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## EDUCATION

<b>Post-Doctoral Researcher</b> , Institute of Arctic & Alpine Research University of Colorado Boulder	2009- 2012
<b>PhD Environmental Sciences</b> , University of Maine	2009
<b>MS Soil Science</b> , North Carolina State University	2003
<b>BS Resource Conservation</b> , University of Montana	1999

## APPOINTMENTS

<b>Affiliate Faculty &amp; Research Associate</b> , University of Colorado Boulder	2012- present
<b>Senior Scientist &amp; Team Lead</b> , National Ecological Observatory Network	2015- present
<b>Staff Scientist</b> , National Ecological Observatory Network	2012- 2015
<b>Associate Director</b> Hydrologic Sciences Program, University of Colorado Boulder	2011- 2012

## PEER REVIEWED PUBLICATIONS

**SanClements MD**, Fernandez IJ, Adams MB, Roberti JA, Lee RH, Rue GA, McKnight DM. Longterm experimental acidification drives watershed scale shift in dissolved organic matter composition and flux. *Environmental Science and Technology*, (Submitted).

Roberti JA, Ayres E, Loeschner HW, Tang J, Starr G, Reguera E, McKlveen M, Zulueta RZ, Durden DD, Smith DE, Benstead H, Lee RH, **SanClements MD**, Gebremedhin M. A robust calibration method for capacitance type soil water content sensors in an ecological observatory. *Communications in Soil and Plant Analysis* (Submitted).

Smith HJ, Dieser M, McKnight DM, **SanClements MD**, Foreman CM. Organic matter shapes community composition in glacial environments. *International Society of Microbial Ecology Journal*, (Submitted).

Liu Y, Wang Z, Sun Q, Erb AM, Schaaf CB, Zhang Y, Roman MO, Scott RL, Zhang Q, Novick KA, Bret-Harte S, Petroy S, **SanClements MD**. Evaluation of the VIIRS BRDF, Albedo and NBAR products and an assessment of continuity with the long term MODIS record. *Remote Sensing of the Environment* (In press).

Chabbi A, Lehmann J, Ciais P, Loeschner HW, Cotrufo MF, Don A, **SanClements MD**, Schipper L, Six P, Rumpel C. Aligning agriculture and climate policy. *Nature Climate Change*, 2017, 7, 307–309  
doi:10.1038/nclimate3286

**SanClements MD**, Smith HJ, Foreman CM, McKnight DM, Tedesco M, Chin Y-P, Jaros C, McKnight DM. Biogeophysical properties of an expansive Antarctic supraglacial stream. *Antarctic Science*, 2016, pp. 1–12.  
doi: 10.1017/S0954102016000456.

Hinckley EL, Anderson S, Baron SJ, Blanken PD, Bonan G, Bowman WD, Elmendorf SC, Fierer N, Fox A, Goodman K, Jones K, Lombardozzi D, Lunch CS, Neff J, **SanClements MD**, Suding K, Wieder WR. Optimizing available network resources to address questions in environmental biogeochemistry. *BioScience*, April 1, 2016 66 (4): 317-326

Brown TB, Hultine KR, Steltzer H, Denny EG, Denslow MW, Granados J, Henderson S, Moore DJP, Nagai S, **SanClements MD**, and others. Using Phenocams to Monitor Our Changing Earth: Toward a Global Phenocam Network. *Frontiers in Ecology and the Environment*, 14 2016, 84–93

**SanClements MD**, Metzger S, Luo H, Pingingtha-Durden N, Zulueta RC, Loescher HW. The National Ecological Observatory Network (NEON): Providing free long-term ecological data on a continental scale, *Integrated Land Ecosystem - Atmosphere Process Study (iLEAPS)*, September 2015

Roberti JA, **SanClements MD**, Loescher HW, Ayres E (2014) Traceable Calibration, Performance Metrics, and Uncertainty Estimates of Minirhizotron Digital Imagery for Fine-Root Measurements. *PLoS ONE* 9(11): e112362. doi:10.1371/journal.pone.0112362.

Peters DC, Loescher HW, **SanClements MD**, Havstad KM. Taking the pulse of a continent: Role of observatories and long-term research networks to fill critical knowledge gaps. *Ecosphere*, 2014 (5) <http://dx.doi.org/10.1890/ES13-00295.1>.

Foreman, CM, Cory RM, Morris CE, **SanClements MD**, Smith HJ, Lisle JT, Miller PL, Chin Y-P, and McKnight DM. Microbial growth under humic-free conditions in a supraglacial stream system on the Cotton Glacier, Antarctica. *Environmental Research Letters*. 2013 (8) doi:10.1088/1748-9326/8/3/035022

**SanClements MD**, Oelsner GP, McKnight DM, Stoddard JL, Nelson SJ. New insights into the source of decadal increases of dissolved organic matter (DOM) in acid-sensitive lakes of the northeastern U.S. *Environmental Science and Technology* 2012 (6):3212-9.

Norton SA, Perry RH, Saros J, Jacobson GL, Fernandez IJ, Kopáček J, **SanClements MD**. Why Lakes are Oligotrophic: The controls on phosphorus availability in a boreal lake ecosystem since deglaciation. *Journal of Paleolimnology*. 2011 46:107–122 DOI 10.1007/s10933-011-9526-9

**SanClements MD**, Fernandez IJ, Norton SA, Amirbahman A, Rustad LE. Phosphorus in soils of temperate forests: Linkages to acidity and aluminum. *Soil Science Society of America Journal*. 2010 74:2175-2186

**SanClements MD**, Fernandez IJ, Norton SA, Amirbahman A, Rustad LE. Soil chemical and physical properties at The Bear Brook Watershed in Maine, USA. *Environmental Monitoring and Assessment*. Published Online June 2010. DOI 10/1002/s10661-010-1531-3

Fernandez IJ, Adams MB, and **SanClements MD**. Comparing decadal responses of whole-watershed manipulations: The Bear Brook and Fernow Experiments. *Environmental Monitoring and Assessment*. Published Online June 2010. DOI 10/1002/s10661-010-1524-2

**SanClements MD**, Fernandez IJ, and Norton SA. Soil and sediment phosphorus fractions in a forested watershed at Acadia National Park, ME, USA. *Forest Ecology and Management* 2009 258:2318-2325.

Struck SD, Craft CB, Broome SA, **SanClements MD**, Sacco JN. Effects of bridge shading on estuarine marsh benthic invertebrate community structure and function. *Environmental Management* 2004 34: 99-111.

## FUNDING *Total funding \$2.05 Million*

NSF RAPID (CO-PI), Fire effects on soil and aquatic organic matter in a southern Appalachian hardwood forest: A rapid assessment across the terrestrial-aquatic interface following the Great Smoky Mountains National Park Fire of 2016	\$159,437
NSF RAPID (CO-PI), The path of recovery from experimental and ambient acidification at the Bear Brook Watershed in Maine. Funding period: 2017-2018.	\$49,720
NSF Macrosystems Biology (Lead-PI), Determining how organic matter is stabilized using a unique set of soil samples from across the U.S. Funding period: 2014-2019	\$1,781,236
USFS-NSRC Program (CO-PI) Does changing atmospheric deposition of N and S Alter stream DOM quality and flux in northern forested watersheds? Funding period: 2012-2014.	\$63,287
University of Maine Graduate Student Government Travel Award. 2008	\$1,500
University of Maine Graduate Student Government Travel Award. 2007	\$1,500

## BOOKS—WORKS AUTHORED SOLELY BY SANCLEMENTS

The Dusty Brown Walls of the Taj Mahal—Travels in the Climate of 2100 by **Michael SanClements** (Working Title). Proposal submitted St. Martin's Press.

Plastic Purge: How Cutting Back on Plastic Will Help You Eat Better, Lose Weight, and Keep Toxins Out of You and Your Kids' Bodies—And Also Help Save the Sea Turtles by **Michael SanClements**. *St. Martin's Press*. April 2014, *Finalist 2014 Books for a Better Life Awards; Denver Post #1 Bestseller*.

*Represented by Levine Edgecombe Literary Agency.*

## HONORS AND AWARDS

Incoming Chair Elect Soil Science Society of America Forest, Range, & Wildland Soils	2018-2019
Finalist--Books for a Better Life Awards. New York, NY	2015
Denver Post #1 Best Sellers List	2014
AAAS Science Policy Fellowship Final Interview (Declined)	2012
Janet Engle Cormier Soil Science Scholarship	2007
Mirosław M. Czapowskyj Forest Soils Scholarship	2006

## SERVICE AND LEADERSHIP

<b>Editorial Board Member</b> , Biogeochemistry	2017-2019
<b>Project Advisor</b> , iRON Project, Aspen Global Change Institute	2017
<b>Workshop Participant</b> , The Past, Present, & Future of NSF's Macrosystem Biology Program	2016
<b>Steering Committee Member</b> , International Soil Carbon Network	2016
<b>Panel Member</b> , NSF Macrosystems Biology Annual PI Meeting	2015
<b>Invited Twitter Feed Curator</b> , @realscientists; science communication feed ~23,000 followers	2015
<b>Member</b> , North American Forest Soils Conference Planning Committee	2015
<b>Science Lead</b> , NEON Mobile Deployment Platform	2014, 2015
<b>Member</b> , NEON Science Communication Committee	2014, 2015
<b>Town Hall Organizer</b> , Ecological Society of America Meeting	2014

<b>Session Organizer</b> , Ecological Society of America Meeting	2014
<b>Session Moderator</b> , Ecological Society of America Meeting	2014
<b>Town Hall Organizer</b> , American Geophysical Union Annual Meeting,	2012
<b>Chair</b> , Hydrologic Sciences Symposium, University of Colorado Boulder	2012
<b>Workshop Organizer</b> , LTER All Scientists Meeting	2012
<b>Member</b> , NEON Biogeochemistry Working Group	2013, 2014
<b>Editor and Contributor</b> , Early Career Ecologists Blog	2012, 2013
<b>Workshop Organizer &amp; Instructor</b> , Fluorescence Spectroscopy & DOM	2010, 2011
<b>Webinar Organizer and Host</b> , Antarctic Science	2011
<b>Award Judge</b> , University of Colorado Hydrology Symposium	2010, 2011
<b>Panel Member</b> , NSF PolarTrec program,	2010, 2011
<b>Session Moderator</b> , Soil Science Society of America Meeting	2008
<b>Grant Reviewer</b> , University of Maine Travel Awards	2008
<b>Environmental Survey Volunteer</b> , University of Maine	2008

#### SELECTED SCIENCE COMMUNICATION WRITINGS

<b>Buzzfeed</b> , 15 Bizarre, Scary and Mind Blowing Facts About Plastic	2014
<b>Parade</b> , Easy Ways to Reduce How Much Plastic You Use	2014
<b>Dot Earth, The New York Times</b> , Creating a Long View for Gauging Environmental Change	2012
<b>The Daily Camera</b> , Boulder Colorado Newspaper Op-ed, I Brought a Bag Thanks!	2012
<b>Dot Earth, The New York Times</b> , Studying Microbes in Antarctica?	2011

#### TEACHING, MENTORING, OUTREACH

<b>Ph.D Committee Member</b> , Garret Rue, University of Colorado Boulder	2015 present
<b>Ph.D Co-advisor</b> , Maggie Bowman, University of Colorado Boulder	2015-present
<b>Co-Scientific Mentor</b> , Kyle Feldman, NEON Undergraduate Intern Program	2016
<b>Lead Scientific Mentor</b> , Stephanie Cortes, NEON Undergraduate Intern Program	2014
<b>Lead Scientific Mentor</b> , Kevin Sacca, NEON Undergraduate Intern Program	2014
<b>Doctoral Committee Member</b> , Rachel Gabor, University of Colorado Boulder	2013
<b>Community Mentor</b> , Nicole Dear, NEON Undergraduate Intern Program	2013
<b>Co-advisor</b> , Jenny Erwin, University of Colorado Boulder	2012-2014
<b>Honors Thesis Committee Chair</b> , Robert Lee, University of Colorado Boulder	2012
<b>REU Mentor</b> , Robert Lee, University of Colorado Boulder	2011
<b>Official Faculty Mentor for Boulder High School Science Fair</b> , Aaron Perley	2011
<b>Guest Lecturer (x3)</b> , Stream Ecology, University of Colorado Boulder,	2012
<b>Soil Science Instructor</b> , University of Maine	2006, 2008
<b>Teaching Workshop Participant</b> , Boundary Setting & Conflict Management with Undergrads	2011
<b>Teaching Workshop Participant</b> 101 Teaching Tips for Effective Teaching	2011
<b>Webinar</b> , Going beyond Facebook: Teaching Social Media as a Tool in the Classroom	2011
<b>Field Instructor</b> , Critical Zone Observatory Program	2011
<b>Instructor</b> , Field course in stream ecology	2010
<b>Field Instructor</b> , University of Colorado Boulder	2010
<b>Field Instructor</b> , High School Envirothon Club,	2007, 2008
<b>Field Instructor</b> , Maine School of Science & Mathematics,	2008
<b>Teaching Assistant</b> , North Carolina State University	2002

## SELECTED PRESENTATIONS

2017

**Contributed talk**, Soil Science Society of America Annual Meeting

2016

**Contributed poster**, American Geophysical Union Annual Meeting

2015

**Invited talk**, American Geophysical Union Annual Meeting

**Invited talk**, University of Colorado Boulder Center for Environmental Journalism

**Invited talk**, USDA Northeastern Area Association of State Foresters

**Contributed talk**, Soil Science Society of America Annual Meeting

2014

**Invited talk**, University of Colorado Boulder Center for Environmental Journalism

**Invited talk**, Soil Science Society of America Annual Meeting

**Invited talk**, Montana State University

**Invited talk**, Virginia Polytechnical University

**Contributed talk**, Ecological Society of America Annual Meeting

2013

**Invited talk**, University of Colorado Boulder Center for Environmental Journalism

**Contributed talk**, North American Forest Soils Meeting

2012

**Invited talk**, CoPIRG Energy Service Corps

**Invited talk**, BIOGEOMON 4th International Symposium on Ecosystem Behavior

2011

**Invited talk**, University of Colorado

**Contributed talk**, Ecological Society of America Annual Meeting

## MANUSCRIPT REVIEWER

Journal of Forest Ecology and Management Environmental; Monitoring and Assessment; Geochimica et Cosmochimica Acta; Canadian Journal of Fisheries & Aquatic Sciences; Archives of Agronomy and Soil Science; Journal of Water Research; Aquatic Sciences; Biogeochemistry, Soil Science Society of America Journal, Forest Ecology and Management; Forests

## MEMBERSHIPS

Soil Science Society of America

American Geophysical Union

Ecological Society of America

**\*References on following page**

## REFERENCES

### **Thomas H. Deluca**

Dean and Professor, W.A. Franke College of Forestry and Conservation  
University of Montana  
32 Campus Drive  
Missoula MT 59812  
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### **Ivan J. Fernandez**

*Distinguished Maine Professor, University of Maine*  
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### **Eugene F. Kelly**

*Professor of Soil Science and Department Head, Colorado State University*  
*Visiting Head Scientist, NEON*  
College of Agricultural Sciences  
Colorado State University  
307 University Ave, Fort Collins, CO 80523  
Email: Eugene.Kelly@ColoState.edu  
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### **Diane M. McKnight**

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