Vasilis M. Fthenakis

Senior Research Engineer and Scientist

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EDUCATION

New York University, New York, Ph.D. in Fluid Dynamics and Atmospheric Science, 1991.

(Thesis: Modeling of water spraying of toxic gas releases; with Victor Zakkay)

Columbia University, New York, M.S. in Chemical Engineering, 1978.

(Thesis: Modeling on the methanation of carbon monoxide; with John Happel.)

University of Athens, Greece, Diploma in Chemistry, 1975.

RESEARCH POSITIONS

Senior Chemical Research Engineer (1995-present); Research Engineer I (1987-1995); Research Engineer II (1980-1987):

Principal Investigator in environmental modeling and risk assessment projects. Current research focuses on environmental health and safety risk assessment, dynamics and control of accidental two-phase flow releases, consequence analysis, computational fluid dynamics, air pollution control, and atmospheric dispersion.

Dr. Fthenakis has gained worldwide recognition as an expert on mitigation of hazardous gas releases, participated in various industry expert panels and modeling committees and developed two-phase flow models and computer codes used by the industry and academia. These include: HGSPRAY (developed for ICHMAP, a consortium of 20 oil and chemical companies); SCRUB-BNL (developed for SEMATECH, a consortium of semiconductor industries); LOGADIS (in cooperation with the Belarus Academy of Sciences), and the new Fthenakis-Rohatgi model for predicting releases from large breaks in pressurized containers.

HONORS/AWARDS

EENS Scientific Excellence Award, 9/27/02; Fellow of the American Institute of Chemical Engineers, 2/2002; Certificate of Appreciation for EH&S services, DAS, Brookhaven National Laboratory, 11/27/96; Commendation from the Department of Energy (US-DOE) Assistant Secretary for Conservation and Renewable Energy, DOE for exemplary performance on safety analysis, 3/6/92; Commendation from the Director of the National Renewable Energy Laboratory (NREL) for safety analysis, 9/1/92.

INDUSTRIAL COLLABORATIONS

Safety and environmental consultant to ExxonMobil**,** Dow Chemical**,** 3M Corporation, CITGO, SEMATECH, Allied Signal, Amoco Oil, Amoco Chemical Co, Mobil Oil Co., ICHMAP, Eastman Kodak and Standard Microsystems Corporation

TEACHING

Columbia University, Earth and Environmental Eng. Dpt. /Henry Krumb School of Mines

Adjunct Professor (1997-present); Adjunct Associate Professor (1993-1996).

City College, CUNY, Civil Eng.. Dept

Adjunct Professor of Environmental Engineering (1996-1998); Adjunct Associate Professor (1992-1995)

EDITOR

Editorial Board of the Journal of Loss Prevention, 1998-present; Editorial Board of the Journal Progress in Photovoltaics Research and Applications, 1996-present; Editor of the newsletter "Fossil Energy and the Environment", 1991-1993.

FELLOW of the American Institute of Chemical Engineers (AIChE), **Member** American Chemical Society (ACS), American Meteorological Society (AMS), and the Semiconductor Safety Association (SSA).

AUTHOR

Author or co-author of more than 170 publications including the book **"Prevention and Control of Accidental Releases of Hazardous Gases**, Van Nostrand Reinhold, 1993. Some recent publications are listed below:

Fthenakis V.M. and Moskowitz P.D., Photovoltaics: Environmental, Safety and Health Issues and Perspectives, Progress in Photovoltaics: Research and Applications 8, 27-38, 2000.

Fthenakis V., End-of Life Management and Recycling of PV Modules, Energy Policy Journal, 28, 1051-1058, 2000.

Andrijievskij A, Fthenakis V.M., Loukashevich A, and Trifonov A., LOCADIS, A model and numerical code for simulating local aerosol dispersion, Journal of Loss Prevention, 14(1), 61-67, 2001.

Fthenakis V.M., Water Spray Systems for Mitigating Accidental Indoor Releases of Water-Soluble Gases, Journal of Loss Prevention, 14(3), 205-211, 2001.

Fthenakis V., A Release of Nitrogen Oxides in Bogalusa, Louisiana and Similarities of Causation to the Bhopal MIC Release, Journal of Loss Prevention, 14(4), 245-250, 2001.

Fthenakis V., Multilayer Protection Analysis for Photovoltaic Manufacturing Facilities, AIChE Process Safety Progress, 20(2), 1-8, 2001.

Morris S.C., Goldstein G.A. and Fthenakis V.M., NEMS and MARKAL-MACRO models for energy-environmental-economic analysis: A comparison of the electricity and carbon reduction projections, Environmental Modeling and Assessment, 7, 207-216, 2002.

Fthenakis V.M., Rohatgi U.S. and Chung B.D., A Simple Model for Predicting the release of Liquid-Vapor Mixture from a Large Break in a Pressurized Container, Journal of Loss Prevention, 16, 61-72, 2003

Lemley J., Fthenakis V. and Moskowitz P., Security Risk Analysis for Chemical Facilities, AIChE Process Safety Progress, in press.