



Biography of Dr. Joseph J Poveromo

President, Raw Materials & Ironmaking Global Consulting

Joseph J. Poveromo, age 74, received his B.S. Degree in Chemical Engineering at Rensselaer Polytechnic in Troy, New York in 1968. After spending one year as a process engineer at the Sinclair Oil Technical Center in Harvey, Ill, he joined the Center for Process Metallurgy, Department of Chemical Engineering at the State University of New York at Buffalo (SUNYAB) in 1969 where he studied under the academic advisement of the late Prof. Julian Szekely. He received his M.S. degree based on his thesis on the "Vapor Deposition of Zinc" in 1971. His Ph.D. dissertation on "Blast Furnace Raceway and Stack Fluid Dynamics" was completed in 1974.

Dr. Poveromo joined the Bethlehem Steel Research Department at the Homer Research Labs in Bethlehem, PA in 1974. His main research and development were initially focused on the blast furnace process where he made significant contributions to Bethlehem's large, modern blast furnace operations, as well as vintage smaller BF operations. He developed improved charging practices for 2-bell top furnaces, coordinated establishment of data acquisition & control systems, and initiated granulated coal injection and natural gas co-injection practices. His value-in-use studies on coking coal and coke properties helped to reduce BF energy consumption by quantifying benefits of improved coke properties on BF operation. He then became heavily involved in Bethlehem's iron ore operations in the USA and Canada, serving on the Technical Advisory Committees of Iron Ore Company of Canada and Hibbing Taconite in Minnesota. He promoted improvements in pellet chemical, physical and metallurgical properties of pellets that led to BF performance improvements.

In 1993 he established his consultancy, Raw Materials & Ironmaking Global Consulting, with Quebec Cartier Mining Company as his principal client for whom he served as Director-Technology, International, through 2008. Here he played a leading role in optimizing QCM's BF pellet quality: chemical, physical and metallurgical properties; he coordinated a working group

that advanced the quality of QCM's DR grade pellets to world class status with respect to chemistry, physical properties, reducibility and resistance to sticking. QCM's DR grade pellets were able to be utilized globally at shaft furnace DR plants in North and South America, Europe, the Mid East Region and Southeast Asia. Dr. Poveromo also developed methods to optimize use of QCM's Mt. Wright concentrate in sinter plants in the USA and globally, as well as in novel ironmaking processes such as the SDI Iron Dynamics, Inc process. During this time he also had other long standing clients: S & B Bauxite, where he promoted use of bauxite in BF operations; advising CRU (Commodity Research Unit) consultancy on ironmaking and iron ore issues; assisting BOC gases with development of industrial gas use in ironmaking and steelmaking.

Dr. Poveromo became an independent consultant in 2009 but has maintained long standing relationships with CRU, Outotec (advising on agglomeration and ironmaking application), AngloAmerican Iron Ore (utilizing lump ore in BF and DR ironmaking operations), Nippon Steel (providing NAFTA ironmaking, raw materials insight) and Ironton (assisting with establishing a miniBF merchant pig iron operation to serve the EAF sector). He also advises a number of global steel companies, iron ore and other natural resource companies, engineering companies, financial institutions, etc, on optimizing raw material and ironmaking operations, project evaluations, market studies, etc.

Throughout his career, his activity has impacted various fields, such as:

- 1. Blast furnace fluid dynamics –**
- 2. Blast furnace raw material charging practices**
- 3. Blast furnace fluxed pellet development Iron ore pellet chemistry improvements –**
- 4. Improved DR grade pellet quality development –**
- 5. Advancing Utilization of Iron Ore Concentrates in Sintering and Alternative Ironmaking Operations**
- 6. Blast furnace process control, optimization and lining life extension**
- 7. Reducing reductant and energy consumption in ironmaking**

8. Advancing use of ore-based metallics in EAF Steelmaking Professional society and educational activities

Dr. Poveromo's honors and distinguished activity may be summarized as follows:

Organizing Chairman – AIST Advanced Technology Symposia: Scrap Supplements & Alternative Ironmaking: Baltimore, Oct. 2004, Nov. 2008, and Oct. 2012

Plenary Lecturer – 5th International Congress on Science and Technology of Ironmaking, Rio de Janeiro, Brazil, Oct. 2012

Special Member – IIMA (International Iron Metallics Assoc., formerly HBIA (Hot Briquetted Iron Assoc., March 2009

Honorary Chairman, COREM Pelletizing Symposium, Quebec City, June 2008

Plenary Lecturer – 4th International Congress on Science and Technology of Ironmaking, Osaka, Japan, Nov. 2006

Keynote Paper, “The Evolution of Ironmaking”, Sohn International Symposium on Advanced Processing of Metals, San Diego, Aug. 2006

Keynote Paper “Raw Material Challenges for Blast Furnace and Direct Reduction Ironmaking”, 5th IAS Ironmaking Conference, November 2005, San Nicolas, Argentina

John Chipman Award, 2000, Process Technology Division, Iron & Steel Society, "for best paper in ISS publications"

T. L. Joseph Award, ISS, 1998, for sustained contributions to ironmaking technology

Organizing Chair, International Program Committee: Second International Congress on Science and Technology of Ironmaking, Toronto, Canada, Mar. 1998

Invited Keynote Lecture, 27th Annual McMaster Symposium on Iron and Steelmaking, “Use of Models to Optimize Blast Furnace Operations”, May 1999

Invited Lecturer - Symposium for 250th Anniversary of Jernkontoret, Stockholm, Sweden, June, 1997

Distinguished Member of Iron & Steel Society, AIME, 1994 -

Keynote Lecturer - First International Congress on Science and Technology of Ironmaking, Sendai, Japan, June 1994

John Farrell Award, 1986, for service as Chairman of Process Technology Div. and Director of Iron & Steel Society

John Chipman Award, 1984, Process Technology Division, Iron & Steel Society," for best paper in ISS publications"

J. E. Johnson Award, 1981, Ironmaking Division, Iron & Steel Society," for improved furnace charging methods"

Dr. Poveromo is a Distinguished and Life Member of AIST (Association of Iron & Steel Technology), Special Member and Fellow of the IIMA (international Iron Metallics Association), full member of SME (Society of Mining Engineers), Eastern States Blast Furnace & Coke Oven association, AIChE (American Institute of Chemical Engineers)