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Curriculum vitae

Work Address

University of South Florida

Department of Geology

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<http://geology.usf.edu/faculty/zatlas/>

<http://facilities.cas.usf.edu/geoanalysis/>

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EDUCATION

Ph.D. 2008 University of Miami, Rosenstiel School of Marine and Atmospheric Science. Division of Marine Geology and Geophysics. Dissertation Title: Volatiles in melt inclusions from Mexican and Nicaraguan volcanoes: implications for complex degassing processes.

Advisor: Dr. Jacqueline E. Dixon

M.S. 2001 Florida International University. Department of Earth Sciences. Thesis title: Melt inclusions from Volcán de Colima, Mexico.

Advisor: Dr. Gutam Sen

M.S. 1995 Florida International University. College of Education, Department of Health, Physical Education and Recreation, Therapeutic Recreation Track. Clinical Internship at New York University – Rusk Rehabilitation Medical Center.

Advisor: Dr. Thomas Skalko.

B. A. 1992 State University of New York at Stony Brook. Multi-Discipline Studies. Concentrations in Geology, Sociology and Adapted Physical Education with equal preparation in Chemistry and Religious Studies.

PROFESSIONAL APPOINTMENTS

2013-Present Research Assistant Professor

University of South Florida, Department of Geology

Laboratory Manager for the Center for Geochemical Analysis.

<http://facilities.cas.usf.edu/geoanalysis/>

2007-2013 Research Associate

University of South Florida, Department of Geology
Laboratory Manager for the Center for Geochemical Analysis.
<http://facilities.cas.usf.edu/geoanalysis/>

- 2000- 2015** **Adjunct Professor of Oceanography**
Miami Dade College, Virtual College
- 2004-2007** **Adjunct Professor**
University of Miami, Department of Geological Sciences
- 2001-2007** **Graduate Instructor**
University of Miami, Department of Geological Sciences
- 1998-2001** **Graduate Instructor**
Florida International University, Department of Geology
- 1996-1998** **Research Assistant**
Florida International University, Southeast Environmental
Research Center

PUBLICATIONS

- Lago, J. L., Burcar, B. T., Hud, N. V., Febrian, R., Mehta, C., Bracher, P. J., **Atlas, Z.D.** & Pasek, M. A. (2020). The Prebiotic Provenance of Semi-Aqueous Solvents. *Origins of life and evolution of the biosphere: the journal of the International Society for the Study of the Origin of Life*.
- Banerjee, M., Dutta, U., Anand, R.. & **Atlas, Z. D.** (2019). Insight on the process of two-stage coronae formation at olivine-plagioclase contact in mafic dyke from Palghat Cauvery Shear Zone, southern India. *Journal of Mineralogy and Petrology*.
<https://doi.org/10.1007/s00710-019-00674-y>
- Herschy, B., Chang, S. J., Blake, R., Lepland, A., Abbott-Lyon, H., Sampson, J., **Atlas, Z**, Kee, T.P. & Pasek, M. A. (2018). Archean phosphorus liberation induced by iron redox geochemistry. *Nature Communications*.
- Binder, G. A., Daniel, K. Metcalf, R. & **Atlas, Z. D.**, (2018) Evaluation of Digestion Methods for Analysis of Trace Metals in Mammalian Tissues and NIST 1577c. *Analytical Biochemistry: Methods in the Biological Sciences*.
- Macorps, E., Charbonnier, S., Varley, N., Capra, L., **Atlas, Z.D.** & Cabré, J. (2018). Stratigraphy, Sedimentology and Inferred Flow Dynamics from the July 2015 Block-and-Ash Flow Deposits at Volcán de Colima, Mexico, *Journal of Volcanology and Geothermal Research*.
- Zamboni, D., Gazel, E., Ryan, J.R., Cannatelli, C., Lucchi, F., **Atlas, Z.D.**, Trela, J.,

- Mazza, S.E. & De Vivo, B. (2016). Contrasting sediment melt and fluid signatures for magma components in the Aeolian Arc: Implications for numerical modeling of subduction systems. *Geochemistry, Geophysics, Geosystems*. DOI: 10.1002/2016GC006301
- Pasek, M.A., Sampson, J. & **Atlas, Z. D.** (2014). Redox chemistry in the phosphorus biogeochemical cycle. *Proceedings of the National Academy of Science*. Early Edition doi:10.1073/pnas.1408134111
- Kee, T. P., Bryant, D. E., Herschy, B., Marriott, K. E. R., Nichola E. Cosgrove, N. E., Pasek, M. A., **Atlas, Z. D.** & Cousins, C. R. (2013). Phosphate Activation via Reduced Oxidation State Phosphorus (P): Mild Routes to Condensed-P Energy Currency Molecules. *Life*, 3, 386-402; doi: 10.3390/life/3030386
- Pasek, M. A., Harnmeijer, J. P., Buick, R., Gull, M. & **Atlas, Z. D.** (2013). Evidence for reactive phosphorus species in the early Archean ocean. *Proceedings of the National Academy of Science*, 110 (25) 10089-10094, doi:10.1073/pnas.1303904110
- Atlas, Z. D.**, Dixon, J. E. Finny, M., Sen, G. & Del Pozzo, A. L. (2006). Melt inclusions from Volcán Popocatepetl and Volcán de Colima, Mexico: melt evolution due to crystallization under vapor-saturated conditions during ascent. *Journal of Volcanology and Geothermal Research*, 153, 221-240.
- Rehki, S., Saxena, S. K., **Atlas, Z. D.** & Hu, J. (2000). The effect of particle size on the compressibility of MgO. *Solid State Communications*, 117 (1), 33-36

ABSTRACTS

- Germa, A., Koebli, D. J., **Atlas, Z. D.**, Wetmore, P., Diez, M., Savov, I. P., & Connor, C. (2020). Crystallization, segregation, and remobilization of evolved melts in shallow sills: insights from the San Rafael subvolcanic field, Utah. In *Chapman Conference on Distributed Volcanism and Distributed Volcanic Hazards*. AGU.
- Maruszczak, A., Ryan, J., **Atlas, Z. D.**, Sanatan, K. A., & Coulthard Jr, D. (2019). Insights into the earliest slab inputs from the lithium systematics of Izu-Bonin forearc volcanic rocks recovered during IODP Expedition 352. *AGUFM, 2019*, V51G-0201.
- Scholpp, J., Ryan, J., Shervais, J. W., Luna, A., Hill, S., **Atlas, Z.** & Mack, B. (2019). Evidence for open-system processes during early subduction zone magmatism. In *Geological Society of America Abstracts with Programs* (Vol. 51, No. 5).
- Koebli, D. J., Germa, A., **Atlas, Z. D.**, & Wetmore, P. H. (2018). Testing the theory of immiscibility within the sills of the San Rafael Volcanic Field, Utah, through the use of thermodynamic modeling. *AGUFM, 2018*, V51B-0119.

- Atlas, Z.D.**, Germa, A. & Boss, B. (2017). Magmatic Signatures And Sediment Enrichment Sources Along The Modern Caribbean Volcanic Arc. 2017 AGU Abstracts with Programs.
- Nicke, B. **Atlas, Z.D.** (2017). Petrographic and trace element geochemistry of rocks dredged from the Aves Ridge: examples of mixed basalt signatures. 2017 AGU Abstracts with Programs
- Koelbi, D. Germa, A., **Atlas, Z.D.** & Wetmore, P. (2017) A Geochemical and Petrological Investigation of dikes and sills from the San Rafael Volcanic Field, Utah. Session:II.07 Architecture of magmatic plumbing systems, IAVCEI2017
- Atlas, Z.D.**, Long, E., Macorps, E. Garcia Hernandez, M.A. Charbonnier, S & Varley, N. (2016). Geochemistry of the July 2015 pyroclastic flow at Volcán de Colima. 2016 AGU Abstracts with Programs
- Sanatan, K., J.G. Ryan, **Z. Atlas**, and M. Reagan (2016) Characterizing slab inputs in the earliest stages of subduction: preliminary evidence from fluid-mobile element systematics for IODP Expedition 352 recovered volcanic samples. Geophysical Research Abstracts, vol. 18, EGU2016-11483.
- Sumer, J., Peshek, C. **Atlas, Z.**, Long, E., Macorps, E., Charbonnier S. & Varley, N. (2016) Petrological investigation of 1999-2015 volcanics from Volcán de Colima, 2016 AGU Abstracts with Programs
- Macorps, E., Charbonnier S., Varley, N., **Atlas, Z.** (2016). Field investigations of the July 2015 pyroclastic density current deposits of Volcán de Colima, Mexico 2016 AGU Abstracts with Programs.
- Atlas, Z. D.**, Pasek, M. A.& Sampson, J. (2015) Phosphorus speciation by coupled HPLC-ICPMS: low level determination of reduced phosphorus in natural materials. European Geophysical Union, Spring Meeting
- Sampson, J. Pasek, M. A., **Atlas, Z. D.** & Buick, R. (2014). Impact delivery of reduced phosphorus in the Archean. GSA Annual Meeting 2014, Paper no. 32-3.
- Atlas, Z. D.**, Pasek, M. A.& Sampson, J. (2014) Speciation of Phosphorus by coupled HPLC-ICPMS: Application for quantification of reduced forms of phosphorus in rocks and natural waters. 2014 AGU Abstracts with Programs.
- LaCruz, N, Pasek, M. A., Pirim,C., Sampson, J., Lindsay, D., Gull, M., **Atlas, Z. D.** & Orlando, T. M. (2014). Synthesis and corrosion of schreibersite and nickel phosphide and possible implications for origin of life. GSA Annual Meeting 2014, Paper no. 111-3.

- Atlas, Z. D.**, Germa, A., Kaufmann, B. & Ryan, J.G (2013). Comparison of magma sources in the modern caribbean volcanic arc to sediment enrichment sources in the central american arc. Geological Society of America, Southeastern Conferecne, Spring Meeting
- Atlas, Z. D.**, Ryan, J.G., & Dixon, J. E. (2011). Multi-stage degassing and volatile flux at Masaya Volcano, Nicaragua. European Geophysical Union, Spring Meeting
- Joseph M. L., **Atlas Z.D.**, Royall D., Pasek M. A. (2011). Geochemical Analysis of a Type II Fulgurite. 73rd Annual Meteoritical Society Meeting, #5197.
- Pasek M.A., Collins, G.S., Carter, E.A., Melosh, H.J. & **Atlas, Z.D.** (2010) Shocked Quartz in a Fulgurite. 73rd Annual Meteoritical Society Meeting, #5197.
- Pasek M.A., Kee, T.P., Carter, E.A., Edwards, H.G.M. & **Atlas, Z.D.** (2010). Fried Phosphate and Organic Survival: Lightning in Biogeochemical Cycles. LPI Contribution No. 1538, p.5261
- Miyoshi, M., Hasenaka, T., Ryan, J.G., **Atlas, Z.D.**, Shimono, M. and Sano, T. (2008). Boron and trace element systematics of Quaternary basaltic rocks from Kyushu, Southwestern Japan. American Geophysical Union, Fall Meeting 2008, abstract #V31A-2117.
- Atlas, Z. D.**, Dixon, J. E. Finny, M., Sen, G. & Del Pozzo, A. L. (2006). Melt inclusions from Volcán Popocatépetl and Volcán de Colima, Mexico: melt evolution due to crystallization under vapor-saturated conditions during ascent. Journal of Volcanology and Geothermal Research, 153, 221-240.
- Atlas, Z.D.** & Dixon, J.E. (2006). Interconnected magmatic conduit systems as recorded by melt inclusions from Masaya and Apoyo Calderas, Nicaragua. American geophysical Union Annual Meeting – Dec. 2006, San Francisco California.
- Dixon, J.E., Dixon, T.H., **Atlas, Z.D.** & Cabral-Cano, E. (2004). Volcanic Plumbing Systems and Deformation Styles. GSA Penrose Conference on Popocatépetl Volcano, Jan. 2004. Metepec, Mexico.
- Natland, J. H. & **Atlas, Z. D.** (2003). Massive Pyroclastic eruptions accompanied the sector collapse of Oahu and the Nu’uanu landslide: petrologic evidence for a submarine directed blast. American Geophysical Union Annual Meeting – Dec. 2003, San Francisco, California.
- Atlas, Z.D.**, Sen, G. Finny, M. & Dixon, J.E. (2002). Melt Inclusions from Volcán Colima and Volcán Popocatépetl: melt generation from vapor saturated crystallization during ascent. American geophysical Union Annual Meeting – Dec. 2002, San Francisco California.

Atlas, Z.D., Beasley, T. & Sen, G. (2001). Effects of Beam Size on Sodium Loss During Microprobe Analysis of Silicate Glass. Annual Meeting of the Microscopy Society – Aug. 2001 University of Central Florida, Orlando Florida.

Atlas, Z.D. & Sen, G. (2000). Melt inclusions in plagioclase from Volcán de Colima, Mexico: tracking the magmatic evolution of an andesitic volcano. VII International Conference on Volcan Colima – 2000 University of Colima, Colima Mexico:

WORKBOOKS

Atlas, Z. D. (2000). CNN Physical Geology Today. Workbook Vol. 3. Brooks Cole Publishing, N.Y.

REPORTS

Meeder, J. F., Ross, M. S., **Atlas, Z. D.** & Jacharanda, J. (1998). Soil chronostratigraphy and paleoecology. Report: South Florida water Management District.

DIRECT GRANT FUNDING

December 2018 - USF Strategic Investment Pool Grants Program. **Atlas, Z.D.,** Ryan, J.G., Germa, A., Onac, P. & Menicucci, A. Acquisition of Nexion 2000 ICP-MS with coupled Prep FAST IC system for inline dilution and speciation. **\$243,991.** Funded through carry forward grant

December 2018 – USF Strategic Investment Pool Grants Program. Pasek, M. A., Garey, J. Rains, M., Atlas, Z. D. & Rains, K. C. - Acquisition of Ion Chromatograph Spectrometer. **\$50,932.** Funded through carry forward grant

May 2018 – USF Equipment Acquisition Improvement Grant – **Atlas, Z.D.,** Ryan, J.G., Germa, A. & Wells, E.C. Acquisition of Inductively Coupled Plasma instrumentation for elemental analysis. - **\$122,915.** Funded

2017-2018 – USF Women’s Health Collaborative Grant – Ho, T., Groer, M, Alman, A, **Atlas, Z.D.,** Maheshwari, A. & Rico, J.F. Impact of enteral iron availability on intestinal microbiome and inflammation in premature infants. - **\$14,959.53**

January 2017 – IODP Early Career Workshop for development of pre and full drilling proposals – Austin Texas - **Atlas, Z.D.** - **\$1,500** participant grant.

September 2015 - USF World Travel Grant: **Atlas, Z.D.** - **\$2,500** for travel and sampling of the July 2015 Pyroclastic flow of Colima Volcano, Mexico

December 2014: Equipment for geochemical research in volcanic arc settings: Enhancement of sample preparation facilities in the Center for Geochemical Analysis. **Atlas, Z.D.** - **\$9,000** USF-CAS internal award

December 2014: ICP-MS restoration to support multi-disciplinary, high-impact research in the Center for Geochemical Analysis: **Atlas, Z.D.** - **\$9,000** USF-CAS internal award

INDIRECT FUNDING VIA CONTRACT WORK WITH THE CENTER FOR GEOCHEMICAL ANALYSIS

Analysis of Spanish Moss used as an monitor of urban air pollution. Alkandari, Y. – \$10,500 (pending)

Analysis of toxic elements in infant formula. Bourgeois, M & Martin, N. – \$540

Analysis of serpentinites and associated rocks from IODP expedition 366 to the Mariana Forearc. Johnson, R. & Ryan, J. – \$4,350

Analysis of sediments and associated rocks from IODP expedition 367-368 to the South China Sea. Luna, A. & Ryan, J. – \$4,975

Analysis lithium and major elements in igneous rocks from Iceland and the South China Sea. Maruszczak, A. & Ryan, J. – \$2,350

Analysis of igneous rocks for GLY 3311c (Mineralogy & Petrology). Ryan, J. – \$325

Analysis of Arsenic in metal organic frameworks. Verma, G. & Ma, S. – \$550

Analysis of trace elements and anion groups in Florida groundwater. Rains, M. – \$2,145

Analysis of treated groundwater passed through columns containing sulfide minerals. Sutton, J & Ergas S. - \$300

Forensic Soil analysis for the Hillsborough County Sherriff's Office. – \$250

Laser ablation ICP analysis of carbonate shell matter. Al-Qattan, N. & Herbert, G. – \$3,100

Analysis of Ca and P in experimental extracts. Lago, J. & Pasek, M. – \$2,000

Analysis major elements in South China Sea igneous rocks. Maruszczak, A. & Ryan, J. – \$3,050

Ultra-trace element analysis of ice samples from the El Malpais lava tubes. Onac, B. - \$1,750

Elemental analysis of archeological soil samples from Guatemala. Wells, E. C. – \$16,685

Preliminary analysis of Infant Meconium. – Ho, T. \$250

Trace elements analysis of mineral and organic material. Germa, A. – \$250

Analysis of cation ratios of metal organic frameworks. Ma, S. & Aguillar, B. – \$4,000

Preliminary analysis of animal and human tissues for Cu/Zn ratio and other trace metals. Daniels, K., Guida, W., Atlas, Z. and Binder, G. – \$1,775

Trace element analysis of sedimentary rock from Ball State University. Florea, L. – \$3,600

Ultra-trace analysis of metals contamination in centrifuge tubes. Quest Diagnostics – \$3,400

Water sample analysis for trace metals in drinking water wells. Ponta, G. & Onac, B. – \$1,050

Analysis of metamorphic and igneous rocks from India. Dutta, U. – \$450

Metal Organic Frameworks analysis. Ma, S. – \$7,500

Soil, vegetation and food analysis for Tbilisi State University Georgia republic Avqofashvil, G. – \$500

Solution analysis of tooth enamels via ICP-MS. Wynn, J. & Norman-Wilson, J. – \$5,310

Laser Ablation of vein and matrix in samples from IODP exp. 352, Ryan, J. & Sanatan, K. – \$4,000

Elemental analysis of archeological soil samples from Belize. Wells, E. C. – \$22,170

HPLC-ICP-MS analysis of reduce phosphate solutions in natural waters and experimental solutions. Pasek, M. & Sampson, J.– \$9,852

ICP-MS analysis of cave water from the Romanian Academy Cluj. Napoca Branch – \$6,400

HPLC-ICP-MS analysis of reduce phosphates in urine for the U.S. Federal Bureau of Investigation and Centers For Disease Control. Agt. Young & Dr. Schwartz, M. – \$700

Analysis of forensic soil samples and water for the Tampa Police Department – \$405

Water analysis via ICP-OES for major dissolved ions. Phillips, P. & Wells, E. C. – \$1000

Preliminary analysis of experimental water and sludge treatment Trotz, M. – \$250

Trace and ultra-trace analysis of bat guano from Texas & Romania for Babes-Bolyai University, Cluj. Forray, F. – \$1,900

Major cations in brackish waters from Florida springs and estuaries. Menning, D. & Geary, J. – \$1,500

Analysis of saline and brackish waters via ICP-MS. Trotz, M. – \$1,525

Analysis of trace elements and anion groups in Alaskan ground and surface waters. Rains, M., Callahan, M. & – \$2,622

Preliminary analysis for the Department of Physics at USF. Phan, M-H & Devkota. – \$250

Soil extract analysis of archeologic samples from Central America. Wells, E. C. – \$22,860

Metals analysis in bio-fuels. Pandey, M & Borgman, D. – \$448

Wet deposition metals analysis for the Department of Public Health, Michaels, R. & Stuart, A. – \$500

Iron oxide, gadolinium and manganese analysis from the USF Morsani College of Medicine. Mohapatra, S. Alwarappen, S., Dixit, S. & Howell, M. – \$750

Sample analysis of the Corrosion Engineering Laboratory. Sagues, A. Akhoondan, M. – \$375

Selenium analysis in Blood Plasma from South American individuals. USF Microbiology lab. Rivera, F. & Malavade. – \$700

ICP-MS and ICP-OES analysis of Ice and water from cave, Romania. Onac, B. – \$8,743

Porphyrin analysis. Larsen, R. & Vetromile, C. – \$250

Arctic Ocean sea water sample analysis for cations via ICP-OES. United States Geologic Survey, St. Petersburg Fl. Yates, K. – \$2,478

ICP-OES analysis of Fe Porphyrin. Zaworotko, M. Zhang, Z. & Ong, T. – \$700

Gold and Silver Nanoparticle analysis. Kumar, A. – \$250

Cation analysis of waters from Kachemak Bay Research Reserve Alaska. Walker, C. – \$750

Metals and water analysis for calibration of pXRF for anthropologic use on metal artifacts. Tykot, R. – \$1,550

Water analysis for the USF School of Architecture and Community Design. Russell, S. – \$625

Soil extract analysis for the College of Marine Science, Schwing, P. & Pyrtle, A. – \$750

ICP-MS analysis of cave drip water and corresponding carbonates from the Institute of Speleology, Romania. Tamas, T. – \$3,681

Analysis of metamorphic rocks for Jadavpur University, India. Sengupta, P. – \$2,250

Metals analysis for Dais Analytical Corp. – \$500

Ground and surface water analysis – Rains, M. – \$2,300

PAPERS, REPORTS, ABSTRACTS, THESES & DISSERTATIONS

As a direct result of both paid and pro-bono contract work via the center for Geochemical Analysis

2019

Journal Articles

M. Lamoureux-St-Hilaire, M. A. Canuto, E. C. Wells, C. Cagnato, and T. Barrientos (in press). A Multi-Proxy Approach to a Classic Maya Regal Palace Economy. *Geoarchaeology*.

2018

Journal Articles

- Binder, G. A., Daniel, K. Metcalf, R. & Atlas, Z. D., (2018) Evaluation of Digestion Methods for Analysis of Trace Metals in Mammalian Tissues and NIST 1577c. *Analytical Biochemistry: Methods in the Biological Sciences*.
- Herschy, B., Chang, S. J., Blake, R., Lepland, A., Abbott-Lyon, H., Sampson, J., Atlas, Z., Kee, T.P. & Pasek, M. A. (2018). Archean phosphorus liberation induced by iron redox geochemistry. *Nature Communications*.
- S. M. Pratt, E. C. Wells, and A. R. Tricarico (2018). The Landscape Legacies of Sugar and Rum: An Historical-Ecological Perspective from Betty's Hope. In *Plowing Paradise: The Historical Archaeology of Betty's Hope Plantation, Antigua*, edited by G. L. Fox. University Press of Florida, Gainesville, under review.
- Thorslund J, Cohen MJ, Jawitz JW, Destouni G, Creed IF, Rains MC, Badiou P, and Jarsjö J (2018) Solute evidence for hydrological connectivity of geographically isolated wetlands. *Land Degradation and Development* 29:3954-3962
- E. C. Wells, C. Goudge, A. R. Tricarico, R. Murphy, and G. L. Fox (2018). Social and Environmental Impacts of British Colonial Rum Production at Betty's Hope Plantation, Antigua. In *Archaeologies of the British Empire in Latin America*, edited by C. E. Orser. Springer, New York, under review.
- E. C. Wells, S. M. Pratt, G. L. Fox, P. E. Siegel, N. P. Dunning, and R. Murphy (2018). Plantation Soils: Initial and Cumulative Impacts of Colonial Agriculture in Antigua, West Indies. In *The Environmental Legacies of Colonialism in the Northern Neotropics*, edited by D. Wallman, E. C. Wells, and I. Rivera-Collazo. Special issue of *Environmental Archaeology* 23(1):23-35.

Thesis & Dissertations

Bergmann, Christine L. "Elemental Analysis of Archaeological Bone Using pXRF and a Newly Developed Calibration to Assess Diet in Prehistoric Peruvians." Master's Thesis, University of South Florida, 2018.

Abstracts & Presentations

- Bergmann, C. & R.H. Tykot. 2018. Assessing Food-Based Exchange and Mobility in the Chincha Valley (Peru) Using Portable X-Ray Fluorescence Spectrometry and a Newly Developed Calibration. 42nd International Symposium on Archaeometry, Merida, Mexico, May 20-26.
- Bergmann, C. & R.H. Tykot. 2018. Assessing Food-Based Trade and Mobility in the Chincha Valley (Peru) Using Portable X-Ray Fluorescence Spectrometry. 83rd

- Annual Meeting of the Society for American Archaeology, Washington, DC, April 11-15.
- Herbert, G. S., 2018. Early warning indicators of collapse in one of the last "pristine" oyster habitats in North America. American Malacological Society Annual Meeting, Abstracts with Program.
- Herbert, G. S., S. Hesterberg, T. Pluckhahn, 2018. Status of Big Bend oyster populations: the view from deep history. Oyster Integrated Mapping and Monitoring Program Workshop. May 22-23, 2018.
- Hayes, M. B., G. S. Herbert, and L. Tapanila, 2017. Helicoprion tooth whorls as paleothermometry proxies for the Permian Phosphoria Sea. 2017 GSA Annual Meeting, Abstracts with Program.
- West, K.J., and G. S. Herbert, 2017. Gastropod opercula as a trophic archive: new insights and results. Florida United Malacologists Annual Meeting, Abstracts with Program

2017

Journal Articles

- Aguila, B.; Sun, Q.; Perman, J. A.; Earl, L. D.; Abney, C. W.; Elzein, R.; Schlaf, R.; Ma, S. (2017). Efficient Mercury Capture Using Functionalized Porous Organic Polymer. *Adv. Mater.*, 1700665.
- Callahan MK, Whigham DF, Rains MC, Rains KC, King RS, Walker CM, Maurer J, Baird SJ (2017) Nitrogen subsidies from hillslope alder stands to streamside wetlands and headwater streams, Kenai Peninsula, Alaska. *Journal of the American Water Resources Association* 53:478-492
- Flower, H., Rains, M., Lewis, D., Zhang, J. Z., & Price, R. (2017). Saltwater intrusion as potential driver of phosphorus release from limestone bedrock in a coastal aquifer. *Estuarine, Coastal and Shelf Science*, 184, 166-176.
- Flower HD, Rains MC, Lewis DB, Zhang J-Z (2017) Rapid and intense phosphate desorption kinetics when saltwater intrudes into carbonate rock. *Estuaries and Coasts* 40:1301-1313
- Flower, H., Rains, M., & Fitz, C. (2017). Visioning the future: scenarios modeling of the Florida Coastal Everglades. *Environmental management*, 60(5), 989-1009.
- K. A. Fulton, E. C. Wells, and D. A. Storer (2017). Ritual or Residential? An Integrated Approach to Geochemical Prospection for Understanding the Use of Plaza Spaces at Palmarejo, Honduras. *Archaeological and Anthropological Sciences* 9(6):1059-1076.
- Li, B.; Sun, Q.; Zhang, Y.; Abney, C.; Aguila, B.; Lin, W.; Ma, S. (2017). Functionalized Porous Aromatic Framework for Efficient Uranium Adsorption from Aqueous Solutions. *ACS Appl. Mater. Interfaces*, , 9, 12511-12517.
- Sun, Q.; Aguila, B.; Perman, J.; Earl, L.; Abney, C.; Cheng, Y.; Wei, H.; Nguyen, N.; Wojtas, L.; Ma, S. (2017). Post-synthetically Modified Covalent Organic Frameworks for Efficient and Effective Mercury Removal. *J. Am. Chem. Soc.*, 139, 2786-2793.
- E. C. Wells, C. K. Waters, A. R. Tricarico, and G. L. Fox (2017). Agroindustrial Soils in the Caribbean: A Geochemical Perspective from Betty's Hope, Antigua. *Environmental Archaeology* 22(4):381-393.

Thesis & Dissertations

Sanatan, K. A. (2017). Characterizing the Evolution of Slab Inputs in the Earliest Stages of Subduction: Preliminary Evidence from the Fluid-Mobile Element (B, Cs, As, Li) Systematics of Izu-Bonin Boninitic Glasses Recovered During IODP Expedition 352. M.S. Thesis. <https://scholarcommons.usf.edu/etd/6755/>

Abstracts & Presentations

Atlas, Z.D., Germa, A. & Boss, B. (2017). Magmatic Signatures And Sediment Enrichment Sources Along The Modern Caribbean Volcanic Arc. 2017 AGU Abstracts with Programs.

Koelbi, D. Germa, A., Atlas, Z.D. & Wetmore, P. (2017) A Geochemical and Petrological Investigation of dikes and sills from the San Rafael Volcanic Field, Utah. Session:II.07 Architecture of magmatic plumbing systems, IAVCEI2017

Nicke, B. Atlas, Z.D. (2017). Petrographic and trace element geochemistry of rocks dredged from the Aves Ridge: examples of mixed basalt signatures. 2017 AGU Abstracts with Programs

2016

Journal Articles

Flower, H., Rains, M., Lewis, D., Zhang, J. Z., & Price, R. (2016). Control of phosphorus concentration through adsorption and desorption in shallow groundwater of subtropical carbonate estuary. *Estuarine, Coastal and Shelf Science*, 169, 238-247.

Gao, W. Y., Wu, H., Leng, K., Sun, Y., & Ma, S. (2016). Inserting CO₂ into Aryl C-H Bonds of Metal-Organic Frameworks: CO₂ Utilization for Direct Heterogeneous C-H Activation. *Angewandte Chemie International Edition*, 55(18), 5472-5476.

L. J. LeCount, E. C. Wells, T. R. Jamison, and D. W. Mixter (2016). Geochemical Characterization of Inorganic Residues on Plaster Floors from a Maya Palace Complex at Actuncan, Belize. *Journal of Archaeological Science: Reports* 5:453-464.

Li, B.; Zhang, Y.; Ma, D.; Xing, Z.; Ma, T.; Shi, Z.; Ji, X.; Ma, S. (2016). Creation of a new type of ion exchange material for rapid, high-capacity, reversible and selective ion exchange without swelling and entrainment. *Chemical science*, 7(3), 2138-2144.

E. C. Sills, H. I. McKillop, and E. C. Wells (2016). Chemical Signatures of Ancient Activities at Chan Ch'ich' - A Submerged Maya Salt Works, Belize. *Journal of Archaeological Science: Reports* 9:654-662.

Zamboni, D., Gazel, E., Ryan, J.R., Cannatelli, C., Lucchi, F., Atlas, Z.D., Trela, J., Mazza, S.E. & De Vivo, B. (2016). Contrasting sediment melt and fluid signatures for magma components in the Aeolian Arc: Implications for numerical modeling of subduction systems. *Geochemistry, Geophysics, Geosystems*. DOI: 10.1002/2016GC006301

Thesis & Dissertations

Flower, Hilary. "Phosphorus Sorption Dynamics in Shallow Groundwater, Coastal Everglades, Florida, USA." (2015). PhD Dissertation. <http://scholarcommons.usf.edu/etd/5946/> accessed 4/28/2016

Abstracts & Presentations

Ahrendt. G., Gude, Z. and Wood D. (J. Ryan, mentor) (2016) Origins and Evolution of Amphibolites from the Glade Gap Exposures of the Chunky Gal/Buck Creek

- Mafic-Ultramafic Complex, Western North Carolina. Presented at the National Conference on Undergraduate Research, Asheville, NC.
- Atlas, Z.D., Long, E., Macorps, E. Garcia Hernandez, M.A. Charbonnier, S & Varley, N. (2016). Geochemistry of the July 2015 pyroclastic flow at Volc n de Colima. 2016 AGU Abstracts with Programs
- Macorps, E., Charbonnier S., Varley, N., Atlas, Z. (2016). Field investigations of the July 2015 pyroclastic density current deposits of Volc n de Colima, Mexico 2016 AGU Abstracts with Programs.
- Sanatan, K., J.G. Ryan, Z. Atlas, and M. Reagan (2016) Characterizing slab inputs in the earliest stages of subduction: preliminary evidence from fluid-mobile element systematics for IODP Expedition 352 recovered volcanic samples. Geophysical Research Abstracts, vol. 18, EGU2016-11483, presented at the 2016 EGU General Assembly, Vienna.
- Sumer, J., Peshek, C. Atlas, Z., Long, E., Macorps, E., Charbonnier S. & Varley, N. (2016) Petrological investigation of 1999-2015 volcanics from Volc n de Colima, 2016 AGU Abstracts with Programs

2015

Journal Articles

- Pasek, M.A., Sampson, J. & Atlas, Z. D. (2014). Redox chemistry in the phosphorus biogeochemical cycle. Proceedings of the National Academy of Science. Early Edition doi:10.1073/pnas.1408134111.
- Menning, D. M., Wynn, J. G., & Garey, J. R. (2015). Karst estuaries are governed by interactions between inland hydrological conditions and sea level. Journal of Hydrology, 527, 718-733.

Abstracts & Presentations

- Atlas, Z. D., Pasek, M. A. & Sampson, J. (2015) Phosphorus speciation by coupled HPLC-ICPMS: low level determination of reduced phosphorus in natural materials. European Geophysical Union, Spring Meeting
- Wood, D., Ahrendt, G. Gude, Z, Noto, M. and J.G. Ryan (2015) Origins and evolution of amphibolites from the Glade Gap exposures of the Chunky Gal/Buck Creek mafic-ultramafic complex, western North Carolina. Geological Society of America Abstracts with Programs. Vol. 47, No. 7, p.544.
- Flower, Hilary, et al. (2015). "Control of Phosphate Concentration Through Adsorption and Desorption Processes in Shallow Groundwater of Coastal Everglades," Abstract, Greater Everglades Ecological Research Conference.
- Flower, Hilary, et al. (2015) "Adsorption and desorption processes in shallow groundwater of mangrove ecotone, Taylor Slough," Poster, Society of Wetland Scientists, Annual Meeting.

2014

Journal Articles

- D. R. McCormick and E. C. Wells (2014). Pottery, People, and pXRF: Toward the Development of Intraregional Provenance Assays for Southeast Mesoamerican Ceramics. In Social Dynamics of Ceramic Analysis: New Techniques and Interpretations" Papers in Honour of Charles C. Kolb, edited by S. L. L pez Varela, pp. 22-35. British Archaeological Reports International Series 2683. Archaeopress, Oxford.

- L. D. Mihok and E. C. Wells (2014). Miskitu Labor and English Royalization at Augusta, Roatán Island, Honduras. *International Journal of Historical Archaeology* 18(1):100-121.
- E. C. Wells, K. L. Davis-Salazar, J. E. Moreno Cortés, G. S. L. Stuart, and A. C. Novotny (2014). Analysis of the Context and Contents of an Uti-style Marble Vase from the Palmarejo Valley, Honduras. *Latin American Antiquity* 25(1):82-100.
- Li, B., Zhang, Y., Ma, D., Shi, Z., & Ma, S. (2014). Mercury nano-trap for effective and efficient removal of mercury (II) from aqueous solution. *Nature communications*, 5, 5537.

Thesis & Dissertations

- Menning, Damian M., "Karst Estuaries: A newly described ecosystem governed by aquifer hydrology" (2014). Graduate Theses and Dissertations. <http://scholarcommons.usf.edu/etd/5382>

Abstracts & Presentations

- Atlas, Z. D., Pasek, M. A. & Sampson, J. (2014) Speciation of Phosphorus by coupled HPLC-ICPMS: Application for quantification of reduced forms of phosphorus in rocks and natural waters. 2014 AGU Abstracts with Programs.
- LaCruz, N, Pasek, M. A., Pirim, C., Sampson, J., Lindsay, D., Gull, M., Atlas, Z. D. & Orlando, T. M. (2014). Synthesis and corrosion of schreibersite and nickel phosphide and possible implications for origin of life. GSA Annual Meeting 2014, Paper no. 111-3.

2013

Journal Articles

- Kee, T. P., Bryant, D. E., Herschy, B., Marriot, K. E. R., Cosgrove, N. E., Pasek, M. A., Atlas, Z. D., & Cousins, C. R. (2013). Phosphate activation via reduced oxidation state phosphorus [P]. Mild routes to condensed-P energy currency molecules. *Life*, 3, 386-402, doi: 10.3390/life3030386.
- Pasek, M. A., Harnmeijer, J. P., Buick, R., Gull, M. & Atlas, Z. D. (2013). Evidence for reactive reduced phosphorus species in the early Archean ocean. *Proceedings of the National Academy of Science*, 110 (25), 10089-10094.
- Wang, X.-S., Chrzanowski, M., Wojtas, L., Chen, Y.-S., Ma, S (2013). Formation of a Metalloporphyrin-Based Nanoreactor by Post-Synthetic Metal-ion Exchange of a Polyhedral-Cage Containing Metal-Metalloporphyrin Framework. *Chem. Eur. J.* 2013, 19, 3297-3301.

Book Chapters

- E. C. Wells, K. L. Davis-Salazar, and D. D. Kuehn (2013). Soilscape Legacies: Historical and Emerging Consequences of Socioecological Interactions in Honduras. In *Soils, Climate, and Society: Archaeological Investigations in Ancient America*, edited by J. D. Wingard and S. E. Hayes, pp. 21-59. University Press of Colorado, Boulder.
- E. C. Wells (2013). Cultivated Landscapes as Inalienable Wealth in Southeastern Mesoamerica. In *The Inalienable in the Archaeology of Mesoamerica*, edited by B. Kovacevich and M. G. Callaghan, pp. 66-80. *Archeological Papers of the American Anthropological Association*, Volume 23. Wiley-Blackwell, New York.

Technical Manuscripts

- E. C. Wells and P. G. Phillips (2013). Chemical Characterization of Plaster Surfaces from the Palace Complex at Actuncan, Belize. Report submitted to Lisa J. LeCount, Department of Anthropology, University of Alabama, Tuscaloosa, Alabama.
- E. C. Wells (2013). Anthrosol Chemistry of Sediments from Douglas Lake, Eastern Tennessee. Report submitted to Meghan Howey, Department of Anthropology, University of New Hampshire, Durham.
- E. C. Wells (2013). Chapter 11: Soil Chemical Analysis. In *Archaeological Investigations at Shiloh Indian Mounds National Historic Landmark (40HR7) 1999-2004 at Shiloh National Military Park, Hardin County, Tennessee*, edited by D. G. Anderson, J. E. Cornelison, Jr., and S. C. Sherwood, pp. 646-663. Southeast Archaeological Center, National Park Service, Tallahassee, Florida.

Thesis & Dissertations

- David R. McCormick. Exploring Potential Applications of Portable X-ray Fluorescence on Earthen Materials from Southeast Mesoamerica. MS Thesis, University of South Florida, Tampa, Florida.

Abstracts & Presentations

- Atlas, Z. D., Germa, A., Kaufmann, B. & Ryan, J.G (2013). Comparison of magma sources in the modern caribbean volcanic arc to sediment enrichment sources in the central american arc. Geological Society of America, Southeastern Conferecne, Spring Meeting.
- Rains, M. (2013). Hydrologic complexity and connectivity in geographically isolated wetland systems. Invited. Society of Wetland Scientists 34th Annual Meeting, Duluth, Minnesota.

2012

Journal Articles

- Chen, Y., Lykourinou, V., Vetromile, C., Hoang, T., Ming, L.-J., Larsen, R., Ma, S (2012). How Can Proteins Enter the Interior of a MOF? Investigation of Cytochrome c Translocation into a MOF Consisting of Mesoporous Cages with Microporous Windows. *J. Am. Chem. Soc.*, 2012, 134, 13188-13191.

Technical Manuscripts

- K. A. Rothenberg and E. C. Wells (2012). Chemical Analysis of Residential Plaster Surfaces at Actuncan, Belize: Structure 40 and Structure 61. Report submitted to Lisa J. LeCount, Department of Anthropology, University of Alabama, Tuscaloosa, Alabama.
- E. C. Wells (2012). Chemical Analysis of Estuarine Lagoon Sediments from Archaeological Deposits in Paynes Creek National Park, Belize. Report submitted to Cory Sills and Heather McKillop, Department of Geography and Anthropology, Louisiana State University, Baton Rouge.

Abstracts & Presentations

- Rains, M., K. Murphy, N. Pechenik, M. Kittridge, M. Stewart, K. Trout, and M. Ross (2012). Hydrology of clay settling areas and surrounding landscapes in the phosphate mining district, peninsular Florida. Invited. 9th INTECOL International Wetlands Conference, Orlando, Florida.
- Wells, E. C. (2012). Anthrosol Analysis of Ballcourts in Ancient Southeastern Mesoamerica. Paper presented in the symposium, "Geoarchaeology of Ritual

Behavior and Sacred Places," at the 77th Annual Meeting of the Society for American Archaeology, Memphis, Tennessee

2011

Journal Articles

Rains, M.C. (2011). Water sources and hydrodynamics of closed-basin depressions, Cook Inlet Region, Alaska. *Wetlands* 31: 377-387.

Technical Manuscripts

Rothenberg, K. A. and Wells, E. C. (2011). Chemical Analysis of Terminal Classic Soil Surfaces at Group 1 Residential Plazuela, Actuncan, Belize. Report submitted to Lisa J. LeCount, Department of Anthropology, University of Alabama, Tuscaloosa, Alabama.

Thesis & Dissertations

Zaida E. Darley. The Dirt on Prehispanic Water Management at Palmarejo, Honduras. MS Thesis, University of South Florida, Tampa, Florida.

Abstracts & Presentations

Atlas, Z. D., Ryan, J.G., & Dixon, J. E. (2011). Multi-stage degassing and volatile flux at Masaya Volcano, Nicaragua. European Geophysical Union, Spring Meeting

Joseph M. L., Atlas Z.D., Royall D., Pasek M. A. (2011). Geochemical Analysis of a Type II Fulgurite. 73rd Annual Meteoritical Society Meeting, #5197.

D. McCormick, R. Jakimavicius, R. H. Tykot, and E. C. Wells (2011). A Controlled Comparison of Chemical Residues in Plasters and Soils using Portable X-ray Fluorescence Spectrometry. Paper presented in the symposium, "Beyond Descriptive Analysis: Recent Advances in the Studies of Lime Plasters and Mortars," at the 76th Annual Meeting of the Society for American Archaeology, Sacramento, California.

2010

Journal Articles

Carter, E. A., Hargreaves, M. D., Kee, T. P., Pasek, M. A., Edwards, H. G. M. (2010). A Raman Spectroscopic Study of a Fulgurite. *Phil. Trans. Royal Soc A.*, 368 (1922), 3087-3097

Carter, E. A., Pasek, M. A., Smith, T., Kee, T. P., Hines, P. & Edwards, H. G. M. (2010). Rapid Raman mapping of a fulgurite, *Analytical and Bioanalytical Chemistry*, 397, 2647-2658.

Stringer, C. E., Rains, M. C., Kruse, S. & Whigham, D. (2010). Controls on water levels and salinity in a barrier island mangrove, Indian River Lagoon, Florida. *Wetlands*, 30, 725-734

Wells, E. C. (2010). Sampling Design and Inferential Bias in Archaeological Soil Chemistry. *Journal of Archaeological Method and Theory* 17(3).

Wells, E. C. & Moreno Cortes, J. E. (2010). Chimie du sol et activites humaines anciennes: les exemples arceologiques du Mexique et d'Amerique centrale. *Etude et Gestion des Sols* 17(1), 67-78.

Technical Reports

Wells, E.C. Editor (2010). University of South Florida Campus Tree Care Plan. Reported submitted to the Tree Campus USA Program, Arbor Day Foundation, Nebraska City, Nebraska.

- Wells, E.C. (2010). Multi-elemental Analysis of Soils from Inca-Caranqui, Ecuador. Reported submitted to Tamara Bray, Department of Anthropology, Wayne State University, Detroit, Michigan.
- Wells, E.C. (2010). Chemical Study of Soils from a Copper Processing Workshop at El Coyote, Northwest Honduras. Report submitted to Patricia A. Urban, Department of Anthropology, Kenyon College, Gambier, Ohio.

Thesis & Dissertations

- Kara A. Rothenberg. Multi-Elemental Chemical Analysis of Anthropogenic Soils as a Tool for Examining Spatial Use Patterns at Prehispanic Palmarejo, Northwest Honduras. MS Thesis, University of South Florida, Tampa, Florida.

Abstracts & Presentations

- Callahan, M.K., J. Bellino, and M.C. Rains. 2010. Trends and controls on summer surface-water temperatures in salmonid-bearing headwater streams in two common geomorphic settings, Kenai Peninsula, Alaska. American Geophysical Union 2010 Fall Meeting, San Francisco, California.
- Pasek M.A., Collins, G.S., Carter, E.A., Melosh, H.J. & Atlas, Z.D. (2010) Shocked Quartz in a Fulgurite. 73rd Annual Meteoritical Society Meeting, #5197.
- Pasek M.A., Kee, T.P., Carter, E.A., Edwards, H.G.M. & Atlas, Z.D. (2010). Fried Phosphate and Organic Survival: Lightning in Biogeochemical Cycles. LPI Contribution No. 1538, p.5261
- Rains, M.C., K. Murphy, N. Pechenik, M. Exner-Kittridge, M. Stewart. 2010. Hydrology of clay settling areas and surrounding landscapes in the phosphate mining district, peninsular Florida. 2010 Water Institute Symposium, Gainesville, Florida.
- Rothenberg, K. A. & Wells, E. C. (2010). Using Soil Chemical Residue Analysis to Prospect for Ancient Activity Loci at the Prehispanic Site of Palmarejo, Northwest Honduras. Paper presented in the symposium, "Geoarchaeological Research," at the 75th Annual Meeting of the Society for American Archaeology, St. Louis, Missouri.
- Tykot, R. H., Keister, E., Bear, A., Wells, E. C. & Rothenberg, K. A. (2010). Experimental Analysis of Archaeological Soils from Honduras Using Portable X-Ray Fluorescence Spectrometry. Poster presented in the symposium, "Field Archaeology," at the 42nd International Symposium on Archaeometry, Tampa, Florida.
- Veres, D., Onac, B. P., Persoiu, A. & Atlas, Z. D. (2010). A Late Holocene cave ice geochemical record of atmospheric metal deposition in the Apuseni Mountains, Romania. IMA2010 Abstracts Volume (6), Acta Mineralogica-Petrographica.
- Wells, E. C. (2010). Alkaline Earth Metals as Human Activity Markers in Archaeological Soils. Poster presented in the symposium, "Archaeological Science 2010," at the 75th Annual Meeting of the Society for American Archaeology, St. Louis, Missouri.
- Wells, E. C. (2010). The Significance of Alkaline Earth Metals for Identifying Human Activity Areas on Ancient Soil Surfaces. Poster presented in the symposium, "Field Archaeology," at the 42nd International Symposium on Archaeometry, Tampa, Florida.

2009

Technical Reports

Walker, C., King, R., Rains, M. C., Whigham, D., Baird, S. & Bellino, J. (2009). Headwater Stream Wetland Settings and Shallow Ground Water Influence: Relationships to Juvenile Salmon Habitat on the Kenai Peninsula, Alaska. Prepared for the U.S. Environmental Protection Agency, Region 10.

Thesis & Dissertations

- Bellino, J. (2009). Effects of Geomorphic Setting on Shallow-Groundwater Exchange and Water Temperature of Salmon-Bearing Headwater Streams of the Lower Kenai Peninsula, Alaska. MS Thesis, University of South Florida, Tampa, Florida.
- Lindsey, M. (2009) Detailed stratigraphy and geochemistry of the lower Mount Rogers Formation metavolcanic units exposed on Elk Garden Ridge, VA. MS Thesis, University of South Florida, Tampa, Florida.

Abstracts & Presentations

- Bohrer, D., Griffith, P., Surharski, K., Storer, D. A., Rothenberg, K. A. & Wells, E. C. (2009). Emission or Absorption? A Comparison of Spectroscopic and Colorimetric Methods for Characterizing Extractable Phosphate in Archaeological Soils. Poster presented at the 2009 Archaeological Sciences of the Americas Symposium, Tampa, Florida.
- Lindsey, M. & Ryan, J. G. (2009). Detailed Stratigraphy and geochemistry of Lower Mount Rogers Formation metavolcanic units exposed on Elk Garden Ridge, Va. Geological Society of America Abstracts with Programs, Vol. 41, No. 1, p. 9.
- Rains, M.C. 2009. Water sources and hydrodynamics of closed-basin depressions, south-central Alaska. Society of Wetland Scientists 2009 Annual Meeting, Madison, Wisconsin.
- Rothenberg, K. A. & Wells, E. C. (2009). Soilscape Legacies of the Palmarejo Valley, Northwestern Honduras. Poster presented in the symposium, "Geoarchaeology and Interpretation," at the 74th Annual Meeting of the Society for American Archaeology, Atlanta, Georgia.
- Rothenberg, K. A., Storer, D. A. & Wells, E. C. (2009). Interlinking Soil Properties to Prospect for Ancient Activity Loci: An Example from Palmarejo, Honduras. Poster presented at the 2009 Archaeological Sciences of the Americas Symposium, Tampa, Florida.
- Sliko, J. L., Herbert, G. S., DeLong, K. & LaVigne, M. (2009). Pliocene corals, rainfall, and El Nino teleconnections. Pliocene Climate Workshop, Bordeaux, France.
- Sliko, J. L. & Herbert, G. S. (2009). Nutrient decline, rainfall patterns, and the end-Pliocene regional mass extinction in Florida. Geological Society of America, Annual Meeting, San Francisco, Ca.
- Wells, E. C., Beeston, R. F. & Storer, D. A. (2009). Characterization in Shades of Blue: Archaeological Applications of Extractable Soil Phosphate using Molybdate Colorimetry and ICP-Emission Spectroscopy. Paper presented in the symposium, "Archaeometry," at the Annual Meeting of the Federation of Analytical Chemistry and Spectroscopy Societies, Louisville, Kentucky.
- Wells, E. C. (2009). Building Reference Models in Soil Chemistry for Archaeological Prospection. Paper presented at the 2009 Archaeological Sciences of the Americas Symposium, Tampa, Florida.

2008

Abstracts & Presentations

- Miyoshi, M., Hasenaka, T., Ryan, J. G., Atlas, Z. D., Shimonio, M. & Sano, T. (2008). Boron and trace element systematics of Quaternary basaltic rocks from Kyushu, Southwestern Japan. American Geophysical Union, Fall Meeting 2008, abstract #V31A-2117.
- Stringer, C.E., M.C. Rains, S. Kruse, D. Whigham, J.T.A. Verhoeven, and R. Laanbroek. (2008). Linkages between surface and subsurface hydrology and ecological functioning of mangrove systems in Ft. Pierce, Florida. American Geophysical Union 2008 Fall Meeting, San Francisco, California.
- Stringer, C.E., M.C. Rains, S. Kruse, D. Whigham, J.T.A. Verhoeven, and R. Laanbroek. (2008). Controls on the chemical hydrology and associated ecological structure and function of mangroves, Indian River Lagoon, Florida. 2008 Water Institute Symposium, Gainesville, Florida.
- Whigham, D.F., S.J. Baird, C. Field, C. Walker, R.S. King, J.A. Back, M.C. Rains, and J. Bellino. (2008). Headwater wetlands of the Kenai Lowlands, Alaska. Society of Wetland Scientists 29th Annual Meeting, Washington, DC.

FUNDING SOUGHT AS PI or CO-I

- 2018 - Acquisition of Integrated X-Ray Analysis System - Ryan, J.G., **Atlas, Z.D.**, Germa, A., Onac, P. & Tykot, R. National Science Foundation – EAR, **\$449,667**
- 2018 – USF Strategic Investment Pool Grants Program. **Atlas, Z.D.**, Ryan, J.G., Germa, A., Onac, P. & Menicucci, A. Acquisition of Inductively Coupled Plasma Mass Spectrometer. **\$ 187,900**. Submitted for first round, accepted for submission in second round.
- 2016 – USSSP/IODP (\$15,000) Shipboard scientist for IODP expedition 375, Hikuranga convergent margin
- 2014 – Application to Sail – IODP Expedition 352
- 2014 – Application to Sail – IODP Expedition 350
- 2013 – NSF EAR Petrology and Geochemistry – Examining the Along arc variation of fluid mobile elements in the Lesser Antilles: Characterization and inferences on sediment subduction.
- 2010 – NSF EAR Petrology and Geochemistry - **Atlas, Z.D.** & Ryan, J.G. Correlating magmatic volatiles to fluid mobile elements and subducted element signatures along the Nicaraguan and Mexican segments of the Central American arc. **\$217,179**

AWARDS AND FELLOWSHIPS

- 2006 Rosenstiel School of Marine and Atmospheric Science, Milero Prize: Honorable mention for outstanding student paper.
- 2003 Geologic Society of America: Outstanding Student Research Award
- 2003 Geologic Society of America: Harold T. Stearns Fellowship for research concerning the geology of the circum-pacific region.
- 2002 American Geophysical Union: Outstanding Student Paper Award.
- 2001 Florida Electron Microscopy Society: Honorable mention for outstanding student paper.

2000 Florida International University: Excellence in Teaching Award

CURRENT AND PREVIOUS TEACHING*

University of South Florida

GLY 6285C – Analytical Methods,
GLY 6739 – Topics in Geochemistry
GLY 6395C – Topics in Igneous-Metamorphic Petrology
GLY 4930 – Volcanic Petrology
GLY 4930 – Analytical techniques for undergraduate research
GLY 4915 – Undergraduate Research
GLY 4905 – Independent Study
GLY 3311C – Solid Earth (Mineralogy and Petrology)

Miami Dade College

OCE 1001 – Oceanography (On line course)

University of Miami

GSC 260 – Earth Materials
GSC 260L – Earth Materials Laboratory
GSC 440L – Petrology Laboratory

Florida International University

GLY 3202L – Earth Materials Laboratory
GLY 4300L – Petrology Laboratory
GLY 1010L – Introduction to Earth Sciences Laboratory

- All courses were taught multiple times at each university or college

GRADUATE ADVISEES

<u>Geosciences</u>	<u>Degree</u>	<u>Role</u>	<u>Completion Date</u>
Oswaldo Mireles	Ph.D.	Co- Principal Advisor	2022
Ami Ward	M.S.	Co- Principal Advisor	2019
Stephanie Drumm	M.S.	Co- Principal Advisor	2018
Alex Maruszczak	Ph.D.	Committee Member	2022
Abigail Martins	Ph.D.	Committee Member	2022
Antonio Luna	Ph.D.	Committee Member	2021
Raymond Johnson	Ph.D.	Committee Member	2021
Youssef Alkandari	Ph.D.	Committee Member	2020
Jacqueline Sampson	Ph.D.	Committee Member	2018
Keir Sanatan	M.S.	Committee Member	2017
Brian Szenay	M.S.	Committee Member	2013
Michael Joseph	M.S.	Committee Member	2012
Nathan Collins	M.S.	Committee Member	2011

Anthropology	Degree	Role	Completion Date
Chris Eck	Ph.D.	Committee Member	2022
Liotta Dowdy	Ph.D.	Committee Member	2020
Christine Bergman	Ph.D.	Committee Member	2018

Chemistry	Degree	Role	Completion Date
Grace Binder	Ph.D.	Committee Member	2021

Public Health	Degree	Role	Completion Date
Naya Martin	M.S.	Committee Member	2020

UNDERGRADUATE MENTORING IN GEOSCIENCES

Evangeline Wang	Megan Levine	Amanda Prevatt
Bertram Nicke	Julia Sumer	Catherine Peshak
Brenna Kaufmann-Boss	Taylor Thomas	Courtney McMannus

CURRENT AFFILIATIONS AND SYNERGISTIC ACTIVITIES

2007-Pres.	National Science Foundation: Volunteer Reviewer
2007-Pres.	Elsevier Publishing: Volunteer Reviewer, Journal of Volcanology and Geothermal Research
2015-2016.	Editorial Board – Petrologia ISSN 2311-5572
1998-Pres.	Geologic Society of America: Member in good standing.
1998-Pres.	American Geophysical Union: Member in good standing
1998-2008	Mineralogic Society of America: Member in good standing

COMMITTEES AND SERVICE

2014-2018	CAS Core Facilities Committee – Chair 2016-2018
2017-2018	Research Faculty Promotion and Tenure Committee
2015-2016	Geoscience - Technology Committee
2013-2014	Geoscience - Visioning Committee

ANALYTICAL INSTRUMENTATION SKILLS

Induced Coupled Plasma Mass Spectrometry (<15 years experience)
Induced Coupled Plasma (Optical) Emission Spectrometry (<15 years experience)
Direct Current Plasma Optical Emission Spectroscopy (10 years experience)
Electron Probe Micro Analyzer and Secondary Electron Microscopy (<15 years experience)
Fourier Infrared Transform Spectrometry (10 years experience)
Isotope Ratio Mass Spectrometry (10 years experience)
Secondary Ion Mass Spectrometer
Diamond Anvil Cell Apparatus
Synchrotron Light Source X-ray diffractometry
Expert in Transmitted and reflected light microscopy

COMMUNITY ENGAGEMENT - VOLUNTEERING & GUEST SPEAKING

Hillsborough County Public Schools – Teach-in and guest lecturer
Learning Gate Community School, Lutz, Florida
Montessori Academy of Tampa Bay
Girl Scouts of West Central Florida

OTHER ACADEMIC ACTIVITIES AS SENIOR PERSONNEL

AMP-MSP Project: involved as one of the USF subject experts with the joint USF-HCPS-PCS project entitled “Accelerating maximum Potential Project” to train public school teachers in earth science curriculum, delivered in June-July 2015 & 2016 for middle and elementary school earth science teachers.

AVOCATIONAL ACCOMPLISHMENTS

Japan Karate Association – South Atlantic Karate Association
Rank Sho Dan (1st degree Black Belt)

Aikido Schools of Ueshiba – Chuseikan Dojo
Rank Sho Dan (1st degree Black Belt)