

Dr. John A Breier

The University of Texas Rio Grande Valley
 School of Earth, Environmental, and Marine Sciences
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Education

PhD, The University of Texas at Austin, 2006

Major: Marine Science

BS, Texas A&M University - College Station, 1995

Major: Mechanical Engineering

Employment

Academic - Post-Secondary

Academic - Post-Secondary, Associate Professor, University of Texas Rio Grande Valley, (2015 - 2018)

Academic - Post-Secondary, Adjunct Scientist, Woods Hole Oceanographic Institution, (2015 - 2017)

Academic - Post-Secondary, Associate Scientist, Woods Hole Oceanographic Institution, (2012 - 2015)

Academic - Post-Secondary, Assistant Scientist, Woods Hole Oceanographic Institution, (2008 - 2012)

Academic - Post-Secondary, Research Assistant, The University of Texas at Austin, Marine Science Institute, (2001 - 2006)

Military

Military, Officer, NRL Science & Technology Unit 510, Naval Reserve, (2001 - 2003)

Military, Officer, Naval Reactors, Nuclear Power Engineer, United States Navy, (1995 - 2000)

Professional

Professional, Engineering Intern, Lockheed Martin, (1993 - 1993)

Licensures and Certifications Start

Professional Engineer, MA, Massachusetts, (July 2020)

Professional Engineer, TX, Texas Board of Professional Engineers, (July 2019)

Publications

Book Chapters

Mak Saito and John Breier and Mike Jakuba and Matt McIlvin and Dawn Moran. Envisioning a chemical metaproteomics capability for biochemical research and diagnosis of global ocean microbiomes.: *National Academies Press*. (June)

Journal Article, Academic Journal

John Breier. Sulfur cycling connects microbiomes and biogeochemistry in deep-sea hydrothermal plumes.: *The ISME Journal*. (May)

Eric Chan and Brianna Alanis and Chris German and Darlene Lim and John Breier. Oxygen and hydrogen isotopic evidence that Kama'ehuakanaloa (Lō'ihi) Seamount hydrothermal systems are recharged by deep Pacific seawater.: *Deep Sea Research I*. (April (2nd Quarter/Spring))

John Breier. Globally-distributed microbial eukaryotes exhibit endemism at deep-sea hydrothermal vents.: *Molecular Ecology*. (October (4th Quarter/Autumn))

B.D. Stewart and J.V. Sorensen and K. Wendt and J.B. Sylvan and C.R. German and K. Anantharaman and G.J. Dick and John Breier and B.M. Toner. A multi-modal approach to measuring particulate iron speciation in buoyant hydrothermal plumes.: *Chemical Geology*. (January (1st Quarter/Winter))

John Breier. Revealing ocean-scale biochemical structure with a deep-diving vertical profiling autonomous vehicle. Washington DC: *Science Robotics*. (November)

Z. Zhou and Y. Liu and J. Pan and K. Anantharaman and G. Dick and John Breier and M. Li. Gammaproteobacteria mediating utilization of methyl-, sulfur- and petroleum organic compounds in deep ocean hydrothermal plumes.: *The ISME Journal*.

Eric Chen and A. Shiller and D. Joung and E. Arrington and D. Valentine and M. Redmond and John Breier and S. Socolofsky and J. Kessler. Investigations of aerobic methane oxidation in two marine seep environments part 1: Chemical Kinetics.: *Journal of Geophysical Research – Oceans*.

Eric Chen and A. Shiller and D. Joung and E. Arrington and D. Valentine and M. Redmond and John Breier and S. Socolofsky and J. Kessler. Investigations of aerobic methane oxidation in two marine seep environments part 2: Isotopic Kinetics.: *Journal of Geophysical Research – Oceans*.

Brandi Cron and Cody Sheik and Fotios-Christos Kafantaris and Gregory Druschel and Chris German and Greg Dick and John Breier and Brandy Toner. Dynamic biogeochemistry of the particulate sulfur pool in a bouyant deep-sea hydrothermal plume.: *ACS Earth and Space Chemistry*. 4, : 168-182.

Mihai Leonte and Binbin Wang and Scot Socolofsky and S Mau and John Breier and John Kessler. Using Carbon Isotope Fractionation to Constrain the Extent of Methane Dissolution Into the Water Column Surrounding a Natural Hydrocarbon Gas Seep in the Northern Gulf of Mexico.: *Geochemistry, Geophysics, Geosystems*.

D.L. Valentine and G.B. Fisher and O. Pizarro and C.L. Kaiser and D. Yoerger and John Breier and J. Tarn. Autonomous marine robotic technology reveals an expansive benthic bacterial community relevant to regional nitrogen biogeochemistry.: *Environmental science & technology*. 50, : 11057-11065.

C.F. Breier and S.M. Pike and F. Sebesta and K. Tradd and John Breier and K.O. Buesseler. New applications of KNiFC-PAN resin for broad scale monitoring of radiocesium following the Fukushima Dai-ichi nuclear disaster.: *Journal of Radioanalytical and Nuclear Chemistry*. 307, : 2193-2200.

Binbin Wang and Scott Socolofsky and John Breier and Jeffrey Seewald. Observations of bubbles in natural seep flares at MC 118 and GC 600 using in situ quantitative imaging.: *Journal of Geophysical Research: Oceans*. 121, : 2203-2230.

Brandy Toner and Christopher German and Gregory Dick and John Breier. Deciphering the complex chemistry of deep-ocean particles using complementary synchrotron x-ray microscope and microprobe instruments.: *Accounts of chemical research*. 49, : 128-137.

Sarah Bennett and Cindy Van Dover and John Breier and Max Coleman. Effect of depth and vent fluid composition on the carbon sources at two neighboring deep-sea hydrothermal vent fields (Mid-Cayman Rise):. *Deep Sea Research Part I: Oceanographic Research Papers*.

<http://www.sciencedirect.com/science/article/pii/S0967063715001090>

Meng Li and Brett Baker and Karthik Anantharaman and Sunit Jain and John Breier and Gregory Dick. Genomic and transcriptomic evidence for scavenging of diverse organic compounds by widespread deep-sea archaea.: *Nature communications*. 6, : 8933.

Karthik Anantharaman and John Breier and Gregory Dick. Metagenomic resolution of microbial functions in deep-sea hydrothermal plumes across the Eastern Lau Spreading Center.: *ISME J*.

<http://dx.doi.org/10.1038/ismej.2015.81>

Margaret Estapa and John Breier and Christopher German. Particle dynamics in the rising plume at Piccard hydrothermal field, Mid-Cayman Rise.: *Geochemistry, Geophysics, Geosystems*. 16, : 2762-2774.

D. Reed and John Breier and H. Jiang and K. Anantharaman and C. Klausmeier and B. Toner and C. Hancock and K. Speer and A. Thurnherr and G. Dick. Predicting the response of the deep-ocean microbiome to geochemical perturbations by hydrothermal vents.: *ISME J*.

<http://www.ncbi.nlm.nih.gov/pubmed/25658053>

Annette Govindarajan and Jesús Pineda and Mike Purcell and John Breier. Species- and stage-specific barnacle larval distributions obtained from AUV sampling and genetic analysis in Buzzards Bay, Massachusetts, USA.: *Journal of Experimental Marine Biology and Ecology*. 472, : 158-165.

John Breier and C. Sheik and D. Gomez-Ibanez and R. Sayre-McCord and R. Sanger and C. Rauch and M. Coleman and S. Bennett and B. Cron and M. Li and C. German and B. Toner and G. Dick. A large volume particulate and water multi-sampler with in situ preservation for microbial and biogeochemical studies.: *Deep-Sea Research Part I- Oceanographic Research Papers*. 94, : 195-206.

[Go to ISI://WOS:000345820100015](http://www.isinet.org/WOS:000345820100015)

Meng Li and Brandy Toner and Brett Baker and John Breier and Cody Sheik and Gregory Dick. Microbial iron uptake as a mechanism for dispersing iron from deep-sea hydrothermal vents.: *Nature Communications*. 5, : 3192.

<http://dx.doi.org/10.1038/ncomms4192>

Houshuo Jiang and John Breier. Physical controls on mixing and transport within rising submarine hydrothermal plumes: A numerical simulation study.: *Deep Sea Research Part I: Oceanographic Research Papers*. 92, : 41-55.

C. Sheik and K. Anantharaman and John Breier and J. Sylvan and K. Edwards and G. Dick. Spatially resolved sampling reveals dynamic microbial communities in rising hydrothermal plumes across a back-arc basin.: *ISME J*.

<http://www.ncbi.nlm.nih.gov/pubmed/25489728>

K. Anantharaman and M. Duhaime and John Breier and K. Wendt and B. Toner and G. Dick. Sulfur oxidation genes in diverse deep-sea viruses.: *Science*. 344, : 757-60.

<http://www.ncbi.nlm.nih.gov/pubmed/24789974>

R.N. Peterson and John Breier and L.R. Harmon and J. Brusa and P.R. Hutchins. Development of a sparging chamber for field radon analysis.: *Journal of Radioanalytical and Nuclear Chemistry*. 298, : 1347-1357.

<http://dx.doi.org/10.1007/s10967-013-2589-5>

K. Anantharaman and John Breier and C. Sheik and G. Dick. Evidence for hydrogen oxidation and metabolic plasticity in widespread deep-sea sulfur-oxidizing bacteria.: *Proc Natl Acad Sci U S A*. 110, : 330-5.

<http://www.ncbi.nlm.nih.gov/pubmed/23263870>

John Breier and D. Gomez-Ibanez and E. Reddington and J. Huber and D. Emerson. A precision multi-sampler for deep-sea hydrothermal microbial mat studies.: *Deep Sea Research Part I: Oceanographic Research Papers*. 70, : 83-90.

<http://www.sciencedirect.com/science/article/pii/S0967063712002038>

James Holden and John Breier and Karyn Rogers and Mitchell Schulte and Brandy Toner. Biogeochemical processes at hydrothermal vents: microbes and minerals, bioenergetics, and carbon fluxes.: *Oceanography*. 25, : 196-208.

John Breier and B. Toner and S. Fakra and M. Marcus and S. White and A. Thurnherr and C. German. Sulfur, sulfides, oxides, and organic matter aggregated in submarine hydrothermal plumes at 9° 50' N East Pacific Rise.: *Geochimica et Cosmochimica Acta*. 88, : 216-236.

John Breier and S. White and C. German. Mineral-microbe interactions in deep-sea hydrothermal systems: a challenge for Raman spectroscopy.: *Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Sciences*. 368, : 3067-3086.

<http://rsta.royalsocietypublishing.org/content/368/1922/3067.abstract>

John Breier and C. Breier and H. Edmonds. Seasonal dynamics of dissolved Ra isotopes in the semi-arid bays of south Texas.: *Marine Chemistry*. 122, : 39-50.

[Go to ISI://WOS:000285369200005](http://www.isinet.com/000285369200005)

John Breier and C. Rauch and K. McCartney and B. Toner and S. Fakra and S. White and C. German. A suspended-particle rosette multi-sampler for discrete biogeochemical sampling in low-particle-density waters.: *Deep-Sea Research Part I: Oceanographic Research Papers*. 56, : 1579-1589.

[Go to ISI://000268611100012](http://www.isinet.com/000268611100012)

John Breier and C. German and S. White. Mineral phase analysis of deep-sea hydrothermal particulates by a Raman spectroscopy expert algorithm: Toward autonomous in situ experimentation and exploration.: *Geochemistry Geophysics Geosystems*. 10, : Q05T05.

[Go to ISI://000266098700001](http://www.isinet.com/000266098700001)

J.A. Breier and N. Nidzicko and S. Monismith and W. Moore and A. Paytan. Tidally regulated chemical fluxes across the sediment—water interface in Elkhorn Slough, California: Evidence from a coupled geochemical and hydrodynamic approach.: *Limnology and Oceanography*. 54, : 1964-1980.

John Breier and H.N. Edmonds. High Ra-226 and Ra-288 activities in Nueces Bay, Texas indicate large submarine saline discharges.: *Marine chemistry*. 103, : 131-145.

John Breier and C. Breier and H. Edmonds. Detecting submarine groundwater discharge with synoptic surveys of sediment resistivity, radium, and salinity.: *Geophysical Research Letters*. 32,

[Go to ISI://WOS:000234292300008](http://www.isinet.com/000234292300008)

Conference Proceedings

M. Jakuba and John Breier and D. Gomez-Ibanez and K. Tradd and M. Saito. Clio: An Autonomous Vertical Sampling Vehicle for Global Ocean Biogeochemical Mapping.: *2018 IEEE/OES Autonomous Underwater Vehicle Workshop (AUV)*. (June): 1-8.

Dana Yoerger and M. Curran and J. Fuji and C. German and D. Gomez-Ibanez and A. Govindarajan and J. Howland and J. Llopiz and P. Wiebe and B. Hobson and K. Katijia and M. Risi and B. Robinson and C. Wilkinson and S. Rock and John Breier. Mesobot: An Autonomous Underwater Vehicle for Tracking and Sampling Midwater Targets.: *2018 IEEE/OES Autonomous Underwater Vehicle Workshop (AUV)*. (June)

John Breier and C Rauch and C German. A suspended particle rosette sampler for investigating hydrothermal plumes. Vancouver, Canada

Media Contributions

Internet

www.forbes.com (July 29, 2017)

Contracts, Grants and Sponsored Research

David W Hicks and Alejandro Fierro-Cabo and Carlos E Cintra and John A Breier and Owen Frederick Temby and Erin Elizabeth Easton. Grant NOAA Cooperative Science Center for Coastal and Marine Ecosystems - II NOAA Federal , 4379639\$ (September 2021 - August 2026)

Hudson Robert Deyoe and John A Breier. Contract Texas Water Development Board State , 107900\$ (August 2023 - February 2025)

John Breier. Grant Collaborative Research: Underexplored Connections between Nitrogen and Trace Metal Cycling in Oxygen Minimum Zones Mediated by Metalloenzyme Inventories National Science Foundation Federal , 308612\$ (October 2019 - September 2022)

David W Hicks and Alejandro Fierro-Cabo and Carlos E Cintra and John A Breier and Owen Frederick Temby. Grant NOAA Center for Coastal and Marine Ecosystems NOAA Federal , 2975000\$ (July 2016 - August 2022)

John A. Breier. Grant Collaborative Research: Hydrothermal Estuaries: What Sets the Hydrothermal Flux of Fe and Mn to the Oceans? National Science Foundation , 299820\$ (April 2019 - April 2022)

John A Breier. Grant An Observational Study of Ship Channel and Shallow Bay Interactions and their Influence on Sediment Transport, Mixing, and Water Quality in Corpus Christi Bay TAMCC/TCEQ , 149919\$ (December 2021 - January 2022)

John Breier. Contract Center for Chemical Currencies of a Microbial Planet NSF/WHOI Federal , 185000\$ (January 2020 - October 2021)

John Arthur Breier. Grant Collaborative Research: High resolution nitrogen transformation processes at the Bermuda Atlantic Timeseries National Science Foundation Federal , 370078\$ (December 2016 - December 2019)

John Arthur Breier. Grant Mesobot: a robot for investigating the ocean interior National Science Foundation Federal , 185296\$ (December 2016 - December 2019)

John Arthur Breier. Grant Systematic underwater biogeochemical science and exploration analog NASA/AMES Federal , 233875\$ (December 2016 - December 2019)

John Breier. Grant Establishing a harmful algal bloom and plankton community composition observing time-series in the Lower Laguna Madre at Brazos Santiago Pass US State Wildlife Grant program Federal , 246689\$ (September 2017 - August 2019)

John Arthur Breier. Grant An autonomous vertical sampling vehicle for global ocean biogeochemical mapping National Science Foundation Federal , 244199\$ (December 2012 - December 2018)

John Breier and David Hicks and Hudson R DeYoe. Grant Developing a Predictive Ecological Model for the Lower Laguna Madre: Forecasting Ecosystem Shifts and Changes in Key Ecological Indicators Texas One Gulf- Center of Excellence Federal , 191372\$ (March 2016 - May 2018)

John A Breier and Richard J Kline and David W Hicks. Grant A Wave Glider for studies of biofouling and ocean productivity Department of Defense HBCU/MI Instrumentation Federal , 452029\$ (October 2015 - May 2017)

Awards and Honors

Scholarship/Research

WHOI Deep Ocean Exploration Institute Fellowship. Woods Hole Oceanographic Institution (2011)

NSF RIDGE 2000 Postdoctoral Fellowship. National Science Foundation (2006)

E.J. Lund Fellowship in Marine Science. The University of Texas at Austin (2004)

Environmental Science Institute Summer Research Fellowship. The University of Texas (2002)

Presentations

Cohen and Krinos and Alexander and Kellogg and Chmiel and Moran and McIlvin and Lopez and John A Breier and Jakuba and Johnson and Saito."Comparing microeukaryote metatranscriptomes and metaproteomes captured using an autonomous underwater vehicle,".2023 ASLO Meeting, (February2023)

Natalia Moore and John A Breier."A custom in-situ sensor network to examine primary productivity dynamics in coastal ecosystems".2022 Fall AGU Meeting, (December2022)

John A Breier and Jakuba and German and Saito."Global ocean biogeochemical mapping enabled by autonomous sampling vehicles".AGU Ocean Sciences, AGU, Honolulu/remote.2022)

Natalia Cohen and Krinos and Alexander and Kellogg and Chmiel and Moran and McIlvin and Lopez and John A Breier and Jakuba and Johnson and Saito."Metabolic profiles and ecological roles of diverse protists across a coastal-offshore biogeochemical gradient in the North Atlantic Ocean".AGU Ocean Sciences, AGU, Honolulu/remote.2022)

John A Breier and Jakuba and Saito."Advancing ocean biogeochemical science with robotic sampling vehicles and tools".Woods Hole 2022 C-COMP Workshop, NSF, Woods Hole, MA. (September2022)

Natalia Moore and John A Breier."Developing in situ sensor networks to investigate primary productivity in seagrass ecosystems through patterns of dissolved oxygen: a test bed for adaptive sampling strategies in marine". Woods Hole 2022 C-COMP Workshop, NSF, Woods Hole, MA. (September2022)

Natalia Moore and John A Breier."Developing ad hoc in-situ sensor networks to investigate changes in primary productivity in seagrass ecosystems through observations in patterns of dissolved oxygen".2022 AGU Ocean Sciences, (February2022)

John Breier."Revealing ocean-scale biochemical structure through robotic oceanography".Texas A&M University Corpus Christit, Corpus Christi. (July 26, 2021)

Eric Chan and John Breier and Chris German and J. Huber and S. Kobs-Nawotniak and Shannon Kobs-Nowatniak and Shock and Raineault and Hauer and Krasnosky and Sylva and Hu and Smith and Milesi and Lim."Going the last kilometer: Overcoming challenges to discovering life-supporting gradients on Ocean Worlds".AGU Ocean Sciences, American Geophysical Union, (February2020)

M. Jakuba and John Breier and Mak Saito and R. Johnson."Clio: Toward routine operations for a fast vertical profiling vehicle designed for global ocean biogeochemical mapping".AGU Ocean Sciences Meeting, American Geophysical Union, San Diego, California. (February2020)

C. Medley and John Breier and M. Jakuba and E. Chan and R. Johnson and Q. Montgomery and P. Lopez and M. Saito."Comparison of HPLC derived phytoplankton pigments from autonomously collected samples and CTD methods to evaluate the integration of autonomous vehicles as platforms for enhancing ocean time-series programs".AGU Ocean Sciences Meeting, American Geophysical Union, San Diego, California. (February2020)

Mak Saito and Mathew McIlvin and Eric Chan and Dawn Moran and B. Searle and N. Cohen and M. Kellog and R. Chmiel and P. Lopez and F. Pacheco and Z. Anderson and R. Johnson and M. Jakuba and John Breier."Gradients in functional capabilities in the Sargasso Sea as determined by metaproteomes collected by the biogeochemical AUV Clio".AGU Ocean Sciences Meeting, American Geophysical Union, San Diego, California. (February2020)

Amy Smith and Brianna Alanis and John Breier and Eric Chen and Chris German and Shannon Kobs Nowatniak."Lo'ihl Seamount: a window to ocean worlds".Astrobiology Science Conference, Blue Marble, SETI, ELSI, Bellevue, Washington. (June2019)

Mak Saito and Mathew McIlvin and Dawn Moran and Eric Chen and Brianna Alanis and Paloma Lopez and N. Hawco and M. Lomas and N. Bates and P. Sedwick and R. Johnson and M. Jakuba and John Breier."Metaproteomic characterization of seasonal dynamics at the bermuda atlantic time series using the biogeochemical AUV Clio".ASLO Aquatic Sciences Meeting, American Society of Limnology and Oceanography, San Juan, Puerto Rico. (February2019)

John A. Breier and Michael Jakuba and Mak Saito and Eric Chen and Mathew Mcilvin and Dawn Moran and Brianna Alanis and Rod Johnson."Revealing ocean biochemical structure with high-resolution sampling from an autonomous underwater profiling vehicle: Clio".ASLO Aquatic Sciences Meeting, American Society of Limnology and Oceanography, San Juan, Puerto Rico. (February2019)

Eric Chen and John Breier."Toward synoptic and coordinated autonomous aerial and surface drone observations of estuarine biogeochemistry".ASLO Aquatic Sciences Meeting, American Society of Limnology and Oceanography, San Juan, Puerto Rico. (February2019)

John Breier."Overcoming Barriers in Time and Space: Reimagining the Possible with Robotic Oceanography".Gordon Research Conference Marine Microbes, (July 5, 2018)

John A Breier."Clio a vertical sampling AUV for next-generation ocean sectional studies".AGU Ocean Sciences, Portland Oregon. (February 1, 2018)

Dana Yoerger and John A Breier and Molly Curran and Justin Fuji and Christopher German and Daniel Gomez-Ibanez and Annette Govindarajan and Brett Hobson and Jonathan Howland and Kakani Katija and Joel Llopiz and Clifford Pontbriand and Michael Risi and Bruce Robinson and Stephen Rock and Peter Wiebe."Mesobot: An Autonomous Underwater Vehicle For Tracking And Sampling Midwater Targets".AGU Ocean Sciences, Portland Oregon. (February 1, 2018)

John A Breier and Jeff Seewald and Sean Sylva and Binbin Wang and Scott Socolofsky."Dissolved gas distribution within Gulf of Mexico natural deep-sea methane plumes".2016 Gulf Oil Spill Conference, 2016)

John Breier and Meg Estapa and Chris German."Iron partitioning between the dissolved and particulate phase within a rising hydrothermal plume: Beebe Vents, Piccard hydrothermal field, Mid-Cayman Rise, Abstract CT23A-08".AGU Ocean Science, 2016)

B. Wang and I. Jun and Hutschenreuter and Socolofsky and Kessler and Lavery and John Breier and J. Seewald."Behavior of gas seep bubbles below the hydrate stability zone".AGU Ocean Sciences, American Geophysical Union, (February2016)

A. Govindarajan and J. Pineda and M. Purcell and John Breier."Cross-shore and vertical distributions of invertebrate larvae using autonomous sampling coupled with genetic analysis".AGU Ocean Sciences, American Geophysical Union, (February2016)

Ken Buesseler and Matt Charette and John Breier and Steve Pike and Paul Henderson and L Kipp and Kaitlyn Tradd."Revisiting radionuclide sources at the Marshall Islands".Goldschmidt, 2015)

Brandi Cron and Brandy Toner and John Breier and Greg Dick and Houshou Jiang."Speciation of iron and sulfur in mineral-organic aggregates from the Von Damm Mid-Cayman rise hydrothermal vent".Goldschmidt, 2015)

Dan Reed and John Breier and Houshou Jiang and Chris Klausmeier and Greg Dick."Coupled microbial-geochemical dynamics in a model deep-sea hydrothermal plume, Abstract 16166".AGU Ocean Sciences, 2014)

John Breier and Brandy Toner and Cody Sheik and Houshou Jiang and Brandi Cron and Greg Dick."Deep-sea hydrothermal plumes: chemical, microbial, and physical controls on mass and energy transfer between the

lithosphere and the ocean, Abstract 16559".AGU Ocean Sciences, 2014)

Dan Gomez-Ibanez and Kaitlyn McCartney and Chris German and Dana Yoerger and John Breier."Recent advances in geochemical and biological sampling instrumentation: from remote and autonomous vehicles to the Clio biogeochemical profiler, Abstract 16609".AGU Ocean Sciences, 2014)

Greg Dick and Meng Li and Brandy Toner and Brandi Crons-Kamermans and Brett Baker and John Breier and Cody Sheik."The geomicrobiology of iron in deep-sea hydrothermal plumes, Abstract B14B-04".Fall Meeting, AGU, 2013)

John Breier and O N Osicki and K Wendt and J V Sorenson and B Toner and K Anantharaman and G Dick and H Jiang and Andrew Madison and George Luther and Houshou Jiang."Distribution of chemical energy in a rising hydrothermal plume of the Lau Basin, Abstract 11943".AGU Ocean Sciences meeting, 2012)

John Breier and Brandy Toner and Cody Sheik and Karthik Anantharaman and Jason Sylvan and Katrina Edwards and Peter Girguis and K Wendt and Jeff Sorenson and Andrew Madison and George Luther and Houshou Jiang and Greg Dick."Linking hydrothermal plume geochemistry with deep-sea microbial community structure along the Eastern Lau Spreading Center, Abstract B44B-05".Fall Meeting, AGU, 2012)

Julie Huber and J Reveilland and E Reddington and Jill McDermott and Sean Sylva and John Breier and Chris German and Jeff Seewald."Subseafloor microbial life in venting fluids from the Mid Cayman Rise hydrothermal system, Abstract B41F-03".Fall Meeting, AGU, 2012)

B R Cron and B M Toner and S A Bennett and Chris German and Greg Dick and John Breier."The spatial distribution of and speciation of iron in buoyant hydrothermal plumes of the Mid-Cayman Rise, Abstract OS13B-1741".Fall Meeting, AGU, 2012)

B Toner and John Breier and K J Edwards and S C Fakra and C R German and M A Marcus and O J Rouxel."Measuring the speciation of iron in hydrothermal plume particles".Goldschmidt Conference, 2012)

Houshou Jiang and John Breier and Dick Toner and Brandy Toner."Computational and fluid dynamics simulation of the rising portion of a seafloor hydrothermal plume, Abstract OS11B-1472".Fall AGU meeting, 2011)

John Breier and O N Osicki and K Wendt and J V Sorenson and B Toner and K Anantharaman and G Dick and H Jiang and Andrew Madison and George Luther and Houshou Jiang."Distribution of chemical energy in a rising hydrothermal plume of the Lau Basin, Abstract 11943".Fall AGU meeting, 2011)

J V Sorenson and Brandy Toner and Greg Dick and John A Breier and Houshou Jiang."Major and trace-element speciation in deep-sea hydrothermal plumes of Eastern Lau Spreading Center, Abstract OS23B-02".Fall AGU meeting, 2011)

John Breier and O N Osicki and H Jiang and K Anantharaman and G Dick and K Wendt and J V Sorenson and B Toner."Mineral formation and trace element uptake in rising hydrothermal plumes at the Lau Basin, Abstract OS23B-01".Fall AGU meeting, 2011)

K Wendt and K Anantharaman and John Breier and G J Dick and K J Edwards and P R Girguis and J V Sorenson and J Sylvan and B M Toner."Biogeochemical patterns and processes in buoyant, deep-sea hydrothermal plumes".Goldschmidt Conference, 2011)

John Breier and K Anantharaman and J B Sylvan and S N White and K J Edwards and G Dick and B M Toner."Early-stage hydrothermal particle formation along the Eastern Lau Spreading Center, Abstract IT45G-12".AGU Ocean Sciences meeting, 2010)

John Breier and S N White and C R German."Applications and challenges for the application of Raman spectroscopy in deep-sea hydrothermal systems".GeoRaman, 2010)

John Breier and K Anantharaman and B M Toner and G J Dick and . "Biotic-abiotic interactions in deep-sea hydrothermal plumes".Goldschmidt Conference, 2010)

B M Toner and S C Fakra and M A Marcus and O Rouxel and K J Edwards and C R German and John Breier."Integrated biogeochemistry of mid-ocean ridge hydrothermal plumes, Abstract OS12A-01".Fall AGU meeting, 2009)

John Breier and B M Toner and S J Manganini and C R German."Hydrothermal plume particles deconstructed: evidence of biotic and abiotic interactions in particle formation at 9N East Pacific Rise, Abstract B21A-0339".Fall AGU meeting, 2008)

John A Breier and C F Breier and H N Edmonds."Regional scale investigation of submarine discharge to Texas bays, Abstract B22C-08".AGU Ocean Sciences meeting, 2006)

John Breier and N Nidziko and S Monismith and A Paytan."Quantifying seawater recirculation through subtidal estuarine sediments in Elkhorn Slough, California: coupling Ra isotope geochemistry with hydrodynamic modeling, Abstract B22C-08".Fall AGU meeting, 2006)

John A Breier and H N Edmonds."Seawater circulation in coastal sediments".Texas Bays and Estuaries Meeting, 2005)

John A Breier and H N Edmonds."Continuous sediment resistivity profiling with synoptic dissolved Ra226, Ra228, Ra224, Ra223 and surface salinity measurements detect and characterize submarine discharges to Nueces Bay, Texas, Abstract 211-12".The Geological Society of America, 2005)

John A Breier and T A Villareal and H N Edmonds."Radium derived groundwater fluxes and nutrients to Nueces Bay, Texas, Abstract OS21D-05".AGU Ocean Sciences meeting, 2004)

Teaching

Teaching Experience

EEMS 6285, Graduate Research, 2 Course(s)
 EEMS 6320, Biogeochemistry, 3 Course(s)
 EEMS 6385, Graduate Research, 3 Course(s)
 EEMS 6390, Graduate Internship, 1 Course(s)
 EEMS 6485, Graduate Research, 1 Course(s)
 EEMS 6585, Graduate Research, 2 Course(s)
 EEMS 6685, Graduate Research, 2 Course(s)
 EEMS 7100, Continuing Thesis, 5 Course(s)
 EEMS 7300, Thesis I, 4 Course(s)
 EEMS 7301, Thesis II, 3 Course(s)
 ENVR 3303, Res Meth & Data An in Envr Sci, 3 Course(s)
 GEOL 4370, TopicsinGeology:Marine Geology, 1 Course(s)
 MARS 5170, Topics in Marine Biology, 1 Course(s)
 MARS 5370, Autonomous Environmental Sens., 1 Course(s)
 MARS 5370, Autonomous Sensing Vehicles, 1 Course(s)
 MARS 5370, Situ Environmenteal Sensing, 1 Course(s)
 MARS 5370, Top Marine Biol: Env Robotics, 1 Course(s)
 MARS 5370, Top: Environmental Sensing, 1 Course(s)
 MARS 5370, TopMarBiol:InSituEnvirSensing, 1 Course(s)

Directed Student Learning

Master's Thesis Committee Chair,Kirsten Ayres. School of Earth, Environmental, and Marine Sciences. (January 15, 2018)
 Master's Thesis Committee Chair,Brianna Alanis. School of Earth, Environmental, and Marine Sciences. (September 1, 2017)
 Master's Thesis Committee Member,Doug Faircloth. School of Earth, Environmental, and Marine Sciences. (2016 - 2019)
 Master's Thesis Committee Member,Samantha Silvestri. School of Earth, Environmental, and Marine Sciences. (2015 - 2018)

Service

Department Service

Committee Member, Faculty search committee (November 15, 2015)
 Other, New Research Vessel procurement lead (November 1, 2018 - August 1, 2019)
 Committee Member, Faculty Search Committee Marine Science (January 1, 2019 - May 1, 2019)
 Committee Member, Tenure and Promotion Committee (March 2016 - November 2018)
 Committee Member, Ph.D Planning Committee (November 2015 - September 2018)
 Committee Member, Bylaws/Policies Committee (March 2016 - August 2018)
 Committee Chair, Faculty Search Committee Marine Science (January 1, 2018 - May 1, 2018)
 Committee Chair, Faculty Search Committee (November 2016 - May 2017)

College Service

Committee Member, COS research advisory panel (February 15, 2020)

Professional Service

Grant Evaluator, External, NOAA SBIR program. (March 10, 2020)
 Grant Evaluator, External, UTSysstem-Conacyt Contex. (February 1, 2019 - February 10, 2019)
 Grant Evaluator, External, NASA. (November 11, 2018 - November 15, 2018)
 Grant Evaluator, External, National Science Foundation. (February 1, 2018 - February 10, 2018)
 Grant Evaluator, External, NOAA OER. (January 1, 2018 - January 10, 2018)

Grant Evaluator, External, NOAA OER. (January 1, 2018 - January 10, 2018)

Grant Proposal Reviewer, External, National Science Foundation. (October 1, 2017 - October 10, 2017)

Reviewer, Grant Proposal, Americal Chemical Society. (May 2017 - June 2017)

Reviewer, Grant Proposal, National Science Foundation. (May 2017 - June 2017)

Reviewer, Grant Proposal, National Science Foundation. (May 2017 - June 2017)

Reviewer, Grant Proposal, National Science Foundation. (May 2017 - June 2017)

Reviewer, Grant Proposal, National Science Foundation. (May 2017 - June 2017)

Reviewer, Grant Proposal, WHOI Seagrant. (May 2017 - June 2017)

Reviewer, Journal Article, Journal of Hydrology and Environment Research. (January 2017 - February 2017)

Professional Memberships

American Geophysical Union, (AGU)

American Society of Limnology and Oceanography, (ASLO)

IEEE,

The Geochemical Society,

Public Service

Other, Laguna Madre Time Series water quality station . (September 2018 - August 2019)

Judge, HESTEC Navy Sea Perch High School Competition. (September 1, 2017 - October 1, 2017)

Judge, HESTEC Navy Sea Perch High School Competition. (September 2016 - October 2016)