

## RESUME

### C. P. Huang, Ph.D., P.E.

Donald C. Phillips Professor

Francis Alison Professor

Department of Civil & Environmental Engineering

University of Delaware

Newark, DE 19716

Tel: (302) 831-8428

Fax: (302) 831-3640

E-mail: [huang@udel.edu](mailto:huang@udel.edu) <http://www.ce.udel.edu/directories/profiles.html?huang>

## EDUCATION

- |      |       |  |
|------|-------|--|
| 1965 | B. S. | National Taiwan University (Civil Engineering), Taipei, Taiwan                       |
| 1967 | M. S. | Harvard University (Environmental Engineering), Cambridge, MA, USA                   |
| 1971 | Ph.D. | Harvard University (Environmental Engineering-Aquatic Chemistry), Cambridge, MA, USA |

## EXPERIENCE

- |             |   |
|-------------|---|
| 2016-2019   | University Chair Professor, National Chiao Tung University  |
| 2016-2019   | Distinguished Visiting Professor; National Chung Hsing University   |
| 2009-2014   | Distinguished Chair Professor, National Taiwan University   |
| 2006-2016   | Chair Professor in Environmental Protection and Restoration, National Chung Hsing University                            |
| 2002 -      | Donald C. Phillips Professor of Civil and Environmental Engineering<br>University of Delaware, Newark, DE, USA          |
| 2001 - 2002 | Visiting Chair Professor, National Chiao Tung University, Taiwan  |
| 1996 - 2001 | Chairman, Department of Civil and Environmental Engineering<br>University of Delaware, Newark, DE, USA                  |
| 1995 - 1995 | Visiting Chair Professor, Graduate Institute of Environmental Engineering<br>National Taiwan University, Taipei, Taiwan |
| 1992 -      | Distinguished Professor of Environmental Engineering, University of Delaware, Newark, DE, USA                           |
| 1988-1989   | Visiting Professor, Graduate Institute of Environmental Engineering<br>National Taiwan University, Taipei, Taiwan       |
| 1981 - 1992 | Professor, Department of Civil Engineering, University of Delaware, Newark, DE, USA                                     |
| 1977 - 1981 | Associate Professor, Department of Civil Engineering, University of Delaware, Newark, DE, USA                           |
| 1974 - 1977 | Assistant Professor, Department of Civil Engineering, University of Delaware, Newark, DE, USA                           |
| 1973 - 1973 | Guest Lecturer, Department of Civil Engineering, Michigan State University, East Lansing, MI, USA                       |
| 1971 - 1974 | Assistant Professor, Department of Civil Engineering, Wayne State University, Detroit, MI, USA                          |

## REGISTRATION

State of Delaware, Professional Engineer No. 4851.

## AWARDS AND HONORS

- |      |   |
|------|---|
| 2017 | Lifetime Achievement Award, Chinese American Professors of Environmental Engineers and Sciences   |
| 2017 | Distinguished Lifetime Achievement Award, Chinese Institute of Engineering-USA  |
| 2016 | Fellow, Chinese Institute of Environmental Engineering  |
| 2015 | Special issues on "Environmental Nanotechnology and Sustainability in Water Treatment" (Eds. Virender K. Sharma and Ruey-an Doong), honored by the Journal of Separation and Purification Technology, Elsevier Publishing |
| 2014 | Symposium on "Thermodynamics and Kinetics of Treatment Processes" honored by the Division of Environmental Chemistry, August 10-14, San Francisco, CA   |
| 2014 | Distinguished Service Award, Chinese-American Professors in Environmental Engineering and Science (CAPES)   |

- 2012 Special Issue on “Advances in Research and Development of Sustainable Environmental Technology” (Eds. Chihpin Huang, Dionysios D. Dionysiou, Maohong Fan) honored by Journal of Environmental Engineering, American Society of Civil Engineers, March 2012 Vol. 138 No. 3
- 2012 Gordon Maskew Fair Award, American Academy of Environmental Engineers
- 2011 Top 25 most cited publications, Applied Catalysis, B. Environment
- 2010 Diplomate, American Academy of Water Resource Engineers
- 2009 Board Certified Diplomate, American Academy of Environmental Engineers
- 2009 Francis Alison Award, University of Delaware
- 2008 Graduate Advising and Mentoring Award, University of Delaware
- 2008 Wesley H. Horner Award, American Society of Civil Engineers
- 2005 Best Theoretical Paper Award, World Water and Environmental Resources Congress, American Society of Civil Engineers
- 1999 Gordon Maskew Fair Medal, Water Environment Federation
- 1996 Gold Medal Research Award for Life-time Achievements, Chinese Institute of Environmental Engineering
- 1995 Outstanding International Environmental Services Award, Overseas Chinese Environmental Engineers and Scientists Association
- 1994 Best Paper Award, Chinese Institute of Environmental Engineering
- 1994 Outstanding Researcher of the Year Award, Overseas Chinese Environmental Engineers and Scientists Association
- 1994 Author of “Citation Classics”  
Stumm, W., C. P. Huang, and R. S. Jenkins, “Specific Chemical Interactions Affecting the Stability of Dispersed Systems.” *Croat. Chim. Acta.*, 42:223-245, (1970)
- 1993 Outstanding Environmental Service Award, Overseas Chinese Environmental Engineers & Scientists Association
- 1990 Excellence in Service Award, Environmental Protection Bureau, Taiwan Provincial Government, Taiwan
- 1990 Excellence in Service Award, Environmental Engineering Division, American Society of Civil Engineers

## RESEARCH GRANTS

1971-1972; Wayne State University, Faculty Research Award, "Phosphate Removal by Alumina Adsorption", \$1,000 (PI)

1973-1974; Wayne State University Faculty Research Award, "Methane Production from Organic Wastes", \$7,000 (PI)

1974-1975; University of Delaware Research Foundation, "Oil Recovery from Refinery Wastewater", \$9,000 (PI)

1975-1978; National Science Foundation, "Chemical Processes in the Limnological Transformation of Dissolved Organic Nitrogen", \$64,000 (PI)

1976-1977; National Science Foundation, "Oil Weathering", \$24,000 (PI)

1976-1978; National Science Foundation, "Removal of Trace Metals from Municipal Sludge", \$5,600 (PI)

1976-1977; US Environmental Protection Agency, "The Development of an Activated Carbon Process for the Treatment and Disposal of Chromium(VI) Plating Industrial Wastewaters", \$37,000 (PI)

1978-1980; US Environmental Protection Agency, "The Development of an Activated Carbon Process for the Treatment of Cadmium Plating Wastewater", \$50,000 (PI)

1978-1981; National Science Foundation, "Chemical Interactions between Heavy Metals and Hydrous Solids. The Effect of Complex Formation", \$171,000 (PI)

1980-1982; US Environmental Protection Agency, "The Removal of Heavy Metals by Activated Carbon Process from Water and Wastewater", \$165,000 (PI)

1981-1984; National Science Foundation, "The Effect of Complex Formation on the Adsorption Behavior of Heavy Metals on Some Solid Particulates", \$104,000 (PI)

1983-1986; US Department of Interior, "Concurrent Removal of Toxic Substances from Groundwater by Activated Carbon Adsorption", \$42,000 (PI)

1984-1985; National Science Foundation, "Environmental Heavy Metal Chemistry Instrument Grant", \$35,000 (PI)

1984-1987; National Science Foundation, "The Kinetics of Metal Sulfide Oxidation in Heterogeneous Solutions", \$250,000 (PI)

1984-1985; University of Delaware Biomedical Research Program, "The Adsorption Characteristics of Heavy Metals onto Hydrous Hydroxyapatite", \$7,000 (PI)

1985-1988; Department of Interior, "The Photocatalytic Oxidation of Toxic Organic Substances", \$40,500 (PI)

1986-1989; US Geological Survey, "The Removal of Toxic Heavy Metals from Contaminated Groundwater and Specific Industrial Wastewater by Fungal Adsorption Process", \$167,791 (PI)

1989-1992; Department of Interior, "In-situ Treatment of Contaminated Groundwater by Electrochemical Oxidation Processes", \$50,000 (PI)

1989-1992; US Environmental Protection Agency, "Treatment of Organic Wastes by Photocatalytic Oxidation Processes", \$289,723 (PI)

1989-1990; Electric Power Partner, "Use of Power Plant Solid Residues for the Treatment of Metal Wastes", \$12,000 (PI)

1989-1991; US Environmental Protection Agency, "Environmental Chemistry of Metal Sulfide", \$176,713 (PI)

1990-1993; New Jersey Department of Environmental Protection, "The Fate and Transport of Inorganic Contaminants in New Jersey Soils", \$99,625 (Co-PI, PI: Herb Allen)

1990-1993; New Jersey Department of Environmental Protection, "Environmental Fate Investigation of Chromium Contamination", \$111,257 (PI)

1990-1991; Delaware Department of Transportation, "Impact of Traffic Development on Wetland Ecosystem", \$5,000 (PI)

1991-1992; US Environmental Protection Agency, "Workshop on Heavy Metal Speciation and Soil Contamination", \$35,000 (Co-PI; PI: Herb Allen)

1991-1993; Delaware State Research Partnership Program, "The Development of an Electrochemical Processes for In-situ Treatment of Surfactant Contaminated Aquifer", \$80,000 (PI)

1991-1993; Du Pont Chemical Company, "The Development of an Electrochemical Processes for In-situ Treatment of Surfactant Contaminated Aquifer", \$100,000 (PI).

1991-1992; Du Pont Chemical Company, "Remediation of TEL Contaminated Soils in C-Basin", \$40,000 (PI)

1991-1994; Delaware Department of Transportation, "Engineering Design of Wetland Protection Measures due to Highway Construction Operations", \$65,000 (PI)

1992-1993; Sara Lee Company, "Feasibility Study on the Treatment of Textile Industrial Wastewater by Fenton's Oxidation Process", \$18,000 (PI)

1993-1994; New Jersey Department of Environmental Protection, "Transport of Mercury and Arsenic in New Jersey Soils", \$65,000 (Co-PI; PI: Herb Allen)

1994-1997; Water Environment Federation Research Fund, "Rate and Equilibrium of Heavy Metal Uptake by Wastewater Particulates", \$250,000 (PI)

1995-1996; Maryland State of Environment, "Recovery of EDTA from Power Plant Washing Wastewater", \$75,000 (PI)

1996-1997; Delaware Solid Waste Authority, "Development of Technology and Education Program in Solid Waste Management", \$37,400 (PI)

1996-2000; Department of Energy, "Integrated Electro-kinetic Electro-Fenton (EKEF) Process for In-situ Soil Remediation", \$350,000 (PI)

1998-1999; Bureau of Reclamation, Department of Interior, "Treatment of Wastewaters for Water Reuse by a Catalytic Sonochemical Process", \$75,000 (PI)

1999-2000; Bureau of Reclamation, Department of Interior, "Treatment of Wastewater for Water Reuse by a Catalytic Sonochemical Process. Phase II", \$50,000 (PI)

1999-2000; Delaware Solid Waste Authority, "Development of Technology and Education Program in Solid Waste Management. Phase II", \$67,000 (PI)

2000-2003; New Jersey Department of Environment, "Separation of Naturally Occurring Colloid Particulates from Ground Water by Crossflow Electro-filtration (CFEF) Process for Improving the Analysis of Lead," \$140,000 (PI)

Tague Regional Industrial Waste Research Center, Korea, "Removal of Total Nitrogen in Agricultural Runoffs", \$30,000 (PI)

2001-2003; Department of Agriculture, US-Egypt Program, "Photocatalytic Process for the Treatment of Metal Containing Wastewater" \$25,000 (PI; Co-PI: Mohamed Barak)

2002-2003; National Science Foundation, "Electrically Assisted Tangential Flow Filtration for the Separation of Nano-sized Environmental Particles", \$90,000 (PI)

2002-2005; National Science Foundation, "Chemical Interactions of Selected Pollutant Molecules with Nanostructured Photocatalysts and Sensors", \$1,000,000 (Co-PI; PI: Shah, Ismat)

2002-2003; Tague Regional Industrial Waste Research Center, Korea, "Nano-sized TiO<sub>2</sub> Photocatalyst for the Control of Environmental Chemical Hazards", \$50,000 (PI)

2004-2007 US Environmental Protection Agency, "Short Term Chronical Toxicity of Nanomaterials toward Bacteria, Algae and Zooplanktons, \$370,000 (PI; Co-PI Dan Cha)

2005-2007 SERDP, "Removal of Perchlorate by Catalytic Hydrogen Membrane, \$450,000 (PI; Co-PI: Ismat Shah, Jinguang Chen)

2007-2010 Industrial Technology Research Institute, Taiwan, "Ecotoxicity of Nanomaterials", \$50,000 (PI)

2008 -2009 Federal Highway Administration, "Photoelectrochemical Generation of Hydrogen", \$100,000 (Co-I; PI: Prasad, A.J.)

2010- 2011 National Science Foundation, “The 6<sup>th</sup> International Conference on Sustainable Water Environment”, \$40,000 (PI)

2010-2011 US Environmental Protection Agency, “The 6<sup>th</sup> International Conference on Sustainable Water Environment”, \$15,000 (PI)

2010-2011 International Center, University of Delaware, “The 6<sup>th</sup> International Conference on Sustainable Water Environment”, \$23,000 (PI)

2010-2011 Delaware Institute of Environment, University of Delaware, “The 6<sup>th</sup> International Conference on Sustainable Water Environment”, \$20,000 (PI)

2010-2011 College of Engineering, University of Delaware, “The 6<sup>th</sup> International Conference on Sustainable Water Environment”, \$25,000 (PI)

2010-1012 Delaware Center of Transportation, “Impacts of Bird Droppings and Deicing Salts on Highway Structures: Monitoring, Diagnosis, Prevention”, \$25,000 (PI)

2010-2011 DE EPSCoR, “An Electrically-assisted Cross-Flow Filtration (EACF) for Studying the Chemistry of Pharmaceuticals and Personal Care Products (PPCPs) at the Surface of Aquatic Nano-particles”, \$50,000 (PI)

2010-2013 National Science Foundation, “Integrated Electrodialysis and Electrochemical Processes for the Removal of Perchlorate from Dilute Aqueous Solutions”, \$365,000 (PI; Co-PI: Ismat Shah)

2011-2014 Environmental Protection Agency, “Fate, Transport and Behavior of Engineered Nanoparticles in Municipal Wastewater Treatment Plants”, \$560,000 (PI; Co-PI Murray Johnston)

2014-2017 Delaware Water Resources Center, “Photoelectrochemical (PEC) Process for the Removal of Contemporary Organic Contaminants from Water”, \$141,000 (PI; Co-PI Ismat Shah)

2015-2017 KDE, Korea, “Removal of Fluoride from Industrial Wastewater”, \$85,000 (PI)

2016-2018, Cheong Ho Environmental Development Co., Korea, “High-performance red-mud-based composites for enhancing the removal of phosphorus in engineered wetland systems.” \$100,000 (PI)

2016-2020 National Science Foundation, “Collaborative Research and Education on Synergized Transformational solar Chemical Looping and Photo-ultrasound Renewable Refinery” \$5,999,113 (PI: Jerzy Leszczynski, Jackson State University; Co-PI: C. P. Huang, University of Delaware; Co-PI: Wei Yin Chen, Mississippi State University; Co-PI: Maohong Fan, Wyoming University)

## PATENTS

“Technology for the removal of ammonium from water”. Republic of China (Taiwan) patent, No. C02F101/16 (2006.01), issued 2019, November 1.

“Perchlorate ion permselective membrane”. US patent No. PCT/US2015/048060. Issued 2016 March 17.

## PUBLICATIONS

### A. Books

1981

1. **Industrial Waste** (Ed. C. P. Huang), Ann Arbor Science Publisher, Ann Arbor, MI, 1981.

1994

2. **Industrial and Hazardous Waste** (Ed. C. P. Huang), Technomics Publisher, Lancaster, PA, 1994.
3. **Heavy Metal Speciation and Soil Contamination** (Eds. H. E. Allen, C. P. Huang, G. Baily and A. R. Bowers), Lewis Publisher, Ann Arbor, MI, 1994.
4. **Aquatic Chemistry. Interspecies and Interphase Processes** (Eds. C. P. Huang, C. R. O'Melia and J. J. Morgan), Advances in Chemistry Series No. 244, American Chemical Society, Washington, DC, 1994.

2010

5. **Environmental Nanotechnology** (Eds. Maohong Fan, C. P. Huang, Alan E. Bland, Zhonglin Wang, and Ian Wright), Elsevier Science Publishers, 2010.

## 2012

6. **Technology for Sustainable Water Environment** (Eds. C. P. Huang and Herschel A. Elliot). Special Issue, Separation and Purification Technology, 84(9), Elsevier Publisher, 2012.

## B. Book Chapters

### 1976

1. Huang, C. P. The Electrical double layer of  $\gamma$ -Al<sub>2</sub>O<sub>3</sub> electrolyte interface. In **Colloid & Interface Science**, IV (Ed. Kerker, M. K.), Academic Press, Inc., pp 29-44, 1976.

### 1978

2. Huang, C. P. Solid-solution interface. It's role in controlling the chemical composition of natural waters. In **Transport Processes in Lakes and Oceans** (Ed. R. Gibbs), Plenum Press, pp 9-33, 1978.
3. Huang, C. P. Chemical interactions between inorganic and activated carbon. In **Carbon Adsorption Handbook** (Eds. P.N. Cheresiminoff and F. Ellerbush), Ann Arbor Science Publisher, pp 281-329, 1978.

### 1981

4. Huang, C. P. and P. Wirth. Treatability of Cd(II) plating wastewater by aluminosilicates. In **Industrial Waste** (Ed. C.P. Huang), Ann Arbor Science Publisher, pp 87-95, 1981.
5. Huang, C. P., A.R. Bowers, and G. Chin. Predicting the performance of a lime-neutralization/precipitation process for the treatment of some heavy metals-laden industrial wastewaters. In **Industrial Waste** (Ed. C.P. Huang), Ann Arbor Science Publisher, pp 51-62, 1981.
6. Huang, C. P. and E. H. Smith. Removal of cadmium (II) from plating wastewater by activated carbon process. In **Chemistry of Water Reuse** (Ed. W. Cooper), Ann Arbor Science Publisher, pp 355-412, 1981.
7. Huang, C. P. Surface acidity of hydrous solids. In **Adsorption of Inorganic at the Solid Liquid Interface** (Eds. M. Anderson and A. Rubin), Ann Arbor Science Publisher, pp 58-70, 1981.
8. Huang, C. P. and Y. T. Lin. Specific adsorption of Co(II) and Co(III)-EDTA complexes on hydrous surface. In **Adsorption from Aqueous Solution** (Ed. P. Tewari), Plenum Press, pp 61-91, 1981.

### 1986

9. Huang, C. P., Y.S. Hsieh, S.W. Park, M.O. Corapcioglu, A.R. Bowers, and H.A. Elliott. Chemical interactions between heavy metals and hydrous solids. In **Metal Speciation, Separation and Recovery** (Eds. J.W. Paterson and R. Passino), Ann Arbor Science Publisher, pp 437-465, 1986.

### 1990

10. Huang, C. P. and J. M. Tseng. Mechanistic aspect of the photocatalytic oxidation of phenol in aqueous solutions. In **Emerging Technologies for Hazardous Wastes** (Ed. W. Tedder), America Chemical Society, pp12-39, 1990.

### 1991

11. Tien, C. T. and C. P. Huang. Kinetics of heavy metal adsorption on sludge particulate. In **Heavy Metal in the Environment** (Ed. J. P. Vernet), Elsevier Science Publishers, pp313-328, 1991.
12. Tien, C. T. and C. P. Huang. Formation of surface complexes between heavy metals and sludge particulate. In **Heavy Metal in the Environment**, (Ed. J.P. Vernet), Elsevier Science Publishers, pp 295-311, 1991.
13. Huang, J. P., C. P. Huang and A.L. Morehart. Removal of heavy metals by fungal (*Aspergillus oryzae*) adsorption. In **Heavy Metal in the Environment** (Ed. J.P. Vernet), Elsevier Science Publishers, pp 329-349, 1991.

### 1994

14. Dong, C. D. and C. P. Huang. Photocatalytic degradation of 4-chlorophenol in TiO<sub>2</sub> aqueous suspensions. In **Advances in Aquatic Chemistry** (Eds. C.P. Huang, C. O'Melia and J.J. Morgan), Advances in Chemistry Series No. 244, pp 291-313, 1994.
15. Takiyama, M. M. K., C. S. Chiu, Y. C. Huang, C.P. Huang and H.S. Huang. The removal of priority pollutants from groundwater by advanced oxidation processes. In **Hazardous and Industrial Waste** (Ed. C. P. Huang), Technomics Publisher, Lancaster, PA, pp. 178-185, 1994.
16. Mioduski, K. A. and C.P. Huang. Oxidation of atrazine and its intermediates by Fenton's reagent. In **Hazardous and Industrial Waste** (Ed. C. P. Huang), Technomics Publisher, Lancaster, PA, pp. 194-204, 1994.
17. Terranova, N. and C.P. Huang. Reduction of THMF potential by Fenton's reagent. In **Hazardous and**

- Industrial Waste** (Ed. C. P. Huang), Technomics Publisher, Lancaster, PA, pp. 205-210, 1994.
18. Tang, W. Z. and C. P. Huang. Oxidation kinetics and mechanisms of 1,4-dichlorophenol by Fenton's reagent. In **Hazardous and Industrial Waste** (Ed. C. P. Huang), Technomics Publisher, Lancaster, PA, pp. 212-220, 1994.
  19. Jardim, W. F., R. M. Albericki, Takiyama M. M. K., and C.P. Huang. Gas phase photocatalytic degradation of trichloroethylene (RTCE) using UV/TiO<sub>2</sub>. In **Hazardous and Industrial Waste** (Ed. C. P. Huang), Technomics Publisher, Lancaster, PA, pp. 230-240, 1994.
  20. Ehrlich, R. S. and C.P. Huang. Remediation of soil contaminated by 2-chlorophenol and 2,4,6-chloropheno using supercritical fluid extraction. In **Hazardous and Industrial Waste** (Ed. C. P. Huang), Technomics Publisher, Lancaster, PA, pp. 472-479, 1994.
  21. Weng, C. H., Takiyama, L. R., and C. P. Huang. Electro-osmosis for the in-situ treatment of chromium-contaminated soil. In **Hazardous and Industrial Waste** (Ed. C. P. Huang), Technomics Publisher, Lancaster, PA, pp. 496-505, 1994.
  22. Shin. H. M. and C.P. Huang. The feasibility study of lead removal by soil washing. In **Hazardous and Industrial Waste** (Ed. C. P. Huang), Technomics Publisher, Lancaster, PA, pp. 506-513, 1994.
  23. Chen, N., G. M. Fu, and C.P. Huang. Sulfur recovery from caustic sodium sulfide industrial wastewater by electrochemical oxidation and electro dialysis processes. In **Hazardous and Industrial Waste** (Ed. C. P. Huang), Technomics Publisher, Lancaster, PA, pp. 585-594, 1994.
  24. Takiyama, L. R., A. Rossi, M. C. Hsu, C.P. Huang and H.S. Huang. Recovery of Fe(II)-EDTA from wet-scrubber liquid by electrochemical methods. In **Hazardous and Industrial Waste** (Ed. C. P. Huang), Technomics Publisher, Lancaster, PA, pp. 611-618, 1994.

#### 2000

25. Qiang, Z. M. J. H. Chang, D. Cha, and C. P. Huang. Oxidation of selected polycyclic aromatic hydrocarbons by the Fenton's reagent: Effect of major factors including organic solvent. In **Nuclear Site Remediation Technologies**. ACS Symposium Series No. 778. (Eds. William R. Heineman and P. Gary Eller). American Chemical Society, pp 187-210, 2000.
26. Chang, J. H., Z. H. Qiang, D. Cha, and C.P. Huang. Electro-osmosis flow rate: A semi-empirical approach. In **Nuclear Site Remediation Technologies**. ACS Symposium Series No. 778. (Eds. William R. Heineman and P. Gary Eller). American Chemical Society, pp 247-266, 2000.

#### 2001

27. Pamukcu, Sibel and C.P. Huang. In-situ remediation of contaminated soils by electrokinetic process. In **Handbook of Mixed Waste Management Technologies** (Ed. Chang Oh). CRC Press, pp 3.1-3 -3.1-39, 2001.

#### 2007

28. Huang, C. P., J. A. Yun, and S. W. Park, Removal of nitrate from water by a combination of metallic iron reduction and clinoptilolite ion exchange process. In **Zero-valent Iron Reactive Materials for Hazardous Waste and Inorganics Removal**. ASCE (Ed. Irene Lo), pp 167-197, 2007.

#### 2008

29. Ayca, E., D. Cha, Tseng, Y. H. and C. P. Huang. Growth and some enzymatic responses of *E. coli* to photocatalytic TiO<sub>2</sub>. Chapter 13. In **Applications and Implications of Nanotechnology** (Ed. V. Grassian), pp 319-344, 2008.

#### 2009

30. Minghua Li, Hong Ying Lin, and Chin Pao Huang. Nanotechnology structured catalysts TiO<sub>2</sub> nanoparticles for water purification. Chapter 3 in **Nanotechnologies for Water Environment Applications**, ASCE (Eds. Tian C. Zhang; Rao Y. Surampalli; Keith C. K. Lai; Zhiqiang Hu; R. D. Tyagi; Irene M. C. Lo), pp43-92, 2009.

#### 2010

31. Huang, C. P., Hsun-Wen Chou, Yao-hsing Tseng, and Maohong Fan. Responses of *Ceriodaphnia dubia* to photocatalytic nano-TiO<sub>2</sub> particles. Chapter 1 in **Environmental Nanotechnologies**, Elsevier Science Publishers Publisher (Eds. Maohong Fan, C. P. Huang, Alan E. Bland, Zhonglin Wang, and Ian Wright), pp 1-21, 2010.

### C. Refereed Articles

#### 1970

1. Stumm, W., Huang, C. P., Jenkins, R. S. (1970). Specific chemical interactions affecting the stability of dispersed systems. *Croat. Chim. Acta.*, 42:223-245 (1993 Classics of Citation).

**1972**

2. Huang, C. P., Stumm, W. (1972). The specific surface area of  $\gamma$ -Al<sub>2</sub>O<sub>3</sub>. **Surface Science**, 32(2): 287-296.

**1973**

3. Huang, C. P., Stumm, W. (1973). Specific adsorption of cations onto hydrous  $\gamma$ -Al<sub>2</sub>O<sub>3</sub> surface. **J. Colloid & Interface Science**, 43(2): 409-420.

**1974**

4. Huang, C.P., Ghadrian, M. (1974). Physical chemical treatment of paint industrial wastewater. **J. Water Pollution Control Federation**, 46(10): 2340-2346.

**1975**

5. Huang, C. P., Stumm, W. (1975). The removal of aqueous silica from dilute aqueous solution. **Earth & Planetary Science Letters**, 27(2): 265-274.
6. Huang, C.P., Wu, M. H. (1975). Chromium removal by activated carbon. **J. Water Pollution Control Federation**, 47(10): 2437-2446.
7. Huang, C. P. (1975). Adsorption of tryptophan onto calcium carbonate surface. **Environmental Letters**, 9(1): 7-17. (3)
8. Huang, C. P. (1975). Adsorption of phosphate at the  $\gamma$ -Al<sub>2</sub>O<sub>3</sub> electrolyte interface. **J. Colloid & Surface Science**, 53(2): 178-186.
9. Huang, C. P. (1975). Ion-pair formation in calcium carbonate equilibria. **Environmental Letters**, 10(4): 319-334.

**1976**

10. Huang, C. P. (1976). Discussion of the use of crushed limestone to neutralize acid waste. **J. Environmental Engineering**, ASCE, 102(1):223-227.
11. Stumm W., Huang, C.P. (1976). Spezifische adsorption von kationen an wasserhaltiges  $\gamma$ -Al<sub>2</sub>O<sub>3</sub>. **Colloid & Polymer Science**, 254 (8):746-446.

**1977**

12. Huang, C. P. (1977). Removal of heavy metals from industrial effluent. **J. Environmental Engineering**, ASCE, 103(3):520-522.
13. Huang, C. P. (1977). Removal of phosphate by powdered aluminum oxide adsorption. **J. Water Pollution Control Federation** 49 (8): 1811-1817.
14. Huang, C. P., Elliott, H.A., Ashmead, R.M. (1977). Interfacial reactions and the fate of trace metals in soil-water systems. **J. Water Pollution Control Federation**, 49(5): 745-756.
15. Huang, C.P., M. H. Wu (1977). The removal of chromium (VI) from dilute aqueous solution by activated carbon. **Water Research**, 11(8):673-679.
16. Huang, C. P., Elliott, H. A., Ashmead, R. M., Regeneration of activated carbon for the adsorption of chromium. **J. Water Pollution Control Federation**, 745-756.

**1978**

17. Huang, C. P., Ostovic, F. B. (1978). Removal of cadmium (II) by activated carbon adsorption. **J. Environmental Engineering**, ASCE, 104(5): 863-878. (118)
18. Huang, C. P. and A. R. Bowers (1978). Use of activated carbon for chromium(VI) removal. **Progress in Water Technology**, 10(5): 45-64.

**1979**

19. Elliott, H. A., Huang, C. P. (1979). The adsorption characteristics of Cu(II) in the presence of chelating agents. **J. Colloid & Interface Science**, 70(1): 29-45.
20. Elliott, H. A., Huang, C. P. (1979). The effect of complex formation on the adsorption characteristics of heavy metals onto solid surface. **Environmental International**, 2(3): 145-155.

**1980**

21. Elliott, H. A., Huang, C. P. (1980). The adsorption of some Cu(II)-amino complexes at the solid-solution interface. **Environmental Science & Technology**, 14(1): 87-93.
22. Bowers, A. R., Huang, C. P., Activated carbon processes for the treatment of chromium(VI)-containing industrial wastewaters. **Water Science & Technology**, 13(1):629-649.

**1981**

23. Elliott, H. A., Huang, C. P. The adsorption of Cu(II) complexes onto aluminosilicates. **Water Research**,



15(7): 849-855.

#### 1982

24. Huang, C. P., Wirth, P. K. (1982). Activated carbon for the treatment of cadmium (II) wastewater. **J. Environmental Engineering**, ASCE, 108(6):1280-1299.
25. Kao, J. F., Hsieh, L. P., Cheng, S. S., Huang, C. P. (1982). Effect of EDTA on cadmium in activated sludge systems. **J. Water Pollution Control Federation**, 54(7): 1118-1126.

#### 1983

26. Huang, C. P., Quist, G. C. (1983). The dissolution of a manganese ore in dilute aqueous solution. **Environmental International**, 9(5): 379-389.

#### 1984

27. Huang, C. P., Blankenship, D.W. (1984). The removal of mercury (II) from dilute aqueous solution by activated carbon. **Water Research**, 18(1): 37-46.
28. Huang, C. P., Fu, L. K. (1984). Treatment of arsenic (V)-containing water by activated carbon. **J. Water Pollution Control Federation**, 56(3): 233-242.

#### 1985

29. Elliott, H. A., Huang, C. P. (1985). Factors affecting the adsorption of complexed heavy metals on hydrous  $\gamma$ - $\text{Al}_2\text{O}_3$ . **Water Science Technology**, 17(6/7): 1017-1028.
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324. Thanh Binh Nguyen; Huang, C. P.; Doong, Ruey-an; Chen, Chiu-Wen; Dong, Cheng-Di. (2021). CoO-3D ordered mesoporous carbon nitride (CoO@mpgCN) composite as peroxymonosulfate activator for the degradation of sulfamethoxazole in water. **J. Hazardous Materials**, 401, doi: 10.1016/j.jhazmat.2020.123326
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#### INVITED KEYNOTE PRESENTATION

1. "Role of Advanced Oxidation Process (AOP) in Drinking Water Treatment: Recent Advances and Future Potential." The Third Mainland-Taiwan Conference on Drinking Water Safety Control Technology and Management. National Chao Tung University, Taiwan, September 25 2006
2. "Sonochemical Processes for the Removal of DPBs and Precursors in Water" The Second International Conference on Sustainable Water Environment, National Taiwan University, October 27 2007
3. "Wastewater Reuse for the High-Tech Industries" Institute of Industrial Technology Research, Taiwan, October 29, 2007
4. "Remediation of Harbor and Marine Sediments: An Overview" National Kaohsiung Marine Technology University, September 28, 2006
5. "Survival of Bacteria in the Presence of Photocatalytic TiO<sub>2</sub>", December 14-15, 2007
6. "Photoelectrochemical technology for the degradation of hazardous chemicals and concurrent hydrogen generation in water" The Fifth International Conference on Sustainable Water Environment. Seoul, Korea, July 27-29, 2009
7. "Photoelectrochemical process for the remediation of impaired water", 6<sup>th</sup> International Conference on Urban Watershed Management and Resource Utilization, Nan Chang University, Nang Chang, China, March 31-April 1, 2009
8. "Photoelectrochemical Processes for the Removal of Trace Organic Contaminants from Water", International Conference on Drinking Water, National Taiwan University, Taipei, April 27, 2009
9. "Recent Advances in Catalytic-Electrochemical and Photo-electrochemical Reactions for Water Purification and Beyond" Division of Environmental Chemistry, 248 National Meeting, American Chemical society, August 10-14, 2014. San Francisco, CA.
10. "Electrochemical and Photoelectrochemical Processes for Water Purification and beyond". Asian-Pacific Wastewater Treatment and Reuse Conference. National University of Singapore, Singapore, 2015.



11. "Crystal Defects and Visible-light Photoreactivity", Division of Environmental Chemistry. 250 Annual meeting, American Chemical Society, Boston, MA, 2015.
12. "Physics for Water Purification", 9<sup>th</sup> International Conference on Challenges in Environmental Sciences and Engineering, Kaohsiung University of Marine Technology, November 2016.
13. "The Principle of Physics for Water Purification" 12<sup>th</sup> International Conference on Sustainable Water Environment, Kaohsiung University of Marine Technology, November 2016.
14. "Physics for Water Purification Exemplified by Light, Sound, and Electricity", 28<sup>th</sup> National Conference of Chinese Society of Environmental Engineering, Chan'an University of Pharmacy, Tainan Taiwan, November 12, 2016.
15. "Electrocapilarity and Surface Acidity", Workshop on Water Reuse and Recycle, National Chao tung University, Shin Chu, Taiwan, November 24, 2016.

#### INVITED SEMINAR PRESENTATION

1. The Role of Phosphorus on the Eutrophication of the Great Lakes, Department of Civil Engineering, Michigan State University, March 1973.
2. Carbon Adsorption for the Treatment of Inorganic Chemical Wastewater, Union Carbide Co., April 1974.
3. The Removal of Inorganic Metals by Activated Carbon, Department of Civil Engineering, Stanford University, December 1975.
4. The Separation of Solid from Chemical Sludge, Du Pont Co., September 1976.
5. Heavy Metals in the Environment, Chemistry and Environment Committee, Delaware Section, Am. Chem. Soc., December 1976.
6. The Principles and application of Interfacial Phenomena to Water and Wastewater Treatment, Department of Environmental Engineering, National Cheng Kung University, January 1977.
7. The Principle and Application of Aqueous Chemistry, Department of Environmental Engineering, National Cheng Kung University, January 1977.
8. Adsorption Process for Heavy Metal Removal, Department of Civil Engineering, National Taiwan University, January 1977.
9. The Removal of Cadmium(II) by Activated Carbon Adsorption Process, Department of Civil Engineering, University of Rhodes Island, March 1978.
10. The Removal of Heavy Metals from Water by Activated Carbon, Swiss Institute of Water Resource and Pollution Control (EAWAG), Switzerland, September 1981.
11. The Adsorption Characteristics of Heavy Metals at the Hydrous Oxide Surface, Department of Geography and Environmental Engineering, The John Hopkins University, May 1984.
12. The Adsorption of Heavy Metals onto Hydrous Solids, Department of Environmental Engineering, National Cheng Kung University, December 1985.
13. The Removal of Heavy Metals by Activated Carbon, Institute of Chemical Engineering, Union Industrial Laboratory, December 1985.
14. The Effect of Organic Substances on the Adsorption Behavior of Heavy Metals by Hydrous Solid, Department of Civil Engineering, National Central University, December 1985.
15. Treatment Technologies for Heavy Metal Containing Wastes, Short Course on Toxic Waste Treatment, National Chung Hsing University, December 1985.
16. Specific Chemical Reactions at the Hydrous Solid-Electrolyte Interface, Department of Chemistry, University of Delaware, September 1986.
17. Treatment Technologies for Plating Wastes. State-of-the-Art, the 11th Modern Engineering Technology Seminar, Taipei, Taiwan, November 1986.
18. Management Alternatives for Plating Waste, the 11th Modern Engineering Technology Seminar, Taipei, Taiwan, December 1986.
19. Photocatalytic Oxidation of Organics, Department of Civil and Mining Engineering, University of Minnesota, Minneapolis, MT, March 1987.
20. Interface and Interfacial Properties, Workshop on Heavy Metals in the Environment: Effect, Fate and Control, National Chung Hsing University, Taichung, Taiwan, December 27-30, 1988.
21. Theories of Adsorption, Workshop on Heavy Metals in the Environment: Effect, Fate and Control, National Chung Hsing University, Taichung, Taiwan, December 27-30, 1988.
22. Modeling the Transport of Heavy Metals in Saturated Soil, Workshop on Heavy Metals in the Environment: Effect, Fate and Control, National Chung Hsing University, Taichung, Taiwan, December 27-30, 1988.
23. Control Strategies and Technologies for Heavy Metals, Workshop on Heavy Metals in the Environment: Effect, Fate and Control, National Chung Hsing University, Taichung, Taiwan, December 27-30, 1988.
24. Some Chemical Reactions at the CdS(s)-Water Interfaces, Institute of Environmental Studies, Drexel

- University, Philadelphia, PA, May 9, 1989.
25. Physical-chemical Treatment of Industrial Wastewater, Bureau of Environmental Protection, Taiwan, Republic of China, January 1990.
  26. Photocatalytic oxidation of Phenols, Graduate Institute of Environmental Engineering, National Taiwan University, Taipei, Taiwan, January, 1990.
  27. Technical Aspects of Transparency as a Regulatory Criterion for Specific Industrial Wastewater Effluent in the Republic of China, Bureau of Environmental Protection, Taiwan, Republic of China, January, 1990.
  28. Some Specific Chemical Interactions at the Solid-Water Interface, National Research Institute of Science, University of Quebec, April 1992.
  29. Use of Advanced Chemical Oxidation (AOP) for the Removal of Chlorinated Organic Compounds in Water, Department of Chemical Engineering, Drexel University, April, 1993.
  30. Future Trends in Environmental Engineering Research, Chinese Petroleum Company, August 1994.
  31. Advanced Chemical Oxidation Processes, National Chao Tung University, May 1995.
  32. Adsorption of Heavy Metals at Flyash Surface, National Cheng Kung University, July 1995.
  33. Advanced Chemical Oxidation Processes for the Treatment of Hazardous Wastes, Korea Institute of Environmental Research, Korea, May 1995.
  34. Removal of Hazardous Organics from Water by Advanced Chemical Oxidation, Hong Kong University of Science and Technology, Hong Kong, April 1995.
  35. Design and Operation of Sanitary Landfill, Taiwan Provincial Environmental Protection Bureau, Taipei, April 1995.
  36. In-situ Remediation of Heavy Metal Contaminated Soils, Taiwan Provincial Environmental Protection Bureau, Taipei, April 1995.
  37. Advanced Chemical Oxidation, Hong Kong University of Science and Technology, Hong Kong, May 1996
  38. *Cryptosporidium*: The Invisible Ooyst, National Institute of Environmental Research, Seoul, Korea, October 1998
  39. Fate and Transport of Heavy Metals in Municipal Wastewater Treatment Plant, Korea Institute of Science and Technology, October 1998.
  40. Recent Advances in AOP Technology, (Key Note) Korea Environmental Science and Technology Association, 1998 Annual Meeting, Taegu, Korea, October 1998
  41. Removal of Trace Contaminants from Water. Hercules Chemical Co., Travose, PA, April 2001.
  42. Advanced Chemical Oxidation Processes for the Removal of Organic Contaminants from Water, Department of Chemical Engineering, National Taiwan University, Taipei, Taiwan, 2002
  43. Opportunities and Challenges of Nanotechnology, Center of Environmental Health and Safety, Industrial Technology Research Institute, Hsin-chu, Taiwan, 2003
  44. Nanotechnology and the Environment, Department of Environmental Engineering, Dayeh University, Changhua, Taiwan, 2005.
  45. Nanomaterials and Nanotechnology: Opportunities in Environmental Engineering, Health and Safety, Industrial Technology Research Institute, Hsin-chu, Taiwan, 2005.
  46. Environmental Issues of Nanotechnologies. Research Center of Eco-Environmental Science, Chinese Academy of Science, Beijing, China, July 2005.
  47. Environmental Controversies. Department of Environmental Engineering, National Chung Hsing University, June 2006.
  48. Global Warming and CO<sub>2</sub>” Environmental Protection Administration, Taipei, August, 2006.
  49. Emerging Contaminants and their Control. Chung Hsina Consultant Engineering Co. Taipei, September, 2006.
  50. Nano-materials/Technology and the Environment. Ta-yeh University, August, 2006
  51. Nano-materials/Technology and the Environment. Department of Civil and Environmental Engineering, Iowa State University, IW, March, 2006.
  52. Sonochemical Process for the Removal of Selected Organic Compounds and Pathogens in Water. National Kaohsiung Polytechnic University, September, 2006.
  53. Survivals of Microorganisms when exposing to nano-photocatalytic TO<sub>2</sub>. Department of Civil and Environmental Engineering, March, 2006 Lehigh University, Bethlehem, PA
  54. Global Warming and Related Issues. Department of Civil and Environmental Engineering, National Kaohsiung University, July 2007.
  55. Environmental Applications and Implications of Nanotechnology. Department of Civil and Environmental Engineering, National Kaohsiung University, July 2007.
  56. Sonochemical Processes for the Control of Emerging Contaminants in Water. Department of Ecological Engineering, Yi-Sou University, Kaohsiung, Taiwan, July 2007.
  57. Removal of perchlorate from water by catalytic electro-reduction. National Kaohsiung University, Kaohsiung, Taiwan, June 2007

58. Research Trend in Sustainable Water Supply. Industrial Technology Research Institute, June 2007.
59. On the Rising Tide of Water Market. Industrial Technology Research Institute, June 2007.
60. Research Opportunities of Environmental Nanotechnology, Kaohsiung University, June 2007.
61. Environmental Photocatalysis. Department of Environmental Medicine and Environmental Science, National Chin Hua University, June 2007.
62. Research Needs toward Sustainability. National Chao-tong University, June 2007.
63. Global warming and its Impacts on Water Environment. Chinese Academy of Science, Beijing, China, November 2008.
64. Sonochemical Processes for the control of emerging contaminants. Nuclear Research Institute, Taiwan, 2008.
65. Remediation of Harbor Sediments for Reuse, Kaohsiung Harbor Administration, Taiwan, May 2008.
66. Photoelectrochemical technology for the degradation of hazardous chemicals and concurrent hydrogen generation in water. The Fifth International Conference on Sustainable Water Environment. Seoul, Korea, July 27-29, 2009.
67. Photoelectrochemical process for the remediation of impaired water. 6<sup>th</sup> International Conference on Urban Watershed Management and Resource Utilization, Nan Chang University, Nang Chang, China, March 31-April 1, 2009.
68. Photoelectrochemical Processes for the Removal of Trace Organic Contaminants from water. International Conference on Drinking Water, National Taiwan University, Taipei, April 27, 2009.
69. Interfacial phenomena and the next forty year. **Keynote**, Aquatic Chemistry Workshop. National Chung Hsing University, Taichung, Taiwan, October 4, 2010
70. Advanced oxidation for the remediation of impaired water. **Keynote**, Symposium Honoring Professor D. F. Yen, Department of Civil and Environmental Engineering, Southern California University, October 21, 2010.
71. Advanced Oxidation Processes for the Remediation Impaired Water, **Keynote**, International Conference on Advanced Oxidation Technology, Tung Hai University, June 27, 2010
72. Photoelectrochemical process for the remediation of impaired water, Graduate Institute of Environmental Engineering, National Chao Tung University, Hsin Chu, Taiwan, October 5, 2010
73. Climate change and Sustainable Water Environment, National Taiwan University, June 29, 2009.
74. Chemistry and the Water Environment: What Chemists Can Contribute to the Protection of the Water Environment?" Department of Chemistry and Biochemistry, November 23, 2010.
75. Advanced oxidation processes for the remediation of impaired water. Department of Civil and Environmental Engineering, University of California-Los Angeles, CA. October 22, 2010.
76. Treatment of Ammunition Wastewater Using Ultrasound-Fenton Process, Keynote, 2011 AICHE Annual Conference. Photo-Catalytic and Advanced Oxidation/Reduction Processes for Water Treatment, Minneapolis, MA October 18, 2011.
77. Water pollution technologies for the future, Institute of Industrial Technology Research, Taiwan, October 2011.
78. Advanced Oxidation Processes for the Reclamation of Impaired Water: Opportunities and Challenges. Keynote, 4th International Conference on Challenges in Environmental Science and Engineering, 25 - 30 September 2011, Tainan City, Taiwan
79. Responses of Aquatic Organisms to Engineered Nanoparticles: Effect of particle size and more, National Chung Kung University, Taiwan, September 26, 2011.
80. Solar energy for the purification/renovation of impaired water. 3th Conference on Green Sustainable Energy, Taipei, Taiwan, June 30, 2012.
81. Solar energy for the purification and renovation of impaired water. 8<sup>th</sup> International Conference on Sustainable Water Environment. Guilin, China, July 17-18, 2012.
82. Chemical Interactions at the Solid-Water Interfaces. Tong Ji University, July 10, 2012
83. Chemical Interactions at the Solid-Water Interfaces. Chung Qing University, Chung Qing, China, July 17, 2012.
84. Chemical Interactions at the Solid-Water Interfaces. Guilin University, July 20, 2012
85. Impacts of Nano-TiO<sub>2</sub> on Rhizobia-legume symbiosis, National Chao Tong University, December 17, 2014.
86. Impacts of Nano-TiO<sub>2</sub> on Rhizobia-legume symbiosis, National Kaohsiung University of Marine Technology, Kaosiung, Taiwan, December 14, 2014.
87. The issue of perchlorate and its control, National Chao Tung University, Shin Chu, Taiwan, 2016.
88. The Issue of perchlorate and its Control, National Chi Nan University, Shiuw Li, Taiwan, 2016.
89. The Principle of Physics and its Application in Water Purification and beyond, Institute of Green Technology, Chinese Petroleum Company, Kaohsiung, Taiwan, 2016.
90. The Principle of Physics and its Application in Water Treatment, Graduate Institute of Environmental

#### CONFERENCE PRESENTATION

1. Heterogeneous Metal Ion Buffers, 158th National Meeting, Am. Chemical Soc., New York, NY, September 1969.
2. The Adsorption Characteristics of Calcium Ions at  $\gamma$ - $\text{Al}_2\text{O}_3$ -Electrolyte Interface, Annual Meeting, Am. Geophysics Union, San Francisco, CA, December 1971.
3. The Specific Adsorption of Cations at the Solid-Solution Interface, 163th National Meeting, Am. Chemical Soc., Boston, MA, March 1971.
4. Specific Adsorption of Phosphate and Silicate at Hydrated Aluminum Oxide- Electrolyte Interface, 164th National Meeting, Am. Chemical Soc., New York, NY, March 1972.
5. The Role of Microorganism in Energy Conversion, Annual Meeting, Michigan Academy of Arts, Science and Letters, East Lansing, MI, April 1973.
6. The Regeneration of Activated Carbon for Chromium Removal, 31st Purdue Industrial Waste Conference, West Lafayette, IN, May 1975.
7. The Effect of Emulsion-Solid Interaction on Oil Weathering, Symposium on Modeling of Transport Mechanism in Ocean and Lakes, Environment Canada, Burlington, Ontario, Canada, October 1975.
8. The Fate of Trace Metals in Soil-Water Systems, Symposium on the Transport of Solute in Subsurface Water, Am. Geophysics Union, San Francisco, CA, December 1975.
9. The Electrical Double Layer of  $\gamma$ - $\text{Al}_2\text{O}_3$ -Electrolyte Interface, 50th International Conference on Colloid Science, Puerto Rico, June 1976.
10. Solid-Solution Interface. Its Role in Controlling the Chemical Composition of Natural Waters, Am. Institute of Chemical Engrs, Atlantic City, NJ, August 1976.
11. The Removal of Cadmium from Dilute Aqueous Solution, National Meeting, Am. Chemical Soc. New Orleans, LA, March 1977.
12. The Removal of Trace Metals from Municipal Sludge, the 11th Mid-Atlantic Regional Meeting, Am. Chemical Soc., Newark, DE, April 1977.
13. Adsorption Characteristics of NTA at Solid-Solution Interface, 51st Colloid & Surface Science Symposium, Grand Island, NY, June 1977.
14. The Kinetics of CdS Oxidation, Annual Meeting, Am. Soc. Limnology and Oceanography, Corpus Christi, TX, January 1978.
15. The Effect of Suspended Solids on the Microbial Uptake of Glycine, Annual Meeting, Am. Soc. Limnology and Oceanography, Corpus Christi, TX, January 1978.
16. The Use of Activated Carbon for Cr(VI) Removal, 9th International Conference on Water Pollution Research, Stockholm, Sweden, June 1978.
17. The Adsorption Characteristics of Cu(II) Complexes on Hydrated Oxides, 52nd Colloid & Surface Symposium, Knoxville, TN, June 1978.
18. The Removal of Heavy Metals from Municipal Sludge, 8th National Conference on Municipal Sludge Management, Miami, FL, March 1979.
19. The Effect of Turbulence on the Emulsification of Crude Oils, Workshop on the Physical Behavior of Oil in the Marine Environment, Princeton, NJ, May 1979.
20. The Treatment of Cd(II) Plating Wastewater by Activated Carbon Adsorption, National Conference on Environmental Engineering, Am. Soc. Civil Engrs, San Francisco, CA, July 1979.
21. The Adsorption Characteristics of Co(II) onto Hydrated Solids in the Presence of Chelating Agents, National Meeting, Am. Chemical Soc., Houston, TX, March 1980.
22. Activated Carbon Process for the treatment of Cr(VI) Containing Industrial Wastewater, 10th International Conference on Water Pollution Research, Toronto, Canada, June 1980.
23. Removal of Heavy Metal by Activated Carbon Adsorption Process, National Conference on Hazardous and Toxic Waste Management, New Jersey Institute of Technology, Newark, NJ, June 1980.
24. The Effect of Complex Formation on the Removal of Heavy Metals from Water and Wastewater, National Conference on Environmental Engineering, Am. Soc. Civil Engrs., New York, NY, July 1980.
25. The Chemical Behavior of Heavy Metals in Municipal Sludge, International Symposium on Environmental Pollution, Atlanta, GA, October 1980.
26. The Removal of Heavy Metals by Activated Carbon Process from Water and Wastewater, Some Preliminary Observations, U. S. Environmental Protection Agency, Seminar on the State-of-the-Art of Water Pollution Control, Cincinnati, OH, July 1981.
27. The Removal of Cd(II) and Hg(II) by Activated Carbon, National Conference on Environmental Engineering, Am. Soc. Civil Engrs, Atlanta, GA, June 1981.
28. Treatability of Cd(II) Plating Wastewater by Aluminosilicate Adsorption, 13th Mid-Atlantic Industrial

- Waste Conference, University of Delaware, Newark, DE, June 1981.
29. The Development of an Activated Carbon Adsorption Process for the Treatment of Cd(II) Plating Wastewater, International Conference on Heavy Metals in the Environment, Amsterdam, Netherlands (U.S. EPA Report, National Committee, IAWPCR), September 1982.
  30. The Fate, Effect and Control of Cd(II) in Activated Sludge, International Conference of Heavy Metals in the Environment, Amsterdam, Netherlands, September 1982.
  31. Specific Chemical Interactions between Complexed Heavy Metals and Hydrous Solids, 56th Colloid and Surface Science Symposium, VPI-Sate University, VA, July 1982.
  32. Treatment of As(V) Containing Wastewater by Activated Carbon Process, 55th Annual Conference, Water Pollution Control Federation, St. Louis, MO, October 1982.
  33. The Removal of Hg(II) from Water by Activated Carbon Process, National Meeting, Am. Institute of Chemical Engineers, Cleveland, OH, September 1982.
  34. Removal of Cu(II), Zn(II), Pb(II) and Ni(II) from Water by Activated Carbon, 56th Annual Conference, Water Pollution Control Federation, Atlanta, GA, October 1983.
  35. The Adsorption of Polyacetic Amino Acids at  $\gamma$ -Al<sub>2</sub>O<sub>3</sub>-Electrolyte Interface, National Meeting, Am. Chemical Soc., Seattle, WA, September 1983.
  36. The Adsorption of Pb(II) onto Hydrous Solids as Affected by Complex Formation Agents, International Conference on Heavy Metals in the Environment, Heidelberg, W. Germany, September 1983.
  37. The Removal of Cd(II) by Activated Carbon Adsorption as Affected by Complex Formation, International Conference on Heavy Metals in the Environment, Heidelberg, W. Germany, September 1983.
  38. The Removal of Co(II) by Activated Carbon, National Meeting, Am. Institute of Chemical Engrs, Philadelphia, PA, September 1984.
  39. The Removal of Heavy Metals by Activated Carbon Process from Water and Wastewater. In the Absence of Complex Formation, U. S. Environmental Protection Agency, Seminar on Adsorption, Cincinnati, OH, February 1984.
  40. The Adsorption Characteristics of Zn(II) on Aluminosilicates, National Meeting, Philadelphia, PA, September 1984.
  41. Factors Affecting the Adsorption of Complexed Heavy Metals on Hydrous  $\gamma$ -Al<sub>2</sub>O<sub>3</sub>, 12th Biennial International Conference, Association of Water Pollution Research, Amsterdam, Netherlands, September 1984.
  42. The Adsorption Characteristics of Ni(II) onto Hydrous Oxides as Affected by Complex Formation Agent, Water Symposium, Gordon Research Conference, New Hampton, NH, June 1984.
  43. The Adsorption Characteristics of Metal Ions onto Hydrous CdS(s) Surface, 58th Colloid and Surface Science Symposium, Potsdam, NY, June 1985.
  44. The Removal of Ni(II) by Bubbles, National Conference of Environmental Engineering, Am. Soc. Civil Engrs, Boston, MA, July 1985.
  45. The Oxidative Dissolution of Some Heavy Metal Sulfides by Dissolved Oxygen, National Meeting, Am. Chemical Soc. Chicago, IL, September 1985.
  46. A Overview on the Heavy Metal Removal Capacity of Heavy Metals by Activated Carbon, International Conference of Heavy Metals in the Environment, Athens, Greece, September 1985.
  47. Chemical Interaction between Cu(II) and Activated Sludge Particles, International Conference on Heavy Metal sin the Environment, Athens, Greece, September 1985.
  48. The Oxidation of CdS(s) by Oxidation, International Conference on Heavy Metals in the Environment, Athens, Greece, September 1985.
  49. Chemical Interactions between Some Heavy Metal Ions and Hydrous Solids, International Symposium on Heavy Metal Speciation, Separation and Recovery, Chicago, IL, July-August 1986.
  50. Chemical Reactions between Some Transition Metals and CdS(s), 17th Annual Meeting, Fine Particle Society, San Francisco, CA, July-August 1986.
  51. Photooxidative Dissolution of CdS(s) Particles in Water, 17th Annual Meeting, Fine Particle Society, San Francisco, CA, July-August 1986.
  52. The Adsorption Characteristics of Cd(II) by Fungal Surface, Chapman Conference on Microbial Processes in the Transport, Fate and In-Situ Treatment of Subsurface Contaminants, Snowtown, UT, October 1986.
  53. Chemical Interactions between Heavy Metals and Hydrous Solids, International Symposium on Metal Speciation, Separation and Recovery, Chicago, IL, July 1986.
  54. Anodic Dissolution of Lead Sulfide Single Crystal, Annual Meeting, Environmental Chemistry Division, American Chemical Society, New Orleans, LA, August 1987.
  55. Removal of Cadmium by Adsorption onto Fungal Biosorbent, Fine Particle Society, Boston, MA, July 1987.
  56. Adsorption of Heavy Metals onto Hydrous CdS(s), Chemistry for the Protection of Environment, Torino, Italy, September 1987.

57. Photocatalytic Oxidation of Phenols, Oak Ridge Associate University Model Conference, Oak Ridge, TN, September 1987.
58. The Removal of Cd(II) from Dilute Aqueous Solutions, International Conference on Water and Wastewater Microbiology, Newport Beach, CA, February 1988.
59. Photocatalytic Oxidation of Phenols, International Conference on Hazardous Wastes, Atlantic City, NJ, May 1988.
60. The Dissolution of Some Heavy Metal Sulfides in Aqueous Solutions, 63rd Colloid and Surface Sciences Symposium, State College, PA, June 1988.
61. Treatment of Thio Organic Compounds by Photocatalytic Oxidation with Semi-Conductor CdS, AIChE Summer Meeting, Philadelphia, PA, August 1989.
62. The Removal of Heavy Metals by Crab Shell Adsorbent, AIChE Summer Meeting, Philadelphia, PA, August 1989.
63. Modeling the Transport of Solutes in Saturated Soil-Water System: A Microcomputer Software Program" AIChE Summer Meeting, Philadelphia, PA, August 1989.
64. Adsorption of Some Heavy Metals onto Activated Sludge Particulate, 7th International Conference on Heavy Metals in the Environment, Geneva, Switzerland, September 1989.
65. Removal of Heavy Metals by Fungal Adsorption Process, 7th International Conference on Heavy Metals in the Environment, Geneva, Switzerland, September 1989.
66. Effect of Complex Formation on the Removal of Heavy Metals by Activated Carbon Adsorption Process, 20th Annual Meeting of the Fine Particle Society, Boston, MA, August 1989.
67. The Effect, fate, and Control of Heavy Metals in the Environment, Chinese Institute of Engineers-USA, Annual Meeting, New York, NY, November 1989.
68. Removal of Trace Heavy Metals by Adsorption onto Fly Ash, National Conference on Environmental Engineering, American Society of Civil Engineers, Washington, DC, June 1990.
69. Proton Competition in Cu(II) Biosorption by Fungal Mycelia, National Conference on Environmental Engineering, American Society of Civil Engineers, Washington, DC, June 1990.
70. Anodic Oxidation of Phenols in Dilute Aqueous Solutions, National Conference on Environmental Engineering, American Society of Civil Engineers, Washington, DC, June 1990.
71. Photocatalytic Oxidation of Organic Compounds by CdS, National Conference on Environmental Engineering, American Society of Civil Engineers, Washington, DC, June 1990.
72. Dissolution of Chromium from Contaminated Soils, Workshop on Speciation and Contamination of Soil, Jerkily Island, GA, May 1991.
73. Use of Fenton Reagent for the Oxidation of Chlorophenols, Fourth World Congress of Chemical Engineer, Karlsruhe, Germany, June 1991.
74. Electrochemical Oxidation of Phenols in Dilute Aqueous Solution, First International Symposium on Chemical Oxidation, Vanderbilt University, Nashville, TN, February 1991.
75. Photocatalytic Oxidation Process for the Treatment of Organic Waste, First International Symposium on Chemical Oxidation, Vanderbilt University, Nashville, TN, February 1991.
76. Removal of Chromium by Concrete Materials, AIChE National Meeting, Los Angeles, CA, August 1991.
77. Photocatalytic oxidation of Phenols by TiO<sub>2</sub> Photocatalyst, AIChE National Meeting, Los Angeles, CA, August 1991.
78. Treatment of Textile Industrial Wastewater by Continuous Flow Fenton Reagent Oxidation Process, International Symposium on Advanced Oxidation, Vanderbilt University, Nashville, TN, February 1992.
79. Removal of TEL from Contaminated Soil by Surfactant Extraction, AIChE National Conference, August 1992.
80. Removal of Phenols from Soil by Supercritical CO<sub>2</sub> Fluid, AIChE National Conference, August 1992.
81. Removal of Nitrate from Water by Iron Reduction, Annual Meeting, Fine Particle Society, Chicago, IL, August 1993.
82. Electro-Fenton Processes for the Treatment of Chlorinated Chemicals, AIChE National Conference, Denver, CO, August 1994.
83. Recovery of Fe(II)-EDTA from Wet Scrubber, 26th Mid-Atlantic Industrial & Hazardous Waste Conference, University of Delaware, July 1994.
84. The Removal of Priority Pollutants from Groundwater by Advanced Oxidation Process, 26th Mid-Atlantic Industrial and Hazardous Waste Conference, University of Delaware, July 1994.
85. Sulfur Recovery from Caustic Sodium Sulfide Industrial Wastewater by Electrochemical Oxidation and Electrodialysis Processes, 26th Mid-Atlantic Industrial & Hazardous Waste Conference, University of Delaware, July 1994.
86. Recovery of Ferrous-chelates from Wet-Flue Gas Scrubbing Solution by Electrochemical Methods, 26th Mid-Atlantic Industrial & Hazardous Waste Conference, University of Delaware, July 1994.
87. The Feasibility Study of Lead Removal by Soil-Washing, 26th Mid-Atlantic Industrial & Hazardous Waste Conference, University of Delaware, July 1994.

88. Remediation of Soil Contaminated by 2-Chlorophenol and 2,4,6-Chlorophenol Using Supercritical Fluid Extraction, 26th Mid-Atlantic Industrial & Hazardous Waste Conference, University of Delaware, July 1994.
89. Electro-osmosis for In-situ Treatment of Chromium-Contaminated 26th Mid-Atlantic Industrial & Hazardous Waste Conference, University of Delaware, July 1994.
90. Oxidation of Atrazine and Its Intermediates by Fenton's Reagent, 26th Mid-Atlantic Industrial & Hazardous Waste Conference, University of Delaware, July 1994.
91. Reduction of THMF Potential by Fenton's Reagent 26th Mid-Atlantic Industrial & Hazardous Waste Conference, University of Delaware, July 1994.
92. Oxidation Kinetics and Mechanisms of 2,4-Chlorophenol by Fenton's Reagent 26th Mid-Atlantic Industrial & Hazardous Waste Conference, University of Delaware, July 1994.
93. Gas-Phase Photocatalytic Destruction of Trichloroethylene (TEC) Using UV/TiO<sub>2</sub> 26th Mid-Atlantic Industrial & Hazardous Waste Conference, University of Delaware, July 1994.
94. The Removal of Chlorophenols by Electrochemical Oxidation 26th Mid-Atlantic Industrial & Hazardous Waste Conference, University of Delaware, July 1994.
95. In-situ Removal of Phenols from Contaminated Soil by Electro-Osmosis Process, 27th Mid-Atlantic Industrial & Hazardous Waste Conference, Lehigh University, July 1995.
96. Transport of Hexachromium in Porous Media, 27th Mid-Atlantic Industrial & Hazardous Waste Conference, Lehigh University, July 1995.
97. Control of Heavy Metals in Drinking Water, 2<sup>nd</sup> International Workshop on Drinking Water Quality Management and Treatment Technology, Taipei, Taiwan, March 1995.
98. Overview of Eutrophication, 3<sup>rd</sup> International workshop on Drinking Water Quality Management and Treatment Technology, Taipei, Taiwan, March 1996.
99. *Cryptosporidium* in Drinking Water. 4<sup>th</sup> International Workshop on Drinking Water Quality Management and Control Technology, Taipei, Taiwan, March 1997.
100. Surface Physical-chemical Characteristics of Sludge Particulates, Workshop on Environmental Laboratories: Moving Towards the 21<sup>st</sup> Century. Water Environment Philadelphia, PA, March 1997.
101. Treatment of Sanitary Landfill Leachate by Fenton Oxidation: A Pilot Plant Study, 30<sup>th</sup> Mid-Atlantic Industrial Waste Conference, Villanova University, July 1998.
102. Removal of Sulfur from coal by Sonochemical Oxidation. 30<sup>th</sup> Mid-Atlantic Industrial Waste Conference, Villanova University, July 1998.
103. Issues and Control of *Cryptosporidium* in Drinking Water, 6<sup>th</sup> International Workshop on Drinking Water Management and Treatment Technologies, Ta-yeh University, Taipei, March, 2000.
104. Interactions of anthropogenic polymers and surfactants in the environment: Effects on contaminant mobility. ACS National Meeting 2000.
105. Heavy Metals Interactions with Sludge Particulate, National Taiwan University, International Water Association, Specialty Conference on Sludge Management, March, 2001.
106. Water Hardness: Engineering Issues. 7<sup>th</sup> International Workshop on Drinking Water Quality Management and Treatment Technologies, Tam-Kiang University, Taipei, March 2001.
107. In-situ Treatment of Soils by Ozonation, International Conference on AOP, Toronto, Canada, June, 2001.
108. Inactivation of *Cryptosporidium* by Sonochemical Process, International Conference on AOP, Toronto, Canada, June, 2001.
109. Size Dependency of Nanocrystalline TiO<sub>2</sub> on its Optical Property and Photocatalytic Reactivity exemplified by 2-chlorophenol. National Meeting, American Chemical Society, San Diego, MAR 2005.
110. Preliminary Observations of Bacterial Responses to Photocatalytic Nano-TiO<sub>2</sub> Particles. National Meeting, American Chemical Society, San Diego, MAR 2005.
111. Effect of Photocatalytic TiO<sub>2</sub> on the Growth of Bacteria Exemplified by *E. coli*, Annual Meeting, Society of Environmental Chemistry and Toxicity, Baltimore, MD. October 2005.
112. Hydrogen Reduction of Perchlorate in Dilute Aqueous Solution, Partners in Environmental Technology Symposium and Workshop, Washington, DC, November 2005.
113. Sonochemical Treatment of Wastewater Effluents for the Removal of Pathogenic Protozoa Exemplified by *Cryptosporidium*. The First International Conference on Sustainable Water Environment. Taipei, Taiwan Nov. 2-4, 2005.
114. Removal of Perchlorate by Activated Carbon Adsorption, Partners in Environmental Technology Symposium and Workshop, Washington, DC, November 2005.
115. Sonochemical Process for the Removal of DBPS and Precursor in Water. The 2<sup>nd</sup> International Conference on Sustainable Water Environment. Taipei, Taiwan, Oct.30-Nov. 1, 2006.
116. Survival of Bacteria in the Presence of Photocatalytic Nano-TiO<sub>2</sub>. International Conference on the Environmental Implications and Applications of Nano-sized Materials. Taichung, Taiwan, Dec. 14-15, 2006.

117. Comparison of Four Different Methods Investigated for Perchlorate Reduction; 2006 Gordon Research Conference, New Hampshire, June 2006.
118. The Effect of Particle Size on the Toxicity of Photocatalytic Nano-TiO<sub>2</sub> toward *E. coli*; 2006 Gordon Research Conference, New Hampshire, June 2006.
119. Functionalizing Activated Carbon for Perchlorate Removal; 2006 Gordon Research Conference, New Hampshire, June 2006.
120. Toxicity Effect of TiO<sub>2</sub> to *Selenastrum capricornutum*: Effect of Particle Size; 2006 Gordon Research Conference, New Hampshire, June 2006.
121. Effects of Nanoparticle Size and Concentration on *Ceriodaphnia dubia*; 2006 Gordon Research Conference, New Hampshire, June 2006.
122. The Adsorption of Tetracycline onto Nano-Aluminum Oxides and Its Degradation by Fenton Oxidation Process; 2006 Gordon Research Conference, New Hampshire, June 2006.
123. Preparation of TiO<sub>2</sub> Thin Film by Pulsed Laser Deposition (PLD) Process and the Determination of Photocatalytic Reactivity using Direct Photoelectrochemical Measurements; 2006 Gordon Research Conference, New Hampshire, June 2006.
124. Mono-metallic Nano-Catalysts for the Reduction of Perchlorate in Water; NSTI 2006 Nanotechnology Conference, Boston, MA, May 2006.
125. Short-term Chronic Toxicity of Photocatalytic TiO<sub>2</sub> to Aquatic Organisms; NSTI 2006 Nanotechnology Conference, Boston, MA, May 2006.
126. Removal of Perchlorate at Low Concentrations by Chemical Methods with Catalysts; Marriot Wardman Park Hotel, Washington DC; SERDP/ESTCR: Partners in the Environmental Technology Technical Symposium and Workshop; November 28 - 30, 2006.
127. Huang C.P and Mahmudov R.H.; Wardman Park Hotel, Washington DC, SERDP/ESTCR:Partners in the Environmental Technology Technical Symposium and Workshop; November 28 - 30, 2006.
128. On the Opportunities of Nano-technology in Environmental Applications: A Realty Assessment and Future Potential. International Conference on the Applications and Implications of Nanotechnology. National Chung Hsing University, June 2007.
129. Chemical Reduction of Perchlorate in Dilute Aqueous Solutions. The 3<sup>rd</sup> International Conference on sustainable Water Environment, Sapporo, Japan, Oct. 24-25, 2007.
130. Photocatalytic Performance of Pulsed Laser Deposited TiO<sub>2</sub> Thin Films - Effects of Oxygen Vacancy, Phase Composition, and Energy Band Configuration. 81<sup>st</sup> Colloidal & Surface Science Symposium, American Chemical Society Meeting (ACS), Newark, DE June 2007.
131. Hydrogen Reduction of Perchlorate in Dilute Aqueous Solutions. 81<sup>st</sup> Colloidal & Surface Science Symposium, American Chemical Society Meeting (ACS), Newark, DE June 2007.
132. Adsorption of Nano-sized TiO<sub>2</sub> Particles onto Surface of Algae exemplified by *Pseudokirchneriella subcapitata*. 81<sup>st</sup> Colloidal & Surface Science Symposium, American Chemical Society Meeting (ACS), Newark, DE June 2007.
133. Gas Phase Perchlorate Reduction by Mono- and Bimetallic Catalysts Supported on Activated Carbon. 81<sup>st</sup> Colloidal & Surface Science Symposium, American Chemical Society Meeting (ACS), Newark, DE June 2007.
134. Ozone/Ultrasound Oxidation of Single-walled Carbon Nanotubes (SCNTs) in Water. 81<sup>st</sup> Colloidal & Surface Science Symposium, American Chemical Society Meeting (ACS), Newark, DE June 2007.
135. N-doped TiO<sub>2</sub> Photoanode for Solar Water Splitting. Integrative Graduate Education and Research Traineeship (IGERT) National Planning Meeting, Arlington, VA, 2007.
136. Bandgap Reduction of Titanium Dioxide by TiN Oxidation for Solar Hydrogen Generation. Center of Catalytic Science and Technology (CCST), University of Delaware, Newark, DE, 2007.
137. Aqueous Phase Oxidation of Single-Walled Carbon NanoTubes (SCNTs). Delaware EPSCoR UD Seed Poster Conference. January 2007.
138. Removal of Perchlorate from Water by Functionalized Activated Carbon Adsorption. International Symposium on Sustainable Water and Soil Environment. Taichung, Taiwan, January 10-11, 2008.
139. Global warming and its Impacts on Water Environment. Chinese Academy of Science, Beijing, China, November 2008.
140. Sonochemical Processes for the Control of Emerging Contaminants. Nuclear Research Institute, Taiwan, 2008.
141. Remediation of Harbor Sediments for Reuse, Kaohsiung Harbor Administration, Taiwan, May 2008.
142. Separation and Reduction of Low Concentration of Perchlorate Ion in Water by Integrated Electrodialysis and Catalytic Electrochemical Reaction. (P. Y. Wang, S.I. Shah and C.P. Huang). Mid-Atlantic Regional Water Conference. September 24-25, 2014. Shepherdstown, West Virginia.



143. The electrochemical reduction of nitrate over micro-architected metal electrodes with stainless steel scaffold. (Jenn fan Su, C. P. Huang) Mid-Atlantic Regional Water Conference. September 24-25, 2014. Shepherdstown, West Virginia.

## **TEACHING**

### **A. Wayne State University (1971-1974)**

- Thermodynamics (Undergraduate Requirement)
- Engineering System Analysis (Undergraduate Requirement)
- Sanitary Chemistry (Graduate)
- Sanitary Engineering Operation and Processes (Graduate)
- Industrial Waste Treatment (Graduate)
- Advanced Sanitary Engineering Laboratory (Graduate)
- Stream Sanitation (Graduate)
- Advanced Physical-Chemical Methods for Water and Wastewater (Graduate)

### **B. University of Delaware (1974- president)**

- Introduction to Civil Engineering (Freshman Requirement)
- Introduction to Environmental Engineering (Undergraduate Requirement)
- Water Supply Engineering (Undergraduate Elective)
- Industrial Waste Management (Undergraduate Elective)
- Industrial Ecology (Undergraduate Elective)
- Hazardous Waste Management (Undergraduate Elective)

Senior Design (Undergraduate Requirement)  
 Physical Aspects of Environmental Engineering (Graduate)  
 Chemical Aspects of Environmental Engineering (Graduate)  
 Water Quality and Pollution Control (Graduate)  
 Advanced Environmental Chemistry (Graduate)  
 Environmental Remediation Engineering (Graduate)  
 Industrial Ecology, Science and Technology of Sustainability (Undergraduate elective)

### TEACHING GRANT & AWARD

Nominee, Teacher of the year award, 1977, 1978, 2007.  
 Winter Session Program, Teaching Grant to develop a course on "Industrial Waste Management". 1982.

### MASTERS THESIS SUPERVISED

1976	Elliott, H. A.	The Effect of Naturally Occurring Particles on the Stability of Emulsified Oils
1976	Graham, W.S.	The Removal of Organic Matters from Dilute Aqueous Solution by Calcium Carbonate
1976	Ashmead, R. M	The Removal of Trace Metals from Sludge
1977	Ostovic, F.	The Removal of Cadmium(II) from Dilute Aqueous Solution
1977	Mulkey, E.	The Kinetics of Emulsification
1978	Quist, G.	The Dissolution of a Manganese Ore
1978	Jones, B. E.	The Kinetics of CdS(s) Oxidation by Oxygen
1978	Bowers, A. R.	The Treatment of Chromium(VI) Containing Wastewater by Activated Carbon Process
1979	Smith, E. H.	The Treatment of Cadmium Plating Wastewater by Activated Carbon Adsorption
1979	Kehrer, K. P.	The Effect of Suspended Particles on the Uptake of Organic Nitrogen
1980	Wittmer, S. C.	An Assessment of Polymer Conditioned Municipal Sludge Dewatering Characteristics
1980	Mongon, E.	The Removal of Cd(II) by Chemical Precipitation
1980	Wirth, P.	The Removal of Cd(II) from Cadmium Plating Wastewater by Adsorption Processes
1981	Wang, Y. T.	The Removal of Pb(II) from Dilute Aqueous Solutions
1982	Ferrell, D. P.	The Removal of Fine Coal Particles from Water by Floatation
1982	Rhoads, E. A.	The Removal of Zn(II) by Aluminosilicates as Affected by Complex Formation
1982	Boomhower, A.	The Treatment of Cadmium Plating Wastewater by Activated Carbon Process
1983	Fu, L. K. P.	The Removal of Arsenic(V) by Activated Carbon Process
1983	Liberati, M. R.	Heavy Metals Retention by Soil Components Affecting Selectivity
1983	Tsang, M. H.	The Removal of Co(II) from Water by Activated Carbon
1984	Baumgartner, R.	The Effect of Cd(II) and Its Complexes on the Growth Characteristics of Microorganisms
1984	Hsieh, Y.S.	Chemical Interaction on the Stability of Hydrous Solids
1984	Schulthess, C.	Adsorption Behavior of Ni(II) onto Clays and Its Related Minerals as Affected by Humic Acids

1985	Young, S. P.	Transport of Cadmium in Soils
1986	Tsang, C. M.	The Removal of Ni(II) from Water by Foam Separation
1986	Liu, B. W.	The Removal of Some Heavy Metals by Hydroxyapatite
1986	Johnson, G.	The Oxidation of Galena by Oxygen
1986	Davis, A. P.	Electrophotooxidation of Galena
1986	Dolan, S.	The Concurrent Removal of Toxic Heavy Metals and Organic Substances Activated Carbon
1987	Westman, D.	The Removal of Cd(II) by Fungi
1989	Quirk, K.	Fungal Reactors for the Treatment of Heavy Metal Containing Water and Wastewater
1989	Tasi, W. M.	A Computer Program for Equilibrium Aquatic Chemistry
1990	Weng, C. H.	The Removal of Heavy Metals by Fly Ash
1991	Chu, C. S.	Electrochemical Treatment of Toxic Organic Compounds
1992	Wang, H.W.	Reductive Removal of Nitrate from Water by Iron Reduction
1992	Ko, S.W.	Reactions Between Cr(VI) and Pyrite
1992	Giacomini, D.	Chemistry at the $As_2S_3(s)$ -Water Interface
1992	White, A.	Chemistry at the $ZnS(s)$ -Water Interfaces
1993	Flaherty, K.	Treatment of Sanitary Landfill Leachate by a Pilot Scale Fenton Process
1993	Terranova, N	Removal of Precursors and Disinfection By-products by Photocatalytic Oxidation
1993	Elk, M.	Mitigation and Assessment of Environmental Impacts on Wetlands due to Highway Constructions.
1993	Lin, Y.T.	REDOX Reactions between Chromium(VI) and Pyrite in Aqueous Solution
1993	Shug, E.	Environment Factors Affecting the Detection of VOC in the Soil
1994	Cheng, K.	Treatment of Dye Wastewater by Fenton Reagent
1995	Erich, R.	Removal of Chlorohydrocarbons from Soils by Supercritical $CO_2$ Extraction.
1995	Miodiouski, K.	Oxidation of Atrazine by Fenton' Reagent
1996	Huang, Y.C.	Removal of Organic Contaminants from Groundwater by Ultrasound
1996	Hsu, M.C.	Recovery of $Fe(II)$ -EDTA from Industrial Wastewater
1997	Alayian, M	Role of $Fe^{2+}$ in Fenton Process
1997	Takiyama, L. R.	Removal of Chlorophenols and Surfactant from Groundwater by Electro- osmosis Process
1997	Cheng, Lewis	Removal of Mixed Wastes by Electro-osmosis Process
1999	Pirestani, D.	Rate and Equilibrium of Silver Uptake by Sludge Particulates
2002	Lin, H. Y.	Enhancing Sludge Digestion by Sonochemical Treatment
2002	Chen, Y. T.	Separation of Nano-sized Particles by Crossflow Electrical Filtration
2002	Yun, J.	Removal of Total Nitrogen from Water by Combined $Fe$ -Reduction and Ion Exchange Process



2008	Chou, Hsuanwen	Toxicity of Nano-TiO <sub>2</sub> toward Daphnia
2008	Tsai, Jay	Removal of Selected Antibiotics from Water using AOPs
2008	Lin, M. Y.	Physical Chemical Interactions between Nano-particles and Algae
2011	Yeh, Yunda	Reduction of CO <sub>2</sub> by Electro-Photocatalytic Processes
2014	Shi Lu	PVDF-Graphene Conductive Composite Membrane and PVA-Graphene Conductive Composite Membrane Preparation and
	Yache Zhang	Nanoparticle Separation in Cross-flow Filtration by Introduction of Electrophoresis
	Xiesong Liu	Nano-magnetite Impregnated Dextrimer Particles for the Removal of Heavy Metals from Water
		Mechanistic Aspect of Electrochemical Signal in a Microbial Fuel Cell-based Biosensor
2015	Hao-Yun Lei	
2018	Ta-Chuan Tang	Removal of phosphate by hydroxyapatite adsorption
2019	Mu-Hsuan Hsieh	Removal of fluoride by Alumina-Fly ash composite

#### DOCTORAL THESIS SUPERVISED

1974	Wu M H	The Removal of Chromium(VI) from Dilute Aqueous Solution President Waste Minimization Corp. Taiwan
1979	Elliott, H. A.	The Adsorption of Cu(II) at the Solid-Solution Interface. Effect of Complex Formation Professor and Director, Environmental Resource Engineering, Pennsylvania State University, College Park, PA
1982	Bowers, A. R.	Adsorption Characteristics of Various Heavy Metals and the Oxide-Solution Interface: Effect of Complex Formation Professor, Department of Civil & Environmental Engineering, Vanderbilt University, Nashville, TN
1983	Corapcioglu, O.	Adsorption Characteristics of Cu(II), Zn(II), Pb(II) and Ni(II) onto Activated Carbon Surface in Dilute Aqueous Solution. The Effect of Complex Formation Director, State Environmental Laboratory, Texas Department of Environment, Gavelston, TX
1984	Kehrer, K. P.	Specific Chemical Interactions Affecting the Stability and the Dewaterability of Colloidal Aluminum Oxide Senior Manager, Armstrong Industry, Inc., Lancaster, PA
1987	Park, S. W.	The Chemistry of CdS(s)-Electrolyte Interface Dean, College of Environment, Kaiming University, Taegu, South Korea
1987	Tien, C. T.	Chemical Reactions Between Some Heavy Metal Ions and Sludge Particulate Division Chief, Division of Groundwater Discharge Permit Division, Maryland Department of Environment, Baltimore, MD
1987	Hsieh, Y. S.	The Mechanism of Photooxidation of CdS(s)

Professor, Department of Environmental Engineering, National Chung Hsing University  
 Chairman, Board of Director, Industrial Manufacturing Foundation, Taipei, Taiwan

- 1989     Davis A. P.     Photocatalytic Oxidation Reactions at the Cadmium sulfide/Water Interface  
 Chair Professor, Department of Civil Engineering and Director, Water Resource Center, University of Maryland, University Park, MD
- 1990     Lin I. C.     The Chemistry of CuS(s)-Electrolyte Interface  
 Vice President, National Taiwan University of Science and Technology, Taipei, Taiwan
- 1990     Huang C. P.     Adsorption Characteristics of Various Heavy Metals on Fungal Surface  
 Distinguished Professor, Graduate Institute of Environmental Engineering, National Chao Tung University, Shin-chu, Taiwan
- 1991     Tseng I. M.     The Photooxidation of Some Organic Chemicals by TiO<sub>2</sub>.  
 Senior Project Engineer, Formosa Plastic Company, Beaton Rouge, LA
- 1993     Tang, W. Z.     The Removal of Chlorinated Phenols by Photocatalytic Oxidation in the Presence of Hydrogen Peroxide  
 Professor, Department of Civil Engineering, Florida International University, Miami, FL
- 1993     Dono C. D.     Mechanisms of Photocatalytic Oxidation of Chlorohydrocarbons  
 Distinguished Professor, Department of Ocean Environmental Engineering, National Kaohsiung University of Sciences and Technology, Kaohsiung
- 1994     Weng C. H.     Transport and Transformation Mechanisms of Chromium(VI) in New Jersey Soils  
 Professor, Department of Ecological Engineering, Yi-So University, Kaohsiung, Taiwan
- 1995     Shin H. M.     In-situ Treatment of TCE Contaminated Soil  
 Professor, Department of Environmental Engineering, Kaijung University, Pu-Shan, Korea
- 1995     Chu C. S.     Electrochemical Oxidation of Surfactants  
 Chief Operation Officer, Young-Kuang Chemical Company, Taipei, Taiwan
- 1995     Takivama M.     Enhancing the Photocatalytic Efficiency by Surface Modification of TiO<sub>2</sub>.  
 Professor, Department of Environmental Chemistry; Dean of Graduate School, State University of St. Paul, Brazil
- 1996     McIntosh K.     Removal of Chromium by Electrokinetic Process  
 Senior Engineer, Geomatrix Consultants, New York
- 1997     Wang I. M.     Equilibrium Uptake of Heavy Metals by Sludge Particulates  
 Professor, Department of Civil Engineering, Missouri University of Science and Technology, Rolla, MO
- 1998     Takivama I.     Rate of Heavy Metal Uptake by Sludge Particulates  
 Director, Policy Department, Environmental Protection Agency, the Government of Brazil

1000 Chion H. I.

Treatment of Sanitary Landfill Leachate by Fenton Oxidation Process  
Director, Policy Coordination Division, Ministry of Environment, South Korea

- 2000 Kim, I. I. Sonochemical Oxidation of Polyaromatic Sulfur Compounds in Aqueous Solution  
Professor & Chairman, Department of Environmental Engineering,  
College of Environmental and Marine Sciences Technologies,  
Pukyon National University, Busan, Korea, 608-737, Korea
- 2000 Chang, J. H. Removal of Selected Nonionic Organic Compounds from Soils by  
Electrokinetic Process  
Professor, Department of Environmental Management, Chao Young  
University, Taiwan
- 2001 Myoda, S. P. Treatment of Secondary Effluents for the Removal of Residual BOD and  
the Inactivation of *Cryptosporidium*  
Vice President, Institute of Environmental Health Laboratories & Consulting  
Group, Lake Forest Park, WA 98155
- 2001 Qiang, Z. M. Electro-Fenton Oxidation Process for the Degradation of  
Polyaromatic Hydrocarbons  
Professor, Center of Eco-Environmental Sciences, Chinese Academy of Science,  
Beijing, China
- 2002 Sung, M. H. In-situ Treatment of Contaminated Soils by Ozonation  
Associate Professor, Department of Environmental Engineering, Tung  
Hai University, Taichung, Taiwan
- 2002 Hamideh, S. Removal of Phosphate from Aqueous solutions by Unconventional Adsorbents  
Associate Professor, Ruhr University-Rochum, Rochum, Germany
- 2003 Poesponegro, I. Chemical Interactions between Heavy metals and Aerobically Digested  
Sludge Particulates  
Self-employed
- 2003 Poesponegro, H. Chemical Interactions between Heavy Metals and Anaerobically Digested  
Sludge Particulates  
Self-employed
- 2004 Lin, Y. T. Partitioning of Lead in Groundwater by Nanosized Particulates  
Distinguished Professor, Department of Soil and Environmental Sciences,  
National Chung-Hsing University, Tai-Chung, Taiwan
- 2007 Muhmadov, R. Removal of Perchlorate by Integrated Activated Carbon Adsorption and Catalytic  
Reduction  
Engineer, Air Line, Newark, DE
- 2007 Wang, D. M. Catalytic Reduction of Perchlorate using Monometallic Nano-catalysts  
Research Associate, Department of Civil and Environmental Engineering,  
Missouri University of Science and Technology
- 2008 Lin, H. Y. Effects of Doping and Particle Size on the Photocatalytic Reactivity of TiO<sub>2</sub> Catalyst.  
EPI Engineer, Intel Company, Seattle, WA
- 2008 Erdem, A. Toxicity of TiO<sub>2</sub> Nano-photocatalyst toward Bacteria Exemplified by *E. coli*.  
Associate Professor, Akdeniz University, Antalya, Turkey



2009 Metzler D

Toxicity of TiO<sub>2</sub> Nano-photocatalyst to Algae and Algal Assemblies.  
Assistant Professor, Delaware State University

2009	Li, Minhua	Chemical Transformation of Carbon Nanotubes and Its Effects on the Adsorption Characteristics toward Selected Chemical Species of Importance to the Environment Engineer Nalco Co. Chicago, IL.
2015	Po Yen Wang	Functionalized Membranes for the Permselective Separation of Perchlorate and the Catalytic Electrochemical Reduction of Perchlorate to Chloride Under Ambient Conditions Assistant Professor, Department of Civil Engineering, Weidner University, Philadelphia, PA
2016	Jenn Fang Su	Catalytic Electrochemical Reduction of Nitrate in Dilute Aqueous Solutions toward High Nitrogen Selectivity, Assistant Professor, Department of Chemical and Material Engineering, Tamkang University, Taipei, Taiwan
2018	Ruimei Fang	Adsorption Characteristics of Ammonium and Phosphate onto Hydrous Biochar Research Associate, Quest Newark, DE
2018	Ching Lung Chen	Functionalized adsorbent and catalyst for the removal of oxyanions exemplified by fluoride and perchlorate. Chang Guan University of Science and Technology, Chung Li, Taiwan

#### POST-DOCTORAL RESEARCH SUPERVISED

1976 - 1978	Ho, A	The Adsorption of Dissolved Organic Nitrogen onto Calcite Self Employed
1979 - 1980	Lin, Y.T	The Adsorption of Co(II) onto Hydrous Solids Self Employed
1986 - 1989	Tokunaka, S	The Photooxidation of Mercury Sulfides Visiting Scientist, Department of Energy and Environment, Keimyung University, Korea
1991 - 1997	Fu, Guanmin	Electrochemical Processes for the Removal of Organic Compounds Research Associate, University of Houston
1999 -	Harry Zhang	Treatment Sanitary Landfill Leachate by Fenton Process Professor, Department of Environmental Science, Wu Han University, China
1999 - 2000	Y. H. Weng	Electrically Assisted Cross-Flow Filtration for the Separation of Nano-sized Particles Research Associate, Refinery and Manufacturing Research Center, Chinese Petroleum Co. Chia Yi, Taiwan
2008-2009	Allie Liao	Synthesis of TiO <sub>2</sub> Photocatalyst using Revers Phase Technique Research Associate, Resource Recovery Foundation, Taipei, Taiwan
2010 -	W. P. Hsieh	Fate and Transport of PPCPs at the Solid-Liquid Interface Research Associate, Water Resource Center, National Chao tong University, Hsinchu, Taiwan
2010 -	Ben Peng	Reduction of Carbon dioxide by Photocatalytic Thinfilms Associate Professor, Department of Environmental Engineering and Science, Tong Hai University, Taiwan

2012 -2013 Yu-Chi Lee. Degradation of perfluorooctanoic acid using catalytic electrochemical oxidation proses.

		Visiting Scientist, Graduate Institute of Environmental Engineering, National Taiwan University, Taiwan
2012 - 2013	Y Choi	Separation of nano-sized particles using electrophoretic filtration National Taiwan University, Taiwan
		Visiting Scientist, Department of Environmental Engineering Seoul University, South Korea
2013 - 2014	Y. J. Shih	Formation of Chlorine at the Metal-doped Carbon Electrodes National Cheng Kung University, Taiwan
2013 - 2014	Chia Chi Su	Disinfection of <i>E. coli</i> using Electrochemically Generated Chlorine Chia-Nan University of Pharmacology and Technology, Taiwan
2015 - 2016	Han Yu Chiu	Synthesis and Testing Perchlorate-permeable Membrane National Sun-Yat Sen University
2021 -	Thomas Lin	Separation of nanosized plastics particles from surface water National Cheng Kung University

### UNDERGRADUATE HONOR SENIOR THESIS SUPERVISION

1987	Vane, L.	The Enhanced Removal of Arsenate by Fe(II)-treated Activated Carbon (Chemical Engineering)
1989	Su, H.J.	The Removal of Heavy Metals from Water by Crab Shell Biosorbent, (Civil Engineering) 1990
	Felton, J.	The Development of Streaming Potential Detector for the Measurement of Zeta Potential of Aquosols (Chemistry)
2004	Brian Marieta	Determining the Sludge Dewaterability Using Automatic Filtration Device. (Environmental Engineering)
2005	Patrick Lorem	Development of Nano-cement Cornell University, NSF-Research Experience for Undergraduate Program
2011	Gregory Lavenburg	Effect of Bird Droppings on the Corrosion of Highway Structure
2011	Eric McGreny	Climate Change on the Solubility of Minerals

### SERVICE (University of Delaware)

#### A. Off-Campus

1982-1986	Associate Editor, Journal of Environmental Engineering, American Society of Civil Engineers.
1986-1990	Editor-in-Chief, Journal of Environmental Engineering, American Society of Civil Engineers. 1990 - 1995 Advisory Committee, Center of Pollution Control Technology, Industrial Technology Research Institute, Taiwan.
1990 - 1995	Advisory Member, Pollution Control Research Center, Industrial Technology Research Institute, Taiwan.
1990 - 1991	Member, Publication Committee, Program Committee, Chinese Society of Environmental Engineering, Taiwan.
1990 -	Panelist, National Science Council, Government of the Republic of China.
1990 -	Panelist, Research Proposal Review, Administration of International Development.
1994 -	Panelist, Research Proposal Review, Exploratory Research Program, Environmental Protection Agency.

1993 - Editorial Board, Journal of Chinese Society of Environmental Engineering, Taiwan.  
1993 Editorial Board, Industrial Park News, Taiwan.

1993 - Editorial Board, Pollution Prevention for Sustainable Development, Taiwan.  
1994 - Panelist, Research Proposal Review, Exploratory Research Program, Environmental Protection Agency.

1996 External Reviewer, Ph.D. Program, Department of Civil & Environmental Engineering, New Jersey Institute of Technology, Newark, NJ.

1996 Chair, Review Committee, Graduate Institute of Environmental Engineering, National Taiwan University.

1998 Program Review Committee, Department of Environmental Engineering, National Central University, Tao Yung Taiwan.

1999 - Advisory Committee, Department of Civil and Environmental Engineering, Lehigh University.

1999 Review Committee, Department of Nuclear Sciences, National Ching Hua University, Shin Chu, Taiwan.

2000- Editorial Board, International Journal of Applied Science and Engineering  
2001- 2005 Research Committee, Water Environment Federation

2004 American Water Works Association, Chesapeake Section, Research Committee

2003 -2006 Editor, International Journal of Applied Science and Engineering, Chaoyang University of Technology

2003 - 2006 Advisory Committee, Center of Environmental Health and Safety Technology, Industrial Technology Research Institute, Taiwan.

2004-2007 American Water Works Association, Chesapeake Section, Research Committee  
2005- Present Associate Editor, Practice Periodical of Hazardous, Toxic, and Radioactive Waste Management, ACCE

2005-2006 Editorial Board, Chinese Institute of Environmental Engineering 2006-  
Literature Review Committee, Water Environment Federation

2006- Chair, Advisory Committee, Center for the Study of Natural Hazards and Environment, National Chung Hsing University, Taichung, Taiwan

2006- Editorial Board, Frontiers of Environmental Engineering,  
2006-2010 Associate Editor, Science of the Total Environment

2007- Editorial Board, Frontier of Environmental Engineering and Science

2007-2010 Editorial Board, Environmental Engineering, Chinese Academy of Sciences

2008-2012 Associate Editor, Science of the Total Environment

2008- Member, President's Committee on University Affairs, National Chung Hsing University, Taichung, Taiwan

2008 Director, International Corporation Department, Environmental Pollution Control Key Program, He-Nan Province, China

2010- Member, Advisory Committee, Graduate Institute of Environmental Engineering, National Taiwan University, Taiwan

2010- Member, Advisor Committee, College of Atomic Science, National Ching Hua University, Taiwan

2011- International Advisory Committee, Center of Excellence in Environmental Science, King Abdulaziz University, Saudi Arabia

2011- Editorial Board, Journal of Environmental Protection, Science Research Publishing

2012 International Advisory Council, Chair, Center of Disaster Prevention and Environmental Engineering, National Taiwan University, Hsin Chu, Taiwan

2013-2015 Advisor, University Affairs, National Chung Hsing University

2013- Responsible Editor, Frontier of Environmental Engineering and Science

2014-2015 Editorial Board, Journal of Agriculture and Forestry, National Chung Hsing University

## **B. University**

1980 - 1984 Title XII Advisory Committee  
1981 - 1983 Research Committee  
1984 - Safety and Radiation Committee  
1984 - 1989 Promotion and Tenure Committee  
1985 - 1988 Faculty Grievances Ad Hoc Committee  
1993 - 1994 Faculty Honor Committee  
2003- 2008 Tenure and Promotion Committee

2000 - Advisory Committee, Institute of Soil and Environmental Quality  
 2007 Ad Hoc Committee on Investigation  
 2007-2008 College of Engineering Dean Search Committee  
 2009- Delaware Environment Institute: Council Member

### C. College of Engineering

1984 - 1985 Chairman, Promotion and Tenure Committee  
 1978 - 1979 Secretary, Faculty of Engineering  
 1984 Departmental Representative, College Goals Conference  
 1987 Departmental Representative, College Goals Conference  
 1994 Life-Long Education Committee  
 1993 -1994 Environmental Initiative Program  
 1999 - 2000 Chair, Search Committee, Chair of the Department of Electrical and Computer Engineering  
 2006-2007 Dean Search Committee, College of Engineering

### D. Department of Civil Engineering

1996 – 2001 Chairman, Department of Civil and Environmental Engineering  
 1984 - 1985 Chairman, Promotion and Tenure Committee, 1984 - 1985  
 1983 - 1984 Chairman, Graduate Committee, 1983 - 1984  
 1983 - 1984 Chairman, Faculty Search Committee  
 1988 - 1989 Chairman, Faculty Search Committee  
 1992 - 1994 Chairman, Faculty Search Committee  
 1985 – 1995 Chairman, Safety Committee  
 1983 - 1985 Chairman, Building Renovation Committee  
 1986 Chairman, Undergraduate Laboratory Committee  
 1984 Member, Chairman Advisory Committee  
 1994 - 1996 Member, Graduate Committee

### E. CONFERENCE ORGANIZATION

1984 Chairman, 13th Mid-Atlantic Industrial Waste Conference  
 1986 Chair, Environmental Protection Section, Modern Engineering Technology Seminar, Chinese Institute of Engineering, Taipei, Taiwan  
 1987 Chairman, Workshop on Heavy Metals in the Environment: National Chung Hsing University, Taichung, Taiwan  
 Co-Chair, Activated Carbon Technology, Fine Particle Society Annual Meeting, Boston, MA.  
 Section Chairman, 7th International Conference on Heavy Metals in the Environment, Geneva, Switzerland  
 Co-Chairman, Symposium on Adsorption of Pollutants from Water and Wastewater, Fine Particle Society National Meeting, San Diego, CA.  
 Co-Chairman, Symposium on Novel Separation and Destruction of Hazardous Pollutants from the Liquid Phase Using Physical and Chemical Techniques, Forth World Congress of Chemical Engineers, Karlsruhe, Germany  
 Co-Chairman, Symposium on Advanced Oxidation Processes, AICHE Summer Meeting, Pittsburgh, PA.  
 Co-Chairman, Symposium on Advanced Oxidation Processes, AICHE National Meeting, San Francisco, CA.  
 Co-Chairman, Aquatic Chemistry Symposium, American Chemical Society, San Francisco, CA.  
 Co-Chairman, Total Treatment of Soils, American Institute of Chemical Engineering, Minnesota, MN.  
 Chairman, Mainland-Taiwan Environmental Protection Symposium, Shanghai, China  
 Co-Chairman, Adsorption Processes for Environmental Control, 23rd Fine Particle Society Meeting, Las Vegas, NV.  
 1993 Co-Chairman, Physical-chemical Processes for the Treatment of Industrial Waste, AICHE, Summer Meeting, Seattle, WA.  
 1994 Chairman, Liquid Phase Processes, AICHE, Summer Meeting, Denver, CO.  
 1994 Chairman, 26th Mid-Atlantic Industrial and Hazardous Waste Conference, Newark, DE  
 1995 Co-Organizer, 1<sup>st</sup> International Workshop on Drinking Water Quality Management and Treatment Technology, Taipei, Taiwan

- 1996 Co-Organizer, 2<sup>nd</sup> International Workshop on Drinking Water Quality Management and Treatment Technology, Taipei, Taiwan
- 1997 Co-Organizer, 3rd International Workshop on Drinking Water Quality Management and Treatment Technology, Taipei, Taiwan.
- 1998 Co-Organizer, 4th International Workshop on Drinking Water Quality Management and Treatment Technology, Taipei, Taiwan
- 1999 Co-Organizer, 5th International Workshop on Drinking Water Quality Management and Treatment Technology, Taipei, Taiwan
- 2000 Co-Organizer, 6th International Workshop on Drinking Water Quality Management and Treatment Technology, Taipei, Taiwan
- 2001 Co-Organizer, 7th International Workshop on Drinking Water Quality Management and Treatment Technology, Taipei, Taiwan
- 2002 Co-Organizer, 8th International Workshop on Drinking Water Quality Management and Treatment Technology, Taipei, Taiwan
- 2003 Co-Organizer, 9th International Workshop on Drinking Water Quality Management and Treatment Technology, Taipei, Taiwan
- 2004 Co-Organizer, 10th International Workshop on Drinking Water Quality Management and Treatment Technology, Taipei, Taiwan
- 2005 Co-Organizer, First International Conference on Sustainable Water Environment. Taipei, Taiwan
- 2006 Co-Organizer, Second International Conference on Sustainable Water Environment. Taipei, Taiwan
- 2007 Chair, International Conference on the Environmental Applications and Implications of Nanotechnology, National Chung Hsing University, Taiwan
- 2008 Organizer, International Conference on Sustainable Water and Soil Environment, National Chung Hsing University, Taiwan.
- 2009 Co-Organizer, International Conference on Integrated Watershed Management, National Taiwan University
- 2010 Organizer, Conference on the Applications and Implications of Agro-nanotechnology, National Chung Hsing University
- 2010 Organizer and Chair, the Sixth International Conference on Sustainable Water Environment, University of Delaware.
- 2011 Co-Organizer, the 7<sup>th</sup> International Conference on Sustainable Water Environment, National Taiwan University, Taipei, Taiwan
- 2012 Honorary Chair, the 8<sup>th</sup> International Conference on Sustainable Water Environment, Guilin, China
- 2016 American Chemical Society, Symposium on Surface Chemistry of Biochar and its Application, Division of Environmental Chemistry, National Meeting, Washington DC
- 2017 American Chemical Society, Symposium on Crystal Facet and Defects on the Reactivity and Selectivity of Chemical Reaction. Division of Environmental Chemistry, National Meeting, Philadelphia, PA
- 2018 American Chemical Society, Symposium on Specific Chemical Reactions at the Solid- Water Interfaces, Division of Environmental Chemistry, National Meeting, Boston, MA
- 2019 American Chemical Society, Chemical Reactions toward Sustainable Water System. Division of Environmental Chemistry, National Meeting, San Diego, CA

## F. INTERNATIONAL VISITING SCHOLARS/COLLABORATORS

Dr. Gur Prasad, Department of Applied Chemistry, Banadrus Hindu University, India, 1983

Dr. Islam Hag, India Environmental Protection Agency, India, 1986

Dr. H. H. Yeh, Department of Environmental Engineering, National Cheng Kung University, Taiwan, 1986-1987

Mr. Park Soek Lee, Pohang Iron and Steel Company, Korea, 1992-1993.

Dr. Wilson, Jardim, State University of Campinus, San Poulo, Brazil, 1993 -1994

Dr. Sonia Maria Nobre Gimenez, State University of Campanius, San Poulo, Brazil, 1994

Prof. P. C. Chiang, National Taiwan University, Taipei, Taiwan, 1996-1997

Prof. S. F. Kang, Tam Kiang University, Taipei, Taiwan, 1998

Prof. Yu Chun Chiang, Yun Tze University, Taoyuan, Taiwan, 1998

Prof. Hung Lung Chiang, Fu Ying Pharmaceutical College, Tainan, Taiwan, 1999 Prof.

David Dong, National Kaohsiung Marine Technology, Kaohsiung, Taiwan, 2000

Mr. J. J. Cheng, Taiwan Provincial Environmental Protection Bureau, Taichung, Taiwan, 1999

Prof. Ya-Wen Ko, Ta-Yeh University, Changhua, Taiwan, 2000

Prof. O. J. Jung, Chou San University, Korea, 2000-2001

Dr. Mohamad Barak, Central Research Institute, Egypt, 2000-2001

Prof. M. C. Lu, Fu-Ying Medical College, Tainan, Taiwan, 2001-2001

Dr. Daphne Hermosilla, Universidad Politécnica de Madrid Ciudad Universitaria (Pre-doctoral Student), 2003-2004

Prof. Chih-pin Huang, National Chao-tong University, Taiwan, 2004

Dr. Albert Weng, National Taiwan University, Taiwan (Pre-doctoral student), 2004

Prof. R. A. Doong, National Ching Hua University, Hsin-chu, Taiwan, 2005

Ms. Allie Liao, National Sen-yet Sun University, Taiwan (Pre-doctoral Student), 2005

Dr. Yao-hsiang, Tseng, Industrial Technology Research Institute, Taiwan, 2005

Professor Yunyao Li, Department of Chemical Engineering, National Chung Cheng University, Taiwan 2005

Prof. Rueyann Doong, Department of Environmental Science and Medicine, National Shin-Hua University, 2006

Prof. Ka-san Yu, Department of Environmental engineering, National Pusan University, Korea, 2007.

Prof. Amy Chang, Hung Guang, Department of Environmental Engineering, University, Taiwan, 2008.

Dr. Zhou Bin, Research Center for Eco-environmental Science, Chinese Academy of Science (Pre-doctoral student), 2008-2009.

Prof. J.C. Liu, Department of Chemical Engineering, National Taiwan University of Science and Technology, Taiwan, 2009.

Prof. Animes Golder, Department of Chemical Engineering, India Institute of Technology, India, 2011-2012

Prof. Sheng Li Zhang, School of Geosciences and Environmental Engineering Southwest Jiaotong University, Sichuan, China, 2013-2014.

Prof. Deming Deng, Department of Environmental engineering, School of Resource and Environmental Science, Wuhan University, Wuhan, P.R. China, 2013-2014

Prof. Hui Juan Lu, School of Environmental Science and Engineering, Quilin University of Science and Technology, Quilin, Yunlin, China, 2013-2014.

Prof. Shuh Cheng Yang, School of Environmental Engineering and Science, Xi-an Jiaotong University, Xi An, China, 2013-014.



Prof. Hong ji Wang, School of Environmental Engineering, Beijing University of Forestry, Beijing, China, 2015-2016

Prof. Hui Juan Liu, Research Center of Eco-Environmental Science, Chinese Academy of Science, Beijing, China

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Chin-Pao Huang

(February 2022)

[University of Delaware](#)

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