

**Neil C. Sturchio**

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(CV version: April 1, 2021)

**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 Science 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), 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 (Lifetime Member; Elected Secretary 2008-2011)  
Geological Society of America (Fellow, 1997)

**Research Interests:**

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

## 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)  
Department of Defense (SERDP)  
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  
National Synchrotron Light Source II  
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>ACS Earth and Space Chemistry</i>	<i>J. African Earth Sciences</i>
<i>American Mineralogist</i>	<i>J. Archeological Science</i>
<i>Analytical Chemistry</i>	<i>J. Chemical Physics</i>
<i>Analytica Chimica Acta</i>	<i>J. Chromatography A</i>
<i>Anthropocene</i>	<i>J. Contaminant Hydrology</i>
<i>Aquatic Geochemistry</i>	<i>J. Environmental Quality</i>
<i>Arabian Journal of Geosciences</i>	<i>J. Forensic Science</i>
<i>Atmospheric Chemistry and Physics</i>	<i>J. Geochemistry</i>
<i>Applied Geochemistry</i>	<i>J. Geology</i>
<i>Bulletin of Volcanology</i>	<i>J. Geophysical Research</i>
<i>Chemical Geology</i>	<i>J. Hydrology</i>
<i>Chemical Communications</i>	<i>J. Materials Research</i>
<i>Chemosphere</i>	<i>J. South American Earth Sciences</i>
<i>Chinese Journal of Oceanology &amp; Limnology</i>	<i>J. Volcanology &amp; Geothermal Research</i>
<i>Earth &amp; Planetary Science Letters</i>	<i>Materials Research Society Proceedings</i>
<i>Earth Science Reviews</i>	<i>Microbial Biotechnology</i>
<i>Earth and Space Chemistry</i>	<i>Nature</i>
<i>Economic Geology</i>	<i>Nature Communications</i>
<i>Elementa</i>	<i>Nuclear &amp; Chemical Waste Management</i>
<i>Environmental Forensics</i>	<i>Nuclear Instruments &amp; Methods Phys. Res. B</i>
<i>Environmental Health Perspectives</i>	<i>Ore Geology</i>
<i>Environmental Pollution</i>	<i>Organic Geochemistry</i>
<i>Environmental Science and Technology</i>	<i>Proceedings of the National Academy of Science</i>
<i>Environmental Sci. and Technology Letters</i>	<i>Pure and Applied Geophysics</i>
<i>Environmental Sci. Processes and Impacts</i>	<i>Quaternary Geochronology</i>
<i>European Journal of Mineralogy</i>	<i>Quaternary International</i>
<i>Geochemical Journal</i>	<i>Quaternary Research</i>
<i>Geochimica et Cosmochimica Acta</i>	<i>Rapid Comm. in Mass Spectrometry</i>
<i>Geofluids</i>	<i>Reviews of Geophysics</i>
<i>Geological Society of America Bulletin</i>	<i>Science</i>
<i>Geology</i>	<i>Science Bulletin (China)</i>
<i>Geophysical Research Letters</i>	<i>Science of the Total Environment</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>	
<i>International Journal of Mass Spectrometry</i>	

## Review panels

Member, Evaluation Team for the Agency's Contribution to the Use of Nuclear Science and Technology to Enhance Water Security, International Atomic Energy Agency, Vienna, Austria, June 2020-January 2021

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 (meeting held virtually due to COVID-19 pandemic).

Session Co-organizer, *Compound-Specific Isotope Analysis*, 5<sup>th</sup> International Symposium on Bioremediation and Sustainable Environmental Technologies, Baltimore, MD, April 2019.

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 9<sup>th</sup> 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*, IAEA: 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, 25<sup>th</sup> 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 Speaker, 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, 13<sup>th</sup> 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, 8<sup>th</sup> 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, UD Graduate College Unidel Fellowship Selection Committee (2020)  
Member, Undergraduate Studies Committee, UD Faculty Senate (2020-2021)  
Member, College of Earth, Ocean, and Environment P&T Committee, University of Delaware (2019-2021)  
Member, Academic Program Review Committee, School of Marine Science and Policy, U. Delaware (2019)  
Member, College of Earth, Ocean and Environment Strategic Planning Committee (2018-2020)  
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 Student (29):

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)  
Ari Brandt, U. Delaware (chemistry)  
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)  
Andreanna Roros, U. Delaware (earth sciences)  
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 (21):  
(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 (50):  
(as member)

Nemesio Perez, Ph.D. Geology, Canary Islands, Spain (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 (2020)  
 Qiang Li, Ph.D., Plant and Soil Sciences, University of Delaware (2020)  
 Jackie Ramatlapeng, Ph.D., Geological Sciences, University of Delaware (in progress)  
 Feifei Cao, Ph.D., Hydrology, University of Reims (France), (2020)  
 Tyler Schmidt, M.S., Geological Sciences, University of Delaware (in progress)  
 Robert Norville, M.S., Geological Sciences, University of Delaware (in progress)  
 Juan Pablo Dominguez, M.S., Geological Sciences, University of Delaware (2021)  
 Tony Hollenback, Ph.D., Plant & Soil Sciences, University of Delaware (in progress)  
 Mustafa Kamal Emil, Ph.D., Geol. & Environ. Sci., Western Michigan U. (in progress)  
 Roi Ram, Ph.D., Hydrogeology, Ben-Gurion University (Israel), (2021)

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

Postdoctoral Appointees (13):  
 (with current address) Dr. Osama Abu Risha (Desert Research Center, Cairo, Egypt)  
 Dr. Greg Archart (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 (Alveo Technologies)  
 Dr. John Hanchar (Memorial University of Newfoundland)  
 Dr. Lin Huang (Environment Canada)  
 Dr. Sophie Rihs (U. Strasbourg)  
 Dr. Hui Henry Teng (Tianjin University)  
 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 (Spring 2015, Spring 2016)  
 GEOL/MAST 852 Isotope Geochemistry (Spring 2016; Spring 2019; Fall 2020)

GEOL 419/619 Environmental Geochemistry (Spring 2017; Spring 2020)

PLSC 405 Environmental Forensics & Society (Guest lecturer: Spring 2015; Spring 2017; Fall, 2018; Fall, 2020)

### **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 Chicago

University of Delaware

University of Illinois at Chicago

University of New Mexico

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 – 9/26/2021  
 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 – 2/28/2021  
 Amount: \$343,131 (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

Period of Grant: 1/1/2019 – 6/30/2021  
 Amount: \$870,076  
 Source: Unidel Foundation  
 Project: *Core Facility for Isotope Science* (NC Sturchio, PI, with Deb Jaisi and Eliot Atekwana, UD)  
 Effort: none

## 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)  
Project: *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 CO<sub>2</sub> 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* (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:

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

**ARTICLES AND BOOK CHAPTERS** [Google Scholar Citations *h*-index = 71; times cited = 14,387 as of 4.1.2021]

### 2021

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