

## **Shaw Publication History**

Thibault de Chanvalon, A., Luther, G.W., III, Oldham, V.E., Tebo, B.M., Coffey, N.R. and Shaw, T.F. (2023), Distribution and stability of Mn complexes in the ocean: Influence of hydrothermal plumes and weather events. *Limnol Oceanogr*, 68: 455-466. [doi.org/10.1002/lno.12285](https://doi.org/10.1002/lno.12285)

S. P. Putnam, M. L. Smith, T. T. Metz, A. M. Womer, E. Sellers, S. J. McClain, C. A. Crandell, G. I. Scott, T. J. Shaw, John L. Ferry. (2022) Growth of the harmful benthic cyanobacteria *Lyngbya wollei* is driven by sedimentary phosphorous. *Harmful Algae* 117:102263. doi: 10.1016/j.hal.2022.102263.

E. Estes, D. Berti, A. Findlay, M. Hochella, T. J. Shaw, M. Yucel, E. De Carlo, Eric; G. W. Luther III. (2022) Differential behavior of metal sulfides in hydrothermal plumes and diffuse flows. *ACS Earth Space Chem.* 2022, 6, 6, 1429–1442 [doi.org/10.1021/acsearthspacechem.1c00377](https://doi.org/10.1021/acsearthspacechem.1c00377)

T. J. Shaw, G. W. Luther III, R. Rosas, V. E. Oldham, N. R. Coffey, J. L. Ferry, D. M. C. Dias, M. Yücel, A. Thibault de Chanvalon. Fe-catalyzed sulfide oxidation in hydrothermal plumes is a source of reactive oxygen species to the ocean. (2021) *Proceedings of the National Academy of Sciences*, Oct, 118-122.

T. J. Shaw, C. Boucher, C. L. Huffard, K. L. Smith Jr., (2020) Model Study of Oxygen Mass Transfer into Persistent Aggregate Layers in the Deep Sea. *Deep Sea Res. II*: 173, 104760,

S. T. Faulkner, C.M. Rekully, E. M. Lachenmyer, E. Kara, T.L., Richardson, T. J., Shaw, M. L. Myrick, M. L. Single-Cell and Bulk Fluorescence Excitation Signatures of Seven Phytoplankton Species During Nitrogen Depletion and Resupply. (2018). *Applied Spectroscopy*. <https://doi.org/10.1177/0003702818812090>

C.M. Rekully, S. T. Faulkner, E. M. Lachenmyer, B. R. Cunningham, T. J. Shaw, T. L. Richardson, M. L. Myrick. Fluorescence Excitation Spectroscopy for Phytoplankton Species Classification Using an All- Pairs Method: Characterization of a System with Unexpectedly Low Rank. *Applied Spectroscopy* (2017), 000370281774127.

D.M.C. Dias, J.M. Copeland, C.L. Milliken, X. Shi, J.L. Ferry, T.J. Shaw. Production of Reactive Oxygen Species in the Rhizosphere of *Spartina* Dominated Salt Marsh Systems. *Aquat. Geochem.* **22:5-6**, 573-592 (2016)

S.A. Murphy, S. Meng, B.M. Solomon, D.M.C. Dias, T.J. Shaw, J.L. Ferry Hydrous Ferric Oxides in Sediment Catalyze Formation of Reactive Oxygen Species during Sulfide Oxidation. *Front. Mar. Sci.* **3:227**, (2016) doi: 10.3389/fmars.2016.00227

S. McDermott, D. C. Salzberg, A. P. Anderson, T. Shaw, J. Lead. Systematic Review of Chromium and Nickel Exposure During Pregnancy and Impact on Child Outcomes. *Journal of Toxicology and Environmental Health Part A*, DOI: 10.1080/15287394.2015.1090939 (2015).

A.J. Findlay, A. Gartman, D.J., T.J. Shaw, G. W. Luther III. Trace metal concentration and partitioning in the first 1.5 meters of hydrothermal vent plumes along the Mid-Atlantic Ridge: TAG, Snakepit, and Rainbow. *Chemical Geology*, 117-131 (2015).

- S.K. Tazik, M.R. Pearl, C.M. Rekully, N.S. Violen, S.A. DeJong T.J. Shaw, T.L. Richardson, M.L. Myrick. Focus-Independent Particle Size Measurement from Streak Images: A Comparison of Multivariate Methods. *Analyst*, 1579-1581 (2015).
- P. Böning, T.J. Shaw, K. Pahnke, H.-J. Brumsack Nickel as indicator of fresh organic matter in upwelling sediments in press *Geochimica et Cosmochimica Acta*, 162: 99–108 (2015).
- A.J. Findlay, A. Gartman, D.J. MacDonald, T.E. Hanson, T.J. Shaw, G.W. Luther. Distribution and size fractionation of elemental sulfur in aqueous environments: The Chesapeake Bay and Mid-Atlantic Ridge. *Geochimica et Cosmochimica Acta* 142: 334-348 (2014).
- S.A. Murphy, B.M. Solomon, S. Meng, J.M. Copeland, T.J. Shaw, J.L. Ferry. Geochemical Production of Reactive Oxygen Species From Biogeochemically Reduced Fe. *Env. Sci. Tech.* 48: 3815–3821, (2014).
- K.L. Smith Jr., A.D. Sherman, T.J. Shaw, and J. Sprintall. Icebergs as Unique Lagrangian Ecosystems in Polar Seas. *Annu. Rev. Mar. Sci.* 5:14.1–14.19, (2013).
- J. A. Swanstrom, L. S. Bruckman, M. Pearl, E. Abernathy, T. L. Richardson, T. J. Shaw, M. L. Myrick. Taxonomic Classification of Phytoplankton with Multivariate Optical Computing, Part II: Design and Experimental Protocol of a Shipboard Fluorescence Imaging Photometer. *Appl. Spec.* 67/6, 630-639, (2013).
- M. Pearl, J. A. Swanstrom, L. S. Bruckman, E. Abernathy, T. L. Richardson, T. J. Shaw, H. Sosik, M. L. Myrick. Taxonomic Classification of Phytoplankton with Multivariate Optical Computing, Part III: Demonstration. *Appl. Spec.* 67:6, 640-649, (2013).
- J.M. Burns, P.L. Pennington, P.N. Sisco, R. Frey, S. Kashiwada, M.H. Fulton, G.I. Scott, A.W. Decho, C.J. Murphy, T.J. Shaw and J.L. Ferry. Surface Charge Controls the Fate of Au Nanorods in Saline Estuaries. *Env. Sci. Tech.* 47: 12844-12851, (2013).
- L. S. Bruckman, T. L. Richardson, J. A. Swanstrom, K. A. Donaldson, M. Allora, Jr., T. J. Shaw, M. L. Myrick. Linear Discriminant Analysis of Single-Cell Fluorescence Excitation Spectra of Five Phytoplankton Species. *Appl. Spec.* 66:1, 60-65 (2012).
- T.J. Shaw, R.W. Raiswell, C.R. Hexel, H.P. Vu, W.S. Moore, R. Dudgeon, K.L. Smith. Input, composition, and potential impact of terrigenous material from free-drifting icebergs in the Weddell Sea. *Deep-Sea Research II* 58, 1376–1383 (2011).
- T.J. Shaw, C.R. Hexel, K.L. Smith, A.D. Sherman, R. Dudgeon, M. Vernet and R. Kaufmann. 234Th –based carbon export around free-drifting icebergs in the Southern Ocean. *Deep-Sea Research II* 58, 1384–1391 (2011).
- W.S. Moore, M. Beck, T. Riedel, M. Rutgers van der Loeff, O. Dellwig, T.J. Shaw, B. Schnetger, H.-J. Brumsack. Radium-based pore water fluxes of silica, alkalinity, manganese, DOC, and uranium: A decade of studies in the German Wadden Sea. *Geochim. Cosmochim. Acta* 75 (21), 6535-6555 (2011).

H. Lin, S. Rauschenberg, C.R. Hexel, T.J. Shaw, B.S. Twining. Free-drifting icebergs as sources of iron to the Weddell Sea. *Deep-Sea Research II* 58, 1392-1406 (2011).

K.L. Smith, A.D. Sherman, T.J. Shaw, A.E. Murray, M. Vernet, A.O. Cefarelli . Carbon export associated with free-drifting icebergs in the Southern Ocean. *Deep-Sea Research II* 58, 1485-1496 (2011).

J.M. Burns, P.S. Craig, T.J. Shaw, J.L. Ferry. Combinatorial parameter space as an empirical tool for predicting water chemistry: Fe(II) oxidation across a watershed. *Environ. Sci. Technol.* 45, 4023–4029 (2011).

J.M. Burns, P.S. Craig, T.J. Shaw, J.L. Ferry. Short-Term Fe Cycling during Fe(II) Oxidation: Exploring Joint Oxidation and Precipitation with a Combinatorial System. *Environ. Sci. Technol.* 45, 2663-2669 (2011).

J.M. Burns, P.S. Craig, T.J. Shaw, J.L. Ferry. Multivariate Examination of Fe(II)/Fe(III) Cycling and Consequent Hydroxyl Radical Generation. *Environ. Sci. Technol.* 44, 7226–7231 (2010).

L. S. Hill, T. L. Richardson, L. T. M. Profeta, T. J. Shaw, C. J. Hintz, B. S. Twining, E. Lawrenz, M. L. Myrick. Construction, figures of merit, and testing of a single-cell fluorescence excitation spectroscopy system. *Rev. Sci. Instrum.* 81, (2010).

W. S. Moore, M. Beck, T. Reidel, M. R. van der Loeff, O. Dellwig, T.J. Shaw, H-J. Brumsack, Fluxes of pore waters which transport metals and nutrients to the German Wadden Sea *Geochim. Cosmochim. Acta* 73:13 A900-A900 (2009).

J.L. Ferry, P.S. Craig, C.R. Hexel, P. Sisco R. Frey, P. Pennington, M. Fulton, G. Scott, A. Decho, S. Kashiwada, C.J. Murphy, and T.J. Shaw. Transfer of Gold Nanoparticles from the Water Column to the Estuarine Food Web. *Nature:Nano* v4:441-444 (2009).

Alkilany A. M., Nagaria P.K., Hexel C.R. , Shaw T.J., Murphy C.J., and Wyatt M.D., Cellular Uptake and Cytotoxicity of Gold Nanorods: Molecular Origin of Cytotoxicity and Surface Effects *Small* 5:6, 701-708 (2009).

P.S. Craig, T.J. Shaw, P.L. Miller, P.J. Pellechia, J.L. Ferry. Use of Multiparametric Techniques To Quantify the Effects of Naturally Occurring Ligands on the Kinetics of Fe(II) Oxidation. *Env. Sci. Tech.* 43/2: 337-342 (2009).

W.S. Moore and T.J. Shaw, Fluxes and behavior of radium isotopes, barium, and uranium in Southeastern US rivers and estuaries. *Mar. Chem.* 108: 236-254 (2008).

McCorkle, D. C., J. M. Bernhard, C. J. Hintz, J. K. Blanks, G. T. Chandler, T. J. Shaw. The Carbon and Oxygen Stable Isotopic Composition of Cultured Benthic Foraminifera. *Geological Society of London, Special Publication* vol. 303 (1): 135 - 154 (2008).

K.L. Smith, B.H. Robison, J.J. Helly, R.S. Kaufmann, H.A. Ruhl, T.J. Shaw, B.S. Twining, M. Vernet, Free-Drifting Icebergs: Hot Spots of Chemical and Biological Enrichment in the Weddell Sea. *Science* 317: 478-482 (2007).

C.J. Hintz, T.J. Shaw, G.T. Chandler, J.M. Bernhard, D.C. McCorkle, J.K. Blanks. Trace/minor Element:Calcium Ratios in Cultured Benthic Foraminifera, Part I: Interspecies Differences. *Geochim. et Cosmochim. Acta* 70(8) 1952-1963 (2006).

C.J. Hintz, T.J. Shaw, G.T. Chandler, J.M. Bernhard, D.C. McCorkle, J.K. Blanks. Trace/minor Element:Calcium Ratios in Cultured Benthic Foraminifera, Part II: Ontogenetic Variation. *Geochim. Cosmochim. Acta* 70(8) 1964-1976 (2006).

C. J. Hintz, G.T.Chandler, J.M. Bernhard, D.C. McCorkle, S. Havach, J.K. Blanks, and T.J. Shaw. A physicochemically-constrained seawater culturing system for production of viable, calcite-producing, paleoceanographically-important benthic foraminifera *Limnol. Oceanogr. Methods* 2, 160-170 (2004).

T.J.Shaw, Methods and models for estimating advective pore water exchange in tidal flats. in "Biogeochemistry of tidal flats" Forschungszentrum Terramare Berichte, Nr. 12 pp.103-105 (2003).

T. Duncan and T. J. Shaw. The mobility of rare earth elements and redox sensitive metals in the groundwater/seawater mixing zone of a shallow coastal aquifer. *Aquat. Geochem.* 9, 233-255 (2003).

T.J. Shaw. Preface: Biogeochemical processes in coastal aquifers and permeable sediments. *Aquat. Geochem.* 9, 1-5 (2003).

T. J. Shaw, T. Duncan, and B. Schnetger. A Preconcentration/Matrix Reduction Method for the Analysis of Rare Earth Elements in Seawater and Groundwaters by ID-ICP-MS *Anal. Chem.* 75, 3396-3403 (2003).

T. J. Shaw and W. S. Moore. Analysis of  $^{227}\text{Ac}$  in seawater by delayed coincidence counting *Mar. Chem.* 78, 197-203 (2002).

T. J. Shaw Subterranean Coastal Environments: Biogeochemical Processes, Fluxes and Impacts. *EOS Trans. Am. Geophys. Union*, 82 No. 50, pg 622-623 (2001).

S.M. Havach, G.T. Chandler, A. Wilson-Finelli and T.J. Shaw Experimental determinations of trace element partition coefficients in cultured benthic foraminifera *Geochim. Cosmochim. Acta* 65:1277-1283 (2001).

T.A. Hagopian, G.T. Chandler and T.J. Shaw. The acute toxic effects of sediment-associated metals, individually and in a mixture, to the meiobenthic harpacticoid copepod *Amphiascus tenuiremis* *Mar. Env. Res.* 51 (3) 247-264 (2001).

B. Schnetger, J. Hinrichs, O. Dellwig, T. Shaw, H.-J. Brumsack. The significance of radionuclides and trace elements in a back barrier tidal area: results from the German Wadden Sea. In: Inaba J. Hisamatsu S. & Ohtsuka Y. (eds.) Distribution and Speciation of Radionuclides in the Environment. Proceedings of the International Workshop on Distribution and Speciation of Radionuclides in the Environment, Rokkasho, Aomori, Japan, October 11-13, 200, p. 99-107. (2001).

- H. A. Alegria, J.P. d'Autel, and T.J. Shaw. Offshore Transport of Pesticides in the South Atlantic Bight: Preliminary Estimates of Transport Budgets *Mar. Poll. Bull.* 40 No.12, 1178-1185 (2000).
- H. A. Alegria, T.F. Bidleman, and T.J. Shaw Organochlorine Pesticides in Ambient Air in Belize, Central America. *Env. Sci.Technol.* 34(10); 1953-1958 (2000).
- H. Alegria and T. J. Shaw Rain deposition of atrazine and trifluralin in coastal waters of the South Atlantic Bight. *Env. Sci.Technol.*, 33, 850-856 (1999).
- W. S. Moore and T. J. Shaw. Chemical signals from submarine fluid advection onto the continental shelf. *J. Geophys. Res.*, 103 No.C10, 21,543-21,552 (1998).
- T. J. Shaw, W. S. Moore, J. Kloepfer, and M. A. Sochaski. The flux of barium to the coastal waters of the southeastern United States: The importance of submarine Groundwater Discharge. *Geochim. Cosmochim. Acta* 62 No.18, 3047-3054 (1998).
- J. M. Smoak, W. S. Moore, R.C. Thunell and T. J. Shaw. Comparison of  $^{234}\text{Th}$ ,  $^{228}\text{Th}$ , and  $^{210}\text{Pb}$  fluxes with fluxes of major sediment components in the Guymas Basin, Gulf of California. *Mar. Chem.* 65, 177-194 (1999).
- T. J. Shaw, J. M. Smoak, and L. Lauerman. Scavenging of  $^{234}\text{Th}$ ,  $^{230}\text{Th}$ , and  $^{210}\text{Pb}$  by particulate matter in the deep waters of the California continental margin. *Deep Sea Research II* 45 763-779 (1998).
- T. Shepherd, S. Stancyk, and T. Shaw. Effects of the burrowing brittlestar *M. gracillima* on the flux of lithium, an inert tracer, across the sediment water interface. *Gulf Research Reports*, 10, 23-31, (1998).
- L. Lauerman, J. Smoak, T. J. Shaw, W. Moore, and K. Smith K.  $^{234}\text{Th}$  and  $^{210}\text{Pb}$  evidence of rapid ingestion of settling particles by mobile epibenthic megafauna in the abyssal NE Pacific. *Limnol. Oceanogr.* 42(3), 589-595 (1997).
- P. A. Meyers, J. E. Silliman, and T. J. Shaw, Effects of turbidity flows on organic matter accumulation, sulfate reduction, and methane generation in deep-sea sediments on the Iberia abyssal plain, *Organic Geochem.* 25(1/2), 69-78 (1996).
- P. A. Myers and T. J. Shaw, Organic matter accumulation, sulfate reduction, and methanogenesis in Pliocene-Pleistocene Turbidites on the Iberia abyssal plain, in *Proc. of the Ocean Drilling Program, Scientific Results, Vol. 149* (ed. by R. B. Whitmarsh, D. S. Sawyer, A. Klaus, and D. G. Masson), pp. 705-712 (1996).
- T. J. Shaw and P. A. Myers, The implications of turbidite-driven redox changes in sediments of the Iberia Abyssal Plain, in *Proc. of the Ocean Drilling Program, Scientific Results, Vol. 149* (ed. by R. B. Whitmarsh, D. S. Sawyer, A. Klaus, and D. G. Masson), pp. 301-304 (1996).
- W. J. Cai, C. E. Reimers, and T. J. Shaw, Microelectrode studies of organic carbon degradation and calcite dissolution at a California continental rise site, *Geochim. Cosmochim. Acta* 59, 497-511 (1995).

T. J. Shaw, E. Sholkovitz, and G. Klinkhammer, Redox dynamics in the Chesapeake Bay: The effect on sediment/water uranium exchange, *Geochim. Cosmochim. Acta* 58, 2985-2995 (1994).

E. R. Sholkovitz, T. J. Shaw, and D. L. Schneider, The response of rare earth elements to seasonal anoxia in the water column and pore waters of Chesapeake Bay, *Geochim. Cosmochim. Acta* 56, 3389-3402 (1992).

T. J. Shaw and R. François, A fast and sensitive ICP-MS assay for the determination of  $^{230}\text{Th}$  in marine sediments, *Geochim. Cosmochim. Acta* 55, 2075-2078 (1991).

T. J. Shaw, J. M. Gieskes, and R. A. Jahnke, Early diagenesis in differing depositional environments: The response of pore water transition metals, *Geochim. Cosmochim. Acta* 54, 1233-1246 (1990).

T. J. Shaw, An apparatus for fine-scale sampling of pore waters and solids in high porosity sediments, *J. Sed. Petrol.* 59, 633-634 (1989).

J. M. Gieskes, B. R. T. Simoneit, T. Brown, T. Shaw, Y-C. Wang, and A. Maggenheim, Hydrothermal fluids and petroleum in surface sediments of the Guymas Basin, Gulf of California: A case study, *Can. Mineral.* 26, 589-602 (1988).