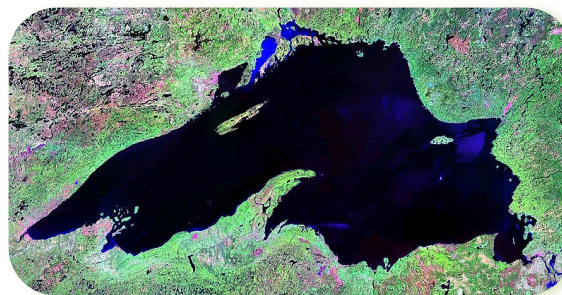


Dr. Sarah A. Green

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Education

- Ph.D.** (1992) Marine Chemistry
MIT/WHOI Joint Program in Oceanography
Massachusetts Institute of Technology, Cambridge, MA and Woods Hole Oceanographic Institution, Woods Hole, MA *Ph.D. dissertation*: “Applications of Fluorescence Spectroscopy to Environmental Chemistry”
Advisors: Dr. N.V. Blough (WHOI) and Prof. F.M.M. Morel (MIT)
- BA** (1983), Chemistry, minor in Mathematics, University of Minnesota, Minneapolis, MN

Professional Experience

- 2023 – present **Professor Emerita and Research Professor**, Department of Chemistry, Michigan Technological University
- 2020 – 2023 **Interim Chair**, Department of Chemistry, Michigan Technological University
- 2006 – 2023 **Professor**, Department of Chemistry, Michigan Technological University
- 2013 – 2014 **Jefferson Science Fellow**, U.S. Department of State, Bureau of East Asian and Pacific Affairs.
- 2004 – 2013 **Chair**, Department of Chemistry, Michigan Technological University
- 2000 – 2006 **Associate Professor**, Department of Chemistry, Michigan Technological University
- 2003 **Visiting Scientist**, Consiglio Nazionale delle Ricerche, Istituto di Biofisica, Pisa
- 1994 – 2000 **Assistant Professor**, Department of Chemistry, Michigan Technological University
- 1992 – 1994 **Postdoctoral Fellow**, Department of Chemistry and Biochemistry, University of Texas, Austin; advisor: Marye Anne Fox.

Other Professional Activities

- 2023 – present Contributing author, Seventh Global Environmental Outlook (GEO-7), United Nations Environment Programme
- 2015 – 2019 Co-chair, Scientific Advisory Panel on the Sixth Global Environmental Outlook (GEO-6), United Nations Environment Programme
- 2019 – 2023 Founding member Institute for Policy, Ethics, and Culture, Michigan Tech
- 2008 – 2017 Member Green Chemistry Roundtable, State of Michigan

GEO-6 Scientific Advisory Panel

- Co-chair of the Scientific Advisory Panel for the Global Environmental Outlook (GEO-6) with the mandate to “*guide the assessment process and to ensure scientific credibility and overall quality and integrity of GEO 6*”. The report was launched at the Fourth United Nations Environmental Assembly, March 2019.
- GEO-6 Regional Assessments were released in May, 2016 at the Second UN Environmental Assembly (Nairobi).

Jefferson Science Fellow activities

- Served as Senior Science Advisor in the Bureau of East Asia and Pacific Affairs, Office of Economy Policy; responsible for engagement on environmental issues with the Asia Pacific Economic Cooperation ([APEC](#)) forum.
- State Department liaison to the Asia Pacific Economic Cooperation ([APEC](#)) Oceans and Fisheries Working Group (OFWG). Engaged on topics of mercury pollution, green development, wildlife trafficking, illegal logging, illegal, unreported, and unregulated fishing, and marine debris.

Awards

- Michigan Tech (inaugural) Faculty Sustainability Award, April 2022.
- Distinguished Lecturer, Michigan Tech Research Forum, February, 2018.
- Certificate of Appreciation, U.S. Department of State. *“For significant contributions to the President’s National Strategy for Combating Wildlife trafficking, and raising the profile of wildlife trafficking as a U.S. diplomatic priority and international and security concern.”* September 2014.
- Jefferson Science Fellow, U.S. Department of State, Bureau of East Asian and Pacific Affairs, Office of Economic Policy, 2013-14.
- ‘Best article of 2013’ prize for “Quantifying the consensus on anthropogenic global warming in the scientific literature” (Cook, Nuccitelli, Green, et al., 2013), awarded by the Editorial board of *Environmental Research Letters*; also included in the ‘Highlights of 2013’ collection. Paper downloaded >1 million times; most downloaded paper from IOP. Results of consensus paper were tweeted by [President Obama](#) and [Secretary Kerry](#), and cited by John Oliver on comedy show [Last Week Tonight \(May 11, 2014\)](#).
- [Chandler-Misener Award](#), International Association for Great Lakes Research, 2011 (with co-authors W.C. Kerfoot, et al.).

Conferences

Head of delegation and focal point of Michigan Tech engagement as an official observer to the United Nations Framework Convention on Climate Change; led delegations to COP25 (Madrid), COP26 (Glasgow), COP27 (Sharm el-Sheikh), COP28 (Dubai).

Youth Conferences

Organized Road to COP workshop, October 2023, Joint workshop with the Smithsonian Institution at the National Museum of Natural History.

Organized conferences of the Youth Environmental Alliance in Higher Education (YEAH), 2020, 2021, 2022.

Co-organized YEAH Youth Dialogues on the U.S. National Climate Assessment, Feb, 2022 and Jan 2024.

Professional Affiliations

- American Association for the Advancement of Science
- American Geophysical Union
- American Chemical Society
- Union of Concerned Scientists

Other Activities

- Led student delegations to the 27th Conference of the Parties (COP) of the United Nations Framework Convention on Climate Change, Sharm el-Sheikh, 2022; COP26, Glasgow, 2021; and COP25, Madrid, 2019.
- Faculty advisory of student group, Keweenaw Youth for Climate Action. (2019-present)

- Program coordinator “Designing the Anthropocene” events, Institute on Policy, Ethics, and Culture (2019-20)

Research Interests

Atmospheric chemistry. Integrated assessments. Carbon cycling in the Lake Superior basin; origin and fate of organic carbon in terrestrial, lake, and marine environments; chemistry of gas-phase free radicals in smoke; detection of free radicals; fluorescence-based analytical methods; photochemical transformations of natural and anthropogenic organic compounds in the environment; optical properties and remote sensing of natural waters; photochemical reactions in snow; response of aquatic systems to climate change; integration of biological, geological, physical, and chemical data for understanding of global cycles; development of new chemical sensors for environmental applications. Communication of climate change science. Science-policy interface.

Languages

English (native), French (fluent spoken, reading; moderate writing)

Publications (selection of >50)

1. Khademimoshegenani N.; Green S.A. (2023) Synthesis and Characterization of Humic/Melanin-like Compounds by Oxidative Polymerization of Simple Aromatic Precursors. *Water*, 15(1400). [doi:10.3390/w15071400](https://doi.org/10.3390/w15071400)
2. Browser, G.; Tiwari, S.; Osborne, T.; Green, S. A.; Templar, P.; Ho, S. (2020) SDGs for the SDGs: Students Doing Oriented Science on the Sustainable Development Goals. *Scholarship and Practice of Undergraduate Research*, 5(1).
3. Bowser, G., Green, S., Ho, S., Templar, P. (2020). Educating students in solutions-oriented science *Frontiers in Ecology and the Environment*, 18(4) <https://dx.doi.org/10.1002/fee.2198>
4. Meingast, K. M.; Grunert, B. K.; Green, S. A.; Kane, E. S.; Khademimoshegenani, N. (2020) Insights on Dissolved Organic Matter Production Revealed by Removal of Charge-Transfer Interactions in Senescent Leaf Leachates. *Water*, 12 (9), 2356. <https://doi.org/10.3390/w12092356>.
5. Meadows, G., Grimm, A. and Green, S. (Eds.) (2018). [Independent Risk Analysis for the Straits Pipelines - Final Report](#).
6. Meadows, G., Grimm, A. and Green, S. (Eds.) (2018). [Independent Risk Analysis for the Straits Pipelines - Executive Summary](#).
7. Marcarelli, A., A. Coble, K. Meingast, E. Kane, C. Brooks, I. Buffam, S. A. Green, C. Huckins, D. Toczydlowski, R. Stottlemeyer (2018). Of small streams and Great Lakes: integrating tributaries to understand the ecology and biogeochemistry of Lake Superior. *J. American Waterworks Association*, <https://dx.doi.org/10.1111/1752-1688.12695>.
8. Skuce, A. G., J. Cook, M. Richardson, B. Winkler, K. Rice, S.A. Green, P. Jacobs, and D. Nuccitelli (2017), Does it matter if the consensus on anthropogenic global warming is 97% or 99.99%? *Bulletin of Science*, 36(3), 150–156, [doi:10.1177/0270467617702781](https://doi.org/10.1177/0270467617702781).
9. Cook, J., Oreskes, N., Doran, P., Anderegg, W., Verheggen, B., Maibach, E., Carlton, S., Lewandowsky, S., Skuce, A., Green, S., Nuccitelli, D., Jacobs, P., Richardson, M., Winkler, B., Painting, R., Rice, K. (2016). Consensus on consensus: a synthesis of consensus estimates on human-caused global warming. *Environmental Research Letters*, 11(4), 048002. doi.org/10.1088/1748-9326/11/4/048002.
10. Veverica, T. J., Kane, E. S., Marcarelli, A. M., & Green, S. A. (2016). Ionic Liquid Extraction Unveils Previously Occluded Humic-Bound Iron in Peat Soil Pore Water. *Soil Science Society of America Journal*. doi.org/10.2136/sssaj2015.10.0377.
11. Hering, J. G., D. A. Dzombak, S.A. Green, R. G. Luthy, D. Swackhamer. (2014). Engagement at

the Science–Policy Interface. *Environmental Science and Technology*, 48 (19), 11031–11033. [doi:10.1021/es504225t](https://doi.org/10.1021/es504225t).

12. Cook, J., D. Nuccitelli, A. Skuce, P. Jacobs, R. Painting, R. Honeycutt, S. A. Green, S. Lewandowsky, M. Richardson, R. G. Way (2014). Reply to ‘Quantifying the consensus on anthropogenic global warming in the scientific literature: A re-analysis’ *Energy Policy*, [doi:10.1016/j.enpol.2014.06.002](https://doi.org/10.1016/j.enpol.2014.06.002).
13. Hu, N., and Sarah A. Green (2014). Mechanism of formation of acyl radicals in tobacco smoke, *Atmospheric Environment* 95C, 142-150. [doi:10.1016/j.atmosenv.2014.06.027](https://doi.org/10.1016/j.atmosenv.2014.06.027).

Book Chapters

1. Urbanski, S. P., O’Neill, S. M., Holder, A. L., Green, S. A., & Graw, R. L. (2022). Emissions. In D. L. Peterson, S. M. McCaffrey, & T. Patel-Weynand (Eds.), *Wildland Fire Smoke in the United States* (pp. 121–165). Springer. https://doi.org/10.1007/978-3-030-87045-4_5
2. Green, S. A. (2017), Green Chemistry: Progress and Barriers, in *Sustainable Green Chemistry*, vol. 1, edited by M. A. Benvenuto, pp. 17–27, Berlin/Boston.
3. Jacobs, P. H., Jokimäki, A., Rice, K., Green, S. A., & Winkler, B. Polluted Discourse: Communication and Myths in a Climate of Denial. In *Communicating Climate-Change and Natural Hazard Risk and Cultivating Resilience* (Vol. 45, pp. 37–54) Ed.: J. L. Drake, Y. Y. Kontar, J. C. Eichelberger, T. S. Rupp, K. M. Taylor. Cham: Springer International Publishing. http://doi.org/10.1007/978-3-319-20161-0_3, 2015.
4. Green, S.A. and N.V. Blough, Spectroscopic characterization of non-living organic matter, in *The role of non-living organic matter in the Earth carbon cycle*, Ed. R.G. Zepp, and C. Sonntag, pp. 23-45, John Wiley and Sons, New York, 1995.