

PUBLICATIONS AND PAPERS- Clare E. Reimers

Peer reviewed papers, book chapters, conference proceedings, etc.

1. Schrader, P.S., Reimers, C.E., Girguis, P., Delaney, J., Doolan, C., Wolf, M., and Green, D. (2016) Independent benthic microbial fuel cells powering sensors and acoustic communications with the MARS underwater observatory. *J. Atm. Ocean. Tech.* in press.
2. Reimers, C.E., Özkan-Haller, H. T., Albright, A., and Berg, P. (2016) Microelectrode velocity effects and aquatic eddy covariance measurements under waves. *J. Atm. Ocean. Tech.* 33, 263-282.
3. Berg, P., Reimers, C.E., Rosman, J.H., Huettel, M., Delgard, M.L., Reidenbach, M.A. and Özkan-Haller, H.T. (2015) Technical note: Time lag correction of aquatic eddy covariance data measured in the presence of waves. *Biogeosciences* 12, 6721-6735.
4. Fuchsman, C.A., Devol, A.H., Chase, Z., Reimers, C.E. and Hales, B. (2015) Benthic fluxes on the Oregon shelf. *Estuar. Coast. Shelf Sci.* 163, 156-166.
5. Abbott, A.N., Haley, B.A., McManus, J.E., and Reimers, C.E. (2015) The sedimentary flux of dissolved rare earth elements to the ocean. *Geochim. Cosmochim. Acta* 154, 186-200.
6. Reimers, C.E. (2015) Applications of bioelectrochemical energy harvesting in the marine environment. Chapter in: *Electrochemically active biofilms in microbial fuel cells and bioelectrochemical systems: From laboratory practice to data interpretation*. Edited by H. Beyenal and J.T. Babauta, Elsevier, pp. 345-366.
7. McCann-Grosvenor, K., Reimers, C.E., and Sanders, R.D. (2014) Dynamics of the benthic boundary layer and seafloor contributions to oxygen depletion on the Oregon inner shelf. *Cont. Shelf Res.* 84, 93-106.
8. Erhardt, A.M., Reimers, C.E., Kadko, D., and Paytan, A. (2014) Records of trace metals in sediments from the Oregon shelf and slope: Investigating the occurrence of hypoxia over the past several thousand years. *Chem. Geol.* 382, 32-43.
9. Reimers, C.E., Alleau, Y., Bauer, J.E., Delaney, J., Girguis, P.R., Schrader, P.S., and Stecher, H.A., III. (2013) Redox effects on the microbial degradation of refractory organic matter in marine sediments. *Geochim. Cosmochim. Acta*, 121, 582-598.
10. Berelson, W.M., McManus, J., Severmann, S., and Reimers, C.E. (2013) Benthic flux of oxygen and nutrients across Oregon/California shelf sediments. *Cont. Shelf Res.* 55, 66-75.
11. Reimers, C.E., Özkan-Haller, H.T., Berg, P., Devol, A., McCann-Grosvenor, K., and Sanders, R.D. (2012) Benthic oxygen consumption rates during hypoxic conditions on the Oregon Continental Shelf: Evaluation of the eddy correlation method. *J. Geophys. Res. Oceans* 117, C02021, doi:10.1029/2011JC007564.
12. Gong, Y., Radachowsky, S., Wolf, M., Nielsen, M., Girguis, P., and Reimers, C.E. (2011) Benthic microbial fuel cell as direct power source for an acoustic modem and seawater oxygen/temperature sensor system. *Env. Sci. & Technol.* 45, 5047-5053.
13. Girguis, P.R., Nielsen, M.E., Reimers, C.E. (2010) Fundamentals of benthic microbial fuel cells: theory, development and application. In *Bioelectrochemical Systems: From Extracellular Electron Transfer to Biotechnological Application*. Edited by Rabaey, K., Angenent, L.T., Schröder, U., Keller, J.: IWA Publishing; pp. 327 - 346.

14. Nielsen, M.E., Wu, D., Girguis, P., and Reimers, C.E. (2009) Influence of substrate on electron transfer mechanisms in chambered microbial fuel cells. *Env. Sci. & Technol.* 43, 8671-8677.
15. Reimers, C.E., Taghon, G.L., Fuller, C.M., and Boehme, S.E. (2009) Seasonal patterns in permeable sediment and water column biogeochemical properties on the inner shelf of the Middle Atlantic Bight. *Deep-Sea Research II* 56, 1865-1881.
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16. White, H.K., Reimers, C.E., Cordes, E.E., Dilly, G.F., and Girguis, P.R. (2009). Quantitative population dynamics of microbial communities in plankton-fed microbial fuel cells. *ISME Journal* 3, 635-646.
17. Nielsen, M.E., Reimers, C.E., White, H.K., Sharma, S., and Girguis, P.R. (2008) Sustainable energy from deep ocean cold seeps. *Energy and Environmental Science* 1, 584-593.
18. Nelson, J.D., Boehme, S.E., Reimers, C.E., Sherrell, R.M., and Kerkhof, L.J. (2008) Temporal patterns of microbial community structure in the Mid-Atlantic Bight. *FEMS Microbial Ecol.* DOI:10.1111.
19. Nielsen, M.E., Reimers, C.E., and Stecher, H.A., III (2007) Enhanced power from chambered benthic microbial fuel cells. *Env. Sci. & Technol.* 41, 7895-7900.
20. Reimers, C.E., Stecher, H.A., III, Westall, J.C., Alleau, Y., Howell, K.A., Soule, L., White, H.K., and Girguis, P.R. (2007) Substrate degradation kinetics, microbial diversity, and current efficiency of microbial fuel cells supplied with marine plankton. *Appl. Env. Microbiology* 73, 7029-7040.
21. Reimers, C.E. (2007) Applications of microelectrodes to problems in chemical oceanography. *Chemical Reviews* 107, 590-600.
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25. Komada, T., Reimers, C.E., Luther, G.W., III., and Burdige, D.J. (2004) Factors affecting dissolved organic matter dynamics in mixed redox to anoxic coastal sediments. *Geochim. Cosmochim. Acta* 68, 4099-4111.
26. Holmes, D. E., Bond, D.R., O'Neil, R.A., Reimers, C.E., Tender, L.M., and Lovley, D.R. (2004). Microbial communities associated with electrodes harvesting electricity from a variety of aquatic sediments. *Microbial Ecology* 48, 178-190.
27. Reimers, C.E., Stecher, H.A., III, Taghon, G.L., Fuller, C.M., Huettel, M., Rusch, A., Ryckelynck, N., and Wild, C. (2004) *In situ* measurements of advective solute transport in permeable shelf sands. *Cont. Shelf. Res.* 24, 183-201.

28. Rusch, A., Huettel, M., Reimers, C.E., Taghon, G.L., and Fuller, C.M. (2003) Activity and distribution of bacterial populations in Middle Atlantic Bight shelf sands. *FEMS Microbiology Ecology* 44, 89-100.
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32. Reimers, C.E., Tender, L.M., Fertig, S., and Wang, W. (2001) Harvesting energy from the marine sediment-water interface. *Env. Sci. & Technol.* 35, 192-195.
33. Reimers, C.E. (2001) Petrographic clues to processes leading to high organic carbon concentrations in the Naples Beach section of the Monterey Formation. In: "The Monterey Formation: From Rocks to Molecules" edited by C. Isaacs and J. Rullkotter, Columbia University Press, pp. 59-76.
34. Reimers, C.E., Jahnke, R.A., and Thomsen, L. (2001) *In situ* sampling in the benthic boundary layer. Chapter in "The Benthic Boundary Layer: Transport Processes and Biogeochemistry" B.P. Boudreau and B.B. Jørgensen (editors), Oxford University Press, pp. 245-268.
35. Cai, W.-J., and Reimers, C.E. (2000) Sensors for *in situ* pH and $p\text{CO}_2$ measurements in seawater and at the sediment-water interface. In: *In Situ Monitoring of Aquatic Systems: Chemical Analysis and Speciation*, J. Buffle and G. Horvai (Eds.) IUPAC Series on Analytical and Physical Chemistry of Environmental Systems Vol. 6, J. Wiley & Sons, pp.75-120.
36. Reimers, C.E., and Glud, R. N. (2000) *In situ* chemical sensor measurements at the sediment-water interface. Chapter in: "Chemical Sensors in Oceanography" M. Varney (editor), Gordon and Breach Publishing, pp.249-282.
37. Luther, G.W., Reimers, C.E., Nuzzio, D.B., and Lovalvo, D. (1999) *IN SITU* deployment of voltammetric, potentiometric and amperometric microelectrodes from a ROV to determine dissolved O_2 , Mn, Fe, S(-2) and pH in porewaters. *Environ. Sci. and Technol.* 33, 4352-4356.
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45. Tengberg, A., De Bovee, F., Hall, P., Berelson, W., Chadwick, B., Ciceri, G., Crassous, P., Devol, A., Emerson, S., Gage, J., Glud, R., Graziottin, F., Gundersen, J., Hammond, D., Helder, W., Hinga, K., Holby, O., Jahnke, R., Khripounoff, A., Lieberman, S., Nuppenau, V., Pfannkuche, O., Reimers, C., Rowe, G., Sahami, A., Sayles, F., Schurter, M., Smallman, D., Wehrli, B., and De Wilde, P. (1996) Benthic chamber and profile landers in oceanography- a review of design, technical solutions and functioning. *Progress in Oceanography* 35, 253-294.
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48. Cai, W.-J., and Reimers, C.E. (1995) Benthic oxygen flux, bottom water oxygen concentration and core top organic carbon content in the deep Northeast Pacific Ocean. *Deep-Sea Res.* 42, 1681-1699.
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55. Garrison, R.E., Kastner, M., and Reimers, C.E. (1990) Miocene phosphogenesis in California. In: Burnett, W.C. and Riggs, S.R. (eds.), *Phosphate Deposits of the World, Vol. III: Neogene to Modern Phosphorites*. Cambridge University Press, pp. 285-299.
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Unreviewed articles, reports and conference proceedings

1. Dewan, A., Ewing, T., Nielsen, M.E., Reimers, C.E., Chadwick, B., Richter, K., Lewandowski, Z. and Beyenal, H. (2010) Effect of location on the performance of benthic microbial fuel cells. 2010 WEF/IWA Biofilm Reactor Technology Conference Proceedings.
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