



# **LEADERSHIP AWARD**

**Presented to**

**JUH WAH CHEN**, Ph.D.

**Carbondale, Illinois, USA**

**For Distinguished Leadership and Foresight in  
Establishment of Global Engineering Research  
and Education Infrastructure**

**by**

***International Advisory Board  
iNEER***

**June 28, 2004  
Olomouc, Czech Republic**

**Dr. Juh-Wah Chen**  
**Leadership Award Nomination**

Nominator: Michael M. Khonsari  
Title: Dow Chemical Endowed Chair in Rotating Machinery and Professor  
Louisiana EPSCoR Project Director  
Associate Commissioner for Sponsored Research and Development at Louisiana Board of Regents  
Affiliation: Louisiana State University and A & M College  
Address: Department of Mechanical Engineering  
2508 CEBA  
Baton Rouge, LA 70803  
e-mail: [Khonsari@me.lsu.edu](mailto:Khonsari@me.lsu.edu)  
Telephone: (225) 578-9192

Nominee: Juh Wah Chen  
Title: Dean Emeritus  
Affiliation: Southern Illinois University, Carbondale (SIUC)  
College of Engineering  
Carbondale, IL  
Address: 1063 Wood Road  
Murphysboro, IL  
e-mail: [hanlinchen@aol.com](mailto:hanlinchen@aol.com)  
Telephone:

**Summary of Accomplishments**

**Background**

Dean Emeritus Juh Wah Chen has had 45 years of distinguished service to engineering education and research. After earning his doctorate from the University of Illinois in Chemical Engineering, he started his teaching career at Bucknell University in Pennsylvania. His talent and foresight as a leader in his field earned him an early promotion to associate professor and he was recruited to help build a new engineering program at the Southern Illinois University at Carbondale (SIUC). At SIUC he was tenured and promoted to the rank of full Professor in 1969.

Dr. Chen's leadership ability earned him the title of the founding chair of the Mechanical Engineering and Energy Process Department where he served for 14 years before elevating to the Dean of Engineering at SIUC in 1989 where he served for ten years before retiring.

**Leadership in Engineering**

During his tenure as Dean, Dr. Chen worked very diligently with faculty, staff, and university administration to improve the College of Engineering instruction and research programs. Under his leadership, their quality and productivity were increased in an unprecedented manner. Examples of his achievements in either establishing or strengthening SIUC's research and education portfolio include:

- Establishment of the Center for Advanced Friction Studies (CAFS). As SIUC's first National Science Foundation (NSF) funded Center in collaboration with industry, CAFS was established to enhance the education of undergraduate and graduate students in the science of friction materials and training through the research experience. The Center also serves as an intellectual foundation to its industrial members by significantly contributing to the Research and Development that directly affect the industry's needs to maintain their competitive edge in the global market.
- The Materials Technology Center (MTC), established in 1983, is a catalyst for innovative research in the diverse field of materials pertinent to the practical needs of industry, federal and state agencies and the society at large. Through interdisciplinary research in engineering and science, MTC promotes economic growth in the region and continues to play a major role in supporting research programs as well as sponsoring international technical conferences and seminars.
- The SIUC Coal Research Center (CRC) promotes establishments of world-wide collaborations in coal and related environmental research and development as well as to enhance the profile of SIUC. CRC has served the nation for over 30 years and has become a powerhouse for training mine managers and dragline operators from around the world, including Australia, Brazil, South Africa, Mexico, and Canada. The SIUC program is the only formal program for dragline training in the western world.
- Dr. Chen led a successful campaign of \$14 million for a new engineering building wing at SIUC, which houses state-of-the art research facilities for CAFS as well as university research laboratories.

### **Leadership in Research and Development**

Dean Chen is an expert in energy and environment and is well known for his research in the areas of bioconversion, water quality, and utilization. His research projects were supported by governmental agencies and industry. He has published extensively in scientific journals and in proceedings.

### **International Linkages**

During his tenure at SIUC, Dr. Chen developed strong international linkages with a number of institutions. Those relations included equal partnership, exchange of faculty and students, cooperative research, joint conferences, etc. He is also one of the original supporters of ICEE and INEER.

### **Awards and Honors**

To his credit, Dr. Chen has received many awards and honors. Examples include:

- Doctorem Honoris Causa by The Technical University of Ostrava, Czech Republic in 1999.
- Outstanding Alumnus Achievement award from the National Cheng Kung University in 1996, and

- Outstanding Scholar by Midwest Chinese American Science And Technology Association in 2000.

B.5 Suggested citation for the award (maximum length: 15 words).

**“For Distinguished Leadership and Foresight in Establishment of Global Engineering Research and Education Infrastructure.”**

B.6 Two letters of support must accompany each nomination. Maximum length: 1 page. Preferably, letters of support should come from individuals who are not affiliated with the same institution as the nominee.

Please see the following page for a support letter.

Secretary-General  
iNEER

Dear Secretary-General:

I am honored to write a letter in unqualified support of the nomination of Dr. Juh Wah Chen for the 2004 iNEER Leadership Award. This is a prestigious award and I can think of no one more deserving of this recognition than Professor Chen. His contributions to international cooperation and research are truly extraordinary.

I have known and worked closely with Juh Wah for over thirty years during his exceptional leadership as founder of Southern Illinois University-Carbondale's Mechanical Engineering and Energy Process Department and as Dean of the Engineering College. He assumed this leadership based upon his long and distinguished research and teaching career in his areas of expertise, which include the interactions of energy processes and the environment. He not only led initiatives to acquire a major NSF-Industry-Government-University Advanced Research Center, a nationally recognized Coal Research Center, and a new engineering building, but, more importantly, built for the university significant and sustainable international linkages. I have never known a more accomplished internationalist in the cause of advancing the quality of, and access to, engineering education.

It was from these international linkages with the Technical University of Ostrava in the Czech Republic and National Cheng Kung University in the early 1990s and the support of the National Science Foundation that the ICEE Conference Series evolved and grew to their current international stature. He was truly one of their pioneers and founding persons whose success was due to his dedication to, and knowledge of, international education and the enormous respect his colleagues in this endeavor have for him.

Dr. Chen's contributions to ICEE since its founding continue to provide positive impact and guidance to the field of engineering education and research. His many colleagues in ICEE and iNEER hope that these contributions will continue for many more years. The iNEER Leadership Award is a most appropriate means of recognizing both these pioneering achievements and an exceptional individual.

Sincerely,

John H. Yopp  
Vice President for Higher Education Initiatives  
Educational Testing Service  
And  
Senior Scholar in Residence  
Council of Graduate Schools

202-223-3791, ext. 19  
johnyopp@cgs.nche.edu

**B.7 Statement by nominator as to whether, to his/her knowledge, nominee will be present at the iNEER event in person to receive the award if it is awarded to him/her.**

Dr. Chen will be attending iCEER-2004, Olomouc, Czech Republic.

**B.8 Please attach a copy of the nominee's resume.**

## CURRICULUM VITA OF JUH WAH CHEN

### I. PERSONAL

- A Date and Place of Birth: November 10, 1928; Shanghai, China
- B. Present Home Address: 1063 Wood Road, Murphysboro, Illinois 62966
- C. Present Position: Dean, College of Engineering, Southern Illinois University at Carbondale

### II. EDUCATION

- B.S., Taiwan College of Engineering (National Cheng Kung University), 1953, Chemical Engineering
- M.S., University of Illinois, 1957
- Ph.D., University of Illinois, 1959 Major--Chemical Engineering  
Minor--Physical Chemistry

### III. PROFESSIONAL EXPERIENCE

- Taiwan Fertilizer Company Taipei, China, Assistant Engineer, 1954 to 1955 Research Assistant, University of Illinois, Urbana, Illinois, 1955 to 1959
- Assistant Professor of Chemical Engineering, Bucknell University, Lewisburg, Pennsylvania, 1959 to 1965
- The Upjohn Company, Kalamazoo, Michigan, Consulting Research Engineer, Summer of 1961 to 1965
- Associate Professor of Engineering, Southern Illinois University at Carbondale, Carbondale, Illinois, 1965 to 1969
- Professor of Engineering, Southern Illinois University at Carbondale, Carbondale, Illinois, 1969 to 1971
- Professor and Chair, Department of Thermal and Environmental Engineering, Southern Illinois University at Carbondale, Carbondale, Illinois, 1971 to 1984
- Professor and Chair, Department of Mechanical Engineering and Energy Processes, Southern Illinois University at Carbondale, Carbondale, Illinois, 1984 to 1985
- Acting Director, Coal Research Center, Southern Illinois University at Carbondale, Carbondale, Illinois, 1987
- Professor and Associate Dean, College of Engineering, Southern Illinois University at Carbondale, Carbondale, Illinois, 1985-1988
- Professor and Dean, College of Engineering, Southern Illinois University at Carbondale, Carbondale, Illinois, 1989-present
- Distinguished Visiting Professor, National Cheng Kung University, Taiwan, Republic of China, 1991-1992

### IIIa. CURRENT ACTIVITIES

Director, SIU Foundation

### IV. TEACHING EXPERIENCE

- A. Teaching Interests and Specialties: Reaction Engineering, Mass and Heat Transfer, Thermal Sciences, Environmental Pollution Control, and Coal Conversion
- B. Teaching and Training Grants:
  - NSF Summer Institute on Computers, Summer 1960
  - Two, Three-Year NSF Energy-Related Traineeships, 1975 to 1978
  - Two, Three-Year Mining and Mineral Resources Fellowships, 1977 to 1979
- C. Teaching Awards and Honors:
  - Outstanding Professor by Obelisk (SIUC Yearbook), 1967

- D. Current Graduate Faculty Status: Direct Dissertation
- E. Number of Master's and Ph.D. Committees Served On: Over 100
- F. Number of Students Who Have Completed Master's Theses and Dissertations  
Under Your Direction: Master's Theses--30  
Dissertations--4
- G. Other:

- Developed and established a Master's program in Springfield, Illinois area, 1974 to 1981
- Developed and established a Master's program in East St. Louis, Illinois area, 1968 to 1971

#### V. UNIVERSITY SERVICE

- Water Resource Committee, 1967 to 1969
- Chair, Doctor of Engineering Planning Committee, 1967 to 1970
- Environmental Science Planning Committee, 1969 to 1971
- University Pollution Control Committee, 1971 to 1975
- University Parking and Traffic Committee, 1971 to 1975
- Natural Sciences and Mathematics Research Proposal Review Committee, 1974 to 1976
- Coal Extraction and Utilization Center Advisory Committee, 1975 to 1977
- Chair, Coal Utilization Subcommittee, 1975 to 1976
- Graduate School's Grievance Committee, 1976
- Materials Technology Center Planning Committee, 1982 to 1983
- Materials Technology Center Steering Committee, 1983 to present
- SIU Foundation's Research and Technical Committee, 1984 to 1986
- Honorary Degree and Distinguished Service Award Committee, 1986 to present
- University Patent and Copyright Committee, 1987 to present
- University and Industry Relation Committee, 1987 to present

#### VI. PROFESSIONAL SERVICE

- A. Membership in Professional Associations:
  - American Society of Mechanical Engineers
  - American Institute of Chemical Engineers
  - American Chemical Society
  - American Society of Engineering Education
  - Society of Sigma Xi
  - Tau Beta Pi
  - Registered Professional Engineer, Illinois
  - American Academy of Environmental Engineers
- B. Offices Held in Professional Associations:
  - National Committee on Professional Development, American Institute of Chemical Engineers, 1968 to 1970
  - National Program Committee, American Institute of Chemical Engineers, 1969 to 1972
  - Counselor, Western Kentucky Section, American Institute of Chemical Engineers, 1967 to 1969
  - President, Southern Illinois Section, American Chemical Society, 1970 to 1971
  - Delegate, University Council on Water Resource, 1972 to 1986
  - Statewide Advisory Committee, Illinois Water Resource Center, 1972-1980
  - Delegate, Center for Research on Sulfur in Coal, 1982-1983
  - Member, Program Committee on CRSC, 1986 to 1990
- C. Consultantships:
  - The Upjohn Company, Kalamazoo, Michigan, 1965 to 1983



- Olin Corporation, Marion, Illinois, 1968 to 1970  
Airco Chemical, Calvert City, Kentucky, 1967  
McMurray Piping Company, DuQuoin, Illinois, 1976 to 1977  
Staley Manufacturing Company, Decatur, Illinois, 1978  
Proctor and Gamble, Cincinnati, Ohio, 1978  
Harza Engineers, Chicago, Illinois, 1979  
Illinois Institute of Natural Resources, 1979 to 1981
- D. Evaluation of Manuscripts for Journal and Book Publishers and of Grant Proposals for Agencies:  
Reviewer, Industrial and Engineering Chemistry  
Reviewer, Journal of AIChE  
Proposal Reviewer, National Science Foundation's Chemical Process Program  
Member of Review Panel, National Science Foundation's Chemical Process Program  
Member of Review Panel, National Science Foundation's Science Faculty Development Program  
Proposal Reviewer, Petroleum Research Fund  
Proposal Reviewer, Illinois Mining and Mineral Resources Research Institute  
Proposal Reviewer, Department of Energy
- E. Papers and Presentations at Professional Meetings:  
Chen, J. W. (1962) "Kinetics of 1-Dehydrogenation of Steroid Bioconversion," American Chemical Society Annual Meeting, Chicago, Illinois, September.  
Chen, J. W. (1964) Simulation of Resin Ion Exchange Process in Agitated Beds," presented at 57th Annual Meeting of AIChE, Boston, Massachusetts, December.  
Chen, J. W. (1965) "Carbon Adsorption Process by Computer Simulation," American Chemical Society Annual Meeting, Atlantic City, New Jersey, September.  
Chen, J. W. and W. D. Maxon. (1966) "Kinetics of Neomycin Biosynthesis," presented at National Meeting of American Chemical Society, New York, New York, September.  
Chen, J. W. and W. Kalback. (1967) "Effects of Ultrasound on Chemical Reaction Rate," National Meeting of American Chemical Society, Pittsburgh, Pennsylvania, April.  
Chen, J. W. (1971) "How to Chemically Engineer Water Quality Improvement," Presented at National Meeting of AIChE, Houston, Texas, March.  
Chen, J. W. and G. V. Smith. (1973) "Catalytic Oxidation in Aqueous Environment," Presented at National Meeting of ACS, Dallas, Texas, April.  
Chen, J. W. and P. A. Belter. (1973) "Performance of Real-Stirred Tank Ion Exchange Contractors," Presented at 75th National Meeting of AIChE, Detroit, Michigan, June.  
Chen, J. W. and G. V. Smith. (1973) "Oxidation of Wastewater with Ozone Systems," Presented at First International Symposium on Ozone, Washington, D.C., December.  
Chen, J. W. and G. V. Smith. (1976) "Mechanisms of Catalytic and Sonocatalytic Oxidations in Wastewater Treatment," Invited Paper 172, National Meeting of ACS, San Francisco, California, September.  
Chen, J. W., W. S. O'Brien and R. Nayak. (1980) "Catalytic Hydrodesulfurization of Dibenzothiophene," 88th National Conference on the Mexican Institute of Chemical Engineers, Jointly Sponsored by AIChE, October.

- Chen, J. W., C. B. Muchmore and K. E. Tempelmeyer. (1982) "Supercritical Desulfurization and Conversion of Coal and Ethanol," National Meeting of AIChE, Orlando, Florida, March.
- Chen, J. W. (1984) "Simultaneous Desulfurization and Conversion of Coal Under Supercritical Conditions," AIChE Symposium, St. Louis, Missouri, March.
- Muchmore, C. B., J. W. Chen, A. C. Kent and K. E. Tempelmeyer. (1985) "Removal of Organic Sulfur from Coal by Supercritical Extraction with Alcohols," National Meeting of American Chemical Society, Miami Beach, Florida.
- Chen, J. W., C. B. Muchmore, A. C. Kent and Y. C. Chang. (1985) "Extraction and Desulfurization of Chemically Degraded Coal with Supercritical Fluids," Annual Meeting of American Chemical Society, Chicago, Illinois.
- Chen, J. W. (1987) "Mechanism of Desulfurization of Coal with Alcohols," Annual Review of DOE Coal Programs, Pittsburgh, Pennsylvania.

F. Other:

Forty other seminars presented at universities, research laboratories, and industries.

VII. HONORS AND AWARDS

- Outstanding Professor by Obelisk (SIUC Yearbook), 1967 Who's Who in Engineering  
 Who's Who in Science and Engineering  
 Who's Who in Asian American  
 Who's Who in the World  
 Gold Medal, Ostrava Technical University, Czech Republic, 1992  
 Alumnus Outstanding Achievement Award, National Cheng Kung University, Taiwan, R.O.C., 1996.  
 Outstanding Leadership Award, North American Alumni Association of National Cheng Kung University, 1997  
 Doctorem Honoris Causa, Technical University Ostrava, Czech Republic, 1999  
 Outstanding Scholar Award, Midwest Chinese American Science & Technology Association, 2000.

VIII. COMMUNITY SERVICE

Member and past Director, Carbondale Lions Club

IX. RESEARCH

**A. Research Interests and Specialties: catalysis, process evaluation, coal conversion**

**and desulfurization supercritical**

**B. Current Research Projects:**

- Gasification of Coal and Coal Chars  
 Supercritical Reaction and Desulfurization of Coal  
 Selective Liquefaction of Coal with Supercritical Fluids

C. Research Grants Received:

- "Steroid Bioconversion," Upjohn Company, \$4,000, 1963-1965  
 "Industrial Air and Water Wastes," Illinois Department of Business and Economic Development, \$22,000, 1967-1969  
 "Constant Mass Flow Rate in a Propellant System," Olin Corporation, \$10,000, 1966-1968  
 "Treatability Study of an Industrial Waste," Sparta Printing Co., \$3,000, 1968-1969  
 "Biological Treatment," Butler and Associates, \$3,000, 1969-1970  
 "Supercatalysis in Wastewater Treatment," Federal EPA, \$54,000, 1969-1971

- "Treatability Study of a Chromium Waste," Precision National Corporation, \$3,500, 1973
- "Catalytic Ozonation of Wastewater," Nalco Chemical Co., \$3,500, 1973-1974
- "Catalytic Ozonation of Wastewater," CPC Inc., \$10,000, 1977-1979
- "Technical Evaluation of Kilngas Demonstration Plant," INR, \$12,000, 1978-1979
- "Coal Fines Recovery and Utilization," Office of Surface Mining, \$314,000, 1979-1981 (with C. Muchmore and A. Kent)
- "Economic Assessment of Resource Recovery," IINR, \$68,000, 1979-1981 (with C. Muchmore and A. Kent)
- "Gasification of Coal and Chars," Department of Energy, \$237,000, 1982-1986 (with W. S. O'Brien)
- "Supercritical Desulfurization and Conversion of Coal under Supercritical Conditions," ICRB, \$560,000, 1982-1986 (with C. Muchmore, K. Tempelmeyer and A. Kent)
- "Coal-Derived Chemical Feedstock," ICRB, \$140,000, 1982-1985 (with P. Hombach and C. Muchmore)
- "Coal Science Research," Coal Research Center, \$150,000, 1980-1984
- "Extraction and Desulfurization of Chemically-Degraded Coal," Coal Technology Laboratory, \$317,000, 1983-1986 (with C. B. Muchmore and A. C. Kent)
- "Intermediates During Desulfurization," DOE, \$200,000, 1983-1987 (with C. B. Muchmore )
- "Reduction of Coal by Solvated Electron Solution," DOE, \$121,000, 1984-1986 (with P. H. Hombach)
- "Upgrading Petroleum Vacuum Resids," by ARCO, \$12,000, 1984-1986 (with C. Muchmore)
- "Mechanism of Extraction and Desulfurization of Coal with Alcohols," \$120,000, 1986-1988 (with C. Muchmore and A. Kent)
- Special Engineering Equipment Grants, State of Illinois, \$1,500,000, 1989-96

## X. PUBLICATIONS

- Chen, J. W., H. J. Koepsell and W. D. Maxon. (1962) "Kinetics of 1-Dehydrogenation of Steroids by *Septomyxa Affinis*," *Bioeng and Biotech*, IV, pp. 65-78, March.
- Chen, J. W., H. J. Koepsell and W. D. Maxon. (1965) "1-Dehydrogenation of Steroids and Level above Their Solubility," *I & EC Process Development and Design Quarterly*, 1, pp. 421-425, October.
- Maxon, W. D., J. W. Chen and F. R. Hanson. (1966) "Simulation of a Steroid Bioconversion with a Mathematical Model," *I & EC Process Development and Design Quarterly*, V, pp. 285-289, July.
- Maxon, W. D. and J. W. Chen. (1966) "Kinetics of Fermentation Product Formation," *Journal of Fermentation Tech.*, 41, pp. 255-263, October.
- Chen, J. W. and W. M. Kalback. ( 1967) "Effect of ultrasound on Chemical Reaction Rate," *I & EC Fund.*, 6, pp. 175-178, May.
- Chen, J. W. , J. A. Buege and F. L. Cunningham. (1968) "Scale-Up of a Column Absorption Process by Computer Simulation," *I & EC Processes Design and Development*, 7, pp. 26-31, January.
- Chen, J. W., W. D. Maxon and F. L. Cunningham. (1968) "Mathematical Simulation of Biochemical Processes," *CEP Symposium Series*, .64(86), 23-25, December.

- Chen, J. W., J. A. Chang and G. V. Smith. (1971) "Sonocatalytic Oxidation in Aqueous Solutions," Chemical Engineering Symposium Series, 67(109), pp. 18-26.
- Muchmore, C. B., J. W. Chen and J. Bemiller. (1971) "Mechanisms of Oxygen Transfer in Aqueous Solutions," Bioeng and Biotech, 13, pp. 271-292.
- Chen, J. W. and G. V. Smith. (1971) "Feasibility Studies of Applications of Catalytic Oxidation in Wastewater," Water Pollution Control Research Series, 17020, pp. 73, November.
- Chen, J. W., F. L. Cunningham and J. A. Buege. (1971) "Computer Simulation of Plant-Scale Multi-Column Absorption Processes Under Periodic Counter-Current Operation," I & EC Process Design and Development, 11, pp. 430-434, July.
- Smith, G. V., J. W. Chen and K. Seyffarth. (1972) "Catalytic and Sonocatalytic Oxidations of Aqueous Phenol," Proceedings of Fifth International Congress on Catalysis, 61 pp. 893-904.
- Belter, P.A., F. L. Cunningham and J. W. Chen. (1973) "Development of a Recovery Process for a Recovery Process for Novobiocin," Biotech and Bioeng, XV pp. 533-549.
- Chen, J. W. (1973) "Catalytic Oxidation in Advanced Waste Treatment," AIChE Symposium Series, 69(129), pp. 61-70.
- Chen, J. W., Colin Hui and G. V. Smith. (1975) "Oxidation of Wastewater of Ozone/Catalyst and Air/Catalyst Ultrasound Systems," Proceedings of First International Symposium on Ozone and Water and Waste-Water Treatment, International Ozone Institute.
- Chen, J. W., T. Keller and G. V. Smith. (1977) "Catalytic Ozonation in Aqueous Systems," AIChE Symposium Volume. Water 1976, 73(166), pp. 206-212.
- Smith, G. v., J. w. Chen and A. Islam. (1981) "Heterogeneous Catalytic Ozonation," Catalysis of Organic Reactions, edited by W. R. Moser, Marcel Dekker, Inc., pp. 181-191, November.
- Chen, J. W., A. C. Kent, C. B. Muchmore and S. Schneiderman. (1982) "Coal Fines Recovery and Utilization," Coal: Phoenix of the '80's, edited by Al Taweel, pp. 244-253.
- Kent, A. C., C. B. Muchmore and J. W. Chen. (1983) "A Waste Coal Recovery Process," Proceedings of Gateway Energy Conference, St. Louis, Missouri, November.
- Chen, J. W., C. B. Muchmore, P. Hombach and B. Wu (1985) "Supercritical Extraction of coal with Alcohols: A Kinetic Study," Proceedings of 1985 International Conference on Coal Science, Sydney, Australia, pp. 235-237.
- Chen, J. W., C. B. Muchmore, T. C. Lin and K. E. Tempelmeyer. (1985) "Supercritical Extraction and Desulfurization of Coal with Alcohols," Fuel Processing Technology, Vol. 11, pp. 289-295.
- Hombach, H. P., J. W. Chen and S. Schneiderman. (1985) "Equilibrization Processes in the Reduction of Coal," Proceedings of 1985 International Conference on Coal Science, Sydney, Australia, pp. 750- 753.
- O'Brien, W. S., J. W. Chen, R. V. Nayak and G. S. Carr. (1986) "Catalytic Hydrodesulfurization of Dibenzothiophene and a Coal-Derived Liquid," I&EC Process Development and Design Quarterly, Vol. 25, pp. 221-229, January.
- Muchmore, C. B., J. W. Chen, A. C. Kent and K. E. Tempelmeyer. (1986) "Removal of Organic Sulfur From coal by Reaction with Supercritical Alcohols," ACS Symposium Series, Vol. 319, pp. 75-85.
- Hippo, E., Jr., N. Murdie, J. W. Chen, C. B. Muchmore and A. C. Kent. (1987) "Microscopic Characterization of Coal Residues From Supercritical

- Desulfurization of Illinois Coal," Fuel Processing Technology, Vol. 17, pp. 85-102.
- Muchmore, C. B. and J. W. Chen. (1987) "Removal of Organic Sulfur from Coal by Sequential Treatment with Alcohols," Proceedings of 1987 International Conference on Coal Science, Maastricht, Netherlands, pp. 439-422.
- O'Brien, W. S., Chen, J. W., Maslehi, A. and Wu, R. (1987) "Kinetic Modeling of Coal Pyrolysis in a Laminar-Flow Reactor System," Proceedings of Fuel Chemistry Division, 194th National Meeting of American Chemical Society, New Orleans, Louisiana, Vol. 32, No. 3, pp. 99-105.
- Chen, J. W. and Smith, G. V. (1987) "Catalytic Ozonation in Aqueous Environments," Proceedings of Environmental Pollution and Hazardous Waste Management, National Cheng Kung University, Tainan, Taiwan, Republic of China, pp. 18-29.
- Mitra, S., Chen, J. W. and Viswanath, D. S. (1988) "Solubility and Partial Molar Volume of Heavy Aromatic Hydrocarbons in Supercritical CO<sub>2</sub>," Journal of Chemical and Engineering Data, pp. 32-35.
- Muchmore, C. B. and J. W. Chen. (1989) "Reaction Mechanisms of Desulfurization of Coal with Supercritical Alcohols," Proceedings of 1989 International Conference on Coal Science, Tokyo, Japan, pp. 193-196.
- Chen, Juh W. (1991) "Applied Research for University-Industry Cooperation," Proceedings of Conference on Engineering: A Global Enterprise, University of Illinois at Chicago, Chicago, Illinois, USA, pp. 127-132.
- Chen, Juh W. (1994) "Productivity and Quality of Engineering Education," Proceedings of 1994 International Conference on Engineering Education, Taipei, Taiwan, Republic of China.

## XI. OTHER PUBLICATIONS

### A. Technical Reports:

- Final Report, "Technical Evaluation of Kilngas Demonstration Plant," Illinois Department of Energy and National Resources, 1979, (with C. Muchmore, A. Kent and W. O'Brien).
- Final Report, "Economic Assessment of Resource Recovery," Illinois Department of Energy and National Resources, 1981 (with C. Muchmore and A Kent).
- Final Report, "Coal Fines Recovery and Utilization," U.S. Bureau of Mines, 1981, (with C. Muchmore and A. Kent).
- Final Report, "Upgrading Petroleum Vacuum Resids," ARCO, 1985, (with C. Muchmore).
- Final Report, "Coal-Derived Chemical Feedstock," Illinois Coal Research and Development Board, 1985, (with C. Muchmore).
- Final Report, "Reduction of Coal by Soluble Electron Solution," Department of Energy, 1985, (with H. Hombach).
- Annual Report, "Extraction and Desulfurization of Chemically Degraded Coal," Department of Energy, 1985, (with C. Muchmore and A Kent).

### B. Patents:

- Muchmore, C. B., J W. Chen and K. E. Tempelmeyer, "Process for Removing Organic Sulfur From Coal and Material Resulting From Process," U.S. Patent #4,441,886 (1984).

