RICHARD G. LUTHY, Ph.D., P.E., D.E.E., Member NAE, Fellow WEF
Department of Civil and Environmental Engineering
Stanford University, Stanford, CA 94305-4020

(a) Professional Preparation

University of California, Berkeley | Chemical Engineering | B.S. 1967
University of Hawai'i | Honolulu, HI | Ocean Engineering | M.S. 1969
University of California, Berkeley | Civil Engineering (Environmental Engineering) | M.S. 1974
University of California, Berkeley | Civil Engineering (Environmental Engineering) | Ph.D. 1976
Clarkson University | Potsdam, NY | Environmental Engineering | Honorary Sc.D. 2005

(b) Appointments

2000 - Silas H. Palmer Professor of Environmental Engineering, Dept. of Civil and Environmental Engineering, Stanford Univ.; Senior Fellow, Woods Institute for the Environment (2004 -16)
2003 – 09 Chair, Department of Civil and Environmental Engineering, Stanford University
1996 - 99 Thomas Lord Professor of Environmental Engineering, Carnegie Mellon University
1986 - 88 Associate Dean, Carnegie Institute of Technology, Acting Dean (6/1988-12/1988)
1975 - 99 Asst/Assoc/Prof., Dept. of Civil & Env. Eng., Carnegie Mellon Univ. (Dept. Head 1989-96)
Professional Engineer (Pennsylvania, License PE-24546E, expires 9/30/2017)

(c, i) Five products related to the project (out of 250)

1. Ismail, N.S., Tommerdahl, J.P., Boehm, A.B. and Luthy, R.G., "Escherichia coli Reduction by Bivalves in an Impaired River Impacted by Agricultural Land Use." 2016 *Environmental Science & Technology*, *50*(20), pp.11025-11033.
2. LeFevre, G.H., Portmann, A.C., Müller, C.E., Sattely, E.S. and Luthy, R.G., "Plant Assimilation Kinetics and Metabolism of 2-Mercaptobenzothiazole Tire Rubber Vulcanizers by Arabidopsis." *Environmental science & technology*, 2016. *50*(13), pp.6762-6771.DOI: 10.1021/acs.est.5b04716
3. Wolfand, J.M., LeFevre, G.H. and Luthy, R.G., 2016. "Metabolization and degradation kinetics of the urban-use pesticide fipronil by white rot fungus Trametes versicolor." *Environmental Science: Processes & Impacts*, *18*(10), pp.1256-1265.
4. Luthy, R.G., Sedlak, D.L., Plumlee, M.H., Austin, D., Resh, V., "Wastewater-effluent-dominated Streams as Ecosystem-management Tools in a Drier Climate," *Frontiers in Ecology and the Environ.,* 2015 13(9), pp 477-485
5. Luthy, R.G., Sedlak, D.L., "Urban Water-Supply Reinvention," *Dædalus,* Journal of the AAAS, special issue on water, 2015 144(3), pp 72-82

(c, ii) Five other significant products (out of 250)

1. LeFevre, G.H., Müller, C.E., Li, R. J., Luthy, R.G., Sattely, "Rapid Phytotransformation of Benzotriazole Generates Synthetic Tryptophan and Auxin Analogs in *Arabidopsis," Environmental Science & Technology* 2015 4 (18) pp 10959-10968.
2. Ismail, N.S., Dodd, H., Sassoubre, L.M., Horne, A.J., Boehm, A.B., Luthy, R.G., "Improvement of Urban Lake Water Quality by Removal of Escherichia coli through the Action of the Bivalve *Anodonta californiensis*," *Environmental Science & Technology* 2015 49 (3) pp 1664-1672.
3. Hering, J. G., Waite, T. D., Luthy, R. G., Drewes, J. E, Sedlak, D. L., "A Changing Framework for Urban Water Systems," *Environmental Science & Technology*, Cover Feature Article, 2013, 47 10721-10726.
4. Halaburka, B. J., Lawrence, Justin E., Bischel, H. N., Hsiao, J.*, Plumlee, M. H., Resh, V. H., Luthy, R. G.; "Economic and Ecological Costs and Benefits of Streamflow Augmentation Using Recycled Water in a California Coastal Stream." *Environ. Sci. & Technol*., 2013: 47, 10735-43.
5. Bischel, H. N., Simon, G. L., Frisby, T. M., Luthy, R. G. Luthy, "Management Experiences and Trends for Water Reuse Implementation in Northern California," *Environ. Sci. & Technol.*, 2012, 46 180-188.

d. Synergistic Activities (list five)

1. Professor Luthy's research advances scientific and regulatory views on water reuse, as well as environmental risk and management of persistent and bioaccumulative contaminants. This work has involved REUs, high school students, and high school teachers, as well as a long history of development and/or refinement of research tools, computation methodologies, and algorithms for problem-solving, and innovations to support sustainable water quality management.

2. Director of the NSF Engineering Research Center for Re-inventing the Nation's Urban Water Infrastructure (ReNUWIt), a four-university consortium that seeks more sustainable solutions to urban water challenges in the arid west, and which promotes the integration and transfer of knowledge as well as its creation. Through its Education and Outreach Program, ReNUWIt seeks innovations in teaching and training, e.g., development of curricular materials and pedagogical methods for technology diffusion.

3. Professor Luthy chaired the recent (2016) NRC study on the beneficial use of graywater and stormwater, and is a former chair and board member of the National Research Council's Water Science and Technology Board; these are examples of service to the scientific and engineering community outside of Stanford University.

4. Recent service to the National Academy of Engineering includes the Nominating Committee and chair of the Peer Committee for Civil Engineering, which provides service to the engineering profession.

5. Past President, Vice President and Board Member, Association of Environmental Engineering and Science Professors, an 850-member organization that strives for innovations in teaching, development of curricular materials, and contributions to the science of learning and development of research tools.

e. Collaborators & Other Affiliations

Collaborators and Co-authors (60 in past 48 months): D. Austin (CH2M-Hill), S. Bawazir (NMSU), A. Boehm (Stanford), E. Bizzotto (Environ), R. Borrelli (Eni, Italy), G. Breedveld (NGI, Oslo U), C. Criddle (Stanford), G. Cornelissen (Oslo U), J. Drewes (Tech U Munich), D. Dzombak (CMU), E. Eck (NGI, Oslo), W. Eisenstein (Berkeley), G. Emanuela (Eni), S. Fendorf (Stanford), O. Fringer (Stanford), T. Frisby (Hoover Inst.), W. Gala (Chevron), B. Giorgio (Eni, Italy), U. Ghosh (UMBC), S. Green (Mich Tech), A. Horvath (Berkeley) J. Hering (ETH), C. Higgins (CSM), T. Hoelen (Chevron), T. Hogue (CSM), A. Horne (Berkeley), J. Jasper (Cal Tech), J. Jasperse (SCWA), Z. Jones (CSM), N. Khandan (NMSU), S. Luoma (USGS), J. McCray (CSM), C. Menzie (Exponent), W. Mitch (Stanford), B. Michelle (Eni, Italy), S. Monismith (Stanford), E. Morganroth (ETH), K. Nelson (Berkeley), M. Nguyen (Berkeley), S.Nygren (OCWD), A. Oen (NGI, Oslo), E. Pavia (Berkeley), C. Patmont (Anchor-QEA), M. Plumlee (OCWD), D. Pettijohn (LADWP), E. Sattely (Stanford), D. Sedlak (Berkeley), J. Sharp (CSM), M. Skold (CSM), D. Silverman (CSM), J. Solis (NMSU),V. Resh (Berkeley), L. Sassoubre (U at Buffalo), B. Tanzy (NMSU), J. Thompson (USGS), R. Villegas (LADWP), M. Quigley (Opti RTC), D. Waite (UNSW, Aus.), D. Werner (Newcastle U), L. Zaninetta (Eni, Italy)

Graduate Advisor (1): R. Selleck (deceased; Berkeley)

Thesis Advisor and Postgraduate-Scholars (>60): Advisees, past 48 months: N. Ashoori (Stanford), H. Bischel (EPFL, Lausanne), J. Bradshaw (Stanford), Y-M Cho (Stanford), Y. Choi (Seoul Nat. U, Korea), H. Dodd (Dudek, Orange Co.), B. Halaburka (Stanford), C. Hsieh (Applied Materials), J. Hsiao (Berkeley), F. Hussain (MIT), N. Ismail (Smith College), E. Janssen (Eawag, Zürich), E. Kim (KRICT, Korea), J. Lawrence (AAAS Fellow), G. LeFevre (U of Iowa), D. Lin (SFEI), A. Lipsky (ETH, Zürich), L. MacManus-Spencer (Union Col.), R. Morgan (Landau, Seattle), C. Müeller (Lundbeck, Copenhagen), A. Oen (NGI, Oslo), C. Pritchard (Stanford), A. Portmann (ETH, Zürich), S. Spahr (Stanford), J. Thompson (Geosyntec), J. Tommerdahl (Stanford), J. Wolfand (Stanford), Yanwen Wu (Stanford), Z. Zhang (Stanford)