



**JEREMY D. OWENS**  
CURRICULUM VITAE

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NATIONAL HIGH  
**MAGNETIC**  
FIELD LABORATORY

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## EDUCATION

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- 2013 Ph.D., University of California, Riverside** | Geological Science | Advisor – Timothy W. Lyons  
**2010 M.S., University of California, Riverside** | Geological Science | Advisor – Timothy W. Lyons  
**2006 B.S., University of California, Riverside** | Environmental Science

## PROFESSIONAL EXPERIENCE

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- 2015-present Assistant Professor, Department of Earth, Ocean and Atmospheric Science | National High Magnetic Field Laboratory, Florida State University  
2013-2015 Agouon Postdoctoral Fellow, Geology and Geophysics Department, Woods Hole Oceanographic Institution | Mentor – Sune Nielsen  
2007-2013 Research and Teaching Graduate Assistant, Department of Earth Sciences, University of California, Riverside  
2011 Lecturer, Department of Earth Sciences, University of California, Riverside  
2006-2007 Research Specialist Department of Earth Sciences, University of California, Riverside | Silke Severmann

## PUBLICATIONS (YEARLY NUMBER)

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(\*) Primary Advisor or Mentor

### 2019 (5)

036. H Song, Y Du, TJ Algeo, J Tong, **JD Owens**, H Song, L Tian, H Qiu, Y Zhu, and TW Lyons (accepted) Cooling-driven oceanic anoxia during the Smithian-Spathian transition (mid-Early Triassic), *Earth-Science Reviews*, doi:  
035. K Nguyen, GD Love, JA Zumberge, AE Kelly, **JD Owens**, MK Rohrsen, SM Bates, C Cai, and TW Lyons (2019) Elusive biomarker records of early eukaryotic life from the Mesoproterozoic Roper Group: Searching across a marine environmental gradient in the mid-Proterozoic habitability, *Geobiology*, doi: 10.1111/gbi.12329  
034. \*TR Them II, CH Jagoe, AH Carothers, BC Gill, SE Grasby, DR Gröcke, R Yin, and **JD Owens** (2019) Terrestrial sources as the primary delivery mechanism of mercury to the oceans across the Toarcian Oceanic Anoxic Event (Early Jurassic), *Earth and Planetary Science Letters*, doi: 10.1016/j.epsl.2018.11.029  
033. SG Nielsen, M Auro, K Righter, D Davis, J Prytulak, \*F Wu, and **JD Owens** (2019) Nucleosynthetic vanadium isotope heterogeneity of the early solar system recorded in chondritic meteorites, *Earth and Planetary Science Letters*, doi: 10.1016/j.epsl.2018.10.029  
032. \*F Wu, **JD Owens**, T Huang, A Sarafian, KF Huang, I Sen, TJ Horner, J Blusztajn, P Morton, and SG Nielsen (2019) Vanadium Isotope Composition of Seawater, *Geochimica et Cosmochimica Acta*, doi: 10.1016/j.gca.2018.10.010

### 2018 (7)

031. **JD Owens**, CM Lowery, and TW Lyons (2018) Quantifying the missing sink for global organic carbon burial during a Cretaceous oceanic anoxic event, *Earth and Planetary Science Letters*, doi: 10.1016/j.epsl.2018.07.021  
030. \*TR Them II, BC Gill, AH Carothers, AM Gerhardt, DR Gröcke, SM Marroqín, TW Lyons, SG Nielsen, JP Trabucho Alexandre, and **JD Owens** (2018) Thallium isotopes reveal protracted anoxia during the Toarcian (Early Jurassic) associated with volcanism, carbon burial, and mass extinction, *Proceeding of the National Academy of Sciences*, doi: 10.1073/pnas.1803478115  
029. CM Lowery, TJ Bralower, **JD Owens**, FJ Rodrigues-Tovar, H Jones, J Smit, MT Whalen, P Claeys, K Farley, SPS Gulick, JV Morgan, S Green, E Chenot, GL Christeson, CS Cockell, MJL

- Coolen, L Ferrière, C Gebhardt, K Goto, DA Kring, J Lofi, R Ocampo-Torres, L Perez-Cruz, AE Pickersgill, MH Poelchau, ASP Rae, C Rasmussen, M Rebolledo-Vieyra, U Riller, H Sato, SM Tikoo, N Tomioka, J Urrutia-Fucugauchi, J Vellekoop, A Wittmann, L Xiao, K E Yamaguchi, W Zylberman (2018) Rapid recovery of life at ground zero of the end-Cretaceous mass extinction, *Nature*, doi: 10.1038/s41586-018-0163-6
028. TT Isson, G Love, CL Dupont, CT Reinhard, AJ Zumberge, D Asael, B Gueguen, J McCrow, BC Gill, **JD Owens**, RH Rainbird, AD Rooney, MY Shao, EE Stueeken, KO Konhauser, S John, TW Lyons, and NJ Planavsky (2018) Tracking the Rise of Eukaryotes to Ecological Dominance with Zinc Isotopes, *Geobiology*, doi: 10.1111/gbi.12289
027. DS Hardisty, TW Lyons, N Riedinger, TT Isson, **JD Owens**, RC Aller, D Rye, NJ Planavsky, CT Reinhard, BC Gill, AL Masterson, D Asael, and DT Johnston (2018), An evaluation of sedimentary molybdenum and iron as proxies for pore fluid paleoredox conditions, *American Journal of Science*, doi: 10.2475/05.2018.04
026. R Raiswell, DS Hardisty, TW Lyons, DE Canfield, **JD Owens**, NJ Planavsky, SW Poulton, and CT Reinhard (2018) The Iron Paleoredox Proxies: A Guide to Proper Practice, Pitfalls, and Problems, *American Journal of Science*, doi: 10.2475/05.2018.03
025. DM Axelrad, RH Saff, VJM Salters, A Becker, C Jago, **JD Owens**, L Ringenberg, D Gbogbo, and O Fasakin (2018) Lead in Drinking Water in Tallahassee Florida's Schools – And a Call for Pediatricians to Support Actions to Reduce Children's Lead Exposure, *The Florida Pediatrician*, 37(1), 6–13
- 2017 (5)**
024. CM Ostrander, **JD Owens**, and SG Nielsen (2017) Constraining the rate of oceanic deoxygenation leading up to a Cretaceous Oceanic Anoxic Event (OAE-2: ~94 Ma), *Science Advances*, doi: 10.1126/sciadv.1701020
023. **JD Owens**, SG Nielsen, TJ Horner, CM Ostrander, and L Peterson (2017) Thallium-isotopic compositions of euxinic sediments as a proxy for global manganese-oxide burial, *Geochimica et Cosmochimica Acta*, doi: 10.1016/j.gca.2017.06.041
022. \*TR Them II, BC Gill, D Selby, DR Gröcke, R Friedman, and **JD Owens** (2017) Evidence for rapid weathering response to climatic warming during the Toarcian Oceanic Anoxic Event, *Nature Scientific Reports*, doi: 10.1038/s41598-017-05307-y
021. X Zhou, HC Jenkyns, W Lu, DS Hardisty, **JD Owens**, TW Lyons, and Z Lu (2017) Organically bound iodine as a bottom-water redox proxy: Preliminary validation and application, *Chemical Geology*, doi: 10.1016/j.chemgeo.2017.03.016
020. **JD Owens**; TW Lyons, DS Hardisty, CM Lowery, Z Lu, B Lee, and HC Jenkyns (2017) Patterns of local and global redox variability during the Cenomanian–Turonian Boundary Event (Oceanic Anoxic Event 2) recorded in carbonates and shales from central Italy, *Sedimentology*, doi: 10.1111/sed.12352
- 2016 (6)**
019. AJ Dickson, HC Jenkyns, D Porcelli, S van den Boorn, E Idiz, and **JD Owens** (2016) Corrigendum to "Basin-scale controls on the molybdenum-isotope composition of seawater during Oceanic Anoxic Event 2 (Late Cretaceous)", *Geochimica et Cosmochimica Acta*, doi: 10.1016/j.gca.2016.06.025
018. **JD Owens**, CT Reinhard, M Rohressen, GL Love, and TW Lyons (2016) Empirical links between trace metal cycling and marine microbial ecology during a large perturbation to Earth's carbon cycle, *Earth and Planetary Science Letters*, doi: 10.1016/j.epsl.2016.05.046
017. X Wang, CT Reinhard, NJ Planavsky, **JD Owens**, TW Lyons, and TM Johnson (2016) Sedimentary chromium isotopic compositions across the Cretaceous OAE2 at Demerara Rise Site 1258, *Chemical Geology*, doi: 10.1016/j.chemgeo.2016.03.006
016. SG Nielsen, G Yagodzinski, J Prytulak, T Plank, SM, Kay, RW Kay, J Blusztajn, **JD Owens**, M Auro, and T Kading (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

015. SK Sahoo, NJ Planavsky, G Jiang, B Kendall, **JD Owens**, X Wang, X Shi, AD Anbar, and TW Lyons (2016) Oceanic oxygenation events in the anoxic Ediacaran ocean, *Geobiology*, doi: 10.1111/gbi.12182
014. SG Nielsen, **JD Owens**, and TJ Horner (2016) Analysis of high-precision vanadium isotope ratios by medium resolution MC-ICP-MS, *Journal of Analytical Atomic Spectrometry*, doi: 10.1039/C5JA00397K
- 2015 (3)**
013. S Sur, **JD Owens**, GS Soreghan, TW Lyons, R Raiswell, NG Heavens, and NW Mahowald (2015) Extreme eolian delivery of reactive iron to late Paleozoic icehouse seas, *Geology*, doi: 10.1130/G37226.1
012. MR Osburn, **JD Owens**, KD Bergmann, JP Grotzinger, and TW Lyons (2015) Dynamic changes in sulfate isotopes preceding the Ediacaran Shuram Excursion, *Geochimica et Cosmochimica Acta*, doi: 10.1016/j.gca.2015.07.039
011. X Zhou, HC Jenkyns, **JD Owens**, CK Junium, X Zhen, BB Sageman, DS Hardisty, TW Lyons, A Ridgwell, and Z Lu (2015) Upper ocean oxygenation dynamics from I/Ca ratios during the Cenomanian-Turonian OAE 2, *Paleoceanography*, doi: 10.1002/2014PA002741
- 2014 (1)**
010. LM Wehrmann, MJ Formolo, **JD Owens**, R Raiswell, TG Ferdelman, N Riedinger, and TW Lyons (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
- 2013 (2)**
009. **JD Owens**, BC Gill, HC Jenkyns, SM Bates, S Severnman, MMM Kuypers, RG Woodfine, and TW Lyons (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
008. RW Scott, MJ Formolo, N Rush, **JD Owens**, and F Oboh-Ikuenob (2013) Upper Albian OAE 1d Event in the Chihuahua Trough, New Mexico, U.S.A, *Cretaceous Research*, doi: 10.1016/j.cretres.2013.08.011
- 2012 (3)**
007. NJ Planavsky, A Bekker, A Hofmann, **JD Owens**, and TW Lyons (2012) The causes and consequences of enhanced primary production following the rise of atmospheric oxygen, *Proceedings of the National Academy of Sciences*, doi: 10.1073/pnas.1120387109
006. **JD Owens**, TW Lyons, X Li, MM Kuypers, W Kuhnt, G Gordon, AD Anbar, and S Severmann (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*, doi: 10.1029/2012pa002328
005. K Mitchell, PRD Mason, P Van Cappellen, TM Johnson, BC Gill, **JD Owens**, J Diaz, ED Ingall, G-J Reichart, and TW Lyons (2012) Selenium as paleo-oceanographic proxy: A first assessment, *Geochimica et Cosmochimica Acta*, doi: 10.1016/j.gca.2012.03.038
- 2011 (4)**
004. DL Boyer, **JD Owens**, TW Lyons, and ML Droser (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*, doi: 10.1016/j.palaeo.2011.04.012
003. RP Brucker, J McManus, S Severmann, **JD Owens**, and TW Lyons (2011) Trace metal enrichments in Lake Tanganyika sediments: Controls on trace metal burial in lacustrine systems, *Geochimica et Cosmochimica Acta*, doi: 10.1016/j.gca.2010.09.041
002. R Raiswell, CT Reinhard, A Derkowski, **JD Owens**, SH Bottrell, AD Anbar, and TW Lyons (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*, doi: 10.1016/j.gca.2010.11.013

001. J Yao, J Li, **JD Owens**, and W Zhong (2011) Combining DNAzyme with single-walled carbon nanotubes for detection of Pb(ii) in water, *Analyst*, doi: 10.1039/C0AN00709A

## **CONFERENCE PRESENTATIONS (YEARLY NUMBER)**

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### **2019 (6)**

106. \*S Li, **JD Owens**, and F Wu (2019) A first assessment of the paleoredox utility of vanadium isotopes using black shales from an ocean anoxic event, *Geological Society of America Southeastern Section*
105. A Lindskog, SA Young, NP Kozik, and **JD Owens** (2019) Trans-Atlantic redox records through a mid-Silurian extinction event, *Geological Society of America Southeastern Section*
104. \*JA Wadhams, **JD Owens**, and TR Them II (2019) Tracking the initial onset of deoxygenation across the Paleocene-Eocene thermal maximum, *Geological Society of America Southeastern Section*
103. E Benayoun, SA Young, O Hints, T Martma, and **JD Owens** (2019) Paleoredox changes associated with early Silurian extinction events: New geochemical evidence from Baltoscandia, *Geological Society of America Southeastern Section*
102. CN Bowman, SA Young NP Kozik, and **JD Owens** (2019) Geochemical evidence of redox changes associated with the late Silurian LAU/Kozlowskii extinction from carbonate facies of Laurentia and Baltica, *Geological Society of America Southeastern Section*
101. \*SN Newby, **JD Owens**, and TJ Algeo (2019) Brief oxygenation event during extensive anoxia across the Permian-Triassic transition as revealed by thallium isotopes, *Geological Society of America Southeastern Section*

### **2018 (26)**

100. N Riedinger, WP Gilhooly III, and **JD Owens** (2018) Trace metal and iron cycling in deep-subsurface, coal bed-containing sediments off Shimokita (Japan), *American Geophysical Union*
099. TR Them, BC Gill, AH Carothers, DR Gröcke, SM Marroquín, JP Trabucho Alexandre, and **JD Owens** (2018) Are OAEs actually CBEs? Evidence of marine anoxia through the eyes of a novel metal isotope, *Geological Society of America*
098. MS Abadi, GS Soreghan, **JD Owens**, TR Them, and X Liu (2018) Atmospheric Dust Stimulated Marine Primary Productivity During Earth's Penultimate Icehouse, *Geological Society of America*
097. CN Bowman, SA Young, C Richbourg, NP Kozik, and **JD Owens** (2018) Evidence of oceanic euxinia associated with the late Silurian Lau/Kozlowskii extinction from Laurentian carbonates of Tennessee and Nevada, *Geological Society of America*
096. NP Kozik, SA Young, BC Gill, and **JD Owens** (2018) Investigating Redox Conditions and Mechanisms for the End Ordovician (Hirnantian) Mass Extinction: A western Laurentia Perspective, *Geological Society of America*
095. \*TL Bandy, **JD Owens**, TR Them, SA Young, and GS Soreghan (2018) Environmental controls on organic carbon productivity in the Midland Basin, *Geological Society of America*
094. \*SN Newby, **JD Owens**, TJ Algeo (2018) Protracted anoxia during the Permian-Triassic transition as revealed by thallium isotopes, *Geological Society of America*
093. SA Young, A Kleinberg, and **JD Owens** (2018) Dynamic local and global marine redox conditions during an early Silurian extinction (Ireviken event): geochemical evidence from Laurentia, *Geological Society of America*
092. **JD Owens** (2018) Constraining global (de)oxygenation during Phanerozoic climate events, *Ocean Deoxygenation Conference*
091. **JD Owens**, \*TR Them II, \*F Wu, and SG Nielsen (2018) Novel isotope systems to better constrain local to global reduced bottom water oxygen contents, *Goldschmidt Conference*

090. \*TR Them II, CH Jagoe, BC Gill, AH Caruthers, SE Grasy, DR Gröcke, R Yin, and **JD Owens** (2018) Toarcian mercury anomalies record terrestrial disturbance rather than volcanic activity, *Goldschmidt Conference*
089. CN Bowman, SA Young, D Kaljo, ME Eriksson, TR Them II, T Martma, O Hints, and **JD Owens** (2018) Thallium isotopic evidence for widespread ocean anoxia associated with the late Silurian Lau extinction event, *Goldschmidt Conference*
088. \*F Wu, **JD Owens**, and SG Nielsen (2018) Vanadium isotope a new tool for tracking low oxygen conditions, *Goldschmidt Conference*
087. SM Marroquín, BC Gill, \*TR Them II, **JD Owens**, DR Gröcke, and AH Caruthers (2018) Investigating the sulphur cycle during the end-Triassic mass extinction from Panthalassa, *Goldschmidt Conference*
086. Z Li, **JD Owens**, NJ Planavsky, K Ozaki, and CT Reinhard (2018) A thallium isotope record of ocean oxygenation during the Lomagundi Event, *Goldschmidt Conference*
085. R Gaschnig, **JD Owens**, \*SN Newby, CT Reinhard, X Wang, D Asael, NJ Planavsky and R Rudnick (2018) The Tl and Cr isotope composition of the upper continental crust from the Archean to present, *Goldschmidt Conference*
084. CM Ostrander, SG Nielsen, **JD Owens**, BK Kendall, GW Gordon, SJ Romaniello, and AD Anbar (2018) Oxygen oases were persistent and widespread before the GOE, *Goldschmidt Conference*
083. MA Leroy, **JD Owens**, \*TR Them, and BC Gill (2018) Tracking marine deoxygenation during the Cambrian SPICE event using thallium isotopes, *Goldschmidt Conference*
082. S Marroquín, BC Gill, TR Them II, J Trabucho-Alexandre, M Aberhan, **JD Owens**, D Gröcke, and A Caruthers (2018) Investigating a unique open ocean geochemical record of the end Triassic mass extinction from Panthalassa, *Southeastern Biogeochemistry Symposium*
081. E Benyoum, **JD Owens**, O Hints, T Martma, and SA Young (2018) Expansion of anoxia/euxinia as driver for early Silurian extinction events: New geochemical proxy data from Sweden, *Southeastern Biogeochemistry Symposium*
080. Z Li, CT Reinhard, NJ Planavsky, and **JD Owens** (2018) A thallium isotope record of ocean oxygenation during the Lomagundi Event, *Southeastern Biogeochemistry Symposium*
079. CN Bowman, C Richbourg, **JD Owens**, and SA Young (2018) Geochemical evidence for widespread anoxia-euxinia during the Late Silurian Lau Extinction Event, *Southeastern Biogeochemistry Symposium*
078. \*TR Them II, AH Caruthers, BC Gill, DR Gröcke, SM Marroquín, and **JD Owens** (2018) Tracking Early Jurassic marine (de)oxygenation, *Southeastern Biogeochemistry Symposium*
077. \*KM Turner, and **JD Owens** (2018) A Geochemical Analysis of Rare Earth Elements Associated with Significant Phosphate Deposits of West-Central Florida, *Southeastern Biogeochemistry Symposium*
076. \*F Wu, **JD Owens**, SG Nielsen, CR German, and R Mills (2018) V isotope composition in modern marine hydrothermal sediments, *Southeastern Biogeochemistry Symposium*
075. \*BJ Holdaway, **JD Owens**, SG Nielsen, CM Ostrander, and AD Anbar (2018) Using thallium isotopes in the ~2.63 Ga Jeerinah Formation from Hamersley Basin, Western Australia, to constrain ancient seafloor oxygenation, *Southeastern Biogeochemistry Symposium*
074. SG Nielsen, K Righter, F Wu, **JD Owens**, J Prytulak, K Burton, and K Davis (2018) Nucleosynthetic Heterogeneity Control Vanadium Isotope Variations in Bulk Chondrites, *Lunar and Planetary Science Conference*
- 2017 (22)**
073. **JD Owens**, TW Lyons, and CM Lowery (2017) Assessing global carbon burial during Oceanic Anoxic Event 2, Cenomanian-Turonian boundary event, *American Geophysical Union*
072. \*TR Them II, AH Caruthers, BC Gill, DR Gröcke, SM Marroquín, and **JD Owens** (2017) Tracking Early Jurassic marine (de)oxygenation, *American Geophysical Union*

071. \*BJ Holdaway, **JD Owens**, SG Nielsen, CM Ostrander, and AD Anbar (2017) Using thallium isotopes in the ~2.63 Ga Jeerinah Formation from Hamersley Basin, Western Australia, to constrain ancient seafloor oxygenation, *American Geophysical Union*
070. \*KM Turner, and **JD Owens** (2017) A Geochemical Analysis of Rare Earth Elements Associated with Significant Phosphate Deposits of West-Central Florida, *American Geophysical Union*
069. \*F Wu, **JD Owens**, SG Nielsen, CR German, and R Mills (2017) V isotope composition in modern marine hydrothermal sediments, *American Geophysical Union*
068. CM Ostrander, SG Nielsen, **JD Owens**, G Jiang, R Zhang, NJ Planavsky, SK Sahoo, TW Lyons, and AD Anbar (2017) Thallium isotopes track fluctuations in global manganese oxide burial during the Ediacaran Period, *American Geophysical Union*
067. S Marroquín, BC Gill, TR Them II, J Trabucho-Alexandre, M Aberhan, **JD Owens**, D Gröcke, and A Caruthers (2017) Investigating a unique open ocean geochemical record of the end Triassic mass extinction from Panthalassa, *American Geophysical Union*
066. MA Leroy, BC Gill, TR Them II, and **JD Owens** (2017) A thallium isotopic record of the Cambrian SPICE event from the Alum Shale, Andrarum Sweden, *Geological Society of America*
065. BC Gill, MA Leroy, A Gerhardt, TR Them II, and **JD Owens** (2017) Deciphering the record of biologic and environmental change during the later Cambrian Steptoean positive carbon isotope excursion, *Geological Society of America*
064. S Marroquín, BC Gill, TR Them II, J Trabucho-Alexandre, M Aberhan, **JD Owens**, D Gröcke, and A Caruthers (2017) Investigating a unique open ocean geochemical record of the end Triassic mass extinction from Panthalassa, *Geological Society of America*
063. C Lowery, HL Jones, TJ Bralower, J Smit, FJ Rodrigues-Tovar, MT Whalen, **JD Owens**, and Expedition 364 Scientists IODP-ICDP (2017) The recovery of life at ground zero, *Geological Society of America*
062. E Benayoun, SA Young, **JD Owens**, ME Eriksson, O Hints, and T Martma (2017) Expansion of anoxia/euxinia as a driver for early Silurian extinction events: new sedimentary and geochemical proxy data from Baltica, *Geological Society of America*
061. CN Bowman, SA Young, **JD Owens**, D Kaljo, O Hints, and T Martma (2017) Oceanographic redox changes associated with the late Silurian LAU extinction event: new geochemical evidence from the priekule-20 drill core, Latvia, *Geological Society of America*
060. \*F Wu, **JD Owens**, SG Nielsen, F Scholz, N Riedinger, L Peterson, and TW Lyons (2017) The vanadium isotope composition of marine sediments, *Goldschmidt Conference*
059. KS Rybacki, **JD Owens**, NJ Planavsky, and CT Reinhard (2017) Tracing the local accumulation of free oxygen within an Archean marine system using a coupled Fe-Mo-Tl stable isotope approach, *Goldschmidt Conference*
058. R Gaschnig, CT Reinhard, **JD Owens**, NJ Planavsky, X Wang, D Asael, A Graney, R Rudnick, and R Helz (2017) Behavior of Mo, U, and Tl isotopes during differentiation in the Kilauea Iki system, *Goldschmidt Conference*
057. SK Sahoo, GJ Gilleadeau, **JD Owens**, SW Poulton, and TW Lyons (2017) Iron-rich conditions and molybdenum enrichment in a Mesoproterozoic shelf setting: A snapshot from the Vindhyan Basin, India, *Goldschmidt Conference*
056. KS Rybacki, **JD Owens**, NJ Planavsky, and CT Reinhard (2017) Tracing the local accumulation of free oxygen within an Archean marine system using a coupled Fe-Mo-Tl stable isotope approach, *Geobiology Society Conference*
055. E Benayoun, SA Young, and **JD Owens** (2017) Expansion of Anoxia/Euxinia as Driver for Early Silurian Extinction Events: New Geochemical Proxy Data from Sweden, *Southeastern Biogeochemistry Symposium*
054. CN Bowman, SA Young, and **JD Owens** (2017) Oceanographic Redox Changes Associated with the Late Silurian Lau Extinction Event: New Geochemical Evidence from Central Tennessee and Latvia, *Southeastern Biogeochemistry Symposium*

053. N Kozik, SA Young, and **JD Owens** (2017) Investigating the Linkage of Increasing Oxygen to the Great Ordovician Biodiversification Event Using Geochemical Fingerprints in the Appalachian Basin, *Southeastern Biogeochemistry Symposium*
052. CM Lowery, H Jones, J Smit, TJ Bralower, and **JD Owens** (2017) The Recovery of Life in the Chicxulub Crater Following the End Cretaceous Mass Extinction, *Lunar and Planetary Science Conference*
- 2016 (10)**
051. J Cofrancesco, N Riedinger, and **JD Owens** (2016) Constraining trace metal paleo-proxies for black shale deposition in upwelling systems: the Benguela upwelling system offshore Namibia, *American Geophysical Union*
050. **JD Owens**, and TW Lyons (2016) Comparing the observed global organic carbon burial versus carbon-isotope-based model estimates during OAE 2: Quantifying the missing sink, *SEPM Research Conference on OAEs*
049. **JD Owens**, CM Ostrander, SG Nielsen, CT Reinhard, BC Gill, CM Lowery, GD Love, M Rohrseen, DS Hardisty, Z Lu, HC Jenkyns, and TW Lyons (2016) The stepwise evolution of marine de-oxygenation during the Cretaceous OAE2, *Geological Society of America*
048. SA Young, **JD Owens**, ME Eriksson, and SM Bergström (2016) Early Silurian (Llandovery) biotic and oceanographic events: insights from new stable isotope geochemistry within the Baltic Basin, *Geological Society of America*
047. \*TR Them II, BC Gill, HL Grove, D Selby, DR Gröcke, and **JD Owens** (2016) Geochemical evidence for persistent anoxia in eastern Panthalassa during the early Jurassic, *Geological Society of America*
046. CN Bowman, SA Young, and **JD Owens** (2016) Oceanographic redox changes associated with the late Silurian Lau event as evidence from the Brownsport Formation, Tennessee, *Geological Society of America*
045. A Kleinberg, SA Young, and **JD Owens** (2016) Geochemical investigation of environmental changes associated with the early Silurian Ireviken extinction event, *Geological Society of America*
044. NP Kozik, SA Young, and **JD Owens** (2016) Investigating the linkage of increasing oxygen to the Great Ordovician Biodiversification Event using geochemical fingerprints in the Appalachian Basin, *Geological Society of America*
043. SG Nielsen, \*CM Ostrander, and **JD Owens** (2016) Ocean oxygenation across global climate perturbations recorded by thallium isotopes, *Goldschmidt Conference*
042. F Zhang, C Li, VA Meleshik, BG Pokrovsky, W Shi, M Cheng, B Kendall, SJ Romaniello, **JD Owens**, and AD Anbar (2016) Uranium Isotope Variation Across the Ediacaran Shuram Excursion, *Goldschmidt Conference*
- 2015 (6)**
041. **JD Owens**, SG Nielsen, \*CM Ostrander, L Peterson, and AD Anbar (2015) Development and Applications of Thallium isotopes: a new proxy tracking the extent of manganese oxide burial, *American Geophysical Union (Invited)*
040. \*CM Ostrander, **JD Owens**, and SG Nielsen (2015) Thallium isotopes tracking Mn-oxide burial – a proxy for deoxygenation during Oceanic Anoxic Event 2, *American Geophysical Union*
039. \*T Huang, **JD Owens**, A Sarafian, I Sen, DF Huang, J Blusztajn, and SG Nielsen (2015) Development of analytical techniques of vanadium isotope in seawater, *American Geophysical Union*
038. TYS Tang, NJ Planavsky, **JD Owens**, G Love, TW Lyons, and LC Peterson (2015) Tracking Eukaryotic Production and Burial Through Time with Zinc Isotopes, *American Geophysical Union*
037. SA Young, ME Eriksson, and **JD Owens** (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*

036. \*B Lee, **JD Owens**, and TW Lyons (2015) Distribution of Bioavailable Iron in the Pacific Ocean and Relationships to Dust Delivery and Potential Continental Sources, *Goldschmidt Conference 2014 (6)*
035. **JD Owens**, and SG Nielsen (2014) Thallium isotope a new tool for tracking the global marine ferromanganese burial, *American Geophysical Union*
034. \*B Lee, **JD Owens**, and TW Lyons (2014) Implication of eolian delivery and accumulation of highly reactive iron to the Atlantic Ocean, *American Geophysical Union*
033. GS Soreghan, S Sur, **JD Owens**, R Raiswell, NG Heavens, NM Mahowald, and TW Lyons (2014) The biological impact of eolian delivery of reactive iron to late Palaeozoic icehouse seas, *Geological Society of America*
032. A Chappaz, **JD Owens**, and TW Lyons (2014) Molybdenum Speciation in Modern and Ancient Euxinic Settings, *Goldschmidt Conference*
031. B Lee, **JD Owens**, and TW Lyons (2014) Delivery and Accumulation of Highly Reactive Iron to the Open Ocean and Its Implications, *Goldschmidt Conference*
030. **JD Owens**, CT Reinhard, M Rohrssen, GD Love, and TW Lyons (2014) Marine trace-metal drawdown during the Cenomanian-Turonian Oceanic Anoxic Event and implications for global redox and biological perturbation, *Northeast Geobiology Symposium 2013 (5)*
029. BC Gill, **JD Owens**, TR Them II, HC Jenkyns, and TW Lyons (2013) A refined investigation into the sulfur and iron cycles during the Toarcian OAE, *American Geophysical Union*
028. CT Reinhard, NJ Planavsky, X Wang, **JD Owens**, TM Johnson, WW Fischer, and TW Lyons (2013) Chromium isotopes in siliciclastic sediments and sedimentary rocks as a developing proxy for Earth surface change, *American Geophysical Union*
027. SK Sahoo, J Ganqing, NJ Planavsky, B Kendall, **JD Owens**, AD Anbar, and TW Lyons (2013) Turbulent times for early animals?, *Geological Society of America*
026. **JD Owens**, CT Reinhard, and TW Lyons (2013) Trace metal drawdown during a Cretaceous oceanic anoxic event: implications for global redox conditions, *Goldschmidt Conference*
025. LM Wehrmann, MJ Formolo, **JD Owens**, TG Ferdelman, R Raiswell, and TW Lyons (2013) The cycling and transport of glacially derived iron in Arctic fjord sediments, *Goldschmidt Conference 2012 (7)*
024. RW Scott, NK Rush, MJ Formolo, FE Obohikuenobe, and **JD Owens** (2012) Late Albian Oceanic anoxia in the Chihuahua trough, South-Central New Mexico, *Geological Society of America*
023. **JD Owens**, LM Wehrmann R Raiswell, and TW Lyons (2012) Enhanced delivery of bioavailable Fe through glacial processes in Kongsfjorden, Svalbard, *Goldschmidt Conference*
022. BC Gill, TW Lyons, **JD Owens**, S Bates, HJ Brumsack, and H Jenkyns (2012) Interpreting the trace metal records of ancient epeiric seaways: Lessons from the Toarcian (Jurassic) black shales of Europe, *Goldschmidt Conference*
021. LM Wehrmann, **JD Owens**, MJ Formolo, TG Ferdelman, and TW Lyons (2012) Glacially derived iron as the key driver for biogeochemical processes in Arctic fjord sediments (West Svalbard), *Goldschmidt Conference*
020. **JD Owens**, BC Gill, H Jenkyns, MMM Kuypers, S Severmann, S Bates, and TW Lyons (2012) Perturbations to the Global Sulfur Cycle during a mid-Cretaceous Oceanic Anoxic Event (OAE 2: Cenomanian/Turonian), *Urbino Summer School of Paleoclimatology (USSP)*
019. **JD Owens**, BC Gill, H Jenkyns, MMM Kuypers, S Severmann, S Bates, and TW Lyons (2012) Perturbations to the Global Sulfur Cycle during a mid-Cretaceous Oceanic Anoxic Event (OAE 2: Cenomanian/Turonian), *European Geophysical Union*
018. **JD Owens**, DL Boyer, ML Droser, and TW Lyons (2012) Low oxygen bottom waters in the Devonian ocean through a combined biological and geochemical approach, *European Geophysical Union 2011 (2)*



017. **JD Owens**, TW Lyons, GS Soreghan, M Soreghan, A Chappaz, and R Raiswell (2011) Quantifying bioavailable iron delivery by dust during the icehouse of the late Paleozoic, *American Geophysical Union*
016. **JD Owens**, TW Lyons, S Severmann, B Gill, H Jenkyns, MMM Kuypers, G Gordon, A Anbar, and W Kuhnt (2011) Global Perturbation of the Marine Iron Cycle During OAE-2, *Cretaceous Symposium*
- 2010 (6)**
015. S Sur, GS Soreghan, **JD Owens**, TW Lyons, and MJ Soreghan (2010) Eolian delivery of highly reactive iron to the glacial ocean of the late Paleozoic, *American Geophysical Union*
014. **JD Owens**, B Gill, H Jenkyns, and TW Lyons (2010) Perturbations to the Global Sulfur Cycle during Ocean Anoxic Events, *Geological Society of America*
013. R Raiswell, C Reinhard, A Derkowski, **JD Owens**, S Bottrell, A Anbar, and TW Lyons (2010) Formation of syngenetic and early diagenetic iron minerals in the late Archean Mt. McRae Shales: paleoceanographic implications, *Geological Society of America*
012. S Severmann, J McManus, R Poulson-Brucker, **JD Owens**, TW Lyons, A Anbar, and G Gordon (2010) Modern lakes and ancient oceans: trace metals and their isotopes in an anoxic African rift lake, *Goldschmidt*
011. X Li, S Severmann, **JD Owens**, and B Sageman (2010) Hydrothermal contributions to oceanic anoxic event 2? Evidence from trace metals, *Goldschmidt*
010. **JD Owens**, S Severmann, TW Lyons, MMM Kuypers, W Kuhnt, G Gordon, and A Anbar (2010) A  $\delta^{56}\text{Fe}$  record of ocean-scale iron shuttling during OAE 2, *Southern California Geobiology Symposium*
- 2006-2009 (9)**
009. B Gill, TW Lyons, **JD Owens**, H Brumsack, and H Jenkyns (2009) A multi geochemical proxy approach to deciphering the Toarcian OAE, *American Geophysical Union*
008. **JD Owens**, GS Soreghan, A Gearhardt, S Sur, and TW Lyons (2009) Iron cycling in a late Paleozoic dust bowl, *American Geophysical Union*
007. DL Boyer, ML Droser, and **JD Owens** (2009) High Resolution Biotic and Geochemical Data from Devonian Dysaerobic Shales of New York State, *NAPC*
006. GS Soreghan, S Sur, TW Lyons, MJ Soreghan, and **JD Owens** (2009) Production and weathering of loess in the late Paleozoic tropical Pangaea and implications for iron delivery to the glacial ocean, *Goldschmidt*
005. **JD Owens**, S Severmann, TW Lyons, MMM Kuypers, W Kuhnt, G Gordon, and A Anbar (2008) Perturbations of the Global Fe Cycle during OAE II, *American Geophysical Union*
004. **JD Owens**, S Severmann, J McMannus, TW Lyons, and B Gill (2008) Sulfur Isotopes in Lake Tanganyika, *Southern California Geobiology Symposium*
003. R Poulson Brucker, J McManus, S Severmann, **JD Owens**, and TW Lyons (2008) Trace Metal Associations in an Anoxic Lake: the relative Roles of Organic Carbon and Reduced Sulfur, *American Geophysical Union*
002. S Severmann, J McManus, WM Berelson, T Riedel, and **JD Owens** (2008) The benthic flux of iron from river-dominated continental shelves of the North Pacific, *Ocean Sciences Meeting*
001. S Severmann, J McManus, **JD Owens**, TW Lyons, G Gordon, and A Anbar (2006) Combined Fe-S stable isotopes in modern anoxic environments and the effects of Fe versus S limitation, *American Geophysical Union*

## **GRANTS AWARDED**

- 2018 NASA Exobiology: *Using vanadium isotopes to investigate small fluctuations in early oceanic oxygenation: implications for the emergence and evolution of early animals*, PI: JD Owens

- 2018 NSF Sedimentary Geology and Paleobiology: *Discerning Mechanisms of Environmental and Oceanographic Change Associated with the Late Silurian (Ludfordian) Extinction Event*, Co-I: JD Owens
- 2016 NASA Exobiology: *Tracking the Initiation of Marine Ocean Oxygenation Through Manganese-Oxide Burial Using Thallium Isotopes*, PI: JD Owens
- 2016 NSF EAR IF: *Acquisition Of A Gas Source Stable Isotope Ratio Mass Spectrometer (IRMS) For Earth And Ocean Sciences Research At Florida State University*, CoI: JD Owens
- 2014 NSF OCE: Chemical Oceanography: *Fingerprinting and Calibrating Low Oxygen Conditions Using Vanadium Isotopes* PI: JD Owens

***As a 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**

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

**TEACHING ACTIVITIES**

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***FSU COURSES TAUGHT (NUMBER OF STUDENTS)***

- Environmental Capstone (88 – co-taught, 33), 2017–2018 S – upper division field course
- Surficial Biogeochemical cycles (15), F 2017 – graduate level class exploring biogeochemical cycles related to climate perturbations including mass balance modeling
- Global climate through time (8), F 2016 – upper division earth science course focusing on climate and biological interactions throughout Earth’s history
- Graduate Seminar (12), S 2016
- Marine geology (20), S 2016 – graduate level class exploring all aspects encompassing marine geology

***GUEST LECTURE***

- Environmental Capstone (Math Lecture), 2017 – 2018
- Marine Geoscience Leadership Panel on Time Management, 2017
- Agouron Geobiology Course, 2015

***FSU POSTDOC ADVISEES***

- Fei Wu, 2016-2018, now a Research Scientist at Macquarie University
- Theodore Them (FSU Arts and Science Fellow), 2016-2018, now an Assistant Professor at College of Charleston

***FSU GRADUATE STUDENT PRIMARY ADVISEES***

***PHD***

- Christian Gfatter, started Fall 2017
- Siqi Li, started Fall 2017
- Sean Newby, started Fall 2017

***MASTERS***

- Terryl Bandy, started Fall 2017
- Brett Holdaway, Graduated Fall 2018
- Kyle Turner, Graduated Spring 2018

***FSU GRADUATE STUDENT COMMITTEE***

***PHD***

- Nevin Kozik, started Fall 2017
- Chelsie Bowman, candidate

***MASTERS***

- Chance Hannold, started Fall 2018
- Matthew Schreck, started Fall 2018
- Emily Benayoun, started Fall 2017
- Randall Funderburk, started Fall 2016
- Brandon Fish, Graduated Spring 2018
- Nevin Kozik, Graduated Summer 2017
- Andrew Kleinberg, Graduated Summer 2017

***FSU UNDERGRADUATE RESEARCH ADVISEES***

- Jane Wadhams, September 2018-present – EROP
- Adam Karl, September 2018-present
- Brett Faran, June 2018-present – MagLab REU
- Dalton Langford, Oct 2017-May 2018 (Graduated)
- Travis Spake, Sept 2017-Dec 2017 (Graduated)
- Ashley Prow, Sept 2016-Sept 2017 (Graduated)
- Mary Powell, Mar 2016-May 2017 – MagLab REU (Graduated)
- John Sutton, Jan 2016-Aug 2016 (Graduated)

***EXTERNAL GRADUATE ADVISEES***

- Chadlin Ostrander (PhD), Arizona State University, Jul 2016-present
- Bridget Lee (MS and PhD), University of California, Riverside, Aug 2013-present

***PREVIOUS ADVISEES***

- Mackensey Farmer (MS), California State University, San Bernardino, Jul 2012
- Angela Gerhardt (Senior Thesis), University of California, Riverside, 2012
- Mahnoor Rahman and Nicole Perifoy (Awarded Science Fair), Martin Luther King High School, 2011

## **SIGNIFICANT PROFESSIONAL SERVICES & ACTIVITIES**

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### ***FSU***

- New building committee, member
- Colloquium committee, member
- Environmental Science curriculum, member
- Environmental Science graduate program task force, member
- Website and design committee, chair
- Laboratory fees committee, member

### ***PANELIST***

National Aeronautics and Space Administration – sub-panel chair – Exobiology  
National Science Foundation – Marine Geology and Geophysics

### ***PEER REVIEWER***

#### ***Grant Agencies***

American Chemical Society • National Aeronautics and Space Administration • National Science Foundation • Swiss National Science Foundation

#### ***Journals/Books***

American Geophysical Union Book Proposal Review • American Journal of Science • Biogeosciences • Chemical Geology • Chemie der Erde – Geochemistry • Climate of the Past • Earth and Planetary Science Letters • Geochimica et Cosmochimica Acta • Geology • Geochemistry, Geophysics, Geosystems • Nature • Nature Communications • Nature Geosciences • Nature Scientific Reports • Paleoceanography • Palaeogeography, Palaeoclimatology, Palaeoecology • Precambrian Research

### ***INVITED TALKS***

2018 – OU  
2018 – Goldschmidt, FSU EOAS, FSU Biology  
2016 – UF, OSU, FSU Fluids  
2015 – WashU St. Louis, FSU, AGU  
2014 – University of Leeds, UMASS Amherst  
2012 – WHOI

### ***SCIENTIFIC MEETING CONVENER/SESSION CHAIR***

- GSA 2016, 2018
- Goldschmidt 2012, 2018
- AGU 2014
- WHOI Paleoclimate Seminar Series 2014–2015
- Southern California Geobiology Symposium 2009

### ***SCIENTIFIC OUTREACH COMMUNITY ACTIVITIES***

- Radio Interview – The Attitude with Arnie Arnesen – (10/20/2018; [link](#))
- Popular Science Article – Volcanic eruptions once caused mass extinctions in the oceans – could climate change do the same? (2018) *The Conversation* ([link](#))
- Innovation Park, Invited Speaker – Fingerprinting marine deoxygenation through geologic history (2018)
- TEDxFSU, Invited Speaker – Fingerprinting climate (2018)
- Lincoln High, Guest Speaker, Chemistry and Marine Science (2018)
- Mote Marine Laboratory & Aquarium – Fingerprinting Earth's climate through history – How modern climate change is unprecedented (2018)

- NNOCCI Science Board Member (2018)
- Water Symposium, Invited Speaker–Deciphering Ancient Climate Change to Better Understand Future Effects on Our Oceans (2017)
- National High Magnetic Field Laboratory Open House – Fingerprinting Geologic History (2015-ongoing)
- MarineLand–Fingerprinting Earth’s climate through history – How modern climate change is unprecedented (2017)
- New England Aquarium–A geologic detective: investigating climate change (2015)
- Orleans Conservation Trust–Linking Earth's climate history to changes we see today (2015)
- Video–The story in rocks (2015)
- Designed carbon cycle lab, Beaumont High School (2013)

***PROFESSIONAL SOCIETIES***

American Geophysical Union • Geochemical Society Geological • Geological Society of America