

Charles Geoffrey Wheat
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Education:

1986-90	Ph.D. (Oceanography), University of Washington, Dissertation title: Fluid circulation and diagenesis in an off-axis hydrothermal system: The Mariana Mounds.
1983-86	M.S. (Oceanography), University of Washington.
1979-83	B.S. (Mathematics), University of New Hampshire.

Professional Experience:

2004-1999-	Research Professor Adjunct Scientist	University of Alaska Fairbanks Monterey Bay Aquarium Research Institute
2014-2015 2014-2015	Director of NIUST, Professor Professor of Geology and Geologic Engineering	University of Mississippi University of Mississippi
1994-2012	Regional Coordinator	West Coast and Polar Regions Undersea Research Center
1999-2004 1999	Research Associate Professor Visiting Professor	University of Alaska Fairbanks Université Paul Sabatier, Toulouse, France
1995-2010 1994-99 1993-95 1993-95 1991-93 1983-90 1986-88 1980-83	Affiliate Graduate Faculty Research Assistant Professor Research Assistant Professor Marine Coordinator (SOEST) Post-Doctoral Fellow Graduate Research Assistant Graduate Teaching Assistant Teaching/Laboratory Assistant	University of Hawaii University of Alaska Fairbanks University of Hawaii University of Hawaii University of Hawaii University of Washington University of Washington Shoals Marine Laboratory/ University of New Hampshire

Honors:

2009	Fellow Geological Society of America
1983-84	Egtvedt Scholarship
1983	David Drew Award
1982	Phi Beta Kappa Honor Society

Research Interests:

I use chemical tracers to understand processes that influence the cycle of elements in the oceans. Much of this work focuses on the transport of fluids through the oceanic crust in a range of settings including hydrothermal systems on mid-ocean ridges and flanks and seepage sites along zones of subduction and in coastal environments. Studies typically include sampling and analyzing fluids and solids, developing transport-reaction models, and relating results to geochemical cycles and crustal evolution.

Professional Societies:

American Geophysical Union
Geological Society of America

Oceanography Society
National Ground Water Association

Scientific Expeditions:

I have participated on 79 expeditions of which 49 included a submersible or ROV component. On 26 of these cruises I was either the Chief Scientist or one of two Co-Chief Scientists. I also have participated on two legs of the Ocean Drilling Program and seven expeditions of the Integrated (Internations) Ocean Drilling (Discovery) Program (IODP).

R/V Joides Resolution (IODP Exp. 385T, Panama Basin, August 18- September 16, 2019).
R/V Atlantis with Jason II (North Pond CORKs, October 2-November 1, 2017). **Chief Scientist**
Inuvik, Northwest Territories, August 8-17, 2016.
R/V Joides Resolution (IODP Exp 366, Mariana Forearc, December 5- February 8, 2017). **Co Chief**
Inuvik, Northwest Territories, July 29-August 12, 2015
R/V Atlantis with Alvin (Dorado Outcrop, November 28-December 13, 2014). **Chief Scientist**
R/V Atlantis with Alvin (Juan de Fuca CORKs, August 9-25, 2014). **Chief Scientist**
R/V Marie S Merian with Jason (North Pond CORKs, March 19-April 23, 2014).
R/V Atlantis with Jason and Sentry (Dorado and CR CORKs, Dec 4-23, 2013). **Chief Scientist**
R/V Atlantis with Jason (Juan de Fuca CORKs, July 12-26, 2013).
R/V Chikyu (Exp 338 off the coast of Japan, Nov. 23-27, 2012).
R/V Maria S. Merian with Jason 2 (North Pond CORKs, April 7-May 10, 2012).
R/V Joides Resolution (IODP Exp 336, North Pond CORKs, September 12- November 19, 2011).
R/V Atlantis with Jason 2 (Juan de Fuca CORKs, June 25-July 15, 2011)
R/V Chikyu (IODP Exp 332, Nankai CORKs, October 22- November 9, 2010).
R/V Joides Resolution (IODP Exp 327, Juan de Fuca CORKs, July 7- September 7, 2010).
R/V Atlantis II with Alvin (Juan de Fuca CORKs, August 17-September 7, 2009).
R/V Natsushima with Hyper-dolphin (Chamorro CORK, May 25-June 4, 2009).
R/V Atlantis II with Alvin (Costa Rica CORKs, February 4-17, 2009). **Chief Scientist**
R/V Natsushima with Hyper-dolphin (Chamorro CORK, January 12-30, 2009).
Yellowstone National Park (September 8-13, 2008).
R/V Atlantis with Alvin (IODP Exp CORKs, July 26- September 13, 2008).
R/V Chikyu (Exp 315 off the coast of Japan, Nov. 12-29, 2007).
R/V Atlantis with Alvin (IODP Exp CORKs, September 10-29, 2007).
R/V Atlantis with Alvin (IODP Exp CORKs Sites 1301B and A, September 13-23, 2006).
R/V Atlantis with Alvin (Endeavour Segment, August 23- September 13, 2006).
R/V Thompson with Jason 2 (Endeavor Hydrothermal System, September 23- October 5, 2005).
R/V Thompson with Jason 2 (Endeavor Hydrothermal System, August 29- September 9, 2005).
R/V Atlantis with Alvin (Costa Rica Mud Volcanoes, June 4 - June 18., 2005).
R/V Melville with Jason 2 (Lau Back Arc Spreading, March 31- May 10, 2005).
R/V K-O-K/Pisces V (Loihi Seamount, October 2004) **Co-Chief Scientist.**
R/V Joides Resolution Sedco 471 (Inorganic Geochemist and CORK Specialist, IODP Leg 301, Eastern Flank of the Juan de Fuca Ridge, June 25-August 21, 2004).
R/V Atlantis and Alvin (Costa Rica CORKs, February 23 - March 8, 2004).
R/V Thompson with Jason II (Mariana Forearc, March 13-May 6, 2003) **Co-Chief Scientist.**
R/V Western Flyer with Tiberon (Escanaba, February 28-March 9, 2003).
R/V Melville (Costa Rica, September 7 - October 10, 2002) **Co-Chief Scientist.**
R/V Western Flyer with Tiberon (Cleft Segment, JFR, August 3 -12, 2002).
R/V Point Lobos and *Ventana* (Monterey Bay, July 11, 2001) **Co-Chief Scientist.**
R/V Maurice Ewing (Costa Rica, April 11-May 20, 2001).

R/V *Ocean Ranger* (Channel Islands National Park, February 12, 2001) **Chief Scientist**.
R/V *Thompson* (Eastern Flank of the Juan de Fuca Ridge, August 23-September 23, 2000) **Co-Chief Scientist**.
R/V *Atlantis* and *Alvin* (Eastern Flank of the Juan de Fuca Ridge, August 3 -15, 2000) **Co-Chief Scientist**.
R/V *Balena* (NURP shallow water ROV tests, Santa Barbara, March 20-24, 2000) **Chief Scientist**.
R/V *Sonne* (SEPR, March 4 - April 17, 2000) **Co-Chief Scientist**.
R/V *Point Lobos* and *Ventana* (Monterey Bay, January 25, April 17, June 27, June 29, 2000).
R/V *Atlantis*, *Alvin* and the Scripps Control Vehicle (Eastern Flank of the Juan de Fuca Ridge, September - October, 1999) **Co-Chief Scientist**.
San Francisco Bay (March 10, April 9, August 16, November 16, 1999) **Co-Chief Scientist**.
R/V *Point Lobos* and *Ventana* (Monterey Bay, January 21, March 30, April 1, 1999) **Co-Chief Scientist**.
R/V *K-O-K/Pisces V* (Loihi Seamount, October 1998) **Co-Chief Scientist**.
R/V *Ron Brown* and *ROPOS* (Axial Seamount, August-September, 1998).
R/V *Point Lobos* and *Ventana* (Monterey Bay, January 22, 23, March 16-18, 1998); **Co-Chief Scientist**.
Delta Submersible (Santa Cruz Island, October 22, 1997) **Chief Scientist**.
R/V *K-O-K/Pisces V* (Loihi Seamount, September 1997) **Co-Chief Scientist**.
R/V *Point Lobos/Ventana* (Eel River, CA, August 1997).
R/V *Point Lobos* and *Ventana* (Monterey Bay, March, April and December 1997) **Co-Chief Scientist**.
R/V *Thomas Thompson* and *Jason* (Mariana Forearc, January-March 1997) **Co-Chief Scientist**.
R/V *K-O-K/Pisces V* (Loihi Seamount, October 1996) **Co-Chief Scientist**.
R/V *Laney Choest/Sea Cliff* - ATV (Blanco Transform Fault and Gorda Ridge, August 1996).
R/V *Sedco 471* (Inorganic Geochemist, ODP Leg 168, Eastern Flank of the Juan de Fuca Ridge, June-August 1996).
R/V *Point Lobos/Ventana* (Monterey Bay, March-April 1996) **Co-Chief Scientist**.
R/V *Point Sur* (Monterey Bay, November 1995).
R/V *Atlantis II/ALVIN* (Baby Bare, Eastern Flank of the Juan de Fuca Ridge, August 1995) **Co-Chief Scientist**.
R/V *Discover* (Southern Juan de Fuca Ridge and eastern flank, July 1994).
R/V *Kila/Pisces V* (Loihi Seamount, September 1993) **Chief Scientist**.
R/V *Discover* (Southern Juan de Fuca Ridge and eastern flank, June 1993).
R/V *Thomas Thompson* (Loihi Seamount, Puna Ridge, December 1992).
R/V *Laney Choest/Sea Cliff* (Loihi Seamount, November 1992) **Co-Chief Scientist**.
R/V *Tully* (Eastern Flank of the Juan de Fuca Ridge, August 1992).
R/V *Discover* (Southern Juan de Fuca Ridge, May-June 1992).
R/V *New Horizon* (9-11°N East Pacific Rise, November 1991).
R/V *Atlantis II/ALVIN* (Middle Valley, Juan de Fuca Ridge, September 1991).
R/V *Sedco 471* (Inorganic Geochemist, ODP Leg 139, Middle Valley, Juan de Fuca Ridge, July-August 1991).
R/V *Laney Choest/Turtle* (21°N East Pacific Rise, November 1990).
R/V *Tully* (Eastern Flank of the Juan de Fuca Ridge, June-July 1990).
R/V *Deep Rover* (Crater Lake Oregon, July-September 1989).
R/V *Melville* (Juan de Fuca Ridge, June 1988).
R/V *Atlantis II/ALVIN* (Mariana Mounds Hydrothermal Region, June 1987).
R/V *Cape Hatteras* (George's Bank, July 1982).
R/V *Jere Chase* (Great Bay Estuary, Gulf of Maine, day cruises 1982-1983).

Post Doctoral Fellow Supervision

Katie Inderbitzen

Graduate Student Supervision

Jessica Sharkie	M. S., MLML, Chairperson, "Hydrothermal process at the Lau Spreading Center and the Lau ISS"
Mike Hutnik	Ph. D., UCSC, "Controls on fluid circulation in ridge-flank hydrothermal systems".
Jim Gharib	Ph. D., UH, "Mineralogy of Mariana mud volcanoes: A window to the seismogenic zone"
Samuel Hulme	M. S., MLML, 2005, Chairperson, "Trace elements in Mariana Forearc mud volcanoes"
Jennifer Hughes	M. S., MLML, Chairperson, "Hydrothermal process at Loihi Seamount", DNF 2005
Patrice Friedmann	B. S., UCSC, 2002, Chairperson, "TicoFlux01: Pore water flow on the western edge of the Costa Rica Subduction Zone." M. S. UCSC, 2003, Chairperson, "Hydrothermal seepage of highly evolved fluids through 24 Ma ocean crust on the eastern flank of the Cocos Plate: TicoFlux"
Jennifer Ostrowski	M. S., UCSC, 2001, "Benthic fluxes of copper and nickel from contaminated estuarine sediments near Mare Island Naval Reserve."
Rex Miyashiro	M.S., UH, Co-Chairperson, "Fabrication of a heat-pulse flow meter". DNF 1997.
Nathan Becker	M. S., UH, 1997, Chairperson, "A geological and geophysical investigation of Baby Bare, locus of a ridge-flank hydrothermal system in the Cascadia Basin."
Jinchun Yuan	M. S., UH, 1994, "Sea water iron anomaly at Loihi Seamount an Puna Ridge by shipboard flow injection analysis".

Undergraduate Student Supervision

MATE Program	Terra Eddy - Cabrio College - 2003 Melissa Jones - University of Minnesota Duluth - 2002 Yvonne Stewart - Maine Maritime Academy - 2001 Kevin Stewart - Indiana University of Pennsylvania - 2001
MBARI Internships	Erin Beck - University of Washington St. Louis- 2008 Amber Golshani - Southampton College of Long Island University - 1998
NSF REU Program	John Skutnik - Endicott College - 2008 Morgan Sheedy - University of Hawaii - 1995 Danika Harris - University of New Hampshire - 1992 Deborah Solis - Georgia Tech University - 1990
Others	Toa Tein – University of Beijing – 2018

Camden Webb – Cal Poly, 2020
 Kyle Worcester - University of California Santa Cruz - 2020
 Camden Webb – Cal Poly, 2019
 Samantha Quevedo – Chapman University – 2019
 Finn Amend - University of California Santa Cruz -2019
 Arshia Sharma - Chapman University -2019
 Kyle Worcester - University of California Santa Cruz - 2019
 Camden Webb – Cal Poly, 2018
 Samantha Quevedo – Chapman University - 2018
 Manasa Venkatesan –University of Santa Cruz – 2017
 Chris Dhayanand - University of California Santa Cruz – 2017
 Hannah Pollek – California State University San Diego – 2017
 Stephanie Scott – Monterey Peninsula College – 2017
 Avery Christiansen – Virginia Community College – 2017
 Jorge Valdez – Hartnell Community College – 2016
 Kevin Gong – Monterey Peninsula College - 2016
 John Skutnik - Endicott College - 2009
 Kevin Brashem - Santa Clara University 2008, 2009
 Giovanni Minelli - Santa Clara University 2005
 Doug Pargett - Santa Clara University 2005
 Jessica Sharkey - CSUMB 2004
 Trevor Fournier – CSUMB 2012

Classes Taught:

Santa Clara University, Graduate Course, MECH 296 - Special Topics in Dynamics & Control in Ocean Engineering. *Submersible Vehicle Systems Design*, by Allmendinger.

University of California Santa Cruz, Graduate Course in Earth Sciences, 290H - Topics in Hydrogeology. *Groundwater in Geologic processes*, by Ingebritsen and Sanford.

University of Hawaii, Graduate Course, Oc 735 - Hydrothermal Processes on the Seafloor: An Interdisciplinary Approach. No book.

Patents

US Provisional Patent Tool. No. 62/569938, Extreme Temperature Fluid Sampler Actuated by Shape Memory Alloy. With Kitts, **Wheat**

Refereed Publications:

Current 10/1/2020	All	Since 2015
Citations	6100	2364
H-index	46	28
I10-index	103	71

(126) **Wheat, C.G.**, R. A. Zierenberg, J. B. Paduan, D. W. Caress, D. A. Clague, and W. W. Chadwick Jr. 2020. Changing Brine Inputs into Hydrothermal Fluids: Southern Cleft Segment, Juan de Fuca Ridge, *Geochemistry, Geophysics, Geosystems*, doi.org/10.1029/2020GC009360

- (125) **Wheat, C. G.**, Becker, K., Villinger, H., Orcutt, B. N., Fournier, T., Hartwell, A. and Paul, C., 2020. Subseafloor cross-hole tracer experiment reveals hydrologic properties, heterogeneities, and reactions in slow spreading oceanic crust. *Geochemistry, Geophysics, Geosystems*, 21, e2019GC008804. <https://doi.org/10.1029/2019GC008804>
- (124) Fryer, P, **C. G. Wheat**, T. Williams, C. Kelley, K. Johnson, J. Ryan, W. Kurz, J. Shervais, E. Albers, B. Bekins, B. Debret, J. Deng, Y. Dong, P. Eickenbusch, E Frery, Y. Ichiyama, R. Johnston, R. Kevorkian, V. Magalhaes, S. Mantovanelli, W. Menapace, C. Menzies, K. Michibayashi, C. Moyer, K. Mullane, J.-W. Park, R. Price, O. Sissmann, S. Suzuki, K. Takai, B. Walter, R. Zhang, D. Amon, D. Glickson, S. Pomponi, 2019. Mariana serpentinite mud volcanism exhumes subducted seamount materials: Implications for the origin of life, *Phil. Trans. R. Soc. A*, 378, 20180425. <http://dx.doi.org/10.1098/rsta.2018.0425>
- (123) Shalev, N., Bontognali, T.R., **Wheat, C.G.** and Vance, D., 2019. New isotope constraints on the Mg oceanic budget point to cryptic modern dolomite formation. *Nature Communications*, 10(1), pp.1-10.
- (122) **Wheat, C. G.**, J. S. Seewald, and K. Takai. 2019. Fluid Transport and Reaction Processes Within a Serpentine Mud Volcano: South Chamorro Seamount, *Geochim. Cosmochim. Acta*, 269, 15 January 2020, 413-428, <https://doi.org/10.1016/j.gca.2019.10.037>
- (121) Hulme, S. M., and **C.G. Wheat**, 2019. Subseafloor fluid and chemical fluxes along a buried-basement ridge on the eastern flank of the Juan de Fuca Ridge. *Geochemistry, Geophysics, Geosystems*, 20. <https://doi.org/10.1029/2019GC008408>.
- (120) Ramirez, G. A., A. I. Garber, A. Lecoeuvre, T. D'Angelo, **C. G. Wheat**, and B. N. Orcutt, 2019. Ecology of Subseafloor Crustal Biofilms. *Frontiers in Microbiology*, 10, p.1983
- (119) McManus, J., **C. G. Wheat**, and W. Bach. 2019. Carbon cycling in low temperature hydrothermal systems: The Dorado Outcrop, *Geochim. Cosmochim. Acta*, 264, 1-12.
- (118) Villinger, H.W., Müller, P., Bach, W., Becker, K., Orcutt, B.N., Kaul, N. and **Wheat, C.G.**, Evidence for low temperature diffuse venting at North Pond, Western flank of the Mid-Atlantic Ridge. *Geochemistry, Geophysics, Geosystems*.
- (117) **Wheat, C.G.**, Hartwell, A.M., McManus, J., Fisher, A.T., Orcutt, B.N., Schlicht, L.E., Niedenzu, S. and Bach, W., 2019. Geology and Fluid Discharge at Dorado Outcrop, a Low Temperature Ridge-Flank Hydrothermal System. *Geochemistry, Geophysics, Geosystems*, 20(1), pp.487-504.
- (116) Paduan, J.B., Zierenberg, R., Clague, D.A., Spelz-Madero, R., Caress, D.W., Troni, G., Thomas, H., Glessner, J., Lilley, M.D., Lorenson, T., Lupton, J., Neumann, F., Santa Rosa-del Rio, M. A., and **Wheat, C. G.** 2018. Discovery of Hydrothermal Vent Fields on Alarcón Rise and in Southern Pescadero Basin, Gulf of California. *Geochemistry, Geophysics, Geosystems*, doi.org/10.1029/2018GC007771.
- (115) Kawagucci, S., J. Miyazaki, Y. Morono, J. S. Seewald, **C. G. Wheat**, and K. Takai. Cool and alkaline serpentinite formation fluid regime with scarce microbial habitability and possible abiotic synthesis beneath the South Chamorro Seamount. *Progress in Earth and Planetary Science*. 2018, 5:74, DOI: 10.1186/s40645-018-0232-3

- (114) Zinkel, L. A., B. K. Reese, J. McManus, **C. G. Wheat**, B. N. Orcutt and J. Amend. 2018. Sediment Microbial Communities Influenced by Cool Hydrothermal Fluid Migration. *Front. Microbiol.* 9:1249. doi: 10.3389/fmicb.2018.01249
- (113) **Wheat, C.G.**, Fournier, T., Paul, C., Menzies, C., Price, R.E., Ryan, J., and Sissman, O., 2018. Data report: IODP Expedition 366 pore water trace element (V, Mo, Rb, Cs, U, Ba, and Li) compositions. In Fryer, P., Wheat, C.G., Williams, T., and the Expedition 366 Scientists, *Mariana Convergent Margin and South Chamorro Seamount*. Proceedings of the International Ocean Discovery Program, 366: College Station, TX (International Ocean Discovery Program). <https://doi.org/10.14379/iodp.proc.366.201.2018>.
- (112) Hartwell, A.M., J. R. Voight, and **C. G. Wheat**. 2018. Clusters of deep-sea egg-brooding octopods associated with warm fluid discharge: an ill-fated fragment of a larger, discrete population?. *Deep Sea Research Part I: Oceanographic Research Papers*, 135: 1-8, doi.org/10.1016/j.dsr.2018.03.011
- (111) **Wheat, C. G.**, T. Fournier, K. Monahan, and C. Paul. 2018. Take the plunge: A STEM Camp centered on seafloor science, *Current, J. Marine Educators*, 31:2, 2-8.
- (110) Fryer, P., **C. G. Wheat**, T. Williams, T., and the Expedition 366 Scientists, 2018. *Mariana Convergent Margin and South Chamorro Seamount*. Proceedings of the International Ocean Discovery Program, 366: College Station, TX (International Ocean Discovery Program). <https://doi.org/10.14379/iodp.proc.366.2018>
- (109) Tully, B. J., **C. G. Wheat**, B. T. Glazer, and J. A. Huber. 2017. A dynamic microbial community with high functional redundancy inhabits the cold, oxic seafloor aquifer, *The ISME Journal* advance online publication, 3 November 2017; doi:10.1038/ismej.2017.187
- (108) **Wheat, C. G.**, J. McManus, A. T. Fisher, S. M. Hulme, B. N. Orcutt. 2017. Cool Seafloor Hydrothermal Springs Reveal Global Geochemical Fluxes. *Earth Planet. Sci. Lett.* 476; 179-188, <http://dx.doi.org/10.1016/j.epsl.2017.07.049>.
- (107) Evans, G.N., M. K. Tivey, J. Seewald, and **C. G. Wheat**. 2017. Influences of the Tonga Subduction Zone on Seafloor Massive Sulfide Deposits along the Eastern Lau Spreading Center and Valu Fa Ridge, *Geochimica et Cosmochimica Acta*, 215: 214-246, <https://doi.org/10.1016/j.gca.2017.08.010>
- (106) Orcutt, B N, L. L. Lapham, J. Delaney, N. Srode, K. S. Marshall, K. J. Whaley-Martins, G. Slater, **C. G. Wheat**, and P. R. Girguis. 2017 Microbial response to oil enrichment in Gulf of Mexico sediment measured using a novel long-term benthic lander system. *Elem Sci Anth*, 5: 18, DOI: <https://doi.org/10.1525/elementa.129>
- (105) Baronas, J. J., D. E. Hammond, J. McManus, **C. G. Wheat**, and C. Siebert, 2017. A Global Ge isotope budget, *Geochim. Cosmochim. Acta*, 203 265-283. doi.org/10.1016/j.gca.2017.01.008
- (104) Ramírez, G. A., C. L. Hoffman, M. D. Lee, R. A. Lesniewski, R. Barco, A. Garber, B. M. Toner, **C. G. Wheat**, K. J. Edwards, and B. N. Orcutt. 2016. Assessing marine microbial induced corrosion at Santa Catalina Island, California, *Front. Microbiol.*, 7: 1679; 25 October 2016 | <http://dx.doi.org/10.3389/fmicb.2016.01679>
- [103] Hüpers, A., S. A. Kasemann, A. J. Kopf, A. Meixner, T. Toki, R. Shinjo, **C. G. Wheat**, C.-F. You.

2016. Fluid flow and water–rock interaction across the active Nankai Trough subduction zone forearc revealed by boron isotope geochemistry *Geochimica et Cosmochimica Acta*, 193, 15 November 2016, Pages 100–118, <http://dx.doi.org/10.1016/j.gca.2016.08.014>.
- [102] Poore, K., Kitts, C., **Wheat, G.** and Kirkwood, W., 2016, September. A small scale ROV for shallow-water science operations. In *OCEANS 2016 MTS/IEEE Monterey* (pp. 1-6). IEEE.
- [101] Bertram, S., C. Kitts, D. Azevedo, G. Del Vecchio, B. Hopner, **C. G. Wheat**, and W. Kirkwood. 2016. A Portable ASV Prototype for Shallow-Water Science Operations.
- [100] Neira, N.N., J. F. Clark, A. T. Fisher, **C. G. Wheat**, R. M. Haymon, and K. Becker. 2016. Cross-hole tracer experiment reveals rapid fluid flow and low effective porosity in the upper oceanic crust, *Earth Planet. Sci. Lett.*, 450; 355–365, [doi.org/10.1016/j.epsl.2016.06.048](http://dx.doi.org/10.1016/j.epsl.2016.06.048)
- [99] Meyer, J. L., U. Jaekel, B. J. Tully, B. T. Glazer, **C. G. Wheat**, H.-T. Lin, C.-C. Hsieh, J. P. Cowen, S. M. Hulme, P. R. Girguis, and J. A. Huber. 2016. A distinct and active bacterial community in cold oxygenated fluids circulating beneath the western flank of the Mid-Atlantic Ridge, *Scientific Reports*, 6, Article number 22541, [doi:10.1038/srep22541](http://dx.doi.org/10.1038/srep22541).
- [98] Baquiran, J. P., G. A. Ramirez, A.G. Haddad, B. M. Toner, S. Hulme, **C. G. Wheat**, K. J. Edwards and B. N. Orcutt, 2016. Temperature and redox effect on mineral colonization in Juan de Fuca Ridge flank subsurface crustal fluids, *Front. Microbiol.*, 31 March 2016 | <http://dx.doi.org/10.3389/fmicb.2016.00396>
- [97] Johnson, S. B., A. Warén, V. Tunnicliffe, C. Van Dover, **C. G. Wheat**, T. F. Schultz, and R. C. Vrijenhoek. 2014. Molecular taxonomy and naming of five cryptic species of Alviniconcha snails (Gastropoda: Abysochrysoidea) from hydrothermal vents, *Systematics and Biodiversity*, DOI: [10.1080/14772000.2014.970673](http://dx.doi.org/10.1080/14772000.2014.970673)
- [96] Orcutt, B. N., **C. G. Wheat**, O. Rouxel, S. Hulme, K. J. Edwards, and W. Bach. 2013. Oxygen Consumption rates in subseafloor basaltic crust derived from a reaction transport model, *Nature Communications*, published 27 Sep 2013, pg 1-8, [doi:10.1038/ncomms3539](http://dx.doi.org/10.1038/ncomms3539).
- [95] **Wheat, C. G.**, C. Paul, T. Fournier, L. Arnow, and K. Monahan. 2013. RETINA: Illuminating elementary scientists with STEM modules, *Current, J. Marine Educators*, 28 (3), 34-38.
- [94] Orcutt, B. N., D. E. LaRowe, J. F. Biddle, F. S. Colwell, B. T. Glazer, B. K. Reese, J. B. Kirkpatrick, L. L. Lapham, H. J. Mills, J. B. Sylvan, S. D. Wankel, **C. G. Wheat**. 2013. Microbial activity in the marine deep biosphere: Progress and prospects, *frontiers in Extreme Microbiology*. published: xx July 2013, [doi: 10.3389/fmicb.2013.00189](http://dx.doi.org/10.3389/fmicb.2013.00189)
- [93] Robidart, J., S. J. Callister, P. Song, C. D. Nicora, **C. G. Wheat**, and P. R. Girguis. 2013. Characterizing microbial community and geochemical dynamics at hydrothermal vents using osmotically-driven continuous fluid samplers, *Environ. Sci. and Technol.*, 47 (9): 4399-4407, [doi:10.1021/es3037302](http://dx.doi.org/10.1021/es3037302).
- [92] **Wheat, C. G.**, S. M. Hulme, A. T. Fisher, B. N. Orcutt, and K. Becker. 2013. Seawater Recharge Into Oceanic Crust: IODP Exp 327 Site U1363 Grizzly Bare outcrop, *Geochemistry, Geophysics, Geosystems*, Vol. 14, [doi:10.1002/ggge.20131](http://dx.doi.org/10.1002/ggge.20131).
- [91] Curtis, A., **C. G. Wheat**, P. Fryer, and C. Moyer. 2013. Mariana forearc serpentinite mud volcanoes

harbor novel communities of extremophilic *Archaea*, *Geomicrobiology J.*, (30), 1-12, 10.1080/01490451.2012.705226.

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Workshop Reports, Non-refereed Papers, and Extended Abstracts:

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- (20) Brown, K., A. Newman, R. Stevens, K. McIntosh, N. Bangs, D. Chadwell, S. Bilek, G. Spinelli, S. Schwartz, L. Dorman, E. Silver, D. Hilton, M. Kastner, G. McMurty, and **C. G. Wheat**. 2006. A plate boundary observatory at Costa Rica, *Margins Newsletter*, 16 (Spring), 16-18.
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- (16) Murray, R. W., D. P. Schrag, and **C. G. Wheat**. 2002. *Opportunities in Geochemistry for post-2003 ocean drilling*. USSSP/JOI Workshop. Washington D. C., 20 pp.
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- (5) Jannasch, H., C. Sakamoto, **G. Wheat**, and K. Johnson. 1997. Osmotically pumped chemical analyzers and samplers for long-term oceanographic monitoring. Extended Abstract; International

- Workshop in Marine Analytical Chemistry for Monitoring and Oceanographic Research (Brest, France, 17-19 November).
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 - (3) **Wheat, C. G.** and C. L. Van Dover. 1996. *Monterey Bay Initiative*. West Coast National Undersea Research Center, NOAA's National Undersea Research Program. 7 p.
 - (2) Van Dover, C. L. and **C. G. Wheat**. 1996. *Gulf of Alaska Initiative*. West Coast National Undersea Research Center, NOAA's National Undersea Research Program. 5 p.
 - (1) Mottl, M., E. Baker, K. Macdonald, J. Sinton, and **G. Wheat**. 1996. Processes and fluxes on a superfast spreading ridge: The southern East Pacific Rise. *RIDGE Workshop Report*, 36 p.

Grants and Contracts:

From the National Science Foundation:

- NSF 1922671 “Collaborative Research: Characterization of subduction channel processes – Borehole sampling at active serpentinite mud volcanoes on the Mariana forearc.”, 8/1/19-7/31/21, 523,999 (total \$1,118,996), Co. P. I. with Seewald and Lang.
- NSF 1830087 “Collaborative Research: Development and fabrication of a high-temperature borehole fluid sampler to characterize seawater-basalt reactions and the thermal limits of life on Earth”, 139,535 (total \$411K), 8/1/18-7/31/20, Co P. I. with Kitts.
- OCE 1536623, “Collaborative Research: Completing North Pond Borehole Experiments to Elucidate the Hydrology of Young, Slow-Spread Crust”. \$401,725, 10/1/15-9/30/17. Co P. I. with Becker and Orcutt.
- BIO 1439564, “Center for Dark Energy Biosphere Investigations (C-DEBI): Renewal, \$822,388 (total \$22.5M), 6/1/10-5/30/15, Co. P. I. with Amend, Huber, Fisher, and D’hondt.
- PP 1417815, “Collaborative Research: Quantifying methane flux from Arctic lakes with *in situ* time-series sampling and sensing”, \$242,120, 7/1/14-6/30/16. Co P. I. with Orcutt and Lapham.
- OCE 1260548, “Collaborative Research: Completing single- and cross-hole hydrogeologic and microbial experiments: Juan de Fuca Flank”. 193,749, 6/1/13-5/30/15. Co P. I. with Fisher, Edwards, Clark, Becker, Cowen
- OCE 1130146, “Collaborative Research: Discovery, sampling, and quantification of flows from cool yet massive ridge-flank hydrothermal springs on Dorado Outcrop, eastern Pacific Ocean”, \$159,618, 10/1/11-9/30/13. Co P.I. with Fisher and Hulme.
- OCE 1038090, “Collaborative Research: Integrating Subsurface Processes across Spatial and Temporal Scales - a Holistic Analysis of Vent Fluid Chemistry at the Lau Back-Arc Spreading Center”, \$126,003, 9/1/10-8/31/12. Co P. I. with Seewald.
- OCE 1030061, “Collaborative Research: Completion of single- and cross-hole hydrogeologic experiments on the eastern flank of the Juan de Fuca Ridge using a borehole network.” \$150,148. 10/1/10- 9/30/13. Co P. I. With Fisher, Cowen, and Becker.
- OCE 0939564, “Center for Dark Energy Biosphere Investigations (C-DEBI): A center for resolving the extent, function, dynamics and implications of the Subseafloor Biosphere”, \$1,284,655 (total \$25M), 6/1/10-5/30/15, Co. P. I. with Edwards, Cowen, Fisher, D’hondt.
- OCE 0825788, “Collaborative Research: Chemical, pressure, temperature, and flow constraints on hydrologic horizons in the Costa Rica Subduction zone, ODP Sites 1253 and 1255”, \$170,094. 8/1/08- 7/31/10. Co P. I. with Kastner and Davis.
- OCE 0829371, “Supplement for Collaborative Research: Borehole Studies of ODP Site 1200, South Chamorro Seamount: A Window into Active Serpentinite Mud Volcanism”, \$8,170. 10/1/07-9/30/09.

- OCE 0727120, “Collaborative Research: Borehole Studies of ODP Site 1200, South Chamorro Seamount: A Window into Active Serpentinite Mud Volcanism”, \$372,036. 10/1/07-9/30/09. Co. P. I. with Fryer, Moyer, Seewald, and Davis.
- OCE 0748319 “Supplement for Collaborative research: The hydrogeological architecture of basaltic ocean crust: CORK experiments for the initial IODP expedition on the flank of the Juan de Fuca Ridge”, \$40,080, 1/1/04-12/31/08. Co P.I. with Becker, Davis, Fisher, Jannasch.
- OCE 0727119, “Collaborative research: Large-scale, long-term, multi-directional, cross-hole experiments in the upper oceanic crust using a borehole observatory network”, 4/1/08-3/31/10, \$171,712. Co. P. I. with Fisher, Becker, Cowen, and Clark (Total ~\$590K)
- OCE 0549955, “Collaborative Research: A three-dimensional, subseafloor, IODP observatory network in the northeastern Pacific Ocean, and initiation of large-scale, cross-hole experiments”, 1/1/06-12/31/08”, \$72,231, (\$1.3 million) Co. P.I. with Fisher, Davis, Becker, Jannasch, Cowen, Stone, and Pettigrew
- OCE 0425645, “Collaborative Research: Determining the Limits to Life in Submarine Hydrothermal Systems: Active Sulfide Deposits as Natural Laboratories”, \$178,142, Co P.I. with Kelley, Barross, Lilley, Delaney (Total ~\$1,200,000)
- OCE 04-00462 “Collaborative research: The hydrogeological architecture of basaltic ocean crust: CORK experiments for the initial IODP expedition on the flank of the Juan de Fuca Ridge”, \$329,427, Co P.I. with Becker, Davis, Fisher, Jannasch (total \$1,297,148), 1/1/04-12/31/08
- OCE 02-42088, Collaborative Research: Sampling and Initial Characterization of Hydrothermal Fluids, Deposits, Microfauna, and Megafauna at Vent Fields along the Eastern Lau Spreading Center. \$175,905 (total about \$1,000,000), 10/1/03-9/30/06. Co P.I. with Tivey, Seewald, Mottl, Kim, Reysenbeck.
- OCE 02-42091, Collaborative Research: Towards quantifying elemental fluxes and fluid origins from margins using novel submarine instrumentation. \$86,431 (total \$599,534), 4/1/03-3/31/06. Co P.I. with Hilton, Brown, and McMurtry.
- OCE 01-18918, Collaborative Research: Long Term Continuous Monitoring of Pressure, Fluid Chemistry, and Hydrology in Instrumented Boreholes at the Costa Rica Subduction Zone. \$173,748 (total about \$1,000,000), 10/1/01-9/30/05. Co P.I. with Kastner, Jannasch, and Morris
- OCE 00-02031, Collaborative Research: The thermal state of 20-25 Ma lithosphere subducting at the Costa Rica Margin, implications for hydrogeology, fluxes, and the seismogenic zone. \$300,134 (total \$769,890), 10/01/00-9/30/04. Co P.I. with Fisher, Silver, Wang, and Stein.
- OCE 00-02672, Collaborative Research: Studies of Deep-sourced mud volcanism in the Mariana Forearc: A DSL 120, Jason ROV, and coring program. \$102,069, (total \$451,399) 10/01/01- 9/30/03. Co P.I. with Fryer, Mottl, and Todd.
- OCE 99-12367, Collaborative Research: Exchange Processes Between the Oceans and Young Oceanic Crust, Eastern Flank of the East Pacific Rise Near 14S. \$90,125 (total \$202,281), 2/01/00-1/30/02. Co P. I. with Mottl.
- OCE 98-19454, Collaborative Research: Recharge, Discharge, and Routes of Fluid Flow within Young Oceanic Crust at the Juan de Fuca Ridge. \$156,065 (total\$550,486), 7/1/99-6/30/01. Co P. I. with Fisher, Mottl, Davis, and Becker
- OCE 98- 11552, Development of a Long-Term Continuous Water Sampler for Investigating Temporal Variability in Hydrothermal Systems. \$104,159, 12/15/98-12/14/00. Co-P. I. with Jannasch.
- OCE 98-12121, Collaborative Research: Long Term Continuous Sampling of Fluids in Instrumented Boreholes on the Eastern Flank of the Juan de Fuca Ridge. \$80,018, (total \$352,528) 9/1/98-8/31/00. Co-P. I. with Jannasch and Kastner.
- OCE 96-33415, Studies of channelized flow in the Mariana Forearc: Pore fluid geochemistry, sedimentology, and heat flow. \$425,049 (total \$524,958), 1/1/97-12/31/98. Co-P.I. with Fryer, Mottl, and Fisher.

OCE 95-04546, Coupled Chemical and Physical Processes and Their Influence on Ridge-Flank Hydrothermal Systems: A Pilot Study of Idealized Silica Diagenesis. \$67,808 (total \$188,148), 7/1/95-6/30/97. Co-P.I. with Fisher and Ortoleva.

OCE 93-14632, Characterization of Hydrothermal Processes on a Basement Outcrop, Eastern Flank of the Juan de Fuca Ridge. \$304,730, 11/1/94-10/31/97. Co-P.I. with M. Mottl.

OCE 93-14393, Chemical and Heat Fluxes from Loihi Seamount, Hawaii. \$180,180, 1/1/94-12/31/95. Co-P.I. with Sansone.

OCE 92-03458. Hydrothermal Upwelling Through Outcrops on the Eastern Flank of the Juan de Fuca Ridge Near 48°N. \$101,927, 3/1/92-2/28/93. Co-P.I. with Mottl.

OCE 92-03458. Hydrothermal Upwelling Through Outcrops on the Eastern Flank of the Juan de Fuca Ridge Near 48°N: Supplement for REU. \$4,200, 6/1/92-9/1/92. Co-P.I. with Mottl.

OCE 89-12740, Hydrothermal Circulation in a Sedimented Ridge Flank Environment: Supplement for REU. \$4,700, 6/1/90-5/30/91. Co-P.I. with Mottl.

From the Office of Naval Research:

Crustal Evolution in Mid-Ocean Ridge Flanks: Constraints Based on the Chemical Composition of Pore Water. \$65,765, 1/1/94-12/31/94. Co-P.I. with Mottl.

Crustal Evolution in Mid-Ocean Ridge Flanks: Constraints Based on the Chemical Composition of Pore Water. \$62,199, 1/1/93-12/31/93. Co-P.I. with Mottl.

From the JOI U.S. Science Support Program:

Participation on IODP Exp. 366, 10/1/16-1/31/20, \$197,814 + \$15,000 for PEA Award

Participation on IODP Exp. 336, 10/1/11-9/31/12, \$61,511

IODP (IODP Exp 336) Drilling Proposal: Microbiology of a Sediment Pond and the Underlying Young, Cold, Hydrologically Active Ridge Flank. About \$10,000,000, September-November 2011. Co Proponents with K. J. Edwards, W. Bach, A. Teske, A. Schippers, J. Huber, S. D'Hondt, H. Villinger, K.-U. Hinrichs, T. M. McCollom, V. Edgcomb, J. Bernhard, and O. Rouxel.

Participation on IODP Exp 332, 10/20/10-11/7/10, \$18,665

Participation on IODP Exp 327, 7/5/10-7/4/11, \$58,105.

Nankai Project Management Team: Geochemistry Speciality Coordinator, 9/1/07-8/31/08, \$43,386, P. I.

Nankai Project Management Team: Geochemistry Speciality Coordinator, 3/1/06-2/28/07, \$51,048, P. I.

Minor and Trace Element Geochemistry of Basaltic Formation Fluids: Sediment Pore Water Results", \$22,125, 1/1/05-12/31/05. P.I.

Participation as Inorganic Geochemist on IODP Leg 301, Eastern Flank of the Juan de Fuca Ridge, June-August, 2004. \$51,875, 6/1/04-5/31/05. P.I.

IODP (IODP Exp 301 and 327) Drilling Proposal: The Hydrogeologic Architecture of Basaltic Oceanic Crust: Compartmentalization, Anisotropy, Microbiology, and Crustal-scale Properties on the Eastern Flank of Juan de Fuca Ridge. About \$18,000,000. June-August 2004; July-September 2010. Co Proponents with A. T. Fisher, J. Alt, W. Bach, J. Baross, K. Becker, J. Cowen, S. D'Hondt, E. E. Davis, M. Hutnak, D. Kadko, M. McCarthy, J. S. McClain, M. J. Mottl, M. Sinha, G. Spinelli, V. Spiess, D. Teagle, H. Villinger, L. Zühlsdorff.

Support for down-hole instruments for Leg 195, Site MAF-4B. \$52,207. 12/1/00-11/30/01. Co P. I. with Jannasch, Kastner, Davis, Becker, Fryer, Mottl.

ODP (ODP Leg 195) Drilling Proposal: Mariana convergent margin: geochemical, tectonic, and biological processes in intermediate depths of an active subduction factory. About \$5,000,000. March-May 2001. Co Propornents with Fryer, Mottl, Moore, Todd, Becker, Wheat, Fisher, Stern, Hawkins, Brown, Martin, Phipps, and Moyer.

Diagenetic Effects of Fluid Flow on the Evolution of the Crust: Studies of Pore Water and Sediment from ODP Leg 168. \$24,500, 5/15/97-5/14/98. P.I.

Participation as Inorganic Geochemist on ODP Leg 168, Eastern Flank of the Juan de Fuca Ridge, June-August, 1996. \$28,875, 6/1/96-5/31/97. P.I.

Long-Term Continuous Sampling of Fluids in Instrumented Borehole Seals on the Juan de Fuca Ridge and Flank. \$40,620, 2/1/96-1/31/97. Co P.I. with Jannasch.

ODP (ODP Leg 168) Investigating the Nature and Consequences of Hydrothermal Circulation in Oceanic Crust: Drilling on the Eastern Flank of the Juan de Fuca Ridge. About \$5,000,000. June-August 1996. Co. Proponents with Davis, Mottl, Rohr, Becker, Chapman, Fisher, Villinger.

Diagenesis of Silica in Middle Valley, Juan de Fuca Ridge: Impact of Hydrothermal Processes. \$22,000, 3/1/92-2/28/93. P.I.

Chemistry of Interstitial Waters from ODP Leg 139: Hydrothermal Circulation and Mass Transfer in Middle Valley, Juan de Fuca Ridge. \$23,000, 3/1/92-2/28/93. Co-P.I. with Mottl.

Participation as Inorganic Geochemist on ODP Leg 139, Middle Valley, Juan de Fuca Ridge, July-Sept., 1991. \$9,620, 7/1/91-7/1/92. P.I.

From the National Oceanic and Atmospheric Administration (and NURP)

Tsunami warning and environmental observatory for Alaska (TWEAK). \$2,000,000, 10/1/00-9/30/02. Co P. I. with Fryer and Highsmith.

Demonstration Dives in the Channel Islands Marine Sanctuary. \$10,000. 10/1/97-12/1/97. P.I.

New Lessons on the Relationship Between Magmatic Processes, the Subsurface Biosphere, and the Ocean at an Intra-Transform Extensional Basin: Blanco Fracture Zone, Northeast Pacific. \$32,998, 3/1/96-2/28/97. Co-P.I. with Embley, Lupton, Langseth, and Moyer.

Hydrothermal Vent and Plume Chemistry at Loihi Seamount, Hawaii: Investigations of 5000 m deep vents. \$9,523, 9/1/92-3/31/93. Co-P.I. with Sansone.

Hydrothermal Vent and Plume Chemistry at Loihi Seamount, Hawaii. Submersible Dives in 1993, 1996, 1997, 1998, and 2004. Co-P.I. with Sansone.

From NASA

40% Intergovernmental Personnel Act (IPA) \$202,264, 8/1/20 – 7/31/22.

Planetary Science Research and Analysis, \$129,264, 8/1/17 – 7/31/18.

Planetary Science Research and Analysis, \$133,805, 8/1/16 – 7/31/17.

Planetary Science Research and Analysis, \$138,783, 8/1/15 – 7/31/16.

RETINA (Robotic Explonltion Technologies in Astrobiolo!;y) Evaluation, Advancement, and Development of Project Base Learning Activities, \$135,245, 7/1/10 – 6/30/11.

Robotic Exploration Technologies IN Astrobiology (RETINA), 1/1/10- 12/31/10, \$100,000, Co. P. I. With Kitts.

Robotic Exploration Technologies IN Astrobiology (RETINA), 7/1/08- 12/31/09, \$271,163, Co. P. I. With Kitts.

From the Gordon and Betty Moore Foundation

The Deep Subsurface Biosphere at North Pond: A Mid-Atlantic Ridge Microbial Observatory, \$531,000, (total \$3,900,000) 1/1/07-12/31/10, Co P. I. With Edwards, Cowen, Huber, Glazer, Girguis.

From the Marine Science and Technology Foundation

Deep Energy Biosphere Initiative – Subsurface Life Characterization Tool (DEBI-SELECT), \$1,663,136, 12/1/12-11/30/15, Co P. I. with Kirkwood, Kitts, and Hug.

From C-DEBI

C-DEBI Postdoctoral Fellowship. \$60,000, 9/1/13-8/30/14. P.I.

C-DEBI Postdoctoral Fellowship. \$60,000, 6/1/12-5/31/13. P.I.

From the University of Hawaii

Characterization and Modeling of Silica Diagenesis: Impact of Fluid Circulation. \$11,250, 7/1/94-6/30/95. P.I.

Fabrication of a Heat-Pulse Flow Meter. \$4,000, 2/15/94-6/15/94. P.I.

I was an Invited Speaker at the Following Institutions:

University of Washington, Oregon State University, University of California Berkeley, NOAA PMEL Seattle, NOAA PMEL Newport, University of Hawaii, University of Alaska Fairbanks, Monterey Bay Aquarium Research Institute, Western Washington University, University of Oregon, University of California Santa Cruz, Oregon Institute of Marine Biology, U.S.G.S. Deer Creek, Bodega Marine Laboratory, Humboldt State University, Scripps Institution of Oceanography, University of California Davis, University of California Santa Barbara, Universite Toulouse, France, University of Minnesota Duluth, University of Southern California, University of Missouri, University of Mississippi.

Other Activities in the During 2003-2015. Similar Levels Exist for 2016-2019.

Year	Proposals Reviewed (NURP)[C-DEBI]	Papers Reviewed	Meetings and Workshops (Days)	Expeditions (Days)
Totals (since 2003)	543(200)[19]	44	263 (862)	40 (913)
2015	>200	2	Too many	14
2014	11 [8]	2	17 (111)	3 (69)
2013	13 [11]	3	17 (79)	2 (35)
2012	21 (0)	1	21 (80)	2 (37)
2011	25 (17)	3	6 (20)	2 (91)
2010	18 (11)	3	6 (19)	2 (80)
2009	15 (10)	1	18 (54)	4 (63)
2008	101 (52)	1	14 (43)	2 (26)
2007	51 (42)	3	15 (35)	2 (38)
2006	8 (0)	4	19 (76)	2 (31)
2005	28 (25)	3	16 (47)	4 (80)
2004	26 (22)	3	17 (47)	3 (89)
2003	26 (21)	4	19 (53)	2 (66)

Committees During 2003-2014:

- 2014 Monterey Bay Crescent Ocean Research Consortium
Project Management Team for Nankai Drilling IODP
Advisory committee for the Undersea Vehicle Technology Center (UVTC) at NIUST
- 2013 Monterey Bay Crescent Ocean Research Consortium
Project Management Team for Nankai Drilling IODP
Advisory committee for the Undersea Vehicle Technology Center (UVTC) at NIUST
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- 2008 Advisory committee for the Undersea Vehicle Technology Center (UVTC) at NIUST
 Monterey Bay Crescent Ocean Research Consortium
 Project Management Team for Nankai Drilling IODP
 Research Faculty Promotion Committee
- 2007 Advisory committee for the Undersea Vehicle Technology Center (UVTC) at NIUST
 IODP STP
 Monterey Bay Crescent Ocean Research Consortium
 RIDGE 2000 Rapid Response Committee
 Project Management Team for Nankai Drilling IODP
- 2006 Advisory committee for the Undersea Vehicle Technology Center (UVTC) at NIUST
 IODP STP
 Monterey Bay Crescent Ocean Research Consortium
 RIDGE 2000 Lau Basin Coordination Committee (Coordinator)
 RIDGE 2000 Rapid Response Committee
 Project Management Team for Nankai Drilling IODP
- 2005 Advisory committee for the Undersea Vehicle Technology Center (UVTC) at NIUST
 IODP STP
 Monterey Bay National Marine Sanctuary - Research Activity Panel
 Monterey Bay Crescent Ocean Research Consortium
 Marine Advisory Committee (MAC) for MBARI vehicles
 RIDGE 2000 Lau Basin Coordination Committee (Coordinator)
 RIDGE 2000 Steering Committee
 RIDGE 2000 Rapid Response Committee
- 2004 Monterey Bay National Marine Sanctuary - Research Activity Panel
 Monterey Bay Crescent Ocean Research Consortium
 Marine Advisory Committee (MAC) for MBARI vehicles
 RIDGE 2000 Lau Basin Coordination Committee (Coordinator)
 RIDGE 2000 Steering Committee
 RIDGE 2000 Rapid Response Committee
- 2003 Monterey Bay National Marine Sanctuary - Research Activity Panel
 Monterey Bay Crescent Ocean Research Consortium
 Marine Advisory Committee (MAC) for MBARI vehicles
 RIDGE 2000 Lau Basin Coordination Committee (Coordinator)
 RIDGE 2000 Steering Committee

Papers Presented at Professional Meetings:

- Wheat, C. G.**, A. Hartwell, K. Becker, H. Villinger, E. Davis, T. Fournier, and C. Paul. 2018. Hydrogeology of Slow-Spreading Oceanic Crust: A Tracer Study in North Pond Borehole Observatories. Fall Meeting, AGU, Washington, DC, 10-14 Dec. V43G-3814.
- McManus, J., **C. G. Wheat**, and W. Bach. 2018. Carbon cycling in low temperature oceanic hydrothermal systems: The Dorado Outcrop. Fall Meeting, AGU, Washington, DC, 10-14 Dec. V11E-1300.
- McIntosh, H. A., L. Lapham, B. Orcutt, **C. G. Wheat**, T. Fournier, L. Lesack, M. Bergstresser, and K. Geeves. 2018. Quantifying the bottom-up influence on methane dynamics in one Mackenzie River (Canada) Delta lake with time-series measurements over two years (2015-2017). Fall Meeting, AGU, Washington, DC, 10-14 Dec. B41G-0253.
- Henderson, L., C. Megan, S. Dalimore, D. Whalen, P. Fraser, B. Orcutt, **C. G. Wheat**, L. Lapham. 2018. Methane Production Rates from Laboratory Incubations of Arctic Coastal Plain Permafrost. Fall Meeting, AGU, Washington, DC, 10-14 Dec. B31E-0513.
- Becker, K., **C. G. Wheat**, H. W. Villinger and E. E. Davis. 2018. New Long-Term Subseafloor Pressure Records from the IODP Expedition 336 CORKs at North Pond, Western Flank of the Mid-Atlantic Ridge. Fall Meeting, AGU, Washington, DC, 10-14 Dec. B43G-3815.
- Bach, W., B. Orcutt, **C. G. Wheat**, and H. Villinger. 2018 Insights into ridge-flank hydrogeology, geochemical exchange, and microbial life from North Pond. Abstract for IODP UK September, 2018.
- de Jong, M.T., N. Neira, J. F. Clark, A. T. Fisher, C. G. Wheat, 2018, Importance of the Initial Concentration Distribution during Tracer Release Experiments, GCA Annual Meeting #320768.
- Menzies, C. D., D. A. H. Teagle, J. G. Ryan, R. E. Price, O. Sissmann, **C. G. Wheat**, A. Boyce, and the IODP Expedition 366 Scientists. 2017. OS53D-1239: Chemistry and Isotopic Composition of Slab-Derived Fluids from Serpentine Mud Volcanoes in the Mariana Forearc. Fall Meeting, AGU, New Orleans, LA, 11-15 Dec.
- Wheat, C. G.**, J. Ryan, C. D. Menzies, R. E. Price, O. Sissmann and the IODP Expedition 366 Scientists. 2017. OS53D-1236: Systematics of Alkali Metals in Pore Fluids from Serpentinite Mud Volcanoes: IODP Expedition 366. Fall Meeting, AGU, New Orleans, LA, 11-15 Dec.
- Fryer, P. B., **C. G. Wheat**, T. Williams, and the IODP Expedition 366 Scientists. 2017. OS52A-03: IODP Expedition 366 Reveals Widespread Seamount Subduction Effects in the Mariana Forearc. Fall Meeting, AGU, New Orleans, LA, 11-15 Dec.
- Fisher, A. T., **C. G. Wheat**, R. M. Lauer, H. W. Villinger, J. McManus, and B. Orcutt. 2017. H31F-1568: Linked hydro-thermo-chemo-microbiological processes within a cool hydrothermal circulation system in 18-24 M.y. old seafloor of the Cocos Plate. Fall Meeting, AGU, New Orleans, LA, 11-15 Dec.
- Tully, B. J., **C. G. Wheat**, B. T. Glazer, and J. A. Huber. 2017. B11G-1729: A dynamic microbial community with high functional redundancy inhabits the cold, oxic subseafloor aquifer. Fall Meeting, AGU, New Orleans, LA, 11-15 Dec.
- Schlicht, L., **C. G. Wheat**, S. Kasemann, W. Bach. 2017. Impact of ridge flank hydrothermal systems on the Li and the $\delta^{7}\text{Li}$ composition of seawater, *GeoBremen* 2017, 24.9.-29.9.19.
- McIntosh, H., L. Lapham, B. Orcutt, **C. G. Wheat**, L. Lesack, M. Bergstresser, S. Dallimore, M. Côté, R. MacLeod. 2017. Time-series measurements of methane (CH_4) distribution and sources during open water and ice-cover in lakes throughout the Mackenzie River Delta (Canada) Gordon Research Seminar (GRS) - Advancing the Physical-Biological Understanding of Polar Marine Ecosystems Through Innovative Technology, January.
- Menzies, C. D. J. G. Ryan, R. E. Price, O. Sissmann, **C. G. Wheat**, IODP Expedition 366 Science Party, 2017. Chemistry of slab-derived fluids in the Mariana forearc. Goldschmidt Conference, Paris, France.
- Ryan, J. G. R. Johnston, C. D. Menzies, R. E. Price, O. Sissmann, P. Fryer, **C. G. Wheat**, and the IODP Expedition 366 Science Party, 2017. Compositional variability in serpentinite solids, IODP Expedition 366: Insights into a developing subduction channel. Goldschmidt Conference, Paris, France. Fisher, A.T., N. M. Neira, **C. G. Wheat**, J. F. Clark, K. Becker, C-C Hsieh, M. S. Rappé. 2014. A cross-hole, multi-year tracer injection experiment in the volcanic ocean crust. AGU Fall Meeting.
- Orcutt, B., S. A. Carr, T. D'Angelo, J. LaBonte, A. Lecouevre, M. D. Lee, G. A. Rairez, **C. G. Wheat**. 2016. Living Between A Rock And A Hard Place: New Insights On The Crustal Deep Biosphere (Invited): B51K-01, 2016 Fall Meeting of AGU, December 2016.
- McIntosh, H., L. Lapham, B. Orcutt, **C. G. Wheat**, L. Lesack, M. Bergstresser, S. R. Dallimore, R. MacLeod, M. Cote. 2016. Time-series measurements of methane (CH_4) distribution during open water and ice-cover in

- lakes throughout the Mackenzie River Delta (Canada): B23B-0573, 2016 Fall Meeting of AGU, December 2016.
- Carr, S. A., **C. G. Wheat**, B. Orcutt, A. Kopf, D. M. Saffer, S. Toczko. 2016. Methane-related metabolisms of deep-sea sediments captured with a colonization experiment: B13G-0725, 2016 Fall Meeting of AGU, December 2016.
- Frank, K. L., K. L. Rogers, **C. G. Wheat**, R. Alegado. 2016. Linking benthic microbial community dynamics to diel redox variations in a near shore costal environment, He'eia Fishpond: B11F-0531, 2016 Fall Meeting of AGU, December 2016.
- Orcutt, B. N., L. L. Lapham, P. Girguis, **C. G. Wheat**, K. Marshall, J. Delaney. 2015. Making a Living on Hydrocarbons: Diversity, Metabolic Potential, and Regulation of Microbial Hydrocarbon Oxidation. Abstract for 2015 Gulf of Mexico Oil Spill & Ecosystem Science Conference, February 2015.
- Ramírez, G. A., J-P. M. Baquiran, S. Hulme, **C. G. Wheat**, K. J. Edwards, and B. N. Orcutt. 2015. Thermal Influence on Colonization Patterns of Rock-Attached Microbial Communities Sourced from Deep Biosphere Crustal Fluids, Geomicrobiology
- Inderbitzen, K. **C. G. Wheat**, P Baker, and A. Fisher. 2014. Refining the Subseafloor Circulation Model of the Middle Valley Hydrothermal System Using Fluid Geochemistry, AGU Fall Meeting.
- Orcutt, B., L Lampham, P. Girguis, **C. G. Wheat**, and K. Marshall. 2014. The microbial methane observatory for seafloor analysis (MIMOSA): Long-term coupled geochemistry and microbiology experimentation in the Deep-Sea. Goldschmidt, Sacramento, June 8-13.
- Inderbitzen, K., and **C. G. Wheat**. 2014. Evaluating the subseafloor fluid circulation model of the Middle Valle, Juan de Fuca Ridge, Goldschmidt, Sacramento, June 8-13.
- Orcutt, B., S. Carr, S. Jungbluth, M. Rappe and **C. G. Wheat**. 2014. Microbial function in the Juan de Fuca Ridge Flank Crustal deep biosphere revealed through single cell genomics, Goldschmidt, Sacramento, June 8-13.
- Bach, W., K. Edwards, B. Orcutt, **G Wheat**, and B. Glazer. 2014. Water-rock reactions and microbial life within the ocean crust. May 15. Bergen, Germany.
- Hsieh, C.-C., J. P. Cowen, A. T. Fisher, H.-T. Lin, J. F. Clark, **C. G. Wheat**, and M. J. Mottl. 2013. IODP 327 tracer experiment: recovery of microspheres in basaltic crustal fluids from IODP Holes 1362B, 1362A, 1301A, 1301B, and 1026B on the eastern flank of Juan de Fuca Ridge, AGU Fall Meeting, B13C-0515.
- Neira, N. M., J. F. Clark, A. T. Fisher, and **C. G. Wheat**. 2013. Preliminary Results from a Gas Tracer Injection Experiment in the Upper Oceanic Crust on the Eastern Flank of the Juan de Fuca Ridge, AGU Fall Meeting, S41C-1834.
- Laphan, L., B. Orcutt, P. Girguis, and **C. G. Wheat**. 2013. Deep-water sediment biogeochemical time-series data from MIMOSA (Microbial Methane Observatory for Seafloor Analysis), Gulf of Mexico Oil Spill and Ecosystem Science Conference, Jan. 21-23, New Orleans.
- Baronas, J. J., D. E. Hammond, J. McManus, C. Siebert, G. Wheat. 2013. Marine budget for Germanium stable isotopes. AGU Fall Meeting.
- Kinoshita, M., E. E. Davis, K. Becker, J. Miyazaki, S. Hulme, R. Mendrum, T. Toki, **C. G. Wheat**, and T. Kasaya, 2012. 10+ years of ACORK: Continuous pore pressure record from the decollement zone at Nankai Trough off Muroto, AGU Fall Meeting 2012, San Francisco, CA. Oral Presentation T22A-06.
- Edwards, K. J., **C. G. Wheat**, T. Pettigrew, H. W. Jannasch, K. Becker, E. E. Davis, H. W. Villinger, and W. Bach. 2012. CORK-Lite: Bringing Legacy Boreholes Back to Life, AGU Fall Meeting 2012, San Francisco, CA. Oral Presentation OS24B-03.
- Cowen, J. P., C. Hsieh, J. Guss, A. T. Fisher, H.-T. Lin, J. F. Clark, **C. G. Wheat**. 2012. Time-series geochemical and tracer injection recovery data from the deep (basaltic) crustal fluids from IODP Holes 1301A/1362B on the eastern flank of Juan de Fuca Ridge, AGU Fall Meeting 2012, San Francisco, CA. Oral Presentation OS24B-06.
- Wheat C. G.**, A. T. Fisher, S. Hulme, K. Becker, H. W. Villinger, W. Bach, K. J. Edwards, 2012. Plate Scale Sub-seafloor Fluid Circulation: The Tale of Two Endmembers, Juan de Fuca Ridge and North Pond (Invited), AGU Fall Meeting 2012, San Francisco, CA. Oral Presentation OS24B-01.
- Orcutt, B. N., **C. G. Wheat**, S. Hulme, K. J. Edwards, and W. Bach. 2012. Oxygen consumption in subseafloor basaltic crust, AGU Fall Meeting 2012, San Francisco, CA. Poster Presentation B43G-0500.
- Miyazaki, J., Y. Morono, H. Hirayama, F. Inagaki, **C. G. Wheat**, and K. Takai. 2012. Exploration of serpentine seamount, South Chamorro seamount, AGU Fall Meeting 2012, San Francisco, CA. Poster Presentation B43G-0505.
- Moore, S.W., **C.G. Wheat**, J. D. Ambrose, J. C. McClure, C. Paul., and T.F. Fournier. 2012. Home-brew ROVs: Viable platforms for citizen-based marine science? Western Society of Naturalists.

- Kinoshita, Masataka, Miyazaki Junichi, Samuel Hulme, Earl E. Davis, Robert Meldrum, Keir Becker, Toki Tomohiro, **C. Geoffrey Wheat**, and Kasayal Takafumi, 2012, 10 years of ACORK: Continuous pressure from the decollement zone at Nankai Trough off Muroto, Japan Geophysical Union.
- Becker, K., E. E. Davis, A. T. Fisher, **C. G. Wheat**, H. W. Jannasch, and T Pettigrew. 2011. Historical Overview of ODP/IODP CORK Hydrological Observatories, OS11A-1454, AGU Fall Meeting.
- Wheat, C. G.**, H. W. Jannasch, M. Kastner, S. Hulme, J. P. Cowen, K. J. Edwards, B. N. Orcutt, B. T. Glazer. 2011. Fluid Sampling from Oceanic Borehole Observatories: Design and Methods for CORK Activities (1990-2010), OS11A-1458, AGU Fall Meeting.
- Orcutt, B. N., K. J. Edwards, A. Haddad, **C. G. Wheat**. 2011. An overview of CORK borehole observatory microbiology experimentation techniques, OS11A-1459, AGU Fall Meeting.
- Slovacek, A. E., A. T. Fisher, W. Kirkwood, **C. G. Wheat**, T. Maughan, K. Gomes. 2011. Development, Calibration and Deployment of an Electromagnetic Flowmeter for Cross-Hole Hydrogeologic Experiments, OS11A-1461, AGU Fall Meeting.
- Cooper, S. K., R. Brennon, K. Hamner, J. Kane, J. Ringlein, L. R. Strong, B. N. Orcutt, A. T. Fisher, K. J. Edwards, J. P. Cowen, S. Hulme, **C. G. Wheat**. 2011. Telling the Story of Ridge Flank Research to all Ages and Audiences, T31A-2316. AGU Fall Meeting.
- Wheat, C. G.** S. Hulme, M. J. Mottl, A. T. Fisher, E. E. Davis. 2011. Geochemical Constraints for Plate Scale Subseafloor Fluid Circulation: The Eastern Flank of the Juan de Fuca Ridge, T34B-01, AGU Fall Meeting. INVITED.
- Orcutt, B. N., W. Bach, K. Becker, K. J. Edwards, A. T. Fisher, A. Haddad, S. Hulme, A. Teske, B. Toner, **C. G. Wheat**. 2011. Ridge-flank crustal microbiology investigated with long-term borehole observatories, T34B-03, AGU Fall Meeting.
- Smith, A. R., R. Popa, M. R. Fisk, M. E. Nielsen, **C. G. Wheat**, H. W. Jannasch, A. T. Fisher, K. Becker, S. M. Sievert, G. E. Flores. 2011. Microbial phylogeny of igneous minerals and glasses in deep ocean crust, B44B-06, AGU Fall Meeting.
- Becker, K. E. E. Davis, A. Fisher, **C. G. Wheat**, and T. Pettigrew. 2011. Oceanic hydrologic studies. NGWA Meeting.
- Orcutt, B. N., W. Bach, K. Becker, A. T. Fisher, S. Hulme, B. M. Toner, **C. G. Wheat**, and K. J. Edwards. 2010. Microbial borehole observatories deployed within the oceanic crust: Design considerations and initial results from long-term colonization experiments (Invited). AGU Fall Meeting.
- Schmidt, C. M., T. A. Russo, A. T. Fisher, A. J. Racz, **C. G. Wheat**, M. Los Huertos, and B. S. Lockwood. 2010. Mitigating agricultural impacts on groundwater using distributed managed aquifer recharge ponds. AGU Fall Meeting.
- Edwards, K. J., and **C. G. Wheat**. 2010. Intraterrestrial life in igneous ocean crust: advances, technologies, and the future (Invited). AGU Fall Meeting.
- Inderbitzen, K. E., K. Becker, E. E. Davis, S. Hulme, and **C. G. Wheat**. 2010. Middle Valley in perspective: New outlooks from changes in local hydrothermal venting. AGU Fall Meeting.
- Fisher, A. T., K. Becker, and **C. G. Wheat**. 2010. Heterogeneity, anisotropy, and compartmentalization of fluid, heat, and solute transport in the upper ocean crust on ridge flanks (Invited). AGU Fall Meeting.
- Hulme, S., and **C. G. Wheat**. 2010. Fluid and chemical fluxes along a buried-basement ridge in the eastern Juan de Fuca Ridge flank. AGU Fall Meeting.
- Kopf, A., D. M. Saffer, E. E. Davis, E. Araki, M. Kinoshita, R. M. Lauer, **C. G. Wheat**, K. Kitada, T. Kimura, S. Toczko, N. O. Eguchi, and Science Parties. 2010. NanTroSEIZE observatories: Installation of a long-term borehole monitoring systems offshore the Kii Peninsula, Japan. AGU Fall Meeting.
- Kastner, M., E. A. Solomon, **C. G. Wheat**, and H. W. Jannasch. 2010. Long-Term Hydrogeochemical Records from Ocean Drilling Program Borehole Observatories in the Costa Rica Subduction Zone. AGU Fall Meeting.
- Orcutt, B. N., W. Bach, K. Becker, A. T. Fisher, M. Hentscher, B. M. Toner, **C. G. Wheat**, and K. J. Edwards, 2010. The subsurface ocean crust biosphere using observatories to investigate life on the rocks, *Abstract for ISME-13*, 08/2010, Theme 13. Life at the Energetic Edge <http://www.isme-microbes.org/isme13/invited>.
- Takai, K., J. Miyazaki, Y. Morono, F. Inagaki, K. Kubota, C. Moyer, J. Seewald, **C. G. Wheat**. 2010. Exploration of the most alkaline extreme in a deep-sea serpentinite seamount, the South Chamorro Seamount as an interface between abiotic and biotic in this planet. 2010 Astrobiology Conference.
- Orcutt, B. N., W. Bach, K. Becker, A. T. Fisher, M. Hentscher, B. M. Toner, **C. G. Wheat**, and K. J. Edwards, 2010. Life in Young Ocean Crust: Insights from Subsurface Microbial Observatories, Goldschmidt Meeting.
- Inderbitzen, K. E., K. Becker, E. E. Davis, **C. G. Wheat**, 2010. Seafloor uplift at Hole 857D, Middle Valley,

- Northern Juan de Fuca Ridge, Ocean Sciences Meeting.
- Girguis, P.R., J. Robidart, and **C. G. Wheat**, 2010. Correlating Community Dynamics and Microbial Protein Expression with Changes in Hydrothermal Chemistry at the Juan de Fuca Ridge using the Biological Osmotic Sampling System (BOSS).
- Orcutt, B., **C. G. Wheat**, A. T. Fisher, W. Bach, K. J. Edwards. 2009. Subsurface microbial observatories deployed in young ocean crust, Fall AGU Meeting.
- Schmidt, C. M., A. T. Fisher, A. J. Racz, **C. G. Wheat**, J. Sharkey, B. S. Lockwood. 2009. The magnitude and controls on denitrification during managed aquifer recharge into a shallow, unconfined aquifer in a coastal groundwater basin. Fall AGU Meeting.
- Tryon, M. D., **C. G. Wheat**, D. R. Hilton. 2009. Evidence for subduction of upper plate serpentine at the western edge of the Caribbean plate. Fall AGU Meeting.
- Edwards, K. J., **C. G. Wheat**, W. Bach. 2008. The Deep Subsurface Biosphere at North Pond: A Mid-Atlantic Ridge Microbial Observatory, EGS-AGU-EUG, Nice, France.
- Mahacek, P., T. Berk, A. Casanova, C. Kitts, W. Kirkwood, and **C. G. Wheat**. 2008. Development and Initial Testing of a SWATH Boat for Shallow-water Bathymetry. Proc IEEE Oceans Conference, Quebec City, Canada, September 2008.
- Solomon, E.A., S. Hulme, L. Claesson, H. Tomaru, **C. G. Wheat**, N. Riedinger, and the IODP Exp 315-316 Scientific Party. 2008. Geochemical constraints on fluid-rock reactions, fluid sources, and flow pathways along the NanTroSEIZE transect; IODP Expeditions 315/316, Fall AGU.
- Wheat**, **C. G.**, S. Hulme, H. Tomaru, L. C. Liljedahl, and E. Solomon. 2008. Pore Water Geochemistry of IODP Exp 315 and 316: The NanTroSEIZE Transect, Fall AGU.
- Hulme, S. M., **C. G. Wheat**, E. Solomon, H. Tomaru, and L. C. Liljedahl. 2008. Rare Earth Element and Trace Metal Composition of Pore Fluids in the Nankai Trough as Relates to the Lithostratigraphy and Deep Biosphere, Fall AGU.
- Girguis, P.R., J. Robidart, and **C. G. Wheat**. 2008. The BOSS: a novel approach to coupling temporal changes in geochemistry and microbiology in the deep subsurface biosphere, Fall AGU.
- Mottl, M.J., T. M. McCollom, **C. G. Wheat**, and P. Fryer. 2008. Decarbonation of the Subducting Pacific Plate Triggered by the Lawsonite-to-Epidote Transition Beneath the Mariana Forearc Serpentinite Mud Volcanoes, Fall AGU.
- Jannasch, H. W., **C. G. Wheat**, S. Hulme, K. Becker, A. T. Fisher, and E. E. Davis. 2008. Chemical and Physical Characteristics of Basaltic Formation Fluids on a Ridge Flank: Using Drilling Perturbations to Elucidate Water-Rock-Microbial Reactions, Fall AGU.
- Smith, A., R. Popa, M. Fisk, M. Nielsen, **C. G. Wheat**, H. Jannasch, A. Fisher, and S. Sievert. 2008. Sub-seafloor Microbial Colonization of Igneous Minerals and Glasses, Fall AGU
- Resing, J. A., E. Baker, F. Martinez, N. Buck, S. Walker, J. Seewald, G. Proskurowski, J. Lupton, and **C. G. Wheat**. 2008. Hydrothermal Plume Geochemistry along the East Lau Spreading Center, Fall AGU
- Monnin, C., **C. G. Wheat** and M. J. Mottl, 2007. The stability of calcite and aragonite in sediments overlying zones of basement fluid upwelling in the eastern flank of the Juan de Fuca ridge, Goldschmidt 2007.
- Clark, J. F., A. T. Fisher, J. P. Cowen, **C. G. Wheat**, K. Becker, and H. W. Jannasch. 2007. Hydrologic investigations of the Upper Ocean Crust: The 2008 Juan de Fuca Ridge Experiment, 4th Mini Conference on Noble Gases.
- Kitts, C., **C. G. Wheat**, and W. Kirkwood, 2007. Robotic system applications for fisheries research, American Fisheries Society.
- Kelley, D.S., P. R. Girguis, **C. G. Wheat**, E. Cordes, M. O. Schrenk, M. Lin, J. A. Baross, and J. R. Delaney. 2007. Towards Determining the Upper Temperature Limit to Life, Fall Meeting of AGU.
- Rouxel, O. J., K. J. Edwards, C. L. Moyer, and **C. G. Wheat**. 2007. Biogeochemical Cycling of Iron Isotopes at Loihi Seamount, Fall Meeting of AGU.
- Orcutt, B. N., K. Edwards, **C. G. Wheat**, and H. Jannasch. 2007. Deciphering Life in Young Ocean Crust: Development and Testing of Methods for Subsurface Microbial Observatories and In-Situ Incubations, Fall Meeting of AGU.
- Schmidt, C. M., A. Fisher, **C. G. Wheat**, J. Sharkey, M. Los Huertos, and J. Lear. 2007. Improving Managed Aquifer Recharge Operation to Reduce Nutrient Load in an Agricultural Basin: Delineation of Processes, Controls, and In-situ Potential, Fall Meeting of AGU.
- McManus, J., **C. G. Wheat**, Siebert, Piasias, Robinson, Hammond. 2006. Will Ge ever be an effective proxy for Earth chemistry or climate? Insights from Ge isotopes and diatom Ge/Si ratios. *EOS Trans. AGU*, 87:F.

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- Tryon, M. D., D. R. Hilton, K. M. Brown, **C. G. Wheat**, G. McMurtry, W. Brueckmann, H. Niemann, A. L. LaBonte, E. Fueri, U. Schacht, R. Hansman. 2006. Observations at forearc carbonate mounds offshore Costa Rica, *EOS Trans. AGU*, 87:F.
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- Kastner, M., E Solomon, **G Wheat**, H Jannasch, E Davis, H Villinger, M Heesemann, G Robertson, J Morris. 2005. Continuous Chemical and Fluid Flux Monitoring in Two Distinct Fluid Flow Systems at the Costa Rica Subduction Zone, *EOS Trans. AGU*, 86: F.
- Tivey, M. K., P Craddock, J Seewald, V Ferrini, S Kim, M Mottl, N A Sterling, A Reysenbach, **C G Wheat**, and TUIM05MV Scientific Party. 2005. Characterization of Six Vent Fields Within the Lau Basin, *EOS Trans. AGU*, 86: F.
- Seewald, J., T McCollom, G Proskurowski, E Reeves, M Mottl, J Sharkey, **C G Wheat**, and M Tivey. 2005. Aqueous Volatiles in Lau Basin Hydrothermal Fluids, *EOS Trans. AGU*, 86: F.
- Sharkey, J., **C G Wheat**, M J Mottl, and J Seewald. 2005. Vent Fluid Chemistry From Six Hydrothermal Fields Along the Eastern Lau Spreading Center From 20° 03'S to 22° 13'S, *EOS Trans. AGU*, 86: F.
- M D Buatier, S Bodei, M Steinmann, A Manceau, A Karpoff, D Guillaume, and **C G Wheat**. 2005. Fluid-sediment Interaction and Formation of Mn oxo-hydroxide related to a Ridge Flank Hydrothermal System, *EOS Trans. AGU*, 86: F.
- Ruehl, C, A. Fisher, M. Los Huertos, S, Wankel, **C. G. Wheat**, C. Kendall, C. Hatch, and C. Shennan 2005. Nitrate dynamics in the Pajaro River: A nutrient-rich losing stream. GSA Fall Meeting, Abstract No: 93903, GSA Abstracts with Programs Vol. 37 (7).
- Pagé, A., M. K. Tivey, D. S. Stakes, A. M. Bradley, J. S. Seewald, *G. Wheat*, and A-L. Reysenbach. 2005. Microbial Colonization of High Temperature Hydrothermal Vent Chimneys in Guaymas Basin, (International Union of Microbiological Societies, July 23-28, 2005).
- Buatier, M., S. Bodei, A. Manceau, M. Steinmann, A. M. Karpoff, D. Guillaume, *G. Wheat*, 2005. Fluid sediment interaction and formation of Mn oxo-hydroxide related to a ridge flank hydrothermal system
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