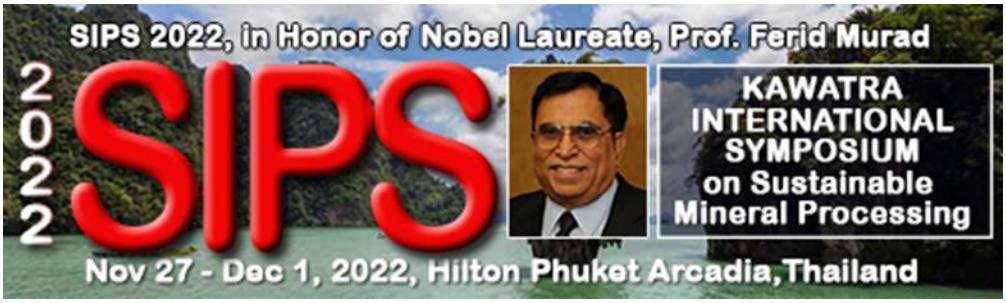

S. Komar Kawatra
Department of Chemical Engineering,
Michigan Technological University, Houghton, Michigan 49931

1. Academic Training

- M. S. Physics, University of Poona, India, 1966
- Ph.D., Metallurgical Engineering, University of Queensland, Australia, 1975

2. Professional Work History:

- Department of Chemical Engineering, Michigan Technological University, Houghton, MI, Professor, from August 2002-current, and Chair from 2007-2017.
- Department of Mining and Material Process Engineering, Michigan Technological University, Houghton, MI, Professor and Chair, from August 2000-2003.
- Department of Metallurgical and Materials Engineering, Michigan Technological University, Houghton, MI, Assistant Professor from September 1977, Associate Professor from September 1980, and Professor from September 1985 -2000
- Morgantown Energy Technology Center, Morgantown, Department of Energy, from May 1984 to August 1984
- Department of Mineral Engineering, University of Alberta, Edmonton, from April 15, 1977, to August 31, 1977
- Mineral Sciences Laboratories, Department of Energy, Mines and Resources, Ottawa, from January 1975 to April 1977
- Julius Kruttschnitt Mineral Research Center, University of Queensland, Australia, from January 1971 to December 1974
- Mount Isa Mines Ltd., Mount Isa, Australia, from January 1973 to July 1973
- Atomic Energy Commission, India, from March 1968 to January 1971

3. Membership in Professional Organizations:

- Distinguished Member, Society for Mining, Metallurgy and Exploration

4. Professional Activities:

- Elected, Chair, Mineral and Metallurgical Processing Division, Society for Mining, Metallurgy and Exploration, 1997-1998
- Elected, Vice Chairman, Mineral Processing Division, Society for Mining, Metallurgy and Exploration, 1996-1997
- Elected, First Regional Vice Chairman, Mineral Processing Division, Society for Mining, Metallurgy and Exploration, 1995-1996
- Elected, Second Regional Vice Chairman, Mineral Processing Division, Society for Mining, Metallurgy and Exploration, 1994-1995
- Elected, Secretary-Treasurer, Mineral and Metallurgical Processing Division, Society for Mining, Metallurgy and Exploration, 1993-1994
- Program Coordination Committee, Coal Division, Society for Mining, Metallurgy and Exploration, 1993-1995

- Book Publishing Committee, Coal Division, Society for Mining, Metallurgy and Exploration, 1993-1996
- Book Publishing Committee, Vice Chairman, 1993-1994, Chairman, 1994-95, Society for Mining, Metallurgy and Exploration
- Chairperson (1984-85) of the Mineral Processing Division of the Upper Peninsula American Institute of Mining and Metallurgy (U.P.-AIME); Vice-Chairperson (1985-86); Chairperson (1986-87); Board of Directors, 1986-90
- Health and Safety Committee, Society for Mining, Metallurgy and Exploration: member, 1984-1986.
- Research and Development Committee, Coal Division, Society for Mining, Metallurgy and Exploration: member, 1990-1992; chairman-elect, 1990; chairman, 1991
- Mineral Processing Fundamentals Committee, Society for Mining, Metallurgy and Exploration: member 1983-1991; vice-chairman, 1990; chairman 1991
- Educational Issues Committee, Society for Mining, Metallurgy & Exploration: member, 1991- 1994.
- Program Committee, Coal Division, Society for Mining, Metallurgy & Exploration member, 1991, Chairman-Elect 1993, Chairman 1994
- Stefanko Award Committee, Coal Division, Society for Mining, Metallurgy and Exploration, 1993-1994
- Coal Preparation Unit Committee, Society for Mining, Metallurgy and Exploration, 1993- 1994
- Regional/Topical Meetings Committee, Program Chairman Elect, Society for Mining, Metallurgy and Exploration,1993
- Outstanding Young Engineer Award Committee, Society for Mining, Metallurgy and Exploration, 1993-1999
- General Committee, Mineral & Metallurgical Processing Division, member, 1991
- Executive Committee, Coal Division, Society for Mining, Metallurgy & Exploration; member, 1992
- Organized international symposium: “Comminution Practices,” Society for Mining, Metallurgy and Exploration, Denver, 1997
- Organized international symposium: “High Efficiency Coal Preparation,” Society for Mining, Metallurgy and Exploration, Denver, 1995
- Organized international symposium: “New Remediation Technology in the Environmental Arena”, Society for Mining, Metallurgy and Exploration, Denver, 1995
- Organized international symposium: “Comminution, Theory and Practice,” Society for Mining, Metallurgy and Exploration, Phoenix, 1992
- Organized and chaired several technical sessions for the Instrument Society of America, Canadian Institute of Mining and Metallurgy, American Institute of Mining and Metallurgy, and the International Mineral Processing Congress
- Organized international symposium: “Biotechnology in Minerals and Metal Processing,” Society of Mining Engineers, Los Vegas, 1989
- Organizing and Advisory Committee for the Fourth International Conference on Processing and Utilization of High-Sulfur Coals and the International Symposium Control '90, sponsored by the Society for Mining, Metallurgy and Exploration

5. <u>Board of Directors:</u>

- Process Technology, Inc., Calumet, MI, 1986-1989
- U.P. Section of the American Institute of Mining and Metallurgy, 1986-1990
- Society for Mining, Metallurgy and Exploration, 1997-2000

6. <u>Editorial Boards:</u>

- Coal Preparation, Gordon & Breach Science Publishers, 1995-1998

- International Journal of Mineral Processing, Elsevier Scientific Publishing Company, Amsterdam 1991-1994
- Minerals & Metallurgical Processing, publ. by the Society for Mining, Metallurgy & Exploration, Inc., Editor-in-Chief, 1995-2017
- Minerals Processing and Extractive Metallurgy Review, publ. by the Francis and Taylor Co., Editor-in-Chief, 2000-current
- International Journal of Environmental Issues in Minerals and Energy Industry, A. A. Balkema Publishing Co., Amsterdam

7. Advisory Panel:

- Indigenous Space Resource Utilization Advisory Panel, sponsored by Lunar and Planetary Institute, Houston

8. University Activities:

- Member of several committees of the Department, College of Engineering, and the University, including the University Best Researcher Award Committee, 1987-1990; Chairman, Promotion and Tenure Committee, College of Engineering, 1989; University Senator 1992-1995
- Established and became the first chair of the Department of Mining and Materials Process Engineering, from 2000 to 2002
- Established a Coal Research Laboratory in the Department of Metallurgical Engineering.

9. Research Funding: (Single PI, except where listed)

Total Funding: $ 7,312,255 (funding for S. K. Kawatra only, not including the amount for multiple-PI grants)

- Development of Sensors for On-Line Analysis of Ash in Coal Slurries- funded by EPRI, DOE
- Process Analysis of Comminution Circuits- Particle Size, Rheology, Temperature- funded by USBM
- Effect of Reagent Addition on the Response of a Fine Coal Flotation Circuit-funded by the U.S. DOE
- Column Flotation of Ohio Coals - funded by the State of Ohio
- Planetary Materials and Resource Utilization - funded by the NASA (Multiple Investigators)
- Bacterial Desulfurization of Coal - funded by the State of Michigan; USDOE; MERRA
- Coal Cleaning by Heavy Media Cyclones - funded by the USDOE/Process Tech
- On-Line Measurement of Viscosity and Rheology- funded by Dow Chemical Company
- Utilization of Gypsum - funded by State of Illinois, USDOE
- Analysis of Grinding and Flotation Circuit at Copper Range Company, White Pine, MI
- Production of Inorganic Pellet Binders from Fly Ash, Funded by the State of Illinois, Il Department of Natural Resources, State of Minnesota, USDOE
- Agglomeration of Granular and Fine Particulate Industrial Wastes, Funded by EPA
- Froth Flotation of Coal, Funded by National Science Foundation
- Physical Removal of Toxins from Contaminated Sediments, EPA
- Separation of Flue Gas Scrubber Sludge in to Marketable Products, US DOE
- Coal Grinding Model Development, Electrical Power Research Institute, Palo Alto, CA
- Investigation of Fly-Ash Based Foundry Molds, NSF
- Prevention of Self Heating of Swarf, General Motors
- Chemistry and Physics of Taconite Agglomeration, Minnesota DNR
- Application of Chemistry and Physics of Taconite Agglomeration, Minnesota DNR
- Optimization of Comminution Circuit Throughput and Product Size Distribution by Simulation and Control., USDOE

- Verification of Steel Making Slag Iron Content, USDOE, (PI Jim Hwang and Robert Greenlund),
- Chemical Engineering Doctoral Fellowship Program for Environmentally Benign Manufacturing in the Chemical Industry, Graduate Assistance in Areas of National Need (GAANN), U. S. Department of Education
- Novel Binders and Methods for Agglomeration of Ore, U. S. Department of Energy
- Dust Suppression in Iron Ore Processing Plants", Minnesota DNR Iron Ore Cooperative Research Program
- Single-Step Ironmaking from Ore to Improve Energy Efficiency, U. S. Department of Energy
- Direct Biohydrometallurgical Extraction of Iron from Ore", U. S. Department of Energy

10. Awards:

- Gaudin Award for Sustainable By-product Management Treatment and Utilization, Society for Mining, Metallurgy & Exploration, Inc., 2003
- Graduate Student Mentor Award, Michigan Technological University, First Recipient, 2002
- Frank F. Aplan Award, for Engineering or Scientific Contributions that Further the Understanding of the Technology of Coal and/or Mineral Processing, American Institute of Mining, Metallurgy and Petroleum Engineers, NY, 2002
- Robert H. Richards Award, for Outstanding Contributions to the Mineral Industry through Prolific Innovative Research in Diverse Areas from Comminution, Concentration, and Instrumentation to Waste Recovery, Treatment, and Utilization, American Institute of Mining, Metallurgy and Petroleum Engineers, NY, 2000
- Taggart Award, for Advances in Coal Flotation Technology, Society for Mining, Metallurgy & Exploration, Inc., 1994
- Distinguished Member Award, Society for Mining, Metallurgy & Exploration, Inc., 1992
- Michigan Association of Governing Boards Distinguished Faculty Member Award for Extraordinary Contribution to Michigan Higher Education, 1988
- House of Representatives, State of Michigan, passed Resolution NO714 for Contributing to Higher Education in State of Michigan, 1988
- Michigan Technological University Research Award, 1987

11. Administrative Experience and Philosophy:

- Board of Directors of the Society for Mining, Metallurgy, and Exploration (SME) from 1997 to 2000
- Chair of the Mineral Processing Division of SME for 1997-1998
- In 2000, first Chair of the Department of Mining and Materials Process Engineering at Michigan Technological University.

12. Research Focus:

- Agglomeration
- Ash Analyzer
- On-Line Measurement of Rheology
- Processing of Scrubber Sludge
- Remediation and Utilization of Industrial Waste Materials

13. Teaching Interests:

- On-Line Sensors and Process Control
- Particulate Processing
- Plant Design

14. Consulting Activities:

- Arthur D. Little Company
- Norton, Hambleton, Inc.,
- Ontario Research Foundation
- Kobe Steel, Kobe, Japan
- United Nations

15. References:

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