

Neil C. Sturchio

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(CV version: Jan. 4, 2020)

Education:

Ph.D. (1983) Earth and Planetary Sciences - Washington University, St. Louis, MO
B.A. (1977) Earth Sciences - Fairleigh Dickinson University, Madison, NJ

Professional Positions:

University of Delaware, Department of Earth Sciences: 2014-present
Professor, 2014-present; Department Chair, 2014-2019
Director, Environmental Isotope Geochemistry Laboratory, 2014-present
Council of Fellows, Delaware Environmental Institute, 2014-present
Faculty Affiliate, Water Science and Policy Program, 2014-present
University of Illinois at Chicago, Department of Earth and Environmental Sciences: 2000-2014
Professor, 2000-2014
Department Head, 2001-2012
Director, Environmental Isotope Geochemistry Laboratory, 2000-2014
Argonne National Laboratory: 1983-2000
Scientist: 1989-2000; Assistant Scientist: 1985-1989; Postdoctoral Appointee: 1983-1985
Group Leader: 1986-2000 (Chemical Technology & Environmental Research Divisions)

Awards and Honors:

Visiting Professor, Atmosphere and Ocean Research Institute, U. Tokyo, Japan, Summer 2019
Project of the Year Award, Dept. of Defense, Strategic Environmental Research and Development Program
(with C. Tobias, P. Vlahos, J.K. Böhlke, S. Fallis, and R.W. Smith), 2016
Project of the Year Award, Dept. of Defense, Environmental Security Technology Certification Program
(with P. Hatzinger, J.K. Böhlke, and B. Gu), 2008
Secretary of The Geochemical Society (elected position), 2008-2011
Visiting Professor, Ain Shams University, Cairo, Egypt, 2007
Marsden Visiting Fellow, Institute of Geological and Nuclear Sciences, New Zealand, 2000
Fellow, Geological Society of America (elected), 1997
Pacesetter Award, Argonne National Laboratory, 1996
Outstanding Contributions to Geoscience Research Award, U. S. Department of Energy, Office of Basic
Energy Sciences (with R.P. Chiarello), 1995
Exceptional Performance Award, Argonne National Laboratory, 1995
Visiting Research Scholar, Beppu Geophysical Research Laboratory, Kyoto University, Japan, 1994
Wheeler Fellow, Washington University, 1981-1982
McDonnell Fellow, Washington University, 1978-1981

Professional Affiliations:

American Association for the Advancement of Science (Member)
American Chemical Society (Member)
American Geophysical Union (Member)
Geochemical Society (Member; Elected Secretary 2008-2011)
Geological Society of America (Fellow, 1997)

Research Interests:

Groundwater biogeochemistry; water-rock interactions; tracer applications of stable and radioactive isotopes in hydrologic systems; studies of mineral-fluid interface processes using synchrotron radiation.

Neil C. Sturchio -- Additional Professional Activities

Editorial

Editor in Chief: *The Geochemical News* (1997-2001)
Editorial Boards: *Chemical Geology* (2001-); *Geochemical Journal* (2008-2014); *Elementa* (2013-2019);
Environmental Forensics (2001-)

Reviews

Proposals: Department of Energy (BES; BER; SBIR; SBVP)
National Science Foundation (EAR; SBIR)
National Academy of Sciences/National Research Council
NASA (Postdoctoral Program; Solar System Workings)
Helmholtz Association (Germany)
Institute of Geophysics and Planetary Physics (University of California)
Israel Science Foundation
Lise Meitner Postdoctoral Program (Austria-FWF)
MacArthur Fellows Program
Australian Research Council
Natural Sciences and Engineering Research Council of Canada
Canada Excellence Research Chairs Program
Advanced Photon Source, Stanford Synchrotron Radiation Laboratory, & NSLS-II
(beamtime proposals)
Swiss National Science Foundation
University of Wisconsin Water Resources Institute
Romanian National Authority for Scientific Research
National Geographic Society
German-Israeli Foundation for Scientific Research and Development
John Wiley & Sons (book proposal)

Journals:

<i>American Mineralogist</i>	<i>International Journal of Mass Spectrometry</i>
<i>Analytical Chemistry</i>	<i>J. African Earth Sciences</i>
<i>Analytica Chimica Acta</i>	<i>J. Archeological Science</i>
<i>Aquatic Geochemistry</i>	<i>J. Chemical Physics</i>
<i>Arabian Journal of Geosciences</i>	<i>J. Chromatography A</i>
<i>Atmospheric Chemistry and Physics</i>	<i>J. Contaminant Hydrology</i>
<i>Applied Geochemistry</i>	<i>J. Environmental Quality</i>
<i>Bulletin of Volcanology</i>	<i>J. Forensic Science</i>
<i>Chemical Geology</i>	<i>J. Geochemistry</i>
<i>Chemical Communications</i>	<i>J. Geology</i>
<i>Chemosphere</i>	<i>J. Geophysical Research</i>
<i>Chinese Journal of Oceanology & Limnology</i>	<i>J. Hydrology</i>
<i>Earth & Planetary Science Letters</i>	<i>J. Materials Research</i>
<i>Earth Science Reviews</i>	<i>J. South American Earth Sciences</i>
<i>Earth and Space Chemistry</i>	<i>J. Volcanology & Geothermal Research</i>
<i>Economic Geology</i>	<i>Materials Research Society Proceedings</i>
<i>Elementa</i>	<i>Microbial Biotechnology</i>
<i>Environmental Forensics</i>	<i>Nature</i>
<i>Environmental Health Perspectives</i>	<i>Nuclear & Chemical Waste Management</i>
<i>Environmental Pollution</i>	<i>Nuclear Instruments & Methods Phys. Res. B</i>
<i>Environmental Science and Technology</i>	<i>Ore Geology</i>
<i>Environmental Sci. and Technology Letters</i>	<i>Organic Geochemistry</i>
<i>European Journal of Mineralogy</i>	<i>Pure and Applied Geophysics</i>
<i>Geochemical Journal</i>	<i>Quaternary Geochronology</i>
<i>Geochimica et Cosmochimica Acta</i>	<i>Quaternary Research</i>
<i>Geofluids</i>	<i>Rapid Comm. in Mass Spectrometry</i>
<i>Geological Society of America Bulletin</i>	<i>Reviews of Geophysics</i>
<i>Geology</i>	<i>Science</i>
<i>Geophysical Research Letters</i>	<i>Science Bulletin (China)</i>
<i>Geothermics</i>	<i>Sedimentology</i>
<i>Ground Water</i>	<i>Vadose Zone Journal</i>
<i>Hydrogeology Journal</i>	<i>Water, Air, and Soil Pollution</i>
<i>Hydrological Processes</i>	<i>Water Resources Research</i>
<i>International Geology Review</i>	

Review panels

External Reviewer, Dept. of Civil Engineering and Earth Sciences, Notre Dame University, South Bend, IN, Mar. 22-24, 2020
Member, Proposal Review Panel for Microscopy and Imaging, NSLS-II, Brookhaven Natl. Lab., NY, 2019-2022
Member, Beamline Review Panel for GSE-CARS, Advanced Photon Source, Argonne IL, Nov. 5-6, 2018
External Reviewer, Wayne State Environmental Science Program Academic Review, Detroit, MI, Feb. 27-Mar.1, 2018
External Reviewer, Geochemical Atlas of the Kingdom of Saudi Arabia, Saudi Geological Survey, Jeddah, Dec. 28-31, 2017
Member, DOE-BER Committee of Visitors, Germantown, MD, July 19-21, 2016
Member, NASA Review Panel for Solar System Workings, Baltimore, MD, November 2015
Member, DOE Review Committee for Stanford Synchrotron Radiation Lightsource, June 2014
Member, DOE Review Panel for Subsurface Focus Area, Lawrence Berkeley National Lab., May 2013
Member, NSF Proposal Review Panel for Critical Zone Observatories, April 2013
Chair, Visiting Review Committee, Geoscience Department, University of Minnesota at Duluth, April 2013
Member, DOE Review Team for Earth Sciences Division, Lawrence Berkeley National Laboratory, March 2013
Member, DOE Proposal Review Panel for BES Early Career Research Program, February 2013
Member, NSF Proposal Review Panel for Hydrological Sciences, October 2012
Member, DOE-BES Committee of Visitors, Chemical Sciences, Geosciences, and Biosciences Division, April 2011
Member, DOE Review Committee for Stanford Synchrotron Radiation Laboratory, February 2011
Member, DOE Review Team for Subsurface Focus Area, Lawrence Berkeley National Laboratory, May 20-21, 2010
External Reviewer, Strategic Plan for Geosciences Department, Western Michigan University, December 2009
Member, DOE Proposal Review Panel for BES Early Career Research Program, November 2009
Member, DOE Proposal Evaluation Panel for Environmental Remediation Science Program, April 2008
Member, DOE Review Committee for Stanford Synchrotron Radiation Laboratory, January 2008
Member, DOE Proposal Evaluation Panel for Environmental Remediation Science Program, August 2006
External Reviewer, U. S. State Dept, Environmental Hydrology Coalition Project (U.S.-Egypt), December 2005
Chair, Visiting Review Committee, Geological Sciences Department, University of Kentucky, November 2005
Member, DOE Proposal Review Panel for Office of Civilian Radioactive Waste Management, March 2005
External Member, Academic Program Planning Committee for Geosciences, Western Michigan University, January, 2005
Member, NSF Proposal Review Panel for Geobiology and Environmental Geochemistry, 2004-2007
Member, NSF Site Visit Review Team for Environmental Molecular Science Institutes, July 2004
Member, DOE Proposal Evaluation Panel for Environmental Management Science Program, Washington, DC July 14, 2004
Member, Visiting Review Committee, Geosciences Department, U. Wisconsin-Milwaukee, April 2004
Member, Visiting Review Committee, Geology Department, Miami University, Oxford, Ohio, November, 2003
Member, Visiting Review Committee, Geology Department, SUNY-Buffalo, Buffalo, New York, April 2003
Chair, Scattering Chem-Bio-Environ Beamtime Proposal Review Panel, Advanced Photon Source, Argonne IL, 2002-2005
Member, DOE Proposal Evaluation Panel for Environmental Management Science Program, Washington D.C., May 2002

Conference Organization

Session Co-organizer, *Advances in the Integration of Chemical and Isotopic Tracers with Transport Models in Aquatic Systems*, Goldschmidt 2020, Honolulu, Hawaii, June 2020.
Session Co-organizer, *Transient Tracers in Aquatic Systems*, Goldschmidt 2016, Yokohama, Japan, June 2016.
Session organizer, *Tracer Applications of Noble Gas Radionuclides in the Geosciences*, AGU Fall Meeting, San Francisco, December 2013.
Co-organizer, *International Workshop on Tracer Applications of Noble Gas Radionuclides in the Earth Sciences*, Argonne National Laboratory, Argonne, IL, June 2012.
Session Co-organizer, *Formation Mechanisms, Stability, and Distribution of Oxyanions in the Environment*, Goldschmidt 2010, Knoxville, TN, June 2010.
Session Chairman, *Geochemical and Isotopic Studies of Rocks, Minerals, and Fluids*, Geological Society of America, North-Central Section, Rockford, IL, April 2009.
Session and Field Trip Co-organizer, *Travertines: Archives of archeology, neotectonics, and paleoclimate*. International Geological Congress, Florence, Italy, August 2004.
Member, International Program Committee for *Goldschmidt 2003*, Kurashiki, Japan, September 2003.
Co-chair, *Applications of Synchrotron Radiation to Low Temperature Geochemistry and Environmental Science*, special session at the American Geophysical Union Annual Fall Meeting, San Francisco, CA, Dec. 6-10, 2002.
Session Chairman and Organizer, *Recent Highlights and New Directions in Environmental Science*, workshop at the 9th Annual Users Meeting of the Advanced Photon Source, Argonne, IL, May 2000.
Session Co-chair, *Mineral Growth Kinetics and Surface Reactivity*, V.M. Goldschmidt Conference, Tucson, AZ, June 1997.
Session Chair, *Aqueous/Isotope Geochemistry*, Spring Meeting of the American Geophysical Union, Baltimore, MD, 1996.
Onsite organizer, DoE Symposium, *Earth Materials: Theory, Simulation, and Experiment*, Argonne Natl. Lab., August, 1995.
Session Organizer/Chairman, *Actinide Series Disequilibria in Igneous and Geothermal Processes*, Annual Mtg. of the Geological Society of America, San Diego, CA, October 1991.

Session Organizer/Chairman, *Radionuclide Migration in Natural Systems*, International Symposium on the Scientific Basis for Nuclear Waste Management, Boston, MA, 1990.

Short Courses

- Instructor, *Workshop on Isotope Data Interpretation for IAEA/IWAVE Projects*, Manila, Philippines, Feb. 24-28, 2014
- Instructor, *Workshop on Isotope Data Interpretation for IAEA/IWAVE Projects*, Muscat, Oman, Feb. 16-20, 2014
- Instructor, *International Training Course on the Use of Isotope Hydrology in the Context of Water Resources Assessment*, International Atomic Energy Agency, Vienna, Austria, Nov. 4-15, 2013
- Instructor, *Isotope Techniques for Assessment of Shallow Groundwater Systems and their Interactions with Surface Waters*, International Atomic Energy Agency, Advanced Regional Training Course, Argonne, IL, July 12-23, 2010
- Instructor, *Isotope Techniques for River Basin Management, Including River-Groundwater Interactions*, International Atomic Energy Agency, Advanced Regional Training Course, Argonne, IL, June 15-17, 2009
- Instructor, *Isotopic Age Determination Techniques for Water Resource Management*, International Atomic Energy Agency Workshop, Argonne, IL, June 16-18, 2008
- Instructor, *Isotopes and Geochemistry Applied to Water Resource Evaluation*, Cairo University, Giza, Egypt, Dec. 7-8, 2003
- Organizer, *Applications of Synchrotron Radiation to Low Temperature Geochemistry and Environmental Science*, Geochemical Society/Mineralogical Society of America Short Course, Monterey, CA, Dec. 3-5, 2002
- Participant, MSA Short Course, *Geomicrobiology: Interactions Between Microbes and Minerals*, Salt Lake City, Oct. 1997
- Instructor, *Isotope Geochemistry and Hydrology*, Cairo University, Giza, Egypt, February 22-23, 1997
- Participant, MSA Short Course, *Chemical Weathering Rates of Silicate Minerals*, New Orleans, Louisiana (1995)
- Participant, MSA Short Course, *Stable Isotopes in High Temperature Geological Processes*, San Antonio, Texas (1986)

Invited Talks at Conferences, Workshops, and Institutes

- Invited Speaker, *Radiokrypton Constraints on Solute Transport in Culebra Dolomite Brines, New Mexico*, AGU Fall Meeting, San Francisco, CA, Dec. 9-13, 2019
- Invited Speaker, *Application of C and N Stable Isotope Analysis to Evaluate Biotic and Abiotic Degradation of DNAN and NTO*, DOD SERDP-ESTCP Symposium, Washington D.C., Nov. 27-28, 2018.
- Invited Speaker, *Tracer applications of noble gas radionuclides for groundwater, seawater, and glacial ice*, Dept. of Earth and Environmental Sciences, Lehigh University, Bethlehem PA, Oct. 6, 2018.
- Invited Speaker, *Radiokrypton analyses of brines at the Waste Isolation Pilot Plant, New Mexico*. Third International Workshop on Tracer Applications of Noble Gas Radionuclides in the Geosciences, Hefei, China, Sept. 4-7, 2018.
- Invited Speaker, *Isotope Forensics of Perchlorate*, International Network of Environmental Forensics, Salt Lake City, Utah, June 25-27, 2018.
- Invited Speaker, *From Atmosphere to Aquifer: Perchlorate Isotope Geochemistry*, Dept. of Geosciences, University of Texas at Dallas, Dallas, TX, Nov. 17, 2017.
- Invited Speaker, *From Atmosphere to Aquifer: Perchlorate Isotope Geochemistry*, Dept. of Geology and Geophysics, Louisiana State University, Baton Rouge, LA, Oct. 7, 2017.
- Invited Speaker, *Measurement and applications of radiokrypton isotopes for determining residence times of groundwater and brine*, Dept. of Environmental Sciences, University of Virginia, Charlottesville, VA, December 1, 2016.
- Invited Speaker, *Isotopic Analysis of Perchlorate as a Forensic Tool For Identifying Sources of Perchlorate in Groundwater*, Annual Fall Conference of the American Water Works Association, California-Nevada Section, San Diego, CA, October 2016.
- Invited Participant, Consultants Workshop on *Underground Production of Carbon-14 by Cluster Decay*, IAEA, Vienna, Austria, July 2016.
- Invited Speaker, Symposium on *Adsorption of Metals in Geomedia III*, American Chemical Society National Spring Meeting, San Diego, CA, March 2016.
- Invited Speaker, *Chlorine Isotopic Composition of Urinary Perchlorate as an Indicator of Exposure Source*, International Society of Exposure Science, Henderson, NV, Oct. 22, 2015
- Invited Speaker, *A New Approach to Groundwater Dating in Delaware*, Delaware Geologic Research Symposium, April 14, 2015.
- Invited Speaker, *Terrestrial Perchlorate: Distribution and Isotopic Composition*, Perchlorate on Mars: Implications to Human Exploration and Astrobiology Workshop, NASA Ames Lab., Moffett Field, CA, Dec. 13-14, 2014.
- Invited Speaker, *Isotopic Composition of Perchlorate from Atmosphere to Aquifer*, Energy Biosciences Institute, Berkeley, CA, Nov. 5, 2014.
- Invited Speaker, *Applications of Radionuclide Measurements in Studies of Sedimentation, Pedogenesis, and Carbon Cycling*. U.S. Geological Survey, National Research Program/Eastern Branch Science Seminar, Reston, VA, Aug. 13, 2014.
- Invited Speaker, *Structure, Thermodynamics, and Kinetics of Mineral-Water Interfacial Processes: New Insights from X-ray Reflectivity*, DOE/BES-Geosciences Workshop: Geochemical Probes and Processes, Gaithersburg, MD, March 14-15, 2013.

Invited Keynote Speaker, *Isotopic Fractionation of Perchlorate from Atmosphere to Aquifer*, Isotopes 2013, Sopot, Poland, June 16-21, 2013

Invited Speaker, *Applications of Noble Gas Radionuclides in Determining Groundwater Pathways and Residence Times*, Evaluating Groundwater Pathways and Residence Times as Part of Site Investigations and Post-Closure Safety Assessments for Geological Repositories, IAEA Workshop, Trieste, Italy, June 16-21, 2013

Invited Speaker, *Isotopic Composition of Perchlorate from Atmosphere to Aquifer*, Dept. of Earth, Atmospheric, and Planetary Sciences, Purdue University, November 2012.

Invited Keynote Speaker, *Environmental Isotope Forensics of Perchlorate*, Symposium on Environmental Forensics in an Era of Emerging Diagnostic Methods, Groundwater Resources Association of California, Irvine, CA, April 12, 2011

Invited Keynote Speaker, *A new approach to old water: atom-trap trace analysis of Krypton-81*, International Symposium on Isotopes in Hydrology, Marine Ecosystems, and Climate Change Studies, Monaco, Mar. 27-Apr. 1, 2011

Invited Keynote Speaker, *Tracing origins and transport of perchlorate using Cl and O isotopes*, Goldschmidt 2010, Knoxville, TN, June 2010

Invited Speaker, *Noble gas radionuclides and ATTA in hydrology: State of the art*. Goldschmidt 2009, Davos, Switzerland, June, 2009.

Invited Speaker, *Environmental Isotope Forensics of Perchlorate*, U. S. EPA, Chicago, IL, May 1-2, 2007.

Invited Speaker, 4th Mini-Conference on Noble Gases in the Hydrosphere and in Natural Gas Reservoirs, Potsdam, Germany, March, 2007.

Invited Speaker, *Radiokrypton Analysis in the 21st Century*. Goldschmidt 2006, Melbourne, Australia, August, 2006.

Invited Speaker, Synchrotron Radiation Research in the Pacific Rim and Emerging Techniques and Applications, Pacificchem 2005, Honolulu, HI, Dec. 16-20, 2005.

Invited Speaker, Workshop on Assessing Groundwater Development Potential in Arid and Hyperarid Regions, Giza, Egypt, Dec. 11-12, 2005.

Invited Panelist, *Ground Water Age: Estimation, Modeling, and Water Quality Sustainability*, National Ground Water Association, Lake Tahoe, CA, Sept. 23-26, 2005.

Invited Speaker at *Environmental Forensics: Focus on Perchlorate*, Workshop sponsored by the International Society of Environmental Forensics, Santa Fe, NM, Sept. 21-22, 2005.

Invited Speaker, Synchrotron Environmental Science-III, Brookhaven National Lab., Upton, NY, Sept. 19-21, 2005.

Invited Speaker at Interfacial Water Workshop, sponsored by Sandia National Laboratory, Santa Fe, NM, April 25-26, 2005

Invited Speaker at *Environmental Forensics: Theory, Application, and Case Studies*, Workshop sponsored by the International Society of Environmental Forensics, Charleston, SC, November 9-10, 2004.

Invited Speaker at *Perchlorate 2004: Perchlorate in California's Groundwater*. Conference sponsored by Groundwater Resources Association of California, August 4, 2004, Glendale CA.

Invited Speaker, Symposium on Application of Environmental Chemistry in Forensic Investigations, Pittcon 2004, Chicago IL, March 7-12, 2004.

Invited Speaker, *International Workshop to Identify Water Resources/Environment-Related Research Needs for Egypt*, Cairo, Egypt, Dec. 3-6, 2003.

Organizer and Speaker, *New Views of Earth and the Environment*, Chicago Teachers as Scholars Workshop, Chicago, IL, April 7-8, 2003.

Invited Speaker, Environmental Science Workshop, Canadian Light Source Fifth Users Meeting, Saskatoon, Nov. 2002.

Invited Speaker, 25th Midwest Environmental Chemistry Workshop, Chicago, IL, Oct. 2002.

Invited Speaker, American Geophysical Union symposium on *Nanoparticles in the Environment and Technology*, San Francisco, CA, Dec. 9-15, 2001.

Invited Speaker, NSF Workshop on Future Directions in Solid State Chemistry, Davis, CA, Oct. 12-14, 2001

Invited Speaker, Eleventh Annual Goldschmidt Conference, Roanoke, VA, May 20-24, 2001.

Invited Participant, Environmental Chemistry at the Clay-Water Interface, Soil Science Society of America, Bouyoucos Conference, Honolulu, HI, March 6-10, 2000.

Invited Speaker, Symposium on Frontiers of Aqueous Physical Chemistry, 13th International Conference on the Properties of Water and Steam, Toronto, Canada Sept. 12-16, 1999.

Invited Speaker, DOE/BES Geosciences Workshop on Interfacial Processes in Geosciences, Richland, WA, Feb. 1-2, 1999.

Invited Speaker, Workshop on Environmental Molecular Science, 8th Annual User's Meeting of the Advanced Photon Source, Argonne, IL, October 1998.

Invited Speaker, DOE/BES Earth Sciences Research Council Workshop, Scaling in Geological Systems: Atomic to Field-Scale Processes, Bodega Bay, CA, Sept. 27-30, 1997.

Invited Speaker, *Mineral Growth Kinetics and Surface Reactivity*, V.M. Goldschmidt Conference, Tucson, AZ, June 3-6, 1997.

Invited Speaker, Symposium on Applications of Synchrotron X-rays in Earth and Environmental Sciences, Fall Meeting of the American Chemical Society, Las Vegas, Nevada, Sept. 1997.

Invited Speaker, X-ray Spectroscopies of Environmental Interfaces: Theory and Experiment Workshop, Richland, WA, September 1996.

Committees and Working Groups, National

Member (elected), Users Executive Committee, National Synchrotron Light Source-II, 2015-2017
Member and Chair, External Advisory Board, Energy Frontier Research Center, Lawrence Berkeley National Lab., 2010-2017
Member, Technical Advisory Committee, DOD-ESTCP Rialto-Colton-Fontana Perchlorate Isotope Study, 2010-2015
Invited Participant, NSF Workshop on *Geomicrobiology and Microbial Geochemistry*, Chicago, IL, Oct. 9-11, 2013.
Chair, Science Team for Advanced Photon Source Renewal Proposal (Geological, Environmental, and Planetary Sciences), June-October, 2008
Invited Participant, DOE/NSF Workshop, *Assessing Synchrotron Radiation Capabilities and Future Needs for Molecular Environmental Science and Low-Temperature Geochemistry*, Rockville, MD, July 23-24, 2007
Invited Participant, NASA Workshop, *Assessing Chronometric Techniques for Quantifying Surficial Processes on Mars*, Chicago, IL, June 4-7, 2000
Invited Participant, DOE/EM Subsurface Contaminants Focus Area, Phytoremediation Workshop, Argonne, IL, 11/30-12/2/99.
Invited Participant, DOE Workshop on Molecular Environmental Science, Airlie, VA, July 1995.
Member, DOE Interlaboratory Geosciences Coordinating Group (1989-2000)
Member, Extraterrestrial Resource Utilization, DOE Working Group for the Space Exploration Initiative (1990)
Member, Illinois Basin Ultradeep Drillhole Consortium (1986)

Committees and Working Groups, Local and Regional

Member, College of Earth, Ocean, and Environment P&T Committee, University of Delaware (2019-2021)
Chair, Search Committee for Business Administrator, Dept. of Geological Sciences, University of Delaware (2018)
Member, UD ADVANCE Internal Advisory Board Chairs Subcommittee (2018-2019)
Member, Search Committee for Coastal Water Security Cluster Hire, University of Delaware (2018-2019)
Member (2014-2019) and Chair (elected, 2018-2019), Chairs Caucus Steering Committee, University of Delaware
Member, Search Committee for Dean, UD College of Earth, Ocean, and Environment (2016-2017)
Member, Pre-selection Committee for The Franklin Institute, Bower Award & Prize for Achievement in Science, June 2016
Member, USGS National Research Program Search Committee for Radionuclide Geochemist (Feb-Mar 2016)
Member, Diversity Committee, UD College of Earth, Ocean, & Environment (2015-2019)
Member (elected), Executive Committee, UIC College of Liberal Arts and Sciences (2014)
Member, UIC Campus Research Board (2012-2014)
Member (elected), UIC Faculty Senate (2013-2014)
Chair, UIC Earth & Environmental Sciences Department Faculty Search Committee (2012-2013)
Member, UIC Chemistry Department Faculty Search Committee (2012-2013)
Member, Search Committee for Dean of the College of Liberal Arts and Sciences, UIC (2011-2012)
Organizer, CIC Geoscience Department Heads and Chairs Workshop, Chicago, IL, October 2010
Participant, CIC Geoscience Department Heads and Chairs Workshop, East Lansing, MI, September 2008
Participant, CIC Geoscience Department Heads and Chairs Workshop, Ann Arbor, MI, September 2007
Participant, CIC Geoscience Department Heads and Chairs Workshop, Evanston, IL, September 2006
Chair, UIC Biological Sciences Department Head Search Committee (2004-2005)
Participant, CIC Geoscience Department Heads and Chairs Workshop, Madison, WI, October 2004.
Participant, CIC Geoscience Department Heads and Chairs Workshop, W. Lafayette, IN, October 2003.
Member, UIC Institute of Environmental Science and Policy Steering Committee (2002-present)
Chair, UIC Biological Sciences Department Head 5-Year Review Committee (2002-2003)
Participant, CIC Geoscience Department Heads and Chairs Workshop, Iowa City, IA, October 18, 2002.
Member, Board of Governors, Consortium for Advanced Radiation Sources (2001-2013)
Member, UIC Chemistry Department Review Committee (2001)
Member, X15A Participating Research Team, National Synchrotron Light Source (1997-2000)
Member, BES Synchrotron Radiation Center Collaborative Access Team, Advanced Photon Source (1992-2000)
Member, BESSRC-CAT Users Committee (1995-1997)
Member, BESSRC-CAT Executive Committee (1997-2000)
Member, ANL Environmental Research Division Promotion and Hire Committee (1997-2000)

Invited Lectures - Other

1987-2000:

Associated Colleges of the Chicago Area - Nuclear
Chemistry Seminar Series
California Institute of Technology
Carnegie Institution of Washington
Egyptian Geological Survey & Mining Authority (Cairo)
Geological Society of Washington
Geological Survey of Japan

Institute of Geological & Nuclear Sciences (New Zealand)
Kyoto University (Japan), Kyushu University (Japan)
Los Alamos National Laboratory
Miami University
Northern Illinois University
28th North Jersey Junior Science & Humanities Symp.
Northwestern University

Purdue University
U.S. Geological Survey (Menlo Park, CA)
U. S. Geological Survey (Reston, VA)
Universite Blaise Pascal (France)
University of Chicago
University of Grenoble (France)
University of Illinois at Chicago
University of Illinois at Urbana-Champaign

University of Iowa
University of Maryland
University of Oklahoma
University of Paris (France)
University of Southern California
University of Wisconsin – Madison
Washington University, St. Louis, MO

2001-2010:

Miami University, Oxford, OH
Rensselaer Polytechnic Institute, Troy, NY
University of Wisconsin, Madison, WI
Northwestern University, Evanston, IL
University of New Mexico, Albuquerque, NM
Ain Shams University, Cairo, Egypt (2)
SUNY University at Buffalo, NY
Association of Engineering Geologists, Chicago, IL
University of Chicago, Chicago, IL
Washington University, St. Louis, MO

University of Kentucky, Lexington, KY
Western Michigan University, Kalamazoo, MI
University of Illinois at Chicago, Chicago, IL
U. S. EPA Region V, Chicago, IL (2)
American Inst. Prof. Geologists, Chicago Chapter
University of Wisconsin, Milwaukee, WI
University of Texas at Arlington
Purdue University

Research Participants Supervised:

Undergraduate Students:

Ben Alsip, UIC (earth and environmental sciences)
Shelby Amsel, U. Delaware (geological sciences)
Matt Averill, Albion College (geology)
Chris Bareither, U. Wisconsin (geological engineering)
Kyle Bareither, Michigan Tech. (geological engineering)
Sherry Bisgrove, University of Rochester (geology)
Valerie Blomgren, UIC (earth and environmental sciences)
Alana Cohen, U. Delaware (geological sciences)
Lars Couture, University of Chicago (physics)
Kyle Cronin, UIC (earth and environmental sciences)
Emily Dangremond, Washington U. (earth and planetary sciences)
Terri-Lynn Day, University of Pittsburgh (geology)
Jared Goodstadt, University of Delaware (geological sciences)
Kavita Hardy, Swarthmore College (chemistry)
Elizabeth Lofredo, UD (Geological Sciences)
Nancy Martinez, UIC (earth and environmental sciences)
Nnamdi Lionel Mojekwu, UIC (earth and environmental sciences)
Candice Morrison, UIC (earth and environmental sciences)
Roxanne Myshkowec, University of Chicago (chemistry)
Rachel Owrutsky, University of Delaware (chemistry)
Gavin Phillips, University of Delaware (geological sciences)
Michelle Rau, Duke University (biochemistry)
Jeff Seitz, Washington University (geochemistry)
Michael Shand, University of Delaware (geological sciences)
Megan Smoley, Pennsylvania State University (geology)
Josh Stanford, UIC (earth and environmental sciences)
Sean Stoll, SUNY-Stony Brook (physics)
Ben Thurnhoffer, UIC (earth and environmental sciences)
Jeff Ullian, College of St. Francis (biology)

Graduate Students:
(as principal thesis advisor)

Bektur Abdilla, University of Delaware (geochemistry), Ph.D. (in progress)
Steve Armstrong, University of Illinois at Chicago (geochemistry), M.S. 1997
Francesco Bellucci, U. Illinois Chicago (geochemistry), M.S., 2007; Ph.D. 2011
Abelardo Beloso, University of Illinois at Chicago (geochemistry), M.S. 2004
Joseph Beutler, University of Illinois at Chicago (geochemistry), M.S. 2013
Erika Callagon, University of Illinois at Chicago (geochemistry), Ph.D. 2016
Margaret Corcoran, University of Illinois at Chicago (geochemistry), M.S. 2013
Karyn DeFranco, University of Delaware (geochemistry), M.S. 2018

Sheng Huang, University of Illinois at Chicago (geochemistry), M.S. 2006
 Jiajia Lin, University of Illinois at Chicago (geochemistry), Ph.D. 2015
 Candice Morrison, University of Illinois at Chicago (geochemistry), M.S. 2009
 Leslie Patterson, University of Illinois at Chicago (geochemistry), M.S. 2003
 Armen Poghosyan, University of Illinois at Chicago (geochemistry), Ph.D. 2013
 Peter Probst, University of Illinois at Chicago (geochemistry), M.S. 2007
 Mahmoud Sherif, University of Delaware (geochemistry), Ph.D. 2019
 Colin Smalley, University of Illinois at Chicago (geochemistry), M.S. 2013
 Kara Sterling, University of Illinois at Chicago (geochemistry), M.S. 2006
 Christy Suh, University of Illinois at Chicago (geochemistry), M.S. 2002
 Alexs Thompson, University of Illinois at Chicago (geochemistry), M.S. 2007
 Gus Vythoulkas, University of Illinois at Chicago (geochemistry), M.S. 1994
 Chunlei Wang, University of Delaware (geochemistry), Ph.D. (in progress)

Graduate Thesis Committees:
 (as member)

Nemesio Perez, Ph.D. Geology, Canary Islands (1992)
 Jennifer Lewicki, M.S. Geology, Arizona State University (1993)
 Sophie Rihs, D.Sc. Geochemistry, Clermont-Ferrand, France (1998)
 Likwan Cheng, Ph.D. Materials Science and Engineering, Northwestern University (1998)
 Azza Farag Hassan, M.Sc. Geology, Cairo University, Egypt (2003)
 Kingsley Nissanka, M.S. Earth and Environmental Sciences, UIC (2003)
 Todd Brown, M.S. Earth and Environmental Sciences, UIC (2003)
 Carrie Olsen, M.S. Earth and Environmental Sciences, UIC (2003)
 Aref Ali Abdullah Sagheer, M.Sc. Geology, Cairo University, Egypt (2003)
 Zhan Zhang, Ph.D. Materials Science and Engineering, Northwestern University (2004)
 William Bates, M.S., Earth and Environmental Sciences, UIC (2005)
 Rebekah Fitchett, M.S., Earth and Environmental Sciences, UIC (2005)
 Jennifer Lawson, Ph.D., Earth and Environmental Sciences, UIC (2005)
 Tarfa Alshaiba Khamis Al-Shariani, Ph.D., Geology, Cairo University, Egypt (2005)
 Justin Ford, M.S., Environmental and Occupational Health Sciences, UIC (2005)
 Wenlu Song, Ph.D., Environmental and Occupational Health Sciences, UIC (2005)
 Zenon Mateo, M.S., Earth and Environmental Sciences, UIC (2005)
 Henry Holmstrand, Ph.D., Applied Environmental Sci., Stockholm University, (2006)
 Todd Ventura, Ph.D., Earth and Environmental Sciences, UIC (2006)
 Sang Soo Lee, Ph.D., Earth and Environmental Sciences, UIC (2007)
 Lina Taneva, Ph.D., Biological Sciences, UIC (2007)
 Caroline Jaraula, Ph.D., Earth and Environmental Sciences, UIC (2008)
 Aref Ali Abdullah Sagheer, Ph.D., Geology, Cairo University, Egypt (2008)
 Haytham Mohamed Gamal El-Deen Ismail, M.S., Geology, Cairo University, Egypt (2008)
 Sara O'Brien, Ph.D., Biological Sciences, UIC (2009)
 Rebecca Trueman, Ph.D., Biological Sciences, UIC (2009)
 Mohamed Sayed Mabrouk, M.S., Geology, Cairo University, Egypt (2009)
 Usama Abu Risha, Ph.D., Hydrology, University of South Australia (2010)
 Ahmed Al Gendy, M.Sc., Geology, Cairo University, Egypt (2010)
 Osama Rahil Omar Shaltami, Ph.D., Geology, Cairo University, Egypt (2011)
 Zafer Wagih Seif, M.S., Geology, Cairo University, Egypt (2012)
 Rania Saied Ismaeil, M.S., Geology, Cairo University, Egypt (2013)
 Mohamed Mabrouk, Ph.D., Geology, Cairo University, Egypt (2013)
 Jiehong Guo, Ph.D., Environmental and Occupational Health Sciences, UIC (2014)
 Chris Bloszies, M.S., Earth and Environmental Sciences, UIC (2014)
 Hend Abu Salem, Ph.D., Geology, Cairo University, Egypt (2015)
 Hassan Ahmed Alkhaled, M.S., Geology, Cairo University, Egypt (2015)
 Soheil Hosseini, Ph.D., Civil and Materials Engineering, UIC (2016)
 Solidea Bonina, Ph.D., Civil and Materials Engineering, UIC (2016)
 Alaa Ismail Ahmed, Ph.D., Hydrogeology, University of South Australia (2016)
 Elena Blanc-Betes, Ph.D., Biological Sciences, UIC (2017)
 Taha El-Shawadfi, Ph.D., Geology, Beni-Suef University, Egypt (2017)
 Yifei Ma, M.S., Geological Sciences, University of Delaware (2019)
 Mahmoud Awad Mohamed Morsy, M.S., Geology, Cairo University (Egypt), (2019)
 June Hazewski, M.S., Geological Sciences, University of Delaware (in progress)
 Qiang Li, Ph.D., Plant and Soil Sciences, University of Delaware (in progress)

Jacky Ramatlapeng, M.S., Geological Sciences, University of Delaware (in progress)
Feifei Cao, Ph.D., Hydrology, University of Reims (France), (in progress)

K-12 Teachers: Ms. Shakura Haqqe, Crane High School, Chicago (environmental science)

Postdoctoral Appointees:
(with current address) Dr. Osama Abu Risha (Desert Research Center, Cairo, Egypt)
Dr. Greg Arehart (U. Nevada - Reno)
Dr. Allen Bakel (Argonne National Laboratory)
Dr. J.K. Böhlke (USGS, Reston, VA)
Dr. Evilene Bowley (U. Illinois at Chicago)
Dr. Likwan Cheng (City Colleges of Chicago)
Dr. Ron Chiarello (Entrepreneur/Consultant)
Dr. John Hanchar (Memorial University of Newfoundland)
Dr. Lin Huang (Environment Canada)
Dr. Sophie Rihs (U. Strasbourg)
Dr. Hui Henry Teng (George Washington U.)
Dr. Roy Wogelius (Manchester U.)
Dr. Reika Yokochi (U. Chicago)

Staff Scientists (Argonne): Dr. Teofilo Abrajano (geochemist)
Dr. Ron Chiarello (physicist)
Dr. Paul Fenter (physicist)
Dr. Ben Holt (analytical chemist)

Technical Staff (UIC): Ms. Linnea Heraty (stable isotope laboratory manager)
Ms. Leslie Patterson (geochemist)
Mr. Abe Beloso, Jr. (geochemist)

Technical Staff (U Delaware): Ms. Linnea Heraty (stable isotope laboratory manager)
Mr. William Parnella (Senior Research Technician I)

Courses Taught at UIC

EAES 410 Introduction to Geochemistry (multiple times)
EAES 415 Environmental Geochemistry (multiple times)
EAES 513 Stable Isotope Geochemistry and Biogeochemistry (graduate course, multiple times)
EAES 514 Environmental Radioactivity (graduate course, multiple times)
EAES 290 Special Topics in the Geosciences (multiple times; topics included Geologic Hazards, Climate Change)
EAES 510 Environmental Forensics (graduate course, co-taught once)
EAES 510 Advanced Soil Science (graduate course, co-taught once)

Courses Taught at U Delaware

GEOL 467/667 Geology of the Southwest (field course; Spring 2015, Spring 2016)
GEOL/MAST 852 Isotope Geochemistry (co-taught, Spring 2016; Spring 2019)
GEOL 419/619 Environmental Geochemistry (Spring 2017; Spring 2020)
PLSC 405 Environmental Forensics & Society (Guest lecturer: Spring 2015; Spring 2017; Fall, 2018)

Promotion and Tenure Reviews

Argonne National Laboratory
Ben Gurion University (Israel)
Lamont Doherty Earth Observatory
Northern Arizona University
Princeton University
Peking University
Purdue University
Rutgers University

University of Delaware
University of Illinois at Chicago
University of Washington (Seattle)
Virginia Tech
Washington University (St. Louis)
Woods Hole Oceanographic Institution

Neil C. Sturchio: Research Funding History

Research Funding as Principal Investigator (total awards as PI ~ \$13M):

Period of Grant: 10/1/1986-9/30/1987

Amount: \$116,000

Source: DOE Office of Basic Energy Sciences/Geosciences Research Program

Project Title: *Trace Element Transport in Lithic Material by Fluid Flow at Elevated Temperature*

Period of Grant: 10/1/1987-9/30/1994

Amount: \$1,494,000

Source: DOE Office of Basic Energy Sciences/Geosciences Research Program

Project Title: *Hydrothermal System Evolution*

Supplemental Capital Equipment Funds: \$251,000 (1990)

Justification: Purchase of VG Prism II Isotope Ratio Mass Spectrometer

Supplemental Capital Equipment Funds: \$64,000 (1991)

Justification: Purchase of HPGe Gamma Spectrometry System

Supplemental Capital Equipment Funds: \$30,000 (1993)

Construction of Laser/Fluorination Apparatus

Period of Grant: 10/1/1988-9/30/1990

Amount: \$50,000

Sources: U. S. Geological Survey/Water Resources Division

Project Title: *Application of U, Ra, and Th Isotopes in Characterizing the Hydrogeology of Mammoth Hot Springs and the Adjacent Yellowstone Valley*

Period of Grant: 10/1/1990-9/30/1993

Amount: \$255,000

Source: DOE Office of Basic Energy Sciences/Geosciences Research Program

Project Title: *Petroleum Maturation Processes*

Period of Grant: 10/1/1991-9/30/1996

Amount: \$2,065,000

Source: DOE Office of Basic Energy Sciences/Geosciences Research Program

Project: *Mineral-Fluid Interactions: Synchrotron Radiation Studies at the Advanced Photon Source*

Supplemental Capital Equipment Funds: \$150,000 (1992)

Justification: Purchase of Multielement X-ray Detector

Supplemental Capital Equipment Funds: \$142,000 (1993)

Justification: Purchase of X-ray Scattering Spectrometer

Supplemental Capital Equipment Funds: \$112,000 (1994)

Justification: Purchase of X-ray Scattering Spectrometer

Supplemental Capital Equipment Funds: \$80,000 (1995)

Justification: Equipment for X-ray Scattering Station at APS

Period of Grant: 10/1/1995-9/30/1996

Amount: \$75,000

Source: Argonne National Laboratory/Laboratory-Directed Research and Development Program

Project: *Stable Isotopic Investigations of the Chemical and Biological Degradation of Chlorinated Organic Solvents*

Period of Grant: 10/1/1996-9/30/1999

Amount: \$825,000

Source: DOE Environmental Management Science Program

Project: *Stable Isotopic Investigations of In Situ Bioremediation of Chlorinated Organic Solvents*

Period of Grant: 10/1/1996-9/30/1999

Amount: \$1,860,000

Source: DOE Office of Basic Energy Sciences

Project: *Mineral-Fluid Interactions: Synchrotron Radiation Studies at the Advanced Photon Source*

Supplemental Capital Equipment Funds: \$225,000 (1996)

Justification: Equipment for X-ray Scattering/Standing Wave Station at APS

Supplemental Capital Equipment Funds: \$197,000 (1997)
Justification: Equipment for X-ray Scattering/Standing Wave Station at APS
Supplemental Capital Equipment Funds: \$245,000 (1998)
Justification: Equipment for Beamline Construction at APS (\$115,000)
Purchase of Atomic Force Microscope (\$130,000)

Period of Grant: 10/01/1999 – 09/30/2002
Amount: \$1,646,000
Source: DOE Office of Basic Energy Sciences/Geosciences Research Program
Project: *Mineral-Fluid Interactions: Synchrotron Radiation Studies at the Advanced Photon Source*
Supplemental Capital Equipment Funds: \$520,000
Justification: Equipment for Beamline Construction at APS

Period of Grant: 3/15/2002-4/14/2004
Amount: \$90,469
Source: NSF/Hydrological Sciences
Title: *Residence Time of Nubian Aquifer Determined Using Atom-Trap Trace Analysis of Krypton-81*

Period of Grant: 1/15/2003 – 1/14/2006
Amount: \$180,773
Source: DOE Office of Basic Energy Sciences/Geosciences Research Program
Project: *Mineral-Fluid Interactions: Synchrotron Radiation Studies at the Advanced Photon Source*
Effort: 2.0 months summer

Period of Grant: 11/24/2003 – 9/30/2004
Amount: \$10,000
Source: Oak Ridge National Laboratory
Project: *Environmental Isotope Forensics of Perchlorate Contamination*

Period of Grant: 7/1/2004-6/30/2007
Amount: \$197,399
Source: NSF/Hydrological Sciences
Title: *Krypton Isotope Hydrology*

Period of Grant: 1/1/2005-12/30/2006
Amount: \$63,500
Source: Metropolitan Water Reclamation District of Greater Chicago
Title: *Stable Isotope Study of Nitrate in the Illinois River Waterway*

Period of Grant: 11/1/2005-10/31/2007
Amount: \$120,000
Source: Henry and Camille Dreyfus Foundation Postdoctoral Fellowship in Environmental Chemistry
Title: *Exploring radiokrypton applications in environmental science: climate change, groundwater, and contaminant transport*

Period of Grant: 1/15/2006 – 1/14/2009
Amount: \$157,846
Source: DOE Office of Basic Energy Sciences/Geosciences Research Program
Project: *Mineral-Fluid Interactions: Synchrotron Radiation Studies at the Advanced Photon Source*
Effort: 2.0 months summer

Period of Grant: 07/01/2007 – 06/30/2008
Amount: \$12,400
Source: NSF-EAR Hydrological Sciences
Project: *SGER: Exploratory Research in Isotope Hydrology (with T. Coplen, USGS)*

Period of Grant: 1/1/2008-12/30/2008
Amount: \$29,200
Source: Metropolitan Water Reclamation District of Greater Chicago
Title: *Stable Isotope Study of Nitrate in the Illinois River Waterway*

Period of Grant: 7/1/2008-12/31/2009
Amount: \$102,000
Source: Metropolitan Water Reclamation District of Greater Chicago
Title: *Greenhouse Gas Emissions from the Stickney Water Reclamation Plant*

Period of Grant: 1/1/2009-12/31/2009
Amount: \$10,000
Source: LAS Interdisciplinary Research Fund
Title: *Nitrate Behavior in a Restored Wetland*

Period of Grant: 1/15/2009 – 1/14/2012
Amount: \$185,729
Source: DOE Office of Basic Energy Sciences/Geosciences Research Program
Project: *Mineral-Fluid Interactions: Synchrotron Radiation Studies at the Advanced Photon Source*
Effort: 2.0 months summer

Period of Grant: 1/1/2011 – 12/31/2012
Amount: \$89,608
Source: NSF/EAR-Instrumentation and Facilities
Project: *Upgrade of Gamma Spectrometry Facility at the Environmental Isotope Geochemistry Laboratory of the University of Illinois at Chicago*

Period of Grant: 1/15/2012 – 1/14/2015
Amount: \$341,035
Source: DOE Office of Basic Energy Sciences/Geosciences Research Program
Project: *Mineral-Fluid Interactions: Synchrotron Radiation Studies at the Advanced Photon Source*
Effort: 2.0 months summer

Period of Grant: 4/1/2012 – 3/30/2013
Amount: \$25,000
Source: NSF EAR/Hydrological Sciences
Project: *International Workshop on Tracer Applications of Noble Gas Radionuclides in the Geosciences*

Period of Grant: 1/1/2015 – 12/31/2017
Amount: \$341,592 (Argonne National Lab subcontract to UD)
Source: DOE Office of Basic Energy Sciences/Geosciences Research Program
Project: *Mineral-Fluid Interactions: Synchrotron Radiation Studies at the Advanced Photon Source*
Effort: 1.5 months summer

Period of Grant: 9/27/2017 – 9/26/2020
Amount: \$1,014,223
Source: DOD Strategic Environmental Research and Development Program
Project: *Application of C and N Stable Isotope Analysis to Evaluate Biotic and Abiotic Degradation of DNAN and NTO (NC Sturchio PI, with M. Fuller and P. Hatzinger, APTIM, Inc.)*
Effort: 0.5 months summer

Period of Grant: 1/1/2018 – 12/31/2020
Amount: \$287,096 (Argonne National Lab subcontract to UD)
Source: DOE Office of Basic Energy Sciences/Geosciences Research Program
Project: *Mineral-Fluid Interactions: Synchrotron Radiation Studies at the Advanced Photon Source (NC Sturchio, PI)*
Effort: 1.0 months summer

Research Funding History as co-PI (total awards as co-PI > \$13M):

Period of Grant: 7/1/1994-6/30/1995
Amount: \$10,180
Source: NATO
Project: *Applied Fluid Geochemistry to Hydrological, Environmental, and Volcanological Studies in the Canary Islands, Spain (with N. Perez)*

Period of Grant: 1/1/1995-12/30/1999
 Amount: \$3,000,000
 Source: U.S.D.A./Egyptian Ministry of International Cooperation
 Project: *Center for Environmental Hazard Mitigation, Cairo University, Giza, Egypt* (with M. Sultan and others)

Period of Grant: 03/15/1998 – 12/31/2000
 Amount: \$81,547
 Source: NSF-EAR Instrumentation and Facilities
 Project: *Acquisition, Upgrade, and Support of an Electron Microprobe Facility at UIC* (with M. Flower (PI); K. Bartels, S. Guggenheim, A. Koster van Groos)

Period of Grant: 04/01/1998 – 03/31/1999
 Amount: \$23,600
 Source: NSF Office of International and Integrative Activities
 Project: *US-Egypt Cooperative Research: Assessment and Remediation of Industrial Sources of Lead in Cairo's Air* (with M. Sultan)

Period of Grant: 7/01/2001 – 6/30/2004
 Amount: \$520,445 (\$75,000 to UIC per subcontract through Argonne National Laboratory)
 Source: NASA
 Project: *Assessment, Monitoring, and Modelling of Land-Cover, Land-Use Changes and Their Impacts on Groundwater Resources, Ecosystems, and Carbon Cycling in Saharan Africa: A Case Study, SW Egypt* (with M. Sultan and R. M. Miller)

Period of Grant: 1/01/2002-12/31/2004
 Amount: \$375,000 (\$80,000 to UIC per subcontract through U California Berkeley)
 Source: NASA Astrobiology Program
 Project: *Biogeochemical Mars-like Environments* (with J. Banfield, G. Luther, D. Emerson, and E. Roden)

Period of Grant: 9/1/2002-8/31/2005
 Amount: \$45,000 (21,000 to UIC)
 Source: U.S.-Egypt Joint Science and Technology Fund (via USDA)
 Title: *Environmental Assessment of Natural Radioactivity and Heavy Metal Pollution, El Fayoum area, Egypt* (with B. El Kaliouby, Y. Dawood, and M. Sultan)

Period of Grant: 4/15/03-9/14/05
 Amount: \$540,000
 Source: DOE Environmental Management Science Program
 Project: *Reactivity of Primary Soil Minerals and Secondary Precipitates beneath Leaking Hanford Waste Tanks* (with K. L. Nagy)

Period of Grant: 9/1/03-8/31/04
 Amount: \$72,000
 Source: NSF-EAR Instrumentation and Facilities
 Project: *Acquisition of an isotope ratio mass spectrometer for continuous flow analyses of carbon, hydrogen, and chlorine isotopic compositions of organic compounds* (with F. Kenig (PI) and P. Doran)

Period of Grant: 3/1/05-9/30/07
 Amount: \$1,142,500 total (\$165,000 to UIC per subcontract through Shaw Environmental)
 Source: Environmental Security Technology Certification Program (DoD)
 Project: *Validation of Chlorine and Oxygen Isotope Ratio Analysis to Differentiate Perchlorate Sources and To Document Perchlorate Biodegradation* (with P. Hatzinger, J.K. Bohlke, and B. Gu)

Period of Grant: 4/1/2005-3/30/2008
 Amount: \$107,941 to NCS
 Source: DOE Atmospheric Sciences Program
 Title: *Determining Aerosol Mean Residence Times and Black Carbon Washout Rates With Natural Radionuclides and Isotopic Signatures* (with J. Gaffney and T. Guilderson)

Period of Grant: 6/1/2005-5/30/2006
 Amount: \$100,000
 Source: The Wetlands Initiative
 Title: *Baseline Study of Carbon and Nitrogen Cycle in Goose Pond Engineered Wetland Project Area* (with M. Gonzalez-Meler)

Period of Grant: 03/01/2006 – 9/30/2008
 Amount: \$732,613 (\$550,000 to UIC)
 Source: DOE/Environmental Management Science Program
 Title: *Nucleation and Precipitation Processes in the Vadose Zone during Contaminant Transport* (with K. L. Nagy, L. Soderholm, and C. Darnault)

Period of Grant: 4/1/2007 – 3/31/10
 Amount: \$412,216
 Source: NSF/EAR – Instrumentation and Facilities
 Title: *Development of New Instrumentation for Laser Atom-Trap Analysis of Radiokrypton* (with Z.T. Lu and A.M. Davis)

Period of Grant: 9/7/2008-9/6/2013
 Amount: \$200,000 to UIC per subcontract from Shaw Environmental
 Source: DOD-SERDP
 Title: *Formation mechanisms and isotopic characteristics of natural perchlorate* (with P. Hatzinger, Shaw Inc.; A. Jackson, Texas Tech; J.K. Bohlke, USGS; B. Gu, ORNL)

Period of Grant: 6/1/2009 – 9/30/13
 Amount: \$231,812 – ARRA grant
 Source: NSF/EAR – Petrology and Geochemistry
 Title: *New Insights on Mantle Volatiles from Noble Gas Radionuclides* (with R. Yokochi)

Period of Grant: 8/16/2009 – 9/15/13
 Amount: \$418,210 – ARRA grant
 Source: NSF/DEB – Ecosystem Science Cluster
 Title: *Effects of long-term elevated CO₂ on earthworm populations, bioturbation and carbon sequestration in soils* (with Y. Sanchez de Leon & M. Gonzalez-Meler)

Period of Grant: 3/15/2010 – 2/29/2012
 Amount: \$1,999,999 – ARRA grant
 Source: NSF Major Research Instrumentation
 Title: *MRI-R2: Acquisition of an Aberration-Corrected Scanning Transmission Electron Microscope for Multidisciplinary Research and Education at UIC* (with R. Klie (PI), S. Erdal, S. Ghosh, L. Hanley, D. He, G. A. Mansoori, F. Mashayek, C. Megaridis, R. Meyer, A. Nicholls, C. Takoudis)

Period of Grant: 10/1/2009 – 9/30/2013
 Amount: \$147,000 to UIC per subcontract through Shaw Environmental
 Source: DOD/SERDP
 Project: *Evaluation Of Perchlorate Sources In the Rialto-Colton-Fontana Area Using Chlorine And Oxygen Stable Isotope Ratio Analysis And Depth-dependent Water Quality Data* (with P. Hatzinger, Shaw Inc.; A. Jackson, Texas Tech; J.K. Bohlke and J. Izbicki, USGS)

Period of Grant: 8/1/2010 – 7/31/2015
 Amount: \$2,000,000
 Source: EPA-Great Lakes National Program Office
 Project: *Great Lakes Sediment Surveillance Program (GLSSP)* (with A. Li, UIC; K. Rockne, UIC; and J.P. Giesy, University of Saskatchewan)

Period of Grant: 3/1/2011 – 1/31/2015
 Amount: \$60,000 to UIC per subcontract through University of Connecticut
 Source: DOD/SERDP
 Project: *Tracking the Uptake, Translocation, Cycling, and Metabolism of Munitions Compounds in Coastal Marine*

Ecosystems Using Stable Isotope Tracers (with C. Tobias and P. Vlahos, U. Connecticut; J.K. Böhlke, USGS; S. Fallis, Naval Air Warfare Center)

Period of Grant: 3/1/2012 – 2/28/2014
Amount: \$595,000 (\$125,000 to UIC per subcontract through Shaw Environmental)
Source: DOD/SERDP
Project: *Validation of Stable Isotope Ratio Analysis to Document the Biodegradation and Natural Attenuation of RDX* (with P. Hatzinger and M. Fuller, Shaw Environmental; J.K. Böhlke, U.S. Geological Survey)

Period of Grant: 7/1/2012 – 6/30/2013
Amount: \$40,000
Source: NSF/Geobiology and Low-Temperature Geochemistry
Project: *Seeking New Paleotemperature Proxies: Noble Gases in Evaporites* (with R. Yokochi, U. Chicago)

Period of Grant: 10/1/2013 – 9/30/2016
Amount: \$100,000 to UIC per subcontract through Lawrence Berkeley National Laboratory
Source: DOE/Geothermal
Project: *Surface estimates of deep permeability* (with B.M. Kennedy & E. Sonnenthal, Lawrence Berkeley National Laboratory; S. Ingebritsen, U.S. Geological Survey)

Period of Grant: 10/1/2014 – 9/30/2017
Amount: \$75,000 to UIC per subcontract through Lawrence Berkeley National Laboratory
Source: DOE/Geothermal
Project: *Radioisotope Tracers to Define Fracture Attributes for Enhanced Geothermal Systems* (with J.N. Christensen, E. Sonnenthal, S.T. Braun, & D. J. DePaolo, Lawrence Berkeley National Laboratory)

Period of Grant: 9/1/2016-9/30/2019
Amount: \$450,000
Source: Delaware Watershed Research Foundation
Project: *Quantifying the Timing and Spatial Extent of Sediment Restoration Effectiveness in the White Clay Creek Watershed, Pennsylvania* (with J. Pizzuto and M. O'Neal)

Neil C. Sturchio: Publications

BOOKS EDITED:

Fenter P., Rivers M. L., Sturchio N. C. and Sutton S. (Eds.), 2002. Applications of Synchrotron Radiation in Low-Temperature Geochemistry and Environmental Science. *Reviews in Geochemistry and Mineralogy*, Vol. 49. 579 p.

PATENTS:

U.S. Patent # 5,942,439. Ben D. Holt and Neil C. Sturchio. Method for Isotopic Analysis of Chlorinated Organic Compounds (issued 8/28/1999).

ARTICLES AND BOOK CHAPTERS [Google Scholar Citations *h*-index = 66; times cited = 12,886 as of 1.2.2020]

2020

224. Guo J, Li Z, Ranasinghe P, Rockne KJ, Sturchio NC, Giesy JP, Li A, 2020. Halogenated flame retardants in sediments from the Upper Laurentian Great Lakes: Implications to long-range transport and evidence of long-term transformation. *Journal of Hazardous Materials* 384, 121346.

2019

223. DeFranco KC, Ricketts MP, Blanc-Betes E, Welker JM, Gonzalez-Meler MA, Sturchio NC, 2019. Deeper snow increases the net soil organic carbon accrual rate in moist acidic tussock tundra: ²¹⁰Pb evidence from Toolik Lake area, Alaska. *Arctic, Antarctic, and Polar Research* (in revision).

222. Sultan M, Sturchio NC, Alsefry S, Emil M, Ahmed M, et al., 2019. Assessment of the age, origin, and sustainability of fossil aquifers: A geochemical and remote sensing-based approach. *Journal of Hydrology* 576, 325-341.

221. Chang HK, Goncalves R, Aggarwal PK, Stradioto M, Espanhol EH, Sturchio NC, Romatschke U, Araguas-Araguas L, 2019. Groundwater isotope ratios reflect convective and stratiform (paleo)precipitation fractions in Brazil. *Geophysical Research Letters* (in revision).

220. Cao F, Jaunat J, Sturchio N, Cancès B, Morvan X, Devos A, Barbin V, Ollivier P, 2019. Worldwide occurrence and origin of perchlorate ion in waters: A review. *Science of the Total Environment* 661, 737-749.

219. Duque C, Knee KL, Russoniello C, Sherif M, Abu Risha UA, Sturchio NC, Michal HA, 2019. Hydrogeological processes and near shore spatial variability of radium and radon isotopes for the characterization of submarine groundwater discharge. *Journal of Hydrology* 579, 124192.

218. Yuan K, Starchenko V, Lee SS, De Andrade V, Gursoy D, Sturchio NC, Fenter P, 2019. Mapping three-dimensional dissolution rates of calcite microcrystals: Effects of surface curvature and dissolved metal ions. *ACS Earth and Space Chemistry* 3, 833-843.

217. Lin J, Böhlke JK, Huang S, Gonzalez-Meler M, Sturchio NC, 2019. Seasonality of nitrate sources and isotopic composition in the Upper Illinois River. *Journal of Hydrology* 568, 849-861.

216. Lee SS, Schmidt M, Sturchio NC, Nagy KL, Fenter P, 2019. Effect of pH on the formation of gibbsite-layer films at the muscovite (001)–water interface. *Journal of Physical Chemistry C* 123 (11), 6560-6571.

215. Sherif M, Sultan M, Sturchio NC, 2019. Chlorine isotopes as tracers of solute origin and age of fossil groundwater from the Eastern Desert of Egypt. *Earth and Planetary Science Letters* 510, 37-44.

214. Fuller ME, Koster van Groos PG, Jarrett M, Kucharzyk KH, Minard-Smith M, Heraty LJ, and Sturchio NC, 2019. Application of stable isotope and omics methods to document natural attenuation of RDX in groundwater. *Chemosphere* (in revision).

213. Yuan K, Lee SS, Cha W, Ulvestad A, Kim H, Abdilla B, Sturchio NC, Fenter P, 2019. Oxidation induced strain and defects in magnetite crystals. *Nature Communications* 10:703 (<https://doi.org/10.1038/s41467-019-08470-0>).

2018

212. Gonzalez-Meler M, Poghosyan A, Sanchez de Leon Y, Dias de Olivero E, Norby R, Sturchio NC, 2018. Does elevated atmospheric CO₂ affect soil carbon burial and soil weathering in a forest ecosystem? *PeerJ* 6, e5356; DOI 10.7717/peerj.5356.

211. Hatzinger P, Böhlke JK, Sturchio NC, Izbicki J, Teague N, 2018. Four-dimensional isotopic approach to identify perchlorate sources in groundwater: Application to the Rialto-Colton and Chino subbasins, southern California (USA). *Applied Geochemistry* 97, 213-225.

210. Abu Risha OA, Sturchio NC, 2018. The impact of hydrogeological setting on the protection of coastal groundwater aquifers, El Dabaa, Northwestern Coast, Egypt. *Journal of Basic and Environmental Sciences* 5, 174-186.

209. La Plante EC, Lee SS, Eng PJ, Stubbs J, Fenter P, Sturchio NC, Nagy KL, 2018. Dissolution kinetics of epitaxial cadmium carbonate overgrowths on dolomite. *ACS Earth and Space Chemistry* 3, 212-220.

208. Sherif MI, Sturchio NC, 2018. Radionuclide geochemistry of groundwater in the Eastern Desert, Egypt. *Applied Geochemistry* 93, 69-80.

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