

CURRICULUM VITAE

Samuel A. Vigil, Professor Emeritus
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Education:

- Ph.D. University of California, Davis, California, Environmental Engineering, 1981.
- M.S. Texas A & M University, College Station, Environmental Engineering, 1974.
- B.S. University of California, Berkeley, Civil Engineering, 1969.

Registration And Certifications:

Registered Civil Engineer, No. 35624, California.
Board Certified Environmental Engineer, American Academy of Environmental Engineers (Solid Waste Management Specialization)
LEED Accredited Professional, U.S. Green Building Council

Experience - Professional And Teaching:

- 2009-Present Professor Emeritus, Environmental Engineering, California Polytechnic State University, San Luis Obispo, California. Part-time teaching assignments in sustainability, solid waste management, and environmental engineering design.
- 1982 - 2009 Professor, Civil and Environmental Engineering, California Polytechnic State University, San Luis Obispo, California. Teaching and research assignments in sustainability, solid waste management, water and wastewater treatment, and environmental engineering design.
- 1980 - 1982 Principal Engineer, Brown and Caldwell Consulting Engineers, Walnut Creek, California. Project engineer and project manager assignments on solid waste and energy recovery projects including a biomass fueled 20 MW power plant, preliminary design of a 5 MW pyrolysis system, various recycling projects, and landfill gas utilization studies.
- 1978 - 1980 Associate Development Engineer, Civil Engineering Department, University of California, Davis. Duties included the design, construction, and operation of a pilot scale co-gasification system for sludge and source separated solid waste.
- 1975 - 1978 Teaching Assistant, Civil Engineering Department, University of California, Davis. Teaching assignments included graduate and undergraduate laboratory classes in surveying, and wastewater treatment pilot studies.

- 1973 - 1974 Research Assistant, Civil Engineering Department, Texas A&M University. Duties included water quality monitoring of lakes, bays, and rivers, and preparation of environmental impact statements.
- 1974-1995 Commissioned Officer, U.S. Navy Civil Engineer Corps (reserve duty), Construction, and environmental engineering projects on U.S. Navy bases in the U.S., Europe, and Asia. Retired in 1995 with the rank of Commander.
- 1969 - 1973 Commissioned Officer, U.S. Navy (active duty). Electronics and communications assignments in Washington, D.C. and Puerto Rico.
- 1963-1967 Computer Operator, Lawrence Livermore National Laboratory. Part-time and summers. Operation of IBM and CDC mainframe computers.

Membership In Professional Societies:

Air and Waste Management Association
American Academy of Environmental Engineers
American Geophysical Union
National Society of Professional Engineers
Semiconductor Environmental Safety, and Health Association
U.S. Green Building Council

Honors And Awards:

Iraj Zandi Award, Journal of Solid Waste Management and Technology, Philadelphia, PA, "The award is given annually to an individual who has inspired and led students in their careers in the field of solid waste. Dr. Vigil is certainly such an inspiration. His textbook has been used by thousands of students worldwide and is generally considered the standard text in the field."
March 2011

Keynote Speaker, First International Symposium on Advanced Waste and Emission Management, Nagoya University, Nagoya, Japan, December 2000.

Best Architectural Research Project in 1998, "Energy Efficient Resource Recovery Project for Cal Poly State University", Architecture Magazine, April 1998 (with D. Panetta, D. Williams, R. Lang, et al).

Best Air Quality Paper, TAPPI 1998 Environmental Conference, "Evaluation of the EPA Recommended Approach to Predicting Air Emissions from Pulp and Paper Industry Landfills," (with R. Lang, et al)

Navy Commendation Medal, For meritorious service while serving as Environmental Program Manager of the Reserve Division, Naval Facilities Engineering Command. Established two Reserve Environmental Engineering Units which provided over \$1 million dollars of engineering

services to the Atlantic and Pacific Fleets in their first year of operation. Awarded December 1993.

Patents:

Vigil, S.A., and R.B. Spielman: "Method and Apparatus for Generating Electrical Energy from a Heated Gas Containing Carbon Particles," U.S. Patent Number 4,516,043 of May 7, 1985.

Books:

Tchobanoglous G., H.M. Theisen, and S.A. Vigil, Integrated Solid Waste Management: Engineering Principles and Management Issues, McGraw Hill, 1993, 978 pages. (Spanish translation published in 1995 by McGraw-Hill de Espana, Madrid; Japanese, Chinese, and Korean translations published in 1998 by McGraw-Hill International.)

Lang, R. J., and S. A. Vigil : "Civil and Environmental Engineering Design," Brooks – Cole Publishing (in press 2009).

Presentations and Conference Proceedings:

(Many are available for downloading at <http://works.bepress.com/svigil/>)

Vigil, S. A. , "Satellite Remote Sensing of Landfill Gas in Developing Countries," Proceedings of The Twenty-Sixth International Conference On Solid Waste Technology and Management, Philadelphia, PA, March 27-30, 2011.

Yesiller, N., Vigil, S.A., and Hansen, J.L., "Assessment of State Composting Regulations in the United States," Proceedings of The Twenty-Sixth International Conference On Solid Waste Technology and Management, Philadelphia, PA, March 27-30, 2011.

Vigil, S.A. and Bovensmann, H., The Measurement of Landfill Gas Emissions with the Orbiting Carbon Observatory and CarbonSAT Satellites, " Poster Presented at the 2010 Fall Meeting of the American Geophysical Union, San Francisco, CA, December 13 – 17, 2010.

Vigil, S.A. and Crisp, D. , "The Use of Data from the Orbiting Carbon Observatory to Measure Greenhouse Gas Emissions from Landfills," Proceedings of the 103rd Annual Meeting and Exhibition of the Air and Waste Management Association, Calgary, Alberta, Canada, June 2010.

Rupp, S.E. , and Vigil, S.A. , "Sustainability, Source Reduction, and Recycling Programs at New United Motors Manufacturing, Inc.," Proceedings of the 102nd Annual Meeting and Exhibition of the Air and Waste Management Association, Detroit, MI, June 2009.

Vigil, S.A. , "Development of a Laboratory Based Sustainability Course for Environmental Engineers," Proceedings of the 101st Annual Meeting and Exhibition of the Air and Waste Management Association, Portland, OR, June 2008.

Heinrichs, G, Vigil, S.A., et al, "Handbook of Guidelines : Ecology Meets Technology, Sustainable Technology Park", College of Architecture and Environmental Design, California Polytechnic State University, San Luis Obispo, 2006. (Chapters on Renewable Energy, Water Conservation and Wastewater Treatment, and Renewable Materials and Construction Waste Management)

Tsuji, A, Nelson, Y., Kean, A, and Vigil, S., "Recyclability Index for Automobiles," Proceedings of the 99th Annual Meeting and Exhibition of the Air and Waste Management Association, New Orleans, LA, June 2006.

Vigil, S. A., "Environmental Management of Wastes in the Semiconductor and Electronics Industries," Proceedings of the First International Symposium on Advanced Waste and Emission Management, Nagoya University, Nagoya, Japan, December 2000.

Vigil, S.A., and D. Zueck, "Environmental Applications of the Global Positioning System," Proceedings of the 92nd Annual Meeting and Exhibition of the Air and Waste Management Association, St. Louis, Missouri, June 1999.

Lang, R.J., Vigil, S.A., and Melcer, H, "Techniques for Modeling Hazardous Air Pollution Emissions from Landfills," Proceedings of the 91st Annual Meeting and Exhibition of the Air and Waste Management Association, San Diego, California, June 14-18, 1998.

Melcher, H., R. Lang, S. Vigil, and C. Maltby, "Evaluation of the EPA Recommended Approach to Predicting Air Emissions from Pulp and Paper Industry Landfills," presented at the 1998 TAPPI Environmental Conference, May 1998.

"Energy Efficient Resource Recovery Project for Cal Poly State University", Architecture Magazine, April 1998 (with D. Panetta, D. Williams, R. Lang, et al).

Cota, H.M., and Vigil, S.A., "Environmental Engineering Design," Proceedings of the 90th Annual Meeting and Exhibition of the Air and Waste Management Association, Toronto, Canada, June 8-13, 1997.

Vigil, S.A., S. Rupp, "Recycling and Pollution Prevention Programs at New United Motors Manufacturing, Inc., Fremont, California," Proceedings of the 89th Annual Meeting and Exhibition of the Air and Waste Management Association, Nashville Tennessee, June 23 - 28, 1996.

Mull, S. R., R. J. Lang, S.A. Vigil, H. Cota, "PC Windows Finite Element Modeling of Landfill Gas Flow, Proceedings of the 1996 National Waste Processing and NAWTEC-IV Waste-to-Energy Conference, American Society of Mechanical Engineers, New York, New York, 1996.

Vigil, S.A., "Development of a Graduate Integrated Waste Management Course Using the Case Study Approach," Proceedings of the 88th Annual Meeting and Exhibition of the Air and Waste Management Association, San Antonio, Texas, June 18-23, 1995.

Vigil, S.A., and G.M. Holter, "Application of Macro Material Flow Modeling to the Decision Making Process for Integrated Waste Management Systems," Proceedings of the 1995 International Conference on Solid Waste Management: Thermal Treatment and Waste-to-Energy Technologies, Washington, D.C., April 18-21, 1995.

Vigil, S.A., and G. Tchobanoglous, "Comparison of the Environmental Effects of Aerobic and Anaerobic Composting Technologies," Proceedings of the 87th Annual Meeting and Exhibition of the Air and Waste Management Association, Cincinnati, Ohio, June 19-24, 1994.

Heine, W.A., and S.A. Vigil, "The Naval Reserve Civil Engineer Corps Environmental Engineering Program," Proceedings of the 86th Annual Meeting and Exhibition of the Air and Waste Management Association, Denver, Colorado, June 13-18, 1993.

Vigil, S.A., and G. Tchobanoglous, "Development of Solid Waste Courses at the Undergraduate and Graduate Level," Proceedings of the 1992 National Waste Processing Conference, American Society of Mechanical Engineers, New York, New York, 1992.

Vigil, S.A., and H. Thiesen, "Graphical Integrated Waste Management Model for Puerto Rico," Proceedings of the 1992 National Waste Processing Conference, American Society of Mechanical Engineers, New York, New York, 1992.

Vigil, S. A., "Surabaya, Indonesia : Options in Solid Waste Management". Proceedings of the Second European Conference on Environmental Technology, Amsterdam, The Netherlands, June 22 – 26, 1987.

Vigil, S.A., and Zevely, J.A., "Microcomputer Solid Waste Financial Model," Proceedings of the 1986 National Waste Processing Conference, American Society of Mechanical Engineers, New York City, New York, 1986.

Tchobanoglous, G., N. Sorbo, and S.A. Vigil, "Thermal Gasification of Densified Sludge and Wastepaper" presented at the International Conference on Thermal Conversion of Municipal Sludge, U.S. Environmental Protection Agency, Hartford, Connecticut, March 21-24, 1983.

Davis, D.A., S.A. Vigil, and G. Tchobanoglous, "Evaluation of Residual Char from the Gasification of Solid Wastes as a Substitute for Powdered Activated Carbon," Proceedings of the Third Symposium on Biotechnology in Energy Production and Conservation, John Wiley & Sons, Inc. New York, 1981.

Ortiz-Canavate, J., S.A. Vigil, J. Goss, and G. Tchobanoglous, "Comparison of Operating Characteristics of 35 - kw Diesel Engine Fueled With Low Energy Gas, Biogas, and Diesel Fuel," Proceedings of the Third Symposium on Biotechnology in Energy Production and Conservation, John Wiley & Sons, Inc., New York, 1981.

Vigil, S.A., D.A. Bartley, R. Healy, and G. Tchobanoglous: "Operation of Packed Bed Gasifiers Fueled with Source Separated Solid Waste," Thermal Conversion of Solid Wastes and Biomass, American Chemical Society, Washington, D.C., 1980.

Bartley, D.A., S.A. Vigil, and G. Tchobanoglous: "The Use of Source Separated Paper as a Biomass Fuel," Proceedings of the Second Symposium on Biotechnology in Energy Production and Conservation, John Wiley & Sons, Inc., New York, 1980.

Research and Education Projects

Review of Waste and Material Handling Regulations for California. (2009 to 2010)
Funded by the California Integrated Waste Management Board. Co-PI.

Development of a "Handbook of Performance Driven Guidelines" for a Sustainable Technology Park for the Cal Poly Campus, San Luis Obispo. (2004 to 2005). Co-PI. Responsible for Chapters on Renewable Energy, Water Conservation and Wastewater Treatment, and Renewable Materials and Construction Waste Management.

Development of a Composting Best Practices Manual for California. (1999 to 2000) Funded by the California Integrated Waste Management Board. Co-PI.

Energy Efficient Resource Recovery Project for Cal Poly State University. (1997) Funded by the Renewable Energy Institute, California Polytechnic State University
Co-PI.

"Planning and Management For Municipal Solid Waste", Symposium and Professional Development Course, University College, Dublin, Ireland May 12-14, 1997 Co-PI and Instructor.

Solid Waste Management Problem Solving: Materials Recovery and Recycling Systems. A short course for California Integrated Waste Management Board Staff. Co-PI (December 1995)

Science and Technology Research Priorities for Waste Management in California, (1991 to 1992), Funded by the California Council on Science and Technology for the California Integrated Waste Management Board. Co-PI.

Development of a Microcomputer Model for Integrated Solid Waste Management. (1985 to 1986). Funded by the California Integrated Waste Management Board. Principal Investigator.