly-Rose Lariosa (UH-Global Environmental Science)
2011-2012 – Mari Okahara, laboratory assistant
2008-2012 – Julia Fiedler (UH-Global Environmental Science)
2008-2012 – Danielle Hoen (UH-Global Environmental Science)
2008-2012 – Joseph Kennedy (UH-Global Environmental Science)
2007-2011 – Sarah Yasui (UH-Global Environmental Science)
2010-2012 – Francesca Koethe, laboratory assistant
2011-2012 – Heather Mills, laboratory assistant
2007-2008 – Amanda Ricardo (UH-Global Environmental Science)
2008 – Jacqueline Miyasaki, laboratory assistant

SERVICE

UH Department of Oceanography:

- 2018-present member, Oceanography Department Outreach and Fundraising Committee
- 2018 Departmental Seminar, “Following the redox disequilibria and building ocean instruments”
- 2017-2018 chair, Oceanography Department Faculty Search Committee, Marine Geochemist
- 2017-2018 lead, Oceanography Department UHM Strategic Initiative Proposal
- 2017 member, Oceanography Department Faculty Search Committee, Biological Oceanographer
- 2017 member, Oceanography Department ad hoc Chair Exploration Committee
- 2017 Ph.D. Comprehensive Exam Committee Member, Mika Siegelman
- 2017 UH Oceanography Department Seminar, “Emergent low-cost electronics and open-source software for democratizing ocean sensor technology”
- 2016-2017 member, Oceanography Department Personnel Committee
- 2016 Ph.D. Comprehensive Exam Committee Member, Alice Vislova
- 2016 Ph.D. Comprehensive Exam Committee Member, Emily Young
- 2016 Ph.D. Comprehensive Exam Committee Member, Lindsay Benjamin
- 2014-2016 member, Oceanography Department new student recruitment committee
- 2013-2015 member, Oceanography Department teaching evaluation committee
- 2010-2012 member, ad hoc committee to propose a revised Oceanography core curriculum
- 2007-2012 chair, Marine Geology and Geochemistry Division Curriculum Committee
- 2006-2012 coordinator, Biogeochemistry Brown Bag Seminar Series
- 2011 Ph.D. Comprehensive Exam Committee Member, Rebecca Briggs
- 2011 UH Oceanography Department Seminar, “Microbial geochemistry of deep-sea hydrothermal iron”
- 2010-2011 member, ad hoc committee to review Ph.D. Qualifying and Comprehensive Examination process
- 2010 Ph.D. Qualifying Exam Committee Chair, Jennifer Murphy
- 2009 Ph.D. Qualifying Exam Committee Member, Huei-Ting (Tina) Lin, 2009
- 2008 Ph.D. Qualifying Exam Committee Member, Rebecca Briggs, 2008
- 2005 UH Oceanography Department Seminar, “Spatial and temporal variability of the Black Sea suboxic zone”, October 2005.

UH School of Ocean and Earth Science and Technology:

- 2007-present member, cooperating graduate faculty, UH Department of Ocean and Resources Engineering
- 2018 guest lecture, “SMART Ala Wai”; OCN 102, Introduction to environmental science and sustainability
- 2018 guest lecture, “Loihi Seamount”; GG 402, Hawaiian Geology
- 2017 guest lecture, “SMART Ala Wai”; OCN 102, Introduction to environmental science and sustainability
- 2017 SOEST Open House Demonstration: ‘Sensors, instruments, and chemistry in the oceans’
- 2015 SOEST Open House Demonstration: ‘Sensors, instruments, and chemistry in the oceans’
- 2007 Ocean and Resources Engineering Department Seminar, “Technology development for marine biogeochemistry and geomicrobiology”
- 2007 member, NOAA/CSC Regional IOOS UH Water quality/biogeochemistry working group

University of Hawaii:

- 2018-present Research Advisory Committee, UH Manoa Office of the Vice Chancellor for Research
- 2018 Project OTIS (Oceanographic Technological Innovations and Solutions) highlighted in Pacific Center for Advanced Technology Training innovation magazine
- 2017 Project OTIS (Oceanographic Technological Innovations and Solutions) highlighted in UH System annual research and innovation magazine, Noelo, published by the office of the Vice President for Research and Innovation
- 2016-2017 chair, Manoa Faculty Senate Committee on Administration and Budget
- 2015-2016 vice-chair, Manoa Faculty Senate Committee on Administration and Budget
- 2014-2017 SOEST-elected member, Manoa Faculty Senate; member, Committee on Administration and Budget
- 2011-2012 SOEST-elected member, Manoa Faculty Senate; member, Committee on Administration and Budget
- 2008 invited participant, “University of Hawaii Undergraduate Research and Creative Projects Honors Symposium”

- 2007 invited lecture, UH-NASA Astrobiology Institute Instructor Development Course, “Life in Extreme Environments”
- 2007 invited lecture, UH-NASA Astrobiology Institute, “In situ redox chemistry of hydrothermal fluids at the Loihi Seamount Microbial Observatory”
- 2006 invited lecture, UH-NASA Astrobiology Institute Instructor Development Course: “Extremophiles”
- 2005 invited seminar, UH-NASA Astrobiology Institute Site Visit Review Panel, “Deep Biosphere: Sediment-buried basaltic ocean crust”
- 2005 invited lecture, University of Hawaii-Hilo public *Astrotalk* series: “Deep-sea hydrothermal vents”
- 2005 invited lecture, UH Institute for Astronomy public seminar series: “The deep oceanic biosphere”
- 2004 invited lecture, UH-NASA Astrobiology Institute Instructor Development Course, “Life in Extreme Environments”

Local Community:

- 2006-present Hawaii Media Interviews: *ThinkTech Hawaii, All Things Marine, ByteMarks Café, A Word With Ward.*
- 2018 invited speaker, “Democratizing access to ocean observing technology”, All Aloha Incubator and Accelerator
- 2018 invited speaker, “Academic and entrepreneurial inspiration by blending indigenous knowledge with contemporary technology innovation”, Hawaii Future Focus: Hawaii Innovation Initiative Forum on Sustainable Agriculture, Food Security, Cybersecurity & More
- 2018 Organizer, Community Engagement Workshop III: Secondary School Place-based STEM Curriculum Development, Strategic Monitoring And Resilience Training (SMART) in the Ala Wai Watershed
- 2018 invited participant, Ocean Hack Week: community building and software development in the ocean sciences
- 2018 Organizer, Community Engagement Workshop II: Water Sampling and Ecological Assessment, Strategic Monitoring And Resilience Training (SMART) in the Ala Wai Watershed
- 2018 Organizer, Community Engagement Workshop I: Sensors and Measurements, Strategic Monitoring And Resilience Training (SMART) in the Ala Wai Watershed
- 2017 invited participant, ‘*Hālau inana grand opening*’; Kamehameha Schools Innovation and Collaboration Space.
- 2017 sole PI, lead organizer, “NSF Public Participation in STEM Research Workshop: Blending cultural and environmental resilience with contemporary technology - cutting-edge environmental sensor workshop for loko I‘a”
- 2017 invited participant, ‘*Purple Mai`a Purple Prize Kickoff Challenge*’; non-profit startup for technology education for underserved youth in Hawaii.
- 2017 invited participant, *Hawaii Venture Capital Association Annual Gala*; technological innovations at UH.
- 2016 invited participant, ‘*Be a Scientist Night*’ at The Institute for Human Services, Honolulu, HI, outreach demonstration: ‘Sensors in the Sea’
- 2015-2016 He`eia Fishpond curriculum module development with Halau Ku Mana 7th grade instructors, and outreach materials in collaboration with Paepae o He`eia
- 2008 invited key note lecture, Ho`ala School (K-12) Science Fair, “Extreme science at the seafloor”
- 1997-2004 member, Delaware’s Center for the Inland Bays (EPA National Estuary Program) Scientific and Technical Advisory Committee

National/International:

- 2017-current member, NSF Ocean Observing Initiative Facilities Board (*OOIFB*)
- 2017-current member, NSF *OOIFB* Data Dissemination and Cyber Infrastructure subcommittee
- 2016-current member, NSF-UNOLS Deep Submergence Science Steering Committee (*DeSSC*)
- 2013-current associate Editor, *Frontiers in Microbiological Chemistry*
- 2006-current reviewer: *Aquatic Geochemistry, Aquatic Microbial Ecology, G-cubed, Geobiology, Geochemical Transactions, Geochimica et Cosmochimica Acta, Geomicrobiology Journal, Journal of Geophysical Research, Limnology & Oceanography, Limnology & Oceanography: Methods*
- 2006-current reviewer and/or panelist: NOAA Ocean Exploration, NOAA SeaGrant, NOAA Undersea Research Program, NSF Chemical Oceanography, NSF Marine Geology & Geophysics, NSF Ocean

- Technology and Interdisciplinary Coordination, NSF RIDGE, Graduate Women In Science Fellowship, Schmidt Ocean Institute
- 2018 invited participant, NSF Scoping Session on Coastlines & People (CoPE), San Diego, CA
- 2018 invited participant, Schmidt Family Foundation 11th Hour Project CONNECT, San Francisco, CA
- 2018 invited seminar, Florida Atlantic University and Harbor Branch Oceanographic Institute, “Democratizing access to ocean observing technology”, Boca Raton, FL.
- 2017 invited participant, Schmidt Family Foundation 11th Hour Project CONNECT, San Francisco, CA
- 2017 invited participant, Schmidt Marine Technology Partners Annual Workshop, San Francisco, CA
- 2017 invited participant, Lamont Doherty-IODP Axial Seamount Workshop, New York, NY
- 2017 invited participant, Association for Sciences of Limnology and Oceanography (ASLO) Leadership Workshop
- 2016 invited participant, Schmidt Family Foundation 11th Hour Project CONNECT, San Francisco, CA
- 2016 invited participant, Schmidt Marine Technology Partners 1st Cohort Workshop, San Francisco, CA
- 2016 session co-convener, “Recent Advances in In-Situ Biogeochemical Instrumentation, Sensors, and Observatory Science”, Ocean Sciences Meeting, New Orleans, LA.
- 2015 invited lecture, European Consortium for Ocean Research Drilling (ECORD) Summer school, MARUM, Bremen, Germany
- 2015 invited seminar, “An exploration of the synergy between microbiology and chemistry in diverse marine environments”, Coastal Carolina University, Conway, SC
- 2010-2014 CDEBI Crustal Science Steering Committee member
- 2014 invited participant, C-DEBI Annual Meeting, Marina, CA
- 2013 invited participant, Schmidt Ocean Institute Research Symposium, Honolulu, HI
- 2013 invited participant, C-DEBI Annual Meeting, Marina, CA
- 2012 invited participant, C-DEBI Annual Meeting, Marina, CA
- 2012 invited lecture, GEOCEAN Symposium and Summer school, IFREMER, Brest, France
- 2012 invited participant, C-DEBI Activity Theme Team Workshop, Los Angeles, CA
- 2012 session co-convener, “Recent Advances in In Situ Chemical and Biological Measurements in Marine Environments”, Ocean Sciences Meeting, Salt Lake City, UT.
- 2011 invited participant, Research Coordination Network, “Subseafloor Microbiology Workshop”, UNC, Chapel Hill, NC
- 2010 invited participant, “Center for Dark Energy Biosphere Investigations (C-DEBI) Strategic Implementation Planning Meeting” NSF Science and Technology Center pre-award workshop, USC, Los Angeles, CA
- 2010 session co-convener, “Observatory science in the deep marine subsurface: exploring the deep biosphere and the subseafloor ocean”, 2010 Ocean Sciences Meeting, Portland, Oregon, February
- 2009 member, Planning Committee for Research Coordination Network Workshop, “Subseafloor Observatories and Exploration of the Deep Biosphere”, UH, Kona, HI
- 2009 invited participant, “Proposal for a Center for Dark Energy Biosphere Investigations (C-DEBI)” NSF Science and Technology Center pre-award site visit, USC, Los Angeles, CA
- 2008 invited participant, “Proposal for a Deep Biosphere Institute” workshop, USC, Catalina Island, CA
- 2006 invited lecture, Oregon Health and Science University, “In situ investigations of geomicrobial synergy within oxic-anoxic transition zones”
- 2002 organizer, “Introduction to in situ voltammetric methods for measuring redox species” instructional workshop, Atlantic Estuarine Research Society Meeting

CURRENT MEMBERSHIPS

American Geophysical Union (AGU)
Association for the Sciences of Limnology and Oceanography (ASLO)
Union of Concerned Scientists (UCS)

CURRENT CERTIFICATIONS

SCUBA Advanced Open Water Diver and Underwater Photographer, *PADI*
American Red Cross First Aid and CPR

NASBLA Boating Safety