Daniel M. Speyer, Curriculum Vitae

EDUCATION

B.E. 1967, M.E. 1969, Ph.D. 1973. NYU, Dept. Chemical Engineering, Bronx, NY.

UNIVERSITY EMPLOYMENT TEACHING (ADJUNCT PROFESSOR)

Cooper Union, Dept. Mechanical Engineering, New York, NY . . . . . 2001 to present
Bergen State Community College, Dept. Physical Sciences, Paramus, NJ . . . . 2005 to present
New York University, Mechanical & Aerospace Eng'ng Dept. and
General Eng'ng Dept., Brooklyn, NY . . . . . 2008 to present
Dept. Applied Science, New York, NY. . . . . 1983 to 1995
City College, BMCC, Department of Science; New York, NY. . . . . 2015 to 2016
City College, Dept. Mechanical Engineering, New York, NY 2001
Columbia University, Dept. Chemical Engineering, New York, NY . . . . . 1996 to 1998

For non-science majors, undergraduate courses in:

- -- meteorology (lecture and lab.)
- -- chemistry (lecture and lab.)
- -- astronomy (lecture and lab.)
- -- physics (lecture and lab.)
- -- (evolution of) stars, planets, and life
- -- energy

For engineering/applied science majors, undergraduate and graduate courses in:

- -- thermodynamics
- -- fluid dynamics
- -- heat transfer & mass transfer
- -- HVAC
- -- intro. to engineering and design
- -- nuclear power plant systems (mostly thermo-fluids)
- -- intro. nuclear engineering (mostly traditional nuclear)
- -- transport phenomena/boundary layer theory
- -- compressible flow (gas dynamics and gas-liquid HEM)
- -- design and analysis of thermal systems/heat exchangers

Authored (unpublished) textbooks in Thermodynamics and Nuclear Power (Nuclear Reactor Theory, Thermodynamics, Plant Systems).
Advisor for graduate independent study and member doctoral thesis committees.
Prepared Ph.D. qualifying exam questions in thermo-fluids.

NEW YORK UNIVERSITY (BRONX, NY) RESEARCH EMPLOYMENT

1969 to 1971 Assistant Research Scientist, Department of Aeronautics and Astronautics

Design high temperature and pressure regenerative air heater for Mach 10 wind tunnel.

1967 to 1969 Research Assistant, Department of Chemical Engineering,

Laboratory single crystal growth in silica gel, diffusion measurements, and mathematical solutions for time dependent diffusion.

1965 Undergraduate Summer Research Assistant, Department of Chemistry

Laboratory experiments for determination of organic oxidation mechanism. Isolation and identification of reaction products. (Standard laboratory techniques including thin layer chromatography, UV and IR spectroscopy.)

INDUSTRY EMPLOYMENT

1982 to 2014 Daniel M. Speyer, Ph.D. Consultant (sole proprietor) principally to electric power utility companies, New York, NY.

Analysis/computer program heat transfer, fluid flow, thermodynamics, instrumentation, statistics, etc. Experimental test program design, management and analysis. Equipment testing and evaluation.

1973 to 1982 Engineer/Senior Engineer/Project Manager/Group Leader: Nuclear Safeguards Engineer, Consolidated Edison Co. of New York, New York, NY.

Group leader responsible for analysis affecting safe operation of Indian Point Unit 2 nuclear power plant. Project leader in charge of Indian Point Unit 1 nuclear power plant in-house loss-of-coolant accident analysis and experimental test programs: two-phase heat transfer & counterflow flooding.

1972 to 1982 Part time consulting for/with thesis advisor Professor Robert Parker, New York University, Department of Chemical Engineering, Bronx, NY.

Develop methods and implement (computerize) methodology for liquified natural gas (LNG) safety analysis, and perform site specific analysis--includes calculation for cryogenic spill and resulting time dependent vapor generation rate, downwind dispersion, and radiation due to (plume) flame.

MAJOR INDUSTRY PROFESSIONAL ACTIVITIES

1979 to 1982 Chairman, Analysis Subcommittee of the Westinghouse Owners Group.

One of five electric utility company directors appointed after Three Mile Island nuclear accident. Direct, review and spokesperson to US NRC for safety analysis of all operating domestic Westinghouse nuclear power plants.

OTHER ACTIVITIES

2009 to present Bergen Stages Company Photographer, Bergen Community College.

Photograph in theater plays and dance/music events. Post process/prepare (w/ Adobe Camera Raw/ Photoshop) electronic images documenting same and fine prints for display.

(Lifelong) Four Seasons Outdoorsman

Mostly solo backpacking/light mountain climbing/canoe tripping. Also (for a decade) member and cook for Catskill Mountain Climbing Group.

LIST OF PUBLICATIONS

Speyer, D.M., et al, "*Better Estimate Analysis for Use in Emergency Operating Procedures During a LOCA,*" ASME 2010 3rd Joint US-European Engineering Summer Meeting, Montreal, August 2010.

Speyer, D.M., "*Single-Phase Natural Circulation Loops,*" Chapter 30 in Heat Transfer Calculations, McGraw-Hill Book Co., Myer Kutz (editor), 2005.

Sheppard, K., Speyer, D.M., et al., "*Analysis of Zircaloy Oxide Thickness Data from PWRs,*" NP-6698, EPRI Research Project 1250-18, February 1990.

(Author of) utility comments on "Pressurized Thermal Shock Evaluation of the H.B. Robinson Unit 2 Nuclear Power Plant," NUREG/CR-4183, ORNL/TM-9567/V2, Appendix K, 971-976, September 1985 (Prepared for Carolina Power and Light).

Speyer, D.M. and Kmetyk, L., "*Flooding in Multi-Channel Two-Phase Counterflow,*" l977 Winter Annual Meeting of the ASME, Atlanta Georgia, November 27 - December 2, l977, Publication No. H00l05, Nuclear Reactor Safety Heat Transfer, 55-62.

Speyer, D.M. and Parker, R.O., "*Heat Transfer and Pressure Loss for Baffled Heat Exchangers,*" VI Inter-American Congress of Chemical Engineering, Caracas Venezuela, July l975.

Speyer, D.M., doctoral dissertation "*Shell-Side Pressure Drop and Heat Transfer in Baffled Shell-and-Tube Heat Exchangers,*" May 1973.

Zakkay, V. and Speyer, D.M., "*A High Reynolds Number Facility for Operation at l0,000 psi and 3,500 °F,*" United States Air Force, Aerospace Research Laboratories, A.R.L. Report No. 7l-0084, May 1971.

Speyer, D.M., et al, Letter to the Editor "*Diffusion from Gels*," Journal of Chemical Education, August l969, 536. [Commented on/correct published solution for unsteady state diffusion.]

Speyer, D.M., et al, "*Growth of Single Crystals of Silver Halides in Silica Gels at Near Ambient Temperatures*," Nature, 216, l967, ll03-ll04.

Jerussi, R.A. and Speyer, D.M., "*Selenium Dioxide Oxidation of 5α-Adrostane-3, l7 Dione. The Stereochemistry of Dehydrogenation.*" The Journal of Organic Chemistry, 3l, l966, 3199-3203.