

## CURRICULUM VITAE

Andrew C. Kurtz  
Department of Earth and Environment  
Boston University  
675 Commonwealth Ave., Boston, MA 02215  
Phone: (617) 358-2570 Fax: (617) 353-3290  
Email: kurtz@bu.edu

### Education

Ph.D., Geological Sciences	Cornell University, Ithaca, NY	2000
M.S., Geological Sciences	Cornell University, Ithaca, NY	1996
B.S., Geology ( <i>Summa Cum Laude</i> )	Ohio University, Athens, OH	1993

### Research Interests

Low-temperature geochemistry: Silicate weathering processes and rates, soil development, relationship between weathering and watershed hydrology, relationship between chemical weathering and physical erosion.

Evolution of Earth's biogeochemical cycles: Modeling the carbon cycle on geologic timescales, relative importance of marine and terrestrial organic carbon burial, role of fire, coupling between biogeochemical cycles of carbon, sulfur, phosphorus, and silicon.

Isotope and trace element geochemistry: Development and application of novel tracers (Ge/Si, REEs, radiogenic and stable isotopes) to problems in weathering, soil development, and paleoceanography.

### Employment

*Associate Professor*, Dept. of Earth and Environment, Boston University 7/12-present

*Associate Professor*, Dept. of Earth Sciences, Boston University 9/07-7/12

*Assistant Professor*, Dept. of Earth Sciences, Boston University 9/01-8/07

*Post-Doctoral Associate*, Penn State Astrobiology Research Center 10/99-8/01

Research: *Evolution of Earth's carbon, sulfur, and silica cycles*  
Supervisors: Lee R. Kump, Michael A. Arthur

*Ph.D. Student*, Cornell University

*Graduate Fellow*, Biogeochemistry and Global Change 9/97-5/99

*Research Assistant* in Geological Sciences 9/95-9/97

Dissertation: *Germanium/Silicon and Trace Element Geochemistry  
of Silicate Weathering and Mineral Aerosol Deposition*

Advisor: Louis A. Derry

M.S. Student, Cornell University

Teaching Assistant in Geological Sciences; Geology, Oceanography 9/93-5/95

Thesis: *Geochemical Evolution and Uplift History of Miocene*

*Plutons near the El Teniente Copper Mine, Chile*

Advisor: Suzanne M. Kay

### Honors and Awards

Outstanding Student Research Award, Geological Society of America	1998
Elected to <i>Phi Beta Kappa</i> , Ohio University	1993
Outstanding Undergraduate Student Award, Geology, Ohio University	1993
Dean's Scholarship, Ohio University	1992-1993

### Professional Affiliations

Geological Society of America; American Geophysical Union; Geochemical Society

### Teaching Experience (Boston University)

Course Number and Title	Semester	Number of Students	Additional Information
CC111 Origins (new BU Core Curriculum science course)	Spring 15	111	Developed and taught new course with faculty from Astro, Anthro, Bio depts. Additionally taught weekly discussion section.
	Fall 16	137	Served as course coordinator.
	Fall 17	75	
	Fall 18	94	
	Fall 21	107	Course coordinator
	Fall 23	87	Course coordinator
ES 105 Environmental Earth Sciences	Fall 02	75	Supervised 2 TFs
	Spring 04	139	Supervised 3 TFs
	Spring 05	104	Supervised 3 TFs
	Spring 06	172	Supervised 3 TFs
	Spring 08	160	Supervised 3 TFs
	Spring 10	165	Supervised 3 TFs
	Summer 10	15	Supervised 1 TF
	Summer 11	13	Supervised 1 TF
	Summer 13	12	Supervised 1 TF
	Summer 16	13	Supervised 1 TF

Course Number and Title		Semester	Number of Students	Additional Information
ES107	Climate and Earth System Science	Sum 17 17		
		Sum 18 14		
		Sum 19 21		
EE144/MR144	Oceanography	Fall 24	168	Supervised 1 TF
ES 222	Mineralogy	Fall 01	20	Co-taught with Associate Provost Carol Simpson
ES 302	Earth History	Spring 12	20	
		Spring 14	19	
ES/EE 351	Paleoclimatology/ Paleoceanography	Fall 02	19	
		Fall 03	26	
		Fall 04	20	
		Fall 05	28	
		Fall 06	37	
		Fall 07	24	
		Fall 08	25	
		Fall 09	13	
		Fall 10	26	
		Fall 11	24	
		Fall 12	22	
		Fall 13	17	
		Fall 14	18	
		Spring 19	16	
		Spring 21	23	
		Spring 22	32	
		Spring 23	26	
		Spring 24	23	
		Spring 25	26	
ES/EE371	Introduction to Geochemistry	Fall 15	20	
		Spring 17	9	
		Spring 18	10	
		Spring 21	10	
		Spring 22	9	
		Spring 23	15	
		Spring 24	13	
		Spring 25	16	
EE 557	Oceanography of Stellwagen Bank	Fall 20	12	Course for BU Marine Semester
		Fall 22	12	

<u>Course Number and Title</u>	<u>Semester</u>	<u>Number of Students</u>	<u>Additional Information</u>
ES 571 Advanced Geochemistry	Spring 02	8	
ES 573 Analytical Methods in Geochemistry	Fall 01	7	Co-taught with Terry Plank
	Spring 05	13	Co-taught with Rick Murray
ES 574 Geochemical Modeling	Fall 03	13	Co-taught with Plank and Ethan Baxter
	Spring 06	9	Co-taught with Plank and Ethan Baxter
ES 576 Aquatic Geochemistry	Spring 07	10	
	Spring 10	4	
	Spring 11	7	
	Spring 13	12	
	Spring 16	7	
ES 834 Advanced Topics: Geochemical Cycles	Spring 03	11	Co-taught with ES Chair Rick Murray

### Graduate Students

Kenneth A. Takagi, Ph.D. 2015, “Development of Calcium Stable Isotopes as a Tool to Understand Cycling of Calcium in Terrestrial Ecosystems”.

Eric A. Moore, Ph.D. 2010, “Chemical Weathering and Organic Carbon Fluxes from the Fly River, Papua New Guinea”.

Festo Lugolobi, Ph.D. 2010, “Chemical Weathering, Silica Sources, and Water Flowpaths in a Humid Tropical Watershed”.

Allison M. Scribner, M.A., 2004, “Influence of Pedogenic Iron-Oxyhydroxides on the Ge/Si Weathering Tracer”.

Tommy S. Moore, M.A., 2003, “Anaerobic Methane Oxidation and the Formation of Dolomite” (Co-advised with Rick Murray).

**Undergraduate Student Theses****Completed:**

Stephanie Kukolich, B.A. 2014, “Potential Effects of Radiogenic  $^{40}\text{Ca}$  on the Calcium Isotopic Tracer at Hubbard Brook Experimental Forest.”

Michael Dyonisius, B.A., 2012, “Porewater Si cycling in New England Salt Marshes: reaction-advection-diffusion modeling and the Ge/Si tracer.”

Jessica Fitzsimmons, B.A., 2008, “Development of a Calcium Isotope Method in the Boston University Thermal Ionization Mass Spectrometry Facility.”

Scott Stachelhaus, B.A., 2006, “Ge/Si Fractionation during Diagenetic Formation of Chert.”

Aaron Burnett, B.A., 2003, “Historical Trends in Lead Pollution at Wells G and H Superfund Site, Woburn, MA, Revealed by LA-ICP-MS Analysis of Lead Isotopes Recorded in Tree Rings.”

**Funded Research Proposals****A.C. Kurtz, Sole Principal Investigator**

Title: *Partnering with the offshore sailing community to monitor marine microplastic pollution*

Funding Agency: PADI

Duration: June 2019-May 2020

Award Amount:\$4300

**A.C. Kurtz, Sole Principal Investigator**

Title: *Calcium isotopic response to disturbance at Hubbard Brook: acidification, deforestation, and recovery*

Funding Agency: National Science Foundation – Division of Earth Sciences – Geobiology and Low-Temperature Geochemistry

Duration: 9/13-8/15 with no cost extension to 8/17

Award Amount:\$170,371

**A.C. Kurtz, Sole Principal Investigator**

Title: *Acid rain response and recovery in New England forests: Application of the novel calcium isotope tracer to the Hubbard Brook streamwater sample archive*

Funding Agency: Massachusetts Water Resources Research Center

Duration: 3/13-2/14

Award Amount:\$5,000

**E. Baxter, M. Jackson, A.C. Kurtz, and R.W. Murray**

Title: *Facility Support: Phase Two of a NSF/Boston University partnership ensuring long-term technician support for the BU TIMS Facility*

Funding Agency: National Science Foundation – Division of Earth Sciences – Instrumentation and Facilities

Duration: 6/10-5/12

Award Amount:\$140,000

**A.C. Kurtz, Sole Principal Investigator**

Title: *Towards a chemical weathering rate chronometer: A U-series investigation of catena development in Kruger Park, South Africa*  
Funding Agency: National Science Foundation – Division of Earth Sciences – Geobiology and Low Temperature Geochemistry  
Duration: 9/1/08-8/30/10  
Award Amount: \$27,663

**A.C. Kurtz, Sole Principal Investigator**

Title: *A Source-to-Sink study of chemical weathering in the Fly River system*  
Funding Agency: National Science Foundation – Division of Ocean Sciences - Marine Geology and Geophysics Program – (MARGINS)  
Duration: 5/1/06-4/30/08  
Award Amount: \$174,853

**A.C. Kurtz, Sole Principal Investigator (with G.D. Salvucci, Senior Personnel)**

Title: *Silica sources and water flowpaths in a tropical watershed: a combined Ge/Si, oxygen isotope, and hydrometric study*  
Funding Agency: National Science Foundation – Division of Earth Sciences – Hydrologic Sciences Program  
Duration: 2/1/06-1/31/08  
Award Amount: \$161,315

**A.C. Kurtz, Sole Principal Investigator**

Title: *Testing the “Wildfire Hypothesis”: Fossil-fuel burning as the cause of dramatic global warming 55 million years ago*  
Funding Agency: American Chemical Society - Petroleum Research Fund  
Duration: 5/1/05-4/30/07  
Award Amount: \$35,000

**A.C. Kurtz, A. White**

Title: *Observatories for the Critical Zone Exploration Network: Rio Icacos and Luquillo Mountains, Puerto Rico*  
Funding Agency: National Science Foundation – Division of Earth Sciences – subcontract via The Pennsylvania State University  
Duration: 7/1/06-6/30/08  
Award Amount: \$18,046

**L.A. Derry, O.A. Chadwick, A.C. Kurtz**

Title: *Collaborative Research: Ge/Si as a tracer of terrestrial silica cycling*  
Funding Agency: National Science Foundation – Division of Earth Sciences – Geology and Paleontology Program  
Duration: 3/1/03-2/28/06  
Award Amount: \$70,794 (BU portion)

**E. Baxter, A.C. Kurtz, T. Plank and R.W. Murray**

Title: *Acquisition and Development of a Thermal Ionization Mass Spectrometry Facility at Boston University.*

Funding Agency: National Science Foundation – Division of Earth Sciences - Major Research Instrumentation  
Duration: 7/05-6/06  
Award Amount: \$749,814

T. Plank, A.C. Kurtz, R.W. Murray

Title: *Technician Support: Laser Ablation and Inductively Coupled Plasma Laboratories – Phase I*  
Funding Agency: National Science Foundation - Division of Earth Sciences – Instrumentation and Facilities Program  
Duration: 3/1/03-2/28/06  
Award Amount: \$210,000

T. Plank, A.C. Kurtz, R.W. Murray

Title: *Technician Support: Laser Ablation and Inductively Coupled Plasma Laboratories – Renewal*  
Funding Agency: National Science Foundation - Division of Earth Sciences – Instrumentation and Facilities Program  
Duration: 3/1/06-2/28/07  
Award Amount: \$160,000

**Professional Service**

*Local Organizing Committee for 2018 Goldschmidt Conference* Committee of five New England academic geochemists working to plan an international geochemistry conference of several thousand attendees that will take place August 2018.

*Journal Article Reviews* for Nature, Geology, Geochimica et Cosmochimica Acta, Chemical Geology, Earth and Planetary Science Letters, GSA Today, Biogeochemistry, Ecology, Palaios, Applied Geochemistry, JGR Earth Surface, American Journal of Science, Ecosystems, Earth Surface Processes and Landforms, Geochemical Journal

*Panelist* for NSF-EAR Geobiology and Low-Temperature Geochemistry program

*Proposal Reviews* for NSF programs in Geology and Paleontology, Chemical Oceanography, Marine Geology, Geomorphology and Land Use Dynamics, MARGINS, Low-Temperature Geochemistry and Biogeochemistry, Hydrology, Ecosystems; UK National Research Council; American Chemical Society – Petroleum Research Fund, NIH Superfund Program, NASA

*Member of Committee of Scientists*, Hubbard Brook Ecosystem Study, 2014-present. Committee made of scientists actively conducting research at Hubbard Brook, meets biannually to discuss current and future research objectives for the study.

*Invited Participant*, “Integration and Synthesis of Margins Sediment Source to Sink Research” an NSF-MARGINS sponsored workshop in Gisborne, New Zealand, April 2009.

*Invited Participant*, “CZEN Data and Information Workshop”, an NSF-sponsored workshop to improve cyber-infrastructure for Critical Zone research. Penn State University, September, 2007.

*Invited Participant*, “Teleconnections Between Source and Sink in Sediment Dispersal Systems Theoretical and Experimental Institute” an NSF-MARGINS sponsored workshop in Northern California, September, 2006.

*Participant and Site Proposer*, “Frontiers in Exploration of the Critical Zone”, an NSF-sponsored workshop to develop a network of field sites for interdisciplinary research on the geochemistry and hydrology of soils. University of Delaware, October, 2005.

*Judge* for student posters in AGU Volcanology, Geochemistry, and Petrology, and Hydrology sections, 2004 Annual Meeting, San Francisco.

*Session chair* (poster) for AGU Volcanology, Geochemistry, and Petrology section “Applications of Metal Stable Isotopes in Low-Temperature Geochemistry and Biogeochemistry”, 2004 Annual Meeting, San Francisco.

*Organizer and session co-chair* (oral and poster) for American Geophysical Union hydrology section "Linkages Between Physical Erosion and Chemical Weathering", 2004 Annual Meeting, San Francisco.

*Invited participant*, Hawaiian Ecosystems Project workshop: "Geochemistry of Soil Weathering Processes", University of California, Santa Barbara, March, 2003.

*Invited Participant*, RiOMar Workshop, an NSF-sponsored workshop on "River-Dominated Ocean Margins" at Tulane University, November, 2001.

*Session chair* (oral) at Goldschmidt Conference, Cambridge, MA, August, 1999.

*Session chair* (oral) at Geological Society of America annual meeting, Toronto, October 1998.

## University Service

*Associate Director – BU Marine Program (Fall 2022-present)*

*Director of Graduate Studies – Department of Earth and Environment (Summer 2016-Summer 2019, Summer 2020-present)*

*GRS Graduate Academic Affairs Committee* (Fall 2016-Summer 2019) Committee works with Associate Dean of the Graduate School to evaluate changes to graduate programs and courses.

*Associate Director of BU Core Curriculum – (Fall 2016-Fall 2019, 2023)* Group of eight Associate Directors meets monthly to implement changes to Core Curriculum courses and policies, plan Core events.



*Associate Chairman and Director of Graduate Studies – Department of Earth and Environment* (Fall 2012 – Summer 2013)

*Associate Chairman – Department of Earth Sciences* (2007-2008, 2009-2011)

*Director of Graduate Studies – Department of Earth Sciences* (Fall 2006-Summer 2010)  
Responsible for overseeing progress of ~25 M.S. and Ph.D. students, allocating Teaching Fellowships, running graduate student seminar series.

*Tenure and Promotion Working Group* – (Spring 2008) Served on a subcommittee of Boston University Faculty Council Committee on Faculty Policies with several BU faculty, CAS Dean Sapiro, BU Provost Campbell, to critically evaluate BU's tenure and promotion process, make recommendations for improvement.

*Tectonics Faculty Search Committee* (Fall 2013-Spring 2014)

*Terrestrial Hydrology Faculty Search Committee* (Spring 2009) Department committee to write a job advertisement, evaluate applications, and interview candidates, and ultimately hire in field of "Terrestrial Hydrology".

*Organic Carbon Dynamics Faculty Search Committee* (Fall 2006 – Spring 2008)  
Department committee to write a job advertisement, evaluate applications, and interview candidates, and ultimately hire in field of "Organic Carbon Dynamics".

*College of Arts and Sciences Natural Science Curriculum Committee* (2003-2006)  
Committee evaluates and makes recommendations regarding new and revised courses in natural sciences.

*Member of Boston University Environmental Science Curriculum Committee* (Spring 2005-present) Inter-departmental committee provides oversight and guidance regarding the curriculum and related academic dimensions of the Environmental Science program.

*Surface Processes Faculty Search Committee* (Fall 2003 – Spring 2006) Department committee to write a job advertisement, evaluate applications, and interview candidates, and ultimately hire in field of "Earth Surface Processes".

*Judge, Science and Technology Day* (March 2003, 2004, 2005, 2006) Faculty judge for student presentations at College-wide Science and Technology Day.

*Coordinator, Earth Sciences Department Seminar Series* (2002-2003 and 2003-2004 academic years) Responsible for organizing and inviting scientists from other institutions to lecture to department on current research. Approximately 22 lectures/year.

*Earth Sciences Graduate Entrance Committee* (Fall '02-present) Departmental committee to evaluate incoming ES graduate students and make recommendations regarding future coursework.

*Graduate thesis committees* Served as committee member for >25 Boston University Earth Sciences and Earth and Environment graduate students (M.A. and Ph.D.)

#### **Invited Lectures and Presentations** (short titles)

MIT, Earth and Atmospheric Sciences	10/11	Silica cycle and Ge/Si
Chapman Conference	1/11	Fly River Geochemistry
Harvard University, Earth Sciences	11/10	Fly River Weathering
Boston University, Terrestrial Biogeo	10/10	Fly River Weathering
American Geophysical Union, San Fran.	12/09	Ge/Si and Hydrology
Goldschmidt Conference, Davos	6/09	Fly River Geochemistry
Woods Hole Oceanographic Institution	7/08	Ge/Si and Hydrology
University of New Hampshire	11/07	Ge/Si and Hydrology
Woods Hole Oceanographic Institution	10/06	Fires and the PETM
Yale University, Geology Dept.	3/06	Fires and the PETM
Earth Systems Processes, Calgary, AB	8/05	South Africa soils
Goldschmidt Conference, Moscow, ID	5/05	Puerto Rico weathering
Geological Society of London	12/02	Paleocene carbon cycle
Boston University, Geography Dept.	11/02	Dust in Hawaiian soils
GES-6, Honolulu, HI, May, 2002	5/02	Dust in Hawaiian soils
Syracuse University, Spring, 2002	3/02	Dust in Hawaiian Soils
University of Pittsburgh, Spring, 2001	2/01	Ge/Si as a weathering tracer
Boston University, Earth Sciences	1/01	Ge/Si as a weathering tracer
Boston University, Earth Sciences	1/01	Paleocene carbon cycle
Penn State University, Geosciences	11/99	Ge/Si as a weathering tracer

### Other Significant Accomplishments

*Featured Scientist in Harvard-Smithsonian Educational Video Project:* I served as a scientific consultant and was interviewed on air for a series of earth science educational videos produced by Harvard Smithsonian Center for Astrophysics. Filmmakers from Harvard-Smithsonian interviewed me on campus in February, 2003, and on location in Hawaii during my summer 2003 field season. Programs were shown on the Annenberg/CPB network beginning March, 2005. Series title is: *Essential Science for Teachers: Earth and Space Science*. I am featured in *Session 1. Earth's Solid Membrane: Soil*.

*International research recognition:* Paleooceanography paper on the Early Cenozoic carbon cycle (Kurtz et al., 2003) was profiled in a three page *News and Views* article in *Nature* (Weissert and Bernasconi, *Nature* v. 428, p.130-132. The paper was also cited in a subsequent *News and Views* article (Dickens, *Nature* v. 429, p. 513-515), and a *Perspectives* article in *Science* (Schrag and Alley, *Science* v. 306, p 821-822).

### Field Research

Shipboard (*R/V Tahua Chief*) and shore-based study of solute and sediment fluxes in Fly River system, Papua New Guinea

Installation of hydrometric equipment (lysimeters, piezometers, tensiometers) and water sampling for geochemical analysis, Luquillo, PR (March and November, 2006)

Characterization of catena sequences, soil and geologic sampling, Kruger National Park, South Africa. (April, 2005)

Soil, sediment, water sampling at Luquillo, Puerto Rico. (2003, 2004)

Soil and stream water sampling on Hawaiian Islands (Hawaii, Maui, Kauai). (1997, 1998, 1999, 2001, 2002, 2003)

Field calibration of ice core melt-layer paleothermometer, snow and ice sampling, Siple Dome, Antarctica. (2000)

Collection of atmospheric aerosols, *R/V Weatherbird II*, Sargasso Sea. (August, 1998)

Geologic sampling in and around El Teniente copper mine, Chile. (March, 1995)

Geologic mapping in western Montana, SIU summer field geology course. (1992)

### Geochemical Laboratory Research

ICP-MS (Cornell U., Penn State U., Boston U.; VG Plasmaquad II+; Finnigan ELEMENT I and II, VG PQ ExCell); Developed hydride generation systems for determination of germanium by isotope-dilution; Routine trace element analysis of rocks, soils, and waters.

TIMS (Cornell U., VG Sector 54, Boston U. TRITON); Sr, Nd, Pb, Ca isotopic analysis of rocks and soils, and waters.

ICP-AES; (Boston U., JY Ultima-C) Routine analysis of major and trace elements of rocks, soils, and natural waters.

INAA (Cornell TRIGA facility); Trace element analysis of rocks.

Electron Microprobe (Cornell U., JEOL 733 Superprobe); Major element analysis of minerals in thin section; rock major elements on fused powders.

X-ray diffraction (Penn State U., Boston U.) Identification of crystalline phases in soils and sediments.

### Peer-Reviewed Publications

(\*\* denotes graduate advisees; ## denotes undergraduate advisees)

##Williams, O., A.C. Kurtz, M.E. Eagle<sup>4</sup> and K.D. Kroeger, JJ. Tamborski, and J.C Carey (2022) Mechanisms and Magnitude of Dissolved Silica Release from a New England Salt Marsh. *Biogeochemistry* v. 161, p. 251-271.

Carey, J., Gewirtzman, J., Johnston, S., Kurtz, A.C., Tang, Jianwu, Viellard, A., Spencer, R. (2020) Arctic river dissolved and biogenic silicon exports - current conditions and future changes with warming. *Global Biogeochemical Cycles* **34**(3):Mar 2020

Gewirtzman, J., Tang, J., Melillo, J.M., William J. Werner, W.J., Kurtz, A.C., Fulweiler, R.W., Carey, J.C. (2019) Soil warming accelerates biogeochemical silica cycling in a temperate forest. *Frontiers in Plant Science*, v. 10, doi: 10.3389/fpls.2019.01097.

Buss, H.L., M.C. Lara, O.W. Moore, A.C. Kurtz, M.S. Schultz, A.F. White (2017) Lithological Influences on Contemporary and Long-Term Regolith Weathering at the Luquillo Critical Zone Observatory. *Geochimica et Cosmochimica Acta*, v.196, p.224-251.

Goni, M., \*\*E. Moore, A.C. Kurtz, E. Portier, Y. Alleau, D. Merrell. (2014) Organic matter compositions and loadings in soils and sediments along the Fly River, Papua New Guinea. *Geochimica et Cosmochimica Acta*, v.140, p.275-296.

A.C. Kurtz, \*\*F. Lugolobi, G.D. Salvucci. (2011) Solute sources and water flowpaths during storm events in the Rio Icosos watershed. *Water Resources Research*, v.47, W06516, doi:10.1029/2010WR009853.

\*\*F. Lugolobi, A.C. Kurtz, and L.A. Derry. (2010) Germanium-silicon fractionation in a tropical, granitic weathering environment. *Geochimica et Cosmochimica Acta*, v.74, p.1294-1308.

Pett-Ridge, J.C., L.A. Derry, and A.C. Kurtz. (2009) Sr isotopes as a tracer of weathering processes and dust inputs in a tropical granitoid watershed, Luquillo Mountains, Puerto Rico. *Geochimica et Cosmochimica Acta*, v.73, p.25-43.

\*\*E. Moore and A.C. Kurtz (2008) Black carbon in Paleocene-Eocene boundary sediments: A test of biomass combustion as the PETM trigger, *Palaeogeography, Palaeoclimatology, Palaeoecology*, v.267, p.147-152.

##A. Burnett, A.C. Kurtz, D. Brabander, M. Shailer (2007) Dendrochemical record of historical Pb contamination sources, Wells G&H Superfund site, Woburn, Massachusetts. *Journal of Environmental Quality*, v.36, p.1488-1494.

\*\*Scribner, A.M., A.C. Kurtz, O.A. Chadwick (2006) Germanium sequestration by soil: targeting the roles of secondary clays and Fe-oxyhydroxides, *Earth and Planetary Science Letters* v.243, p. 760-770.

Derry, L. A., J. C. Pett-Ridge, A. C. Kurtz, and J. W. Troester (2006), Ge/Si and <sup>87</sup>Sr/<sup>86</sup>Sr tracers of weathering reactions and hydrologic pathways in a tropical granitoid system, *Journal of Geochemical Exploration*, 88(1-3), 271-274.

Derry, L.A., A.C. Kurtz, K. Ziegler, O.A. Chadwick (2005) Biological control of terrestrial silica cycling and export fluxes to watersheds, *Nature*, v. 433, p. 728-731, doi:10.1038/nature03299.

Kay, S.M., E. Godoy, and A.C. Kurtz. (2005) Episodic arc migration, crustal thickening, subduction erosion, and magmatism in the south-central Andes. *Geological Society of America Bulletin* v. 117, p. 67-88.

\*\*Moore, T.S., R.W. Murray, A.C. Kurtz, D. P. Schrag. (2004) Anaerobic methane oxidation and the formation of dolomite. *Earth and Planetary Science Letters*, v. 229, p.141-154.

Kurtz, A.C. and Derry, L.A., 2004, Tracing silicate weathering and terrestrial silica cycling with Ge/Si ratios, in Wanty, R.B., and Seal, R.R., eds., *11<sup>th</sup> International Symposium on Water Rock Interaction*: Lisse, The Netherlands, Swets & Zeitlinger Pubs, 833-837.

Kurtz, A.C., L.R. Kump, M.A. Arthur, J.C. Zachos, and A. Paytan. (2003) Early Cenozoic decoupling of the global carbon and sulfur cycles. *Paleoceanography* v.18doi:10.1029/2003PA000908.

Kurtz, A.C., L.A. Derry, and O.A. Chadwick. (2002) Germanium/silicon fractionation in the weathering environment. *Geochimica et Cosmochimica Acta* v. 66, p. 1525-1537.

Kurtz, A.C., L.A. Derry, and O.A. Chadwick. (2001) Accretion of Asian dust to Hawaiian soils: isotopic, elemental, and mineral mass balances. *Geochimica et Cosmochimica Acta* v. 65, p. 1971-1983.

Kurtz, A.C., L.A. Derry, O.A. Chadwick, and M. J. Alfano. (2000) Refractory element mobility in volcanic soils. *Geology*, v. 28, p. 683-686.

Filippelli, G.M., J.W. Carnanhan, L.A. Derry, and A.C. Kurtz. (2000) Terrestrial paleorecords of Ge/Si cycling derived from lake diatoms. *Chemical Geology*, v. 168, p. 9-26.

Kurtz, A.C., S.M. Kay, R. Charrier, and E. Farrar. (1997) Geochronology of miocene plutons and Andean uplift history in the El Teniente region, central Chile (34°S-35°S). *Revista Geologica de Chile*. vol. 24, no. 1, p 75-90.

### ***Technical Reports (non peer-reviewed)***

Kay, S.M., A.C. Kurtz, 1995. Magmatic and tectonic characterization of the El Teniente region. *Final Report to Division El Teniente, CODELCO-Chile*, 180 pp.

### **Seminar and Conference Contributions**

#### ***Invited***

Kurtz, A.C. and E.A. Moore, Upland weathering processes in the Fly River system, *AGU Chapman Conference on Source to Sink Systems Around the World and Through Time*, Oxnard, CA, January 2011.

Kurtz, A.C., F. Lugolobi, and G.D. Salvucci, Integrating geochemical tracers with physics-based modeling to understand Rio Icacos storm response, *American Geophysical Union*, Fall Meeting 2009.

Moore, E.A., and A.C. Kurtz, A multiproxy approach to understanding floodplain weathering in the Fly River System, Papua New Guinea, *American Geophysical Union*, Fall Meeting 2009.

Kurtz, A.C. and E.A. Moore, Controls on the Strontium flux of the Fly River, Papua New Guinea. *2009 Goldschmidt Conference*, Davos, Switzerland, June, 2009.

Kurtz, A.C., L. Khomo, L., O.A. Chadwick, T. Hartshorn, A. Heimsath, Hillslope weathering dynamics in a South African semi-arid savanna. *Earth Systems Processes 2*, Calgary, AB, August, 2005.

Kurtz, A.C., J.C. Pett-Ridge, F. Lugolobi, L.A. Derry, and J. Troester. Solute sources in a tropical granitoid watershed, Luquillo, Puerto Rico. *15<sup>th</sup> Annual Goldschmidt Conference*, Moscow, ID, May, 2005

Kurtz, A.C., L.R. Kump, M.A. Arthur, J.C. Zachos, A. Paytan, Paleogene decoupling of the global carbon and sulphur cycles. Organic-carbon burial, climate change and ocean chemistry (Mesozoic-Paleogene), *Geological Society of London*, Burlington House, London, Dec. 9-11, 2002.

Kurtz, A.C., L.A. Derry, O.A. Chadwick, The impact of Asian dust on Hawaiian ecosystems. *Sixth International Symposium on the Geochemistry of the Earth's Surface*, 2002., p. 87-89.

### ***Contributed***

Williams, O., J.C. Carey, A.C. Kurtz, M.E. Eagle<sup>4</sup> and K.D. Kroeger, Mechanisms of Silica Availability in a New England Salt Marsh. American Geophysical Union, Fall Meeting 2020.

Aguirre, A.A., L.A. Derry, A.C. Kurtz, Ge/Si as a tracer for Si in paired catchments of the Luquillo CZO. Goldschmidt Conference 2018, Boston, MA.

Ward, B.M., C.I. Wong, A.C. Kurtz, Delineating controls on speleothem-based moisture proxies in a Brazilian cave. PAGES – Past Global Changes: The Karst Record VIII Conference, Austin, TX, May 2017.

Kurtz, A.C., K. Takagi, S. Bailey, T. Bullen, Application of Ca stable isotopes to long term changes in the Ca cycle of a Northern Hardwood Forest. American Geophysical Union, Fall Meeting 2015.

Kurtz, A.C., K. Takagi. Ca isotopes in Hubbard Brook soils. Hubbard Brook Annual Cooperators Meeting, July 2015.

Kurtz, A.C., K. Takagi. Application of Ca stable isotopes to Watershed 5's perturbed Ca cycle. Hubbard Brook Committee of Scientists, Millbrook, NY, April 2015.

Takagi, K., A. Kurtz, S. Bailey Using stable Ca isotopes as a tracer of streamwater Ca following harvesting of a New England watershed. New England Graduate Student Water Symposium, Amherst, MA, September, 2014.

Kurtz, A.C., K. Takagi, *New insights from old samples*: Retrospective application of Ca stable isotopes to biogeochemical perturbations at Hubbard Brook Annual Hubbard Brook Cooperators Meeting, July 2014.

Takagi, K., A. Kurtz, S. Bailey, Sourcing streamwater Ca following clear-cutting of a New England watershed, Goldschmidt Conference, Sacramento, CA, June, 2014.

Goni, M.A., A. Kurtz, R.E. Aalto, J.W. Lauer, A.K. Aufdenkampe, Organic matter compositions and loadings in soils and sediments along the Fly River, Papua New Guinea, Goldschmidt Conference, Sacramento, CA, June, 2014.

Goni, M.A., C. Nittouer, A. Ogston, A. Kurtz, R. Aalto, J. Lauer, A. Aufdenkampe, W. Dietrich, Organic carbon sequestration in soils and sediments along the land-ocean continuum of the Fly River, Papua New Guinea. *American Geophysical Union*, Fall Meeting, 2013.

Goldsmith, S. , S. Porder, A. Kurtz, K. Takagi, Evaluation of shallow flow pathways and relative contributions to solute fluxes in a tropical small mountainous river: Luquillo, Puerto Rico. *Geological Society of America*, Annual Meeting, Denver, CO, 2013.

Takagi, K., A. Kurtz, S. Bailey, T. Bullen, Constraining sources of streamwater Ca in a New England watershed using Ca isotopes, *Annual Hubbard Brook Cooperators Meeting*, July 2013.

Takagi, K., A. Kurtz, S. Bailey, Application of Stable Calcium isotopes to Ca cycling at the Luquillo Critical Zone Observatory, *Geological Society of America*, Southeast Regional Meeting, San Juan, Puerto Rico, 2013.

Kurtz, A.C., K. Takagi, Ca isotope fractionation patterns in forest ecosystems, *American Geophysical Union*, Fall Meeting 2012.

Takagi, K., A. Kurtz, S. Bailey, Using Ca isotopes to constrain source of streamwater Ca following clear-cutting of a New England watershed, *American Geophysical Union*, Fall Meeting 2011.

Goni, M., R. Aalto, S. Alin, A. Aufdenkampe, A. Kurtz, J. Lauer, E. Moore, C. Nittrouer, E. Portier, Sources, distribution and fate of particulate organic matter along the Fly River-Gulf of Papua land-ocean continuum, *Geological Society of America Annual Meeting*, Minneapolis, MN, October, 2011.

Takagi, K., A. Kurtz, S. Bailey, Using Ca Isotopes to constrain sources of streamwater Ca following clearcutting of a New England watershed, *Catchment Science: Interactions of Hydrology, Biology & Geochemistry*, *Gordon Research Conference*, Lewiston, ME, July 2011.

Portier, E., M. Goñi , E. Moore, and A. Kurtz, Sources and Distribution of Organic Matter Sequestered in Floodplain Sediments from the Fly River, Papua New Guinea, *AGU Chapman Conference on Source to Sink Systems Around the World and Through Time*, Oxnard, CA, January 2011.

\*\*Moore, E.A., A.C Kurtz, and M.A. Goni, Organic matter fluxes from the Fly River, Papua New Guinea. *American Geophysical Union*, Fall Meeting 2009.

Kurtz, A.C., and \*\*E.A. Moore, Chemical Weathering and Solute Flux from the Fly River, S2S PNG Focus Site, "Integration and Synthesis of Margins Sediment Source to Sink Research", NSF-MARGINS Workshop, Gisborne, New Zealand, April 2009.

\*\*Moore, E.A., and A.C Kurtz, Sr and Nd isotopic tracers of chemical weathering in the Fly River basin of Papua New Guinea, "Integration and Synthesis of Margins Sediment Source to Sink Research", NSF-MARGINS Workshop, Gisborne, New Zealand, April 2009.

Kurtz, A.C., and \*\*E.A. Moore, Weathering Fluxes in the Fly River, Papua New Guinea. Abstract ID: 2745, 2008 *Ocean Sciences Meeting*, Orlando.

\*\*Moore, E.A. and A.C. Kurtz, Strontium Budget for the Fly River, Papua New Guinea. Abstract ID: 2879, 2008 *Ocean Sciences Meeting*, Orlando.

Pett-Ridge, J.C., L.A. Derry, and A.C. Kurtz, "Quantifying mineral aerosol inputs and the mobility of "immobile" elements in weathering studies, *Geochemical et Cosmochimica Acta*, v. 71, p.A782, 2007 Goldschmidt Conference.

Kurtz, A.C., and \*\*E.A. Moore, Chemical Weathering Fluxes in the Fly River, Papua New Guinea, *American Geophysical Union*, Fall Meeting, 2007.

\*\*Moore, E.A. and A.C. Kurtz, Marine Sediment Records of Paleocene-Eocene Boundary Wildfire Activity, *American Geophysical Union*, Fall Meeting, 2006.

\*\*Lugolobi, F, A.C. Kurtz, G.D. Salvucci, Silica Sources and Water Flowpaths During Storm Events at Rio Icacos, Puerto Rico, *American Geophysical Union*, Fall Meeting, 2006.

\*\*Moore, E.A. and A.C. Kurtz, Testing the "Wildfire Hypothesis:" Terrestrial Organic Carbon Burning as the Cause of the Paleocene-Eocene Boundary Carbon Isotope Excursion. *American Geophysical Union*, Fall Meeting, 2005.

Khomo, L., A. Hartshorn, O. Chadwick, A.C. Kurtz, A. Heimsath, K. Rogers, Chemical and Physical Weathering of Granites in a Semi-Arid Savanna, *American Geophysical Union*, Fall Meeting, 2005.

Hartshorn, A., L. Khomo, O. Chadwick, K. Rogers, A.C. Kurtz, A. Heimsath, Hillslope Chromatography in Savannas. *American Geophysical Union*, Fall Meeting, 2005.

Pett-Ridge, J., A.C. Kurtz, L.A. Derry, J.W. Troester, Tracing Solute Sources in a Small Tropical Granitoid Watershed, *American Geophysical Union*, Fall Meeting, 2005.

\*\*Lugolobi, F. and A.C. Kurtz, Investigating the potential of Ge/Si as a tracer of water flowpaths and solute sources in the Rio Icacos watershed, Puerto Rico. *Critical Zone Exploration Network Workshop*, Newark, DE, October 2005.

Derry, L.A., J.C. Pett-Ridge, A.C. Kurtz, J.W. Troester, Ge/Si and <sup>87</sup>Sr/<sup>86</sup>Sr tracers of weathering reactions and hydrologic pathways in a tropical granitoid system. *Geochemistry of Earth's Surface 7*, Aix-En-Provence, France, August, 2005.

Kurtz, A.C., L.A. Derry, O.A. Chadwick, A.M. Scribner, Germanium-silicon fractionation during weathering of basalt and granite: examples from the tropics. *American Geophysical Union*, Fall Meeting, 2004.

Pett-Ridge J.C., A.C. Kurtz, L.A. Derry, J.W. Troester, A Ge/Si, U-234/U-238, and Sr-87/Sr-86 investigation of weathering reactions and flowpaths in a tropical granitoid watershed, *Geochimica et Cosmochimica Acta* 68 (11): A446-A446 Suppl. S JUN 2004.

Kurtz, A.C., L.A. Derry, J.W. Troester, Tracing Terrestrial Silica Cycling Using Ge/Si Ratios, Luquillo Mountains, Puerto Rico, *American Geophysical Union*, Fall Meeting, 2003.

\*\*Scribner, A.M., A.C. Kurtz, O.A. Chadwick, Ge/Si fractionation by pedogenic iron-oxyhydroxides, *American Geophysical Union*, Fall Meeting, 2003.

\*\*Moore, T.S., R.W. Murray, A.C. Kurtz, D. Schrag, Anaerobic methane oxidation and the formation of dolomite, *American Geophysical Union*, Fall Meeting, 2003.



*Advisee Tommy Moore was awarded "Best Student Presentation in Biogeosciences", 2003*

Chadwick, O.A., A.C. Kurtz, L.A. Derry, P.M. Vitousek, B. Wiegand. The biogeochemical impact of global and local dust on Hawaiian ecosystems, *American Geophysical Union*, Fall Meeting, 2003.

Kurtz, A.C., L.A. Derry, O.A. Chadwick, Germanium/silicon ratios as a tracer of silica sources in Hawaiian streams. *EGS-AGU-EUG Joint Assembly*, Nice, France, April 2003.

Derry, L.A., A.C. Kurtz, O.A. Chadwick, Ge/Si ratios as indicators of mineral and biogenic sources of silica in Hawaiian watersheds. *Sixth International Symposium on the Geochemistry of the Earth's Surface*, 2002, p. 79-81.

Kay, S.M. and A.C. Kurtz. Isotopic clues to magma source regions for neogene Andean volcanic rocks in the El Teniente area near 34°S latitude. *III Simposio Sudamericano de Geologia Isotopica (Pucon)*, 2001, extended abstracts, SERNAGEOMIN, Santiago, Chile, p. 313-316.

Kurtz, A.C., L.R. Kump, M.A. Arthur, J.C. Zachos. Importance of terrestrial organic carbon burial in the Paleocene: Evidence from marine carbon and sulfur isotope records. *Eleventh Annual V.M. Goldschmidt Conference*, 2001.

Derry, L.A., A.C. Kurtz, O.A. Chadwick, E.F. Kelly. Dominance of plant phytolith source of dissolved silica in Hawaiian streams from Ge/Si ratios. *Eleventh Annual V.M. Goldschmidt Conference*, 2001.

Kurtz, A.C., L.R. Kump, R.C. Aller, and L.A. Derry. Germanium cycling in Amazon-shelf sediment porewaters: A tracer of reverse weathering? *Eleventh Annual V.M. Goldschmidt Conference*, 2001.

Kurtz, A.C., L.R. Kump, M.A. Arthur, and J.C. Zachos. The importance of terrestrial organic matter in the evolution of marine sulfur and carbon isotopic compositions in the Paleogene. *Geological Society of America*, Annual Meeting, 2000.

Kurtz, A.C., L.A. Derry, and O.A. Chadwick. Germanium - silicon fractionation during silicate weathering: results from field and laboratory studies. *American Geophysical Union*, Fall Meeting, 1999.

Kurtz, A.C., L.A. Derry, and O.A. Chadwick. Trace element redistribution and Asian dust accumulation in a Hawaiian soil chronosequence. *Ninth Annual V.M. Goldschmidt Conference*, 1999.

Kurtz, A.C., and L.A. Derry. Dust-driven glacial/interglacial variations in marine dissolved silica fluxes: evidence from Ge/Si. *American Geophysical Union*, Fall Meeting, 1998. Eos, Vol. 79, No. 45, Suppl., p. 426.

Derry, L.A. and A.C. Kurtz. Neoproterozoic carbon, oxygen, and nitrogen cycles: changes, feedbacks, and limitations. *American Geophysical Union*, Fall Meeting, 1998. Eos, Vol. 79, No. 45, Suppl., p. 404.

Fillipelli, G.B., J. Carnahan, L.A. Derry, and A.C. Kurtz. Validating the marine Ge/Si opal paleo-weathering proxy using lake sediment opal records. *American Geophysical Union*, Fall Meeting, 1998. Eos, Vol. 79, No. 45, Suppl., p. 426.

Kurtz, A.C. and L.A. Derry. Mineral aerosols and the marine silica cycle: constraints from Ge/Si. *Geological Society of America*, Annual Meeting, 1998. Abstracts with Programs, Vol. 30, No. 6, p. 99.

Derry, L., A.C. Kurtz, M. Alfano, and O. Chadwick. Trace element distributions in Hawaiian soils: Quantifying dust inputs and weathering losses. *Geological Society of America*, Annual Meeting, 1998. Abstracts with Programs, Vol. 30, No. 6, p. 100.

Kurtz, A.C. and L.A. Derry. Reevaluating the importance of mineral aerosols as a source term in the marine silica budget. *GERM Workshop*, La Jolla, 1998, p. 48-50.

Carnahan, J.W., G.M. Filippelli, L.A. Derry, and A.C. Kurtz. A basin-scale study of germanium/silicon ratios in freshwater diatoms during the Holocene. *Geological Society of America*, Annual Meeting, 1997. Abstracts with Programs, Vol. 29, No. 6, p. 97.

Kurtz, A.C., L.A. Derry, O. Chadwick, and M.J. Alfano. Ge/Si as a weathering tracer in Hawaiian Soils. *Seventh Annual V.M. Goldschmidt Conference*, 1997, p. 120.

Derry L. A., M. J. Alfano, A.C. Kurtz and O. A. Chadwick. Trace element distributions in Hawaiian soils: quantifying dust input and weathering losses. *Seventh Annual V.M. Goldschmidt Conference*, 1997, p. 57-58.

Alfano, M.J., L.A. Derry, A.C. Kurtz, O. Chadwick, A. Moore, and M. Newman. Quantification of Dust inputs to Hawaiian soils using trace elements. *Geological Society of America*, Northeastern Section, 1997. Abstracts with Programs, Vol. 29, No. 1, p. 26.

Derry, L.A., M.J. Kennedy, A.C. Kurtz. Understanding vertical  $\delta^{13}\text{C}$  gradients: the Neoproterozoic example. *Geological Society of America*, Annual Meeting, 1996. Abstracts with Programs, Vol. 28, No. 7, p. 220.

Kurtz, A.C., S.M. Kay, A. Tittler, C. Mpodozis, and E. Godoy. Neogene Magmatism in the Andean Cordillera (26°S to 34°S): Evidence for Spatial and Temporal Changes in Crustal Thickness. *American Geophysical Union*, Spring Meeting, 1995. Eos, Vol. 76, No. 17, Suppl., p. 272.

Kay, S. M., A.C. Kurtz, and E. Godoy. Tertiary magmatic and tectonic framework of the El Teniente copper deposit, southwestern Chile (34 degrees S to 35 degrees S). *Geological Society of America*, Annual Meeting, 1995. Abstracts with Programs, Vol. 27, No. 6, p. 409.