Frank Y.C. Huang

Department of Environmental Engineering

New Mexico Tech, Socorro, NM 87801

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EDUCATION

MSCEP in Chemical Engineering, 2001, MIT, Cambridge, MA

Ph.D. in Environmental Engineering, 1993, Vanderbilt University, Nashville, TN

M.S. in Environmental Engineering, 1989, Vanderbilt University, Nashville, TN

B.S. in Civil and Environmental Engineering, 1984, National Chung-Hsing University, Taiwan

EXPERIENCE

Advanced Inhalation Research, Inc., Controlled Release Group Cambridge, MA

Technical Consultant, Summer 2001

Studied the in vitro release profiles of different formulations.

Correlated the in vitro kinetics with in vivo pharmacokinetics.

General Mills, Inc., Engineering Division Buffalo, NY

Technical Consultant, Summer 2001

Investigated the fundamentals of particle segregation.

Optimized the production process to reduce product quality variation.

General Mills, Inc., Production Division Albuquerque, NM

Technical Consultant, Summer 2001

Studied the fundamentals of particulate adhesion.

Developed new processes to minimize ingredient loss.

Massachusetts Institute of Technology, Department of Chemical Engineering Cambridge, MA

Research/Teaching Assistant, 2000-2001

Participated in the feasibility study of using polymer-coated magnetic beads to enhance oxygen transfer in pharmaceutical fermentors.

Assisted the instruction of Fluid Mechanics.

New Mexico Tech, Department of Environmental Engineering Socorro, NM

Associate Professor (tenured), 1999-present

Assistant Professor, 1994-1999

Managed and Conducted research sponsored by Gaz de France, DOE, Sandia National Labs, Public Service Company of New Mexico, and City of Albuquerque (Total amount ~ $800,000).

Removal of arsenate from drinking water using semi-permeable membrane and ferric hydroxide adsorption.

Removal of hydrogen sulfide from natural gas using Chromatium vinosum and Chlorobium limicola

Catalytic decomposition of sulfur odorants using zero-valent iron

Removal of uranium from unsaturated soils using electrokinetics

Cometabolism of carbon tetrachloride and nitrate using denitrifying bacteria

Served as consultant to Public Service Company of New Mexico, US Park Services, Sandia National Labs, and Petroleum Recovery Research Center.

New Mexico Tech, Department of Petroleum and Chemical Engineering Socorro, NM

Adjunct Professor, 1995-present

Gulf Coast Hazardous Substance Research Center Beaumont, TX

Technical Assistant to the Director, 1993-1994

Reviewed proposals submitted to the center for funding.

Interacted with industries, EPA, and universities on innovative technologies.

Conducted research sponsored by Dow Chemical and EPA.

Assisted the organization of short courses, seminars, and conferences.

Served as the technical editor of Journal of Waste Management.

PUBLICATIONS

Brady, P.V., C.F.J. Colon, and F.Y.C. Huang, Soil Radionuclide Plumes, Soil Science Society of America, in press, 2001.

Huang, F.Y.C., K.Y. Li and C.C. Liu, "Treatability Studies of Groundwater Contaminated with Bis(2-chloroethyl) Ether," Environmental Progress, 18(1):55-59, 1999.

Huang, F.Y.C., "Development of an Influent Flow Monitoring and Autosampling System for On-Site Wastewater Treatment Systems in Bernalillo County, NM," the Small Flow Journal, 5(1):12-19, 1999.

Huang, F.Y.C., P. Brady, E. Lindgren, and P. Guerra, "Biodegradation of Uranium-Citrate Complexes: Implications for Extraction of Uranium from Soils," Environmental Science & Technology, 32:379-382, 1998.

Huang, F.Y.C., K.Y. Li, C.C. Liu, and Z.F. Liu, "Treatment of Groundwater Contaminated with Chlorinated Hydrocarbons," Chemical Oxidation: Technology for the Nineties, edited by W. Wesley Eckenfelder et al., Technomic Publishing Company, Inc., Lancaster, PA, 1997.

Li, K.Y., C.C. Liu, Q. Ni, Z.F. Liu, F.Y.C. Huang and J.A. Colapret, "Kinetic Study of UV Peroxidation of Bis(2-chloroethyl) Ether in Aqueous Solution," Ind. Eng. Chem. Res. 34:1960-1968, 1995.

Bourne, J.R., J. Cantwell, A.J. Broderson, B. Antao, A. Koussis, and F.Y.C. Huang, "Intelligent Hypertutoring in Engineering," Academic Computing, September 1989.

TECHNICAL REPORTS

Jhunjhunwala, M., C. Giurumescu, and F.Y.C. Huang, "In Vitro Release Method for Inhalation Aerosols Designed for Systemic Drug Absorption," a final report submitted to Alkermes, Inc., Cambridge, MA, 2001.

Chua, Y. and F.Y.C. Huang, "Marbit Addition Variation," a final report submitted to General Mills, Inc., Buffalo, NY, 2001.

Huang, F.Y.C., A. Colon, and B. Martens, "Particulate Adhesion Improvement," a final report submitted to General Mills, Inc., Albuquerque, NM, 2001.

Huang, F.Y.C., "Historical Case Analysis of 90Sr and 137Cs Plumes," a final report submitted to Sandia National Laboratories, New Mexico, 1999.

Huang, F.Y.C., "THT, Mercaptans and H2S Remediation," a final report submitted to Gaz de France, Paris, France, 1998.

Huang, F.Y.C., "A Literature Review of Alternative On-Site Liquid Waste Treatment and Disposal Systems," a final report submitted to the Bernalillo County Environmental Health Department, Albuquerque, New Mexico, 1998.

Huang, F.Y.C., "Impact of THT, Mercaptans, and H2S on Storage Operations," a final report submitted to the New Mexico Waste-Management Education & Research Consortium, 1997.

Huang, F.Y.C., P. Guerra, and W. Zachritz, "Influent Characterization of Alternative On-site Wastewater Treatment Systems in Bernalillo County, New Mexico", a final report submitted to the Environment Health Department of Bernalillo County, New Mexico, 1996.

Huang, F.Y.C. and W. Zachritz, "A Study Plan for Evaluation of On-site Wastewater Treatment and Disposal: Demonstration of Alternative Technologies", a final report submitted to the Environment Health Department of Bernalillo County, New Mexico, 1995.

PRESENTATIONS

Jhunjhunwala, M., C. Giurumescu, and F.Y.C. Huang, "In Vitro Release Method for Inhalation Aerosols Designed for Systemic Drug Absorption," Alkermes, Inc., Cambridge, MA, 2001.

Chua, Y. and F.Y.C. Huang, "Marbit Addition Variation," General Mills, Inc., Buffalo, NY, 2001.

Huang, F.Y.C., A. Colon, and B. Martens, "Particulate Adhesion Improvement," General Mills, Inc., Albuquerque, NM, 2001.

Huang, F.Y.C. and R.L. Lee, "Degradation of Ethyl Mercaptan in the Presence of Zero-Valence Iron," 4th Annual International Petroleum Environmental Conference, San Antonio, TX, 1997.

Huang, F.Y.C., R.L. Lee, B. Wear and P. Guerra, "Biodegradation of Tetrahydrothiophene and Mercaptans," 7th Annual West Coast Conference on Contaminated Soils and Groundwater, Oxnard, CA, 1997.

Huang, F.Y.C., "An Overview of Alternative On-site Wastewater Treatment and Disposal Systems," New Mexico Conference on the Environment, Albuquerque, NM, 1997.

Guerra, P., F.Y.C. Huang and B. Wear, "Pilot Testing and Modeling for the Design of Air Sparging Systems for Remediation of Petroleum Hydrocarbon Contaminated Soil and Groundwater: Pilot Testing for Effective and Safe Remediation," Third Annual International Petroleum Environmental Conference, Albuquerque, NM, 1996.

Huang, F.Y.C., W. Zachritz and, C. Cates, "Alternative On-site Wastewater Treatment Technologies: A Demonstration Plan," New Mexico Conference on the Environment, Albuquerque, NM, 1996.

Huang, F.Y.C., "Biological Removal of H2S from Natural Gas using Photosynthetic Bacteria," presented at the Department of Petroleum and Natural Gas Engineering, New Mexico Tech, Socorro, NM, 1996.

Huang, F.Y.C., "Biodegradation of Uranium-citrate Complexes: Its Implication in In-situ Electrokinetic Extraction of Uranium," presented at the Department of Civil Engineering, Case Western Reserve University, Cleveland, OH, 1996.

Huang, F.Y.C., "Biodegradation of Uranium-citrate Complexes," presented at the Department of Biology, New Mexico Tech, Socorro, NM, 1995.

Li, K.Y., C.C. Liu, Q. Ni, Z.F. Liu, F.Y.C. Huang, and J.A. Colapret, "Kinetic Study of Photo-oxidation of Bis(2-chloroethyl)ether in Aqueous Solution," Special Symposium - Emerging Technologies in Hazardous Waste Management, Atlanta, GA, 1994.

Huang, F.Y.C., K.Y. Li, C.C. Liu, and Z.F. Liu, "UV Peroxidation Process for Treatment of Groundwater Contaminated with Chlorinated Hydrocarbons," 207th ACS National Meeting on Remediation of Hazardous Waste Sites, San Diego, CA, 1994.

Huang, F.Y.C., K.Y. Li, C.C. Liu, Z.F. Liu, and P.H. Liu, "Treatment of Groundwater Contaminated with Bis(2-chloroethyl)ether," Fifth Annual West Coast Conference on Contaminated Soils and Groundwater, Long Beach, CA, 1994.

Speece, R.E. and Y.C. Huang, "Anaerobic process Treatment Alternatives," Second International Symposium - By Products from Biotechnology, Iowa State University, October 1991.

RESEARCH CONTRACTS

Historical Case Analysis of 90Sr and 137Cs Plumes, Sandia National Laboratories, 1999, $11,000 (PI).

THT, Mercaptans, and H2S Remediations, Gaz de France, 1996-1998, $95,000 (PI).

Evaluation of On-site Wastewater Treatment: Demonstration of Alternative Technologies, City of Albuquerque and Bernalillo County, New Mexico, 1996-1998, $267,846 (Technical Specialist).

Impact of THT in Storage Operations, Gaz de France, 1996-1998, $165,000 (Co-PI).

Impact of THT, Mercaptans, and H2S on Storage Operations, DOE-WERC, 1996-1997, $21,480 (PI).

Evaluation of Alternative Effluent Drainfields for On-Site Wastewater Treatment Systems, Bernalillo County, New Mexico, 1996-1997, $29,338 (PI).

Influent Characterization for Alternative Onsite Wastewater Treatment Systems in Bernalillo County, New Mexico, 1996, $23,594 (PI).

Development of a Study Plan for Evaluation of On-Site Wastewater Treatment and Disposal, City of Albuquerque and Bernalillo County, New Mexico, 1995, $29,529 (Project Technical Specialist).

Organically Enhanced In Situ Electrokinetic Removal of Uranium from Soils, Sandia National Labs, 1994-1996, $105,000 (PI).

Sequential Biological Treatment of Groundwater Contaminated with Carbon Tetrachloride and Nitrate, DOE-WERC, 1994-1995, $57,855 (PI).

SERVICE

Proposal reviewer of the DOD/AATDF program

Reviewer of ES&T and Journal of Environmental Engineering

Session Chair of the 207th ACS National Meeting

EPA’s SBIR Review Panel for In Situ Remediation

AWARDS/MEMBERSHIPS

Howard Stern Fellow, Department of Chemical Engineering, Massachusetts Institute of Technology, 2000-2001.

Teaching/Research Assistantships, Vanderbilt University, 1987-1992.

Taiwan Water Works Scholarship, 1980-1984.

Who’s Who in America.

Member, Sigma Xi.

Member, Tau Beta Pi.

Member, American Chemical Society (ACS).

Member, Association of Environmental Engineering and Science Professors (AEESP).