
JEREMY D. OWENS CURRICULUM VITAE

Florida State University
Department of Ocean, Earth and Atmospheric Science | National High Magnetic Field Lab
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EDUCATION

- 2013 Ph.D., Earth Sciences.** University of California, Riverside
Advisor – Timothy W. Lyons: *Exploring the Geochemical Fingerprints of an Oceanic Anoxic Event During the Late Cretaceous: the Global and Biological Implications*
- 2010 M.Sc., Earth Sciences.** University of California, Riverside
Advisor – Timothy W. Lyons: *An Iron Isotope Record of Ocean-Scale Iron Shuttling During OAE 2*
- 2006 B.S., Environmental Sciences.** University of California, Riverside

PROFESSIONAL EXPERIENCE

- Assistant Professor – Florida State University (2015-present)**
Woods Hole Oceanographic Institution – Agouon Postdoctoral Fellow (2013-present)
Lecturer – University of California, Riverside (2011)
Global climate through time
- Guest Lecturer – University of California, Riverside (2009-2012)**
Global climate through time – 2 lectures in 2011, 2 lectures in 2010, 1 lecture in 2009,
Oceanography – 1 lecture in 2012, 2 lectures in 2009
- Research Assistant – University of California, Riverside (2007-2013)**
Teaching Assistant – University of California, Riverside (2007-2012) *denotes head TA
Oceanography – Discussion (2012*, 2011, 2009*)
Global climate through time – Laboratory (2012*, 2011*, 2010*, 2009*, 2008*)
TA for Earth Resources and Sustainability – Discussion (2008)
Cosmos Factory – Discussion (2007)
- Research Specialist – University of California, Riverside (2006-2007)**
Advisor – Silke Severmann
- Undergraduate Research Assistant – University of California, Riverside (2005-2006)**
Advisors – Silke Severmann and Timothy W. Lyons

GRANTS

- 2016 NASA Grant – Exobiology: *Tracking the Initiation of Marine Ocean Oxygenation Through Manganese-Oxide Burial Using Thallium Isotopes* PI: J.D. Owens
- 2016 FSU FYAP Grant – *Constraining oxygen variability across glacial-interglacial cycles* PI: J.D. Owens
- 2015 NSF-EAR Grant – Instrumentation & Facilities: *Acquisition Of A Gas Source Stable Isotope Ratio Mass Spectrometer (IRMS) For Earth And Ocean Sciences Research At Florida State University* CoI: J.D. Owens
- 2014 NSF-OCE Grant – Chemical Oceanography: *Fingerprinting and Calibrating Low Oxygen Conditions Using Vanadium Isotopes* PI: J.D. Owens

Graduate Student

- 2013 **IODP Cretaceous Drilling** Workshop Travel Grant
 2013 **Geochemical Society** Travel Grant
 2012 **NAI NASA** Research Travel Grant
 2012 **Society for Sedimentary Geology (SEPM): Assessing Dust Delivery of Bioavailable Iron to the Ocean as a Driver and Consequence of Cenozoic Climate Change**
 2012 **Geological Society of America (GSA): Assessing Loess Deposits as an archive for Bioavailable Iron Delivery to the Oceans**
 2012 **EGU Keith Runcorn** Travel Grant

AWARDS, SCHOLARSHIPS AND FELLOWSHIPS

- 2015 **Marine Geosciences Leadership Fellow.** WHOI
 2014 **NNOCCI Science Fellow.** WHOI
 2013 **Agouon Postdoctoral Fellowship.** WHOI
 2013 **Dissertation Year Fellowship.** UC Riverside
 2012 **NSF fellowship – Urbino Summer School of Paleoclimatology.** UC Riverside
 2012 **Roland Blanchard Fellowship.** UC Riverside
 2012 **Best Student Presentation – SoCal Geobiology Conference.** UC Riverside
 2012 **Agouon Archean Biomarker Workshop Fellow.** UC Riverside
 2011 **Teaching Assistant of the Year.** UC Riverside
 2010 **NASA Ocean Deoxygenation Workshop Scholarship.** UC Riverside
 2010 **Roland Blanchard Fellowship.** UC Riverside

PUBLICATIONS

- Wang X., Reinhard C.T., Planavsky N.J., **Owens J.D.**, Lyons T.W. and Johnson T.M., (2016), Sedimentary chromium isotopic compositions across the Cretaceous OAE2 at Demerara Rise Site 1258, *Chemical Geology*. doi: 10.1016/j.chemgeo.2016.03.006
- Nielsen S.G., Yogodzinski G., Prytulak J., Plank T., Kay S.M., Kay R.W., Blusztajn J., **Owens J.D.**, Auro M. and Kading T. (2016), Tracking along-arc sediment inputs to the Aleutian arc using thallium isotopes, *Geochimica et Cosmochimica Acta*. doi: 10.1016/j.gca.2016.03.010
- Sahoo S.K., Planavsky N.J., Jiang G., Kendall B., **Owens J.D.**, Wang X., Shi X., Anbar A.D. and Lyons T.W. (2016), Oceanic oxygenation events in the anoxic Ediacaran ocean, *Geobiology*.doi: 10.1111/gbi.12182
- Nielsen S.G., **Owens J.D.** and Horner T.J. (2016), Analysis of high-precision vanadium isotope ratios by medium resolution MC-ICP-MS, *Journal of Analytical Atomic Spectrometry*. doi: 10.1039/C5JA00397K
- Osburn M.R., **Owens J.D.**, Bergmann K.D., Grotzinger J.P. and Lyons T.W. (2015), Dynamic changes in sulfate isotopes preceding the Ediacaran Shuram Excursion, *Geochimica et Cosmochimica Acta*, doi: 10.1016/j.gca.2015.07.039.
- Zhou X., Jenkyns H.C., **Owens J.D.**, Junium C.K., Zhen X., Sageman B.B., Hardisty D.S., Lyons T.W., Ridgwell A. and Lu Z. (2015) Upper ocean oxygenation dynamics from I/Ca ratios during the Cenomanian-Turonian OAE 2, *Paleoceanography*, doi: 10.1002/2014PA002741.
- Wehrmann L.M., Formolo M.J., **Owens J.D.**, Raiswell R., Ferdelman T.G., Riedinger N. and Lyons T.W. (2014), Iron speciation and cycling in glacially influenced high-latitude fjord

- sediments (West Spitsbergen, Svalbard) – Evidence for a benthic recycling-transport mechanism, *Geochimica et Cosmochimica Acta*, doi: 10.1016/j.gca.2014.06.007.
- Owens J.D.**, Gill B.C., Jenkyns H.C., Bates S.M., Severnman S., Kuypers M.M.M., Woodfine R.G., and Lyons T.W. (2013), Sulfur isotopes track the global extent and dynamics of euxinia during Cretaceous Oceanic Anoxic Event 2, *Proceeding of the National Academy of Sciences*, doi: 10.1073/pnas.1305304110.
- Scott R.W., Formolo M., Rush N., **Owens J.D.** and Oboh-Ikuenobe F., (2013), Upper Albian OAE 1d Event in the Chihuahua Trough, New Mexico, U.S.A, *Cretaceous Research*.
- Planavsky N.J., Bekker A., Hofmann A., **Owens J.D.** and Lyons T.W. (2012) Sulfur record of rising and falling marine oxygen and sulfate levels during the Lomagundi event, *Proceedings of the National Academy of Sciences*, doi: 10.1073/pnas.1120387109.
- Owens J.D.**, Lyons T.W., Li X., Kuypers M.M., Kuhnt W., Gordon G., Anbar A. and Severmann S. (2012) Iron isotope and trace metal records of iron cycling in the proto-North Atlantic during the Cenomanian-Turonian oceanic anoxic event (OAE-2), *Paleoceanography*, 27(3), PA3223, doi: 10.1029/2012pa002328.
- Mitchell, K., Mason P.R.D., Van Cappellen P., Johnson T.M., Gill B.C., **Owens J.D.**, Diaz J., Ingall E.D., Reichart G.-J., and Lyons T.W. (2012), Selenium as paleo-oceanographic proxy: A first assessment, *Geochimica et Cosmochimica Acta*, 89(0), 302-317, doi: 10.1016/j.gca.2012.03.038.
- Boyer, D. L., **Owens J.D.**, Lyons T.W., and Droser M.L. (2011), Joining forces: Combined biological and geochemical proxies reveal a complex but refined high-resolution palaeo-oxygen history in Devonian epeiric seas, *Palaeogeography, Palaeoclimatology, Palaeoecology*, 306(3-4), 134-146, doi: 10.1016/j.palaeo.2011.04.012.
- Brucker, R. P., McManus J., Severmann S., **Owens J.D.**, and Lyons T.W. (2011), Trace metal enrichments in Lake Tanganyika sediments: Controls on trace metal burial in lacustrine systems, *Geochimica et Cosmochimica Acta*, 75(2), 483-499, doi: 10.1016/j.gca.2010.09.041.
- Raiswell, R., Reinhard C.T., Derkowski A., **Owens J.D.**, Bottrell S.H., Anbar A.D., and Lyons T.W. (2011), Formation of syngenetic and early diagenetic iron minerals in the late Archean Mt. McRae Shale, Hamersley Basin, Australia: New insights on the patterns, controls and paleoenvironmental implications of authigenic mineral formation, *Geochimica et Cosmochimica Acta*, 75(4), 1072-1087, doi: 10.1016/j.gca.2010.11.013.
- Yao, J., Li J., **Owens J.D.**, and Zhong W. (2011), Combing DNAzyme with single-walled carbon nanotubes for detection of Pb(ii) in water, *Analyst*, 136(4), 764-768, doi: 10.1039/C0AN00709A.

PRESENTATIONS

Invited Presentations

- Owens J.D.**, Approaching a more holistic view of ocean redox conditions, University of Florida.
- Owens J.D.**, Approaching a more holistic view of ocean redox conditions, Oklahoma State University.
- Owens J.D.**, Nielsen S.G., Ostrander C., Peterson L., and Anbar A.D., 2015 Development and Applications of Thallium isotopes: a new proxy tracking the extent of manganese oxide burial, American Geophysical Union.
- Owens J.D.**, 2015 Approaching a more holistic view of ocean redox conditions using thallium isotopes, Washington University in St. Louis.

- Owens J.D.** 2015 Quantifying global ocean redox conditions: application and proxy development, Florida State University.
- Owens J.D.**, Reinhard C.T., Rohressen M., Love G.L. and Lyons T.W 2014 Global redox conditions leading into and during a late Cretaceous oceanic anoxic event (OAE2) and its implications, University of Massachusetts Amherst.
- Owens J.D.**, Lyons T.W., Gill B.C., Reinhard C.T. and Jenkyns H.C., 2013 Quantifying the extent of euxinia during a late Cretaceous oceanic anoxic event (OAE 2), University of Leeds.
- Owens J.D.**, Lyons T.W., Gill B.C., Reinhard C.T. and Jenkyns H.C., 2012 Quantifying the extent of euxinia during a late Cretaceous oceanic anoxic event (OAE-2), Woods Hole Oceanographic Institute.

Conference Presentations

(*) Co-advised

- Nielsen S.G., Ostrander C. and **Owens J.D.**, 2016 Ocean oxygenation across global climate perturbations recorded by thallium isotopes, Goldschmidt Conference.
- Zhang F., Li C., Meleshik V.A., Pokrovsky B.G., Shi W., Cheng M., Kendall B., Romaniello S.J., **Owens J.D.** and Anbar A.D., 2016 Uranium Isotope Variation Across the Ediacaran Shuram Excursion, Goldschmidt Conference.
- *Ostrander C., **Owens J.D.** and Nielsen S.G., 2015 Thallium isotopes tracking Mn-oxide burial – a proxy for deoxygenation during Oceanic Anoxic Event 2, American Geophysical Union.
- *Huang T., **Owens J.D.**, Sarafian A., Sen I., Huang D.F., Blusztajn J. and Nielsen S.G., 2015 Development of analytical techniques of vanadium isotope in seawater, American Geophysical Union.
- Tang T.Y.S., Planavsky N.J., **Owens J.D.**, Love G., Lyons T.W. and Peterson L.C., 2015 Tracking Eukaryotic Production and Burial Through Time with Zinc Isotopes, American Geophysical Union.
- Young S., Eriksson M.E. and **Owens J.D.** 2015 Paired sulfur and carbon isotope stratigraphy for the Late Ludfordian (Silurian) of Gotland, Sweden: Implications for environmental, oceanographic, and biotic change, Geological Society of America.
- *Lee B., **Owens J.D.** and Lyons T.W., 2015 Distribution of Bioavailable Iron in the Pacific Ocean and Relationships to Dust Delivery and Potential Continental Sources, Goldschmidt Conference.
- Owens J.D.** and Nielsen S.G., 2014 Thallium isotope a new tool for tracking the global marine ferromanganese burial, American Geophysical Union.
- *Lee B., **Owens J.D.** and Lyons T.W., 2014 Implication of eolian delivery and accumulation of highly reactive iron to the Atlantic Ocean, American Geophysical Union.
- Soreghan S.S., Sur S., **Owens J.D.**, Raiswell R., Heavens N.G., Mahowald N.M. and Lyons T.W., 2014 The biological impact of eolian delivery of reactive iron to late Palaeozoic icehouse seas, Geological Society of America.
- Chappaz A., **Owens J.D.** and Lyons T.W., 2014 Molybdenum Speciation in Modern and Ancient Euxinic Settings, Goldschmidt Conference.
- Lee B., **Owens J.D.** and Lyons T.W., 2014 Delivery and Accumulation of Highly Reactive Iron to the Open Ocean and Its Implications, Goldschmidt Conference.

- Owens J.D.**, Reinhard C.T., Rohrssen M., Love G.D. and Lyons T.W., 2014 Marine trace-metal drawdown during the Cenomanian-Turonian Oceanic Anoxic Event and implications for global redox and biological perturbation, Northeast Geobiology Symposium.
- Gill B.C., **Owens J.D.**, Them T., Jenkyns H.C. and Lyons T.W., 2013 A refined investigation into the sulfur and iron cycles during the Toarcian OAE, American Geophysical Union.
- Reinhard C.T., Planavsky N.J., Wang X., **Owens J.D.**, Johnson T.M., Fischer W.W. and Lyons T.W., 2013 Chromium isotopes in siliciclastic sediments and sedimentary rocks as a developing proxy for Earth surface change, American Geophysical Union.
- Sahoo S.K., Ganqing J., Planavsky, N.J., Kendall B., **Owens J.D.**, Anbar A. and Lyons T.W., 2013 Tubulent times for early animals?, Geological Society of America.
- Owens J.D.**, Reinhard C.T. and Lyons T.W., 2013 Trace metal drawdown during a Cretaceous oceanic anoxic event: implications for global redox conditions, Goldschmidt Conference.
- Wehrmann L.M., Formolo M.J., **Owens J.D.**, Ferdelman T.G., Raiswell R. and Lyons T.W., 2013 The cycling and transport of glacially derived iron in Arctic fjord sediments, Goldschmidt Conference.
- Scott R.W., Rush N.K., Formolo M.J., Obohikuenobe F.E. and **Owens J.D.**, 2012 Late Albian Oceanic anoxia in the Chihuahua trough, South-Central New Mexico, Geological Society of America.
- Owens J.D.**, Wehrmann L.M., Raiswell R. and Lyons T.W., 2012 Enhanced delivery of bioavailable Fe through glacial processes in Kongsfjorden, Svalbard, Goldschmidt Conference.
- Gill B.C., Lyons T.W., **Owens J.D.**, Bates S., Brumsack H.J. and Jenkyns H., 2012 Interpreting the trace metal records of ancient epeiric seaways: Lessons from the Toarcian (Jurassic) black shales of Europe, Goldschmidt Conference.
- Wehrmann L.M., **Owens J.D.**, Formolo M.J., Ferdelman T.G. and Lyons T.W., 2012 Glacially derived iron as the key driver for biogeochemical processes in Arctic fjord sediments (West Svalbard), Goldschmidt Conference.
- Owens J.D.**, Gill B.C., Jenkyns H., Kuypers M.M.M., Severmann S., Bates S., and Lyons T.W., 2012 Perturbations to the Global Sulfur Cycle during a mid-Cretaceous Oceanic Anoxic Event (OAE 2: Cenomanian/Turonian), Urbino Summer School of Paleoclimatology (USSP).
- Owens J.D.**, Gill B.C., Jenkyns H., Kuypers M.M.M., Severmann S., Bates S., and Lyons T.W., 2012 Perturbations to the Global Sulfur Cycle during a mid-Cretaceous Oceanic Anoxic Event (OAE 2: Cenomanian/Turonian), European Geophysical Union.
- Owens J.D.**, Boyer D.L., Droser M.L. and Lyons T.W., 2012 Low oxygen bottom waters in the Devonian ocean through a combined biological and geochemical approach, European Geophysical Union.
- Owens J.D.**, Lyons T.W., Soreghan G.S., Soreghan M., Chappaz A. and Raiswell. R., 2011 Quantifying bioavailable iron delivery by dust during the icehouse of the late Paleozoic, American Geophysical Union.
- Owens J.D.**, Lyons T.W., Severmann S., Gill B., Jenkyns H., Kuypers M.M.M., Gordon G., Anbar A. and Kuhnt W., 2011 Global Perturbation of the Marine Iron Cycle During OAE-2, Cretaceous Symposium.
- Sur S., Soreghan G.S., **Owens J.**, Lyons T.W. and Soreghan M.J., 2010 Eolian delivery of highly reactive iron to the glacial ocean of the late Paleozoic, American Geophysical Union.

- Owens J.D.**, Gill B., Jenkyns H. and Lyons T.W., 2010 Perturbations to the Global Sulfur Cycle during Ocean Anoxic Events. Geological Society of America.
- Raiswell R., Reinhard C., Derkowski A., **Owens J.D.**, Bottrell S., Anbar A. and Lyons T.W., 2010 Formation of syngenetic and early diagenetic iron minerals in the late Archean Mt. McRae Shales: paleoceanographic implications. Geological Society of America.
- Severmann S., McManus J., Poulson-Brucker R., **Owens J.D.**, Lyons T.W., Anbar A. and Gordon G., 2010 Modern lakes and ancient oceans: trace metals and their isotopes in an anoxic African rift lake, Goldschmidt.
- Li X., Severmann S., **Owens J.D.** and Sageman B., (2010) Hydrothermal contributions to oceanic anoxic event 2? Evidence from trace metals, Goldschmidt.
- Owens J.**, Severmann S., Lyons T.W., Kuypers M.M.M, Kuhnt W., Gordon G., and Anbar A., 2010 A $\delta^{56}\text{Fe}$ record of ocean-scale iron shuttling during OAE 2, Geobiology Symposium.
- Gill B., Lyons T.W., **Owens J.**, Brumsack H. and Jenkyns H., 2009 A multi geochemical proxy approach to deciphering the Toarcian OAE, American Geophysical Union.
- Owens J.**, Soreghan G.S., Gearhardt A, Sur S., Lyons T.W., 2009 Iron cycling in a late Paleozoic dust bowl, American Geophysical Union.
- Boyer D.L., Droser M.L. and **Owens J.**, 2009 High Resolution Biotic and Geochemical Data from Devonian Dysaerobic Shales of New York State, NAPC.
- Soreghan G.S., Sur S., Lyons T.W., Soreghan M.J. and **Owens J.**, 2009 Production and weathering of loess in late Paleozoic tropical Pangaea and implications for iron delivery to the glacial ocean, Goldschmidt.
- Owens J.**, Severmann S., Lyons T.W., Kuypers M.M.M, Kuhnt W., Gordon G., and Anbar A., 2008 Perturbations of the Global Fe Cycle during OAE II, American Geophysical Union.
- Owens J.**, Severmann S., McManus J., Lyons T.W. and Gill B., 2008 Sulfur Isotopes in Lake Tanganyika, Southern California Geobiology Symposium.
- Poulson Brucker R., McManus J., Severmann S., **Owens J.**, and Lyons T.W., 2008 Trace Metal Associations in an Anoxic Lake: the relative Roles of Organic Carbon and Reduced Sulfur, American Geophysical Union.
- Severmann S., McManus J., Berelson W.M., Riedel T. and **Owens J.**, 2008 The benthic flux of iron from river-dominated continental shelves of the North Pacific, Ocean Sciences Meeting.
- Severmann S., McManus J., **Owens J.**, Lyons T.W., Gordon G. and Anbar A., 2006 Combined Fe-S stable isotopes in modern anoxic environments and the effects of Fe versus S limitation, American Geophysical Union.

OUTREACH

New England Aquarium – A geologic detective: investigating climate change

Orleans Conservation Trust - Linking Earth's climate history to changes we see today

Video: The story in rocks

REVIEWS

GRANT PROPOSALS

American Chemical Society (ACS), Swiss National Science Foundation

MANUSCRIPTS

Biogeosciences, Chemical Geology, Climate of the Past, Earth and Planetary Science Letters, Geochimica et Cosmochimica Acta, Geology, Geochemistry Geophysics Geosystems, Nature, Nature Geosciences, Nature Scientific Reports, Paleoceanography, Palaeogeography Palaeoclimatology Palaeoecology, and Precambrian Research

MENTORING

- 2015** Co-advisor – Chadlin Ostrander. WHOI
- 2015** Co-advisor – Tianyi Huang. WHOI
- 2013** Co-advisor – Bridget Lee. UC Riverside
- 2012** Thesis Committee – Mackensey Farmer. California State University, San Bernardino
- 2012** Senior thesis – Angela Gerhardt. UC Riverside
- 2011** Science Fair – Mahnoor Rahman and Nicole Perifoy – Martin Luther King High School
- 2012** Mentored 6 additional undergraduates. UC Riverside

APPOINTMENTS AND SERVICES

- 2015** USC Agouron Geobiology Guest Lecturer
- 2015** Outreach talk at New England Aquarium
- 2014** Session co-chair, American Geophysical Union
- 2014** Co-organizer: *WHOI Paleoclimate Seminar Series*
- 2014** NNOCCI Science Fellow
- 2012** Session co-chair, Goldschmidt
- 2010** Designed carbon cycle lab, Beaumont High School
- 2009** Convener of 6th Annual Southern California Geobiology Symposium

WORKSHOPS

- 2013** IODP Cretaceous Drilling Workshop
- 2012** Urbino Summer School of Paleontology (USSP)
- 2012** Archean Drilling and Biomarker workshop
- 2010** IODP primer session