

JANET G. HERING

Swiss Federal Institute of Aquatic Science & Technology (Eawag)
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EDUCATION

Massachusetts Institute of Technology/ Woods Hole Oceanographic Institution Joint Program,
Cambridge, MA, Ph.D. in Oceanography, May 1988.

Harvard University, Cambridge, MA, A.M. in Chemistry, January 1981.

Cornell University, Ithaca, NY, A.B. in Chemistry, June 1979.

PROFESSIONAL EXPERIENCE

Swiss Federal Institute of Aquatic Science and Technology (Eawag) (2007 to present) Director.

Swiss Federal Institute of Technology Lausanne (EPFL) (2010 to present) Professor of Environmental
Chemistry, School of Architecture, Civil Engineering and Environmental Engineering (ENAC).

Swiss Federal Institute of Technology Zürich (ETHZ) (2007 to present) Professor of Environmental
Biogeochemistry, Department of Environmental Sciences; affiliated faculty, Department of Civil,
Environmental, and Geomatic Engineering.

California Institute of Technology, Environmental Science & Engineering Department, (2009-2011)
Visiting Associate, (2002-2008) Professor, (1996-2002) Associate Professor; (2003-2006) Executive
Officer, Keck Laboratories for Bioengineering, Environmental Science & Engineering, and Materials
Science.

University of California, Los Angeles, Civil and Environmental Engineering Department, (1997-1999)
Adjunct Professor, (1995-1996) Associate Professor, (1991-1995) Assistant Professor.

Institute for Water Resources and Water Pollution Control (EAWAG), Dübendorf, Switzerland,
Chemistry Department, (1988-1991) Research Fellow.

Massachusetts Institute of Technology, Cambridge, MA, Ralph M. Parsons Laboratory for Water
Resources and Hydrodynamics, Department of Civil Engineering, (1982-1988) Research and
Teaching Assistant.

Harvard University, Cambridge, MA, Chemistry Department, (1979-1981) Research and Teaching
Assistant.

Cornell University, Ithaca, NY, Chemistry Department, (1978-1979) Teaching Assistant.

Mobil Oil Research and Development Corporation, Princeton, NJ, (Summer 1978) Summer Research
Intern

RESEARCH INTERESTS

Knowledge exchange at the interface of science with policy and practice

Biogeochemical cycling of trace metals and metalloids: microbial redox cycling; field studies of metal
redox cycling, mobilization, and sequestration

Water treatment processes for removal of inorganic contaminants: role of sorption in contaminant
removal; design of novel sorbents

Mineral weathering and reactions at mineral surfaces: mechanisms and kinetics of dissolution and
precipitation reactions; macroscopic, spectroscopic, and modeling studies of sorption processes

SELECTED ACTIVITIES

2020 to present, member Swiss Commission for UNESCO.

2020 to present, co-Chair, SDSN Switzerland.

2019 to present, advisory committee member, IRGC Foundation Council.

- 2019**, member, Universities of Excellence Panel for the University of Tübingen, Germany.
2018, laureate, Clarke Water Prize
2018 to present, member, advisory board for Sustainability Research SCNAT (and Future Earth National Committee)
2018 to present, member, advisory board for td-net SCNAT
2018 to present Fellow, the Geochemical Society and European Association of Geochemistry
2017 – 2020 member, scientific advisory board, Ernst Strüngmann Forum, Frankfurt am Main, Germany
2017 to present Honorary Fellow, IHE Delft, the Netherlands
2017 to present, foreign member, Russian Academy of Natural Sciences
2016 – 2019 member, Swiss National Science Foundation Council.
2016 – 2020 President, ETH Women Professors Forum (2012–2016 Vice President)
2015 to present member, U.S. National Academy of Engineering
2015 recipient, IUPAC 2015 Distinguished Women in Chemistry or Chemical Engineering Awards, awarded at the 45th World Chemistry Congress, 9-14 August 2015, Busan, South Korea.
2010 to present member, Board of Reviewing Editors, *Science*.

SELECTED RECENT PUBLICATIONS

Papers in Professional Journals

- Biswakarma, J., Kang, K., Schenkeveld, W.D.C., Kraemer, S.M., Hering, J.G., and Hug, S.J. (2020) “Catalytic Effects of Photogenerated Fe(II) on the Ligand-Controlled Dissolution of Iron(hydr)oxides by EDTA and DFOB”, *Chemosphere*, <https://doi.org/10.1016/j.chemosphere.2020.128188>.
- Biswakarma, J., Kang, K., Schenkeveld, W.D.C., Kraemer, S.M., Hering, J.G. and Hug, S.J. (2020) “Linking Isotope-Exchange with Fe(II)-Catalyzed Dissolution of Iron (hydr)oxides in the Presence of the Bacterial Siderophore Desferrioxamine-B”, *Environ. Sci. Technol.* 54: 768-777, DOI: 10.1021/acs.est.9b04235
- Hering, J.G. (2019) “From slide rule to big data: the digital transformation in water science”, *J. Environ. Eng., ASCE*, 145(8): 02519001, [https://doi.org/10.1061/\(ASCE\)EE.1943-7870.0001578](https://doi.org/10.1061/(ASCE)EE.1943-7870.0001578).
- Hering, J.G. (2019) “Women as Leaders in Academic Institutions: Personal Experience and Narrative Literature Review”, *Pure App. Chem*, 91(2): 331–338, <https://doi.org/10.1515/pac-2018-0603>.
- Biswakarma, J., Kang, K., Borowski, S. C., Schenkeveld, W. D. C., Kraemer, S. M., Hering, J. G., & Hug, S. J. (2019). Fe(II)-catalyzed ligand-controlled dissolution of iron(hydr)oxides. *Environ. Sci. Technol.*, 53: 88-97. <https://doi.org/10.1021/acs.est.8b03910>
- Hering, J.G. (2019) “Drink safely with biomimetic nanotechnology” (News and Views), *Nature Nanotechnology*, 14(1): 5-6. DOI: 10.1038/s41565-018-0326-5.
- Hering, J.G. (2018) “Implementation Science for the Environment”, *Environ. Sci. Technol.*, 52: 5555–5560, <http://dx.doi.org/10.1021/acs.est.8b00874>.
- Senn, A.C., Hug, S.J., Kaegi, R., Hering, J.G. and Voegelin, A. (2018) “Arsenate co-precipitation with Fe(II) oxidation products and retention or release during precipitate aging”, *Water Research*, 131: 334-345.
- Hering, J.G., Katsoyiannis, I.A., Ahumada Theoduloz, G., Berg, M. and Hug, S.J. (2017) “Arsenic removal from drinking water: Experiences with technologies and constraints in practice”, *J. Environ. Eng ASCE*, DOI: 10.1061/(ASCE)EE.1943-7870.000122.
- Hoffmann, S, Pohl, C. and Hering J.G. (2017) “Methods and procedures of transdisciplinary knowledge integration: empirical insights from four thematic synthesis processes”, *Ecology and Society*, 22 (1):27, URL: <http://www.ecologyandsociety.org/vol22/iss1/art27/>.
- Hoffmann, S, Pohl, C. and Hering J.G. (2017) “Exploring transdisciplinary integration within a large research program: empirical lessons from four thematic synthesis processes”, *Research Policy*, <http://dx.doi.org/10.1016/j.respol.2017.01.004>.

- Senn, A.C., Kaegi, R., Hug, S.J., Hering, J.G., Mangold, S. and Voegelin, A. (2017) “Effect of aging on the structure and phosphate retention of Fe(III)-precipitates formed by Fe(II) oxidation in water”, *Geochim. Cosmochim. Acta*, 202: 341–360, <http://dx.doi.org/10.1016/j.gca.2016.12.033>.
- Hering, J.G. (2017) “Maintaining Trust and Objectivity in the Context of Use-Inspired Research” (letter to the editor), *Environ. Sci. Technol.* 51: 1054, DOI: 10.1021/acs.est.6b05825.
- Hering, J.G. (2016) “Do We Need More Research or Better Implementation through Knowledge Brokering?” *Sustainability Science*, 11:363-369 (published online June 2015) DOI: 10.1007/s11625-015-0314-8.
- Hering, J.G., Maag, S. and Schnoor, J.L. (2016) “A Call for Synthesis of Water Research to Achieve the Sustainable Development Goals by 2030” (Viewpoint) *Environ. Sci. Technol.* 50: 6122–6123, DOI: 10.1021/acs.est.6b02598.
- Hering, J.G., Sedlak, D.L., Tortajada, C., Biswas, A.K., Niwagaba, C. and Breyer, T. (2015) “Local perspectives on water” *Science*, 349:479-480, DOI: 10.1126/science.aac5902 (policy forum)
- Kunz, N.C., Fischer, M., Ingold, K., Hering, J.G. (2015) “Drivers and barriers towards municipal wastewater recycling: A review of previous approaches and directions for future research”, *Water. Sci. Technol.* DOI: 10.2166/wst.2015.496.
- Kunz, N., Fischer, M., Ingold, K., Hering, J.G., (2015) “Why do some water utilities recycle more than others? A Qualitative Comparative Analysis in New South Wales, Australia”, *Environ. Sci. Technol.* 49: 8287–8296, DOI: 10.1021/acs.est.5b01827.
- Hering, J.G., Dzombak, D.A., Green, S.A., Luthy, R.G. and Swackhamer, D. (2014) “Engagement at the Science–Policy Interface” (Viewpoint) *Environ. Sci. Technol.*, 48: 11031–11033, DOI: 10.1021/es504225t
- Tilley, E., Trande, L., Lüthi, C., Mosler, H.-J., Udert, K.M. Gebauer, H. and Hering, J.G. (2014) “Looking beyond technology: an integrated approach to water, sanitation and hygiene in low income countries” (Feature), *Environ. Sci. Technol.*, 48: 9965-9970, DOI: 10.1021/es501645d
- Hering, J.G., Waite, T.D., Luthy, R., Drewes, J., and Sedlack, D. (2013) “A Changing Framework for Urban Water Systems”, *Environ. Sci. Technol.*, 47: 10721-10726, dx.doi.org/10.1021/es4007096.
- Hering, J.G. and Eggen, R.I.L. (2013) “Interdisciplinary research to address societal issues” (perspective) *Environ. Sci. Technol.*, 47 :6730–6731, DOI: 10.1021/es402161g.
- Hering, J.G. and Ingold, K.M. (2012) “Water Resources Management: What Should Be Integrated?”, *Science*, 336: 1234-5. (policy forum)

Books and Chapters in Books

- Hering, J.G. (2020) “Fresh Water”, In: *Earth 2020: An Insider’s Guide to a Rapidly Changing Planet*, P.D. Tortell (Ed.), Cambridge: Open Book Publishers, pp. 221-229, <https://www.openbookpublishers.com/10.11647/obp.0193.pdf>.
- Hering, J.G. (2020) “Water: The Environmental, Technological and Societal Complexity of a Simple Substance. In: *Encyclopedia of Water: Science, Technology, and Society*, P. Maurice (Ed.), New York: Wiley, <https://doi.org/10.1002/9781119300762.wsts0038>
- Hering, J.G., Nunnemacher, L. and von Waldow, H. (2018) Perspectives from a Water Research Institute on Knowledge Management for Sustainable Water Management“ (2018) in *Handbook of Knowledge Management for Sustainable Water Systems*, (Series *Challenges in Water Management*), M. Russ (Ed.) Wiley, New York, pp. 13-33, <http://dx.doi.org/10.1002/9781119271659.ch1>.
- Hering, J.G. and Vairavamoorthy, K., “Harvesting Experience to Support Sustainable Urban Water Management” in *Assessing Global Water Megatrends*, A.K. Biswas, C. Tortajada and P. Rohner (Eds.), Springer, Berlin, pp. 61-75, https://doi.org/10.1007/978-981-10-6695-5_4.

Other Publications

- Hering, J. (2020) Why I do not have a 10-year plan for Eawag. *Voices of Eawag*, <https://www.voicesofeawag.ch/detail/why-i-do-not-have-a-10-year-plan-for-eawag/>
- Hering, J. (2020) Why I am co-Chair of SDSN Switzerland. *Voices of Eawag*, <https://www.voicesofeawag.ch/detail/why-i-am-co-chair-of-sdsn-switzerland/>.

- Hering, J. (2019). Counting is not enough - rediscovering the value of narrative. *Elephant in the Lab*. <https://doi.org/10.5281/zenodo.2562817>
- Hering, J.G. (2018) “Getting Water Research into Policy and Practice (GRIPP for Water)”, Clarke Prize lecture. National Water Research Institute (NWRI): Irvine, CA, 12 pp., <https://doi.org/10.5281/zenodo.1469682>.
- Hering, J.G. (2018) “Scientific publishing – why should academic research institutions be concerned?”, Open Science Framework Quick File, <https://osf.io/4an7c>.
- Hering, J.G. (2018) “Reconnecting academic research with societal needs through assessment”, Open Science Framework Quick File, <https://osf.io/kbcn2>.
- Hering, J.G. and von Waldow, H. (2017) Concept Note: Call for Management of Knowledge Relating to Freshwater and Sustainable Knowledge Management as a Public Good (version 2), <https://osf.io/28rhn/>.
- Hering, J.G. (2017) Water Data Portals: An Annotated List (versions 3 and 2: <https://osf.io/8mn3q/>; version 1: <https://doi.org/10.5281/zenodo.495080>)
- Hering, J., Thorleifson, H., van Geer, F., Verstraete, W. and Voss, V. (2015) “Scientific evaluation of programme area 2 Water resources (2007-2014) at the Geological Survey of Denmark and Greenland (GEUS)” Report 2015/27, GEUS, Copenhagen.
- Hering, J.G. (2014) “A virtual flood of information: open data for sustainable water management” Future Earth blog, <http://www.futureearth.info/blog/2014-aug-27/virtual-flood-information-open-data-sustainable-water-management>
- Hering, J.G. (2013) “Many paths to a common goal: water in context” Eawag Newsletter (online), http://www.eawag.ch/medien/publ/news/2013_na_01/01_e.pdf
- Hering, J.G. (2012) “An End to Waste?” (editorial) *Science*, 337: 623, DOI:10.1126/science.1227092.
- Hering, J.G. and Schnoor, J. (2011) “Eawag at 75” (comment) *Environ. Sci. Technol.* 45: 9115, DOI: 10.1021/es203291e.