

CURRICULAM VITAE

EDUCATION

J.D. Law, Pace Law School, New York.
Licensed to practice law in New York State. Member of New York State Bar.

Ph.D. Physical/Colloid Chemistry, Clarkson University, New York.

B.S. Chemistry, Millersville University of Pennsylvania.

EXPERIENCE

2012-Present BASF Corporation, Washington, D.C.

Manager, Government Liaison

- BASF advocacy for chemistry, energy technology and policy to members of congress and agencies.
- Responsible for all DOE ARPA-E sponsorship, collaboration and BASF representation.
- Establish cooperative agreements for collaborative ventures with agencies and NGO's.
- Identify agency funding opportunities and support proposal development.
- Develop collaborative activities on front and back end business operations with DOD.
- Responsible for educating state and federal elected officials about NY State facilities, operations and legislative concerns.

2010-2012 BASF SE, Performance Chemicals Research, Ludwigshafen, Germany

Manager, Inorganic Pigments and Materials

- Manage broad materials science research programs including mining, inorganic pigments, carbonyl iron and catalysis.
- Foster and develop new/existing opportunities directionally oriented from mature arenas towards growth initiatives, with emphasis on cross divisional collaborations.
- Provide manufacturing support for commercial products.

2010 BASF SE, Science Relations and Innovation Management, Ludwigshafen, Germany

Scientist, Special Assignment

- Developed a landscape Visualization Tool (VT) for overview of university research activities across North America, including proximity and integration of BASF sites with key universities.
- Leveraged VT to critically review talent management and strategic/geographic coordination of BASF Corporation with the North American university landscape.

2009-2010 BASF Corporation, Performance Chemicals Research, New York

Senior Manager, New Technologies, Effect Materials

- Integrated, consolidated and managed a broad bandwidth of materials science programs from legacy BASF and Ciba under one organizational structure and relocated all groups to Tarrytown, New York from multiple sites.
- Assisted in intellectual property management of existing and future technologies.
- Conceptualized and implemented new products and technologies from an expanded materials science platform to global BASF business groups.
- Provide manufacturing support for commercial products.

2006-2009 BASF Corporation, Performance Chemicals Research, New York
Manager, New Technologies, Effect Materials

- Established a technology conduit allowing for innovative exchange of research platforms between Ludwigshafen, Germany and North America Performance Chemicals Research to align groups.
- Assisted in intellectual property management of existing and future technologies.
- Managed New Technologies Group and lead integration with new Performance Chemicals Research organization within BASF.

2003-2006 Engelhard Corporation, Appearance and Performance Technologies, New York
Manager, New Technologies, Process Research and Co-Manager of Process Development

- Scouted external technologies of interest towards next generation product portfolio.
- Expanded role in intellectual property management of existing and future technologies including patent strategies.
- Developed and managed Process Research Group towards high performance materials compatible with existing technology and manufacturing platform.
- Co-managed Process Development Group for engineering scale up of new products and transition processes into global manufacturing sites.
- Provide manufacturing support.

1996-2003 Engelhard Corporation, Appearance and Performance Technologies, New York
Manager, New Technologies

- Developed new/next generation fine particle decorative and/or functional products and associated technology.
- Sought out internal and external technologies to be used as platforms for new products and business opportunities.
- Coordinated legal counsel regarding intellectual property issues for existing technology.
- Obtained patent protection for numerous products brought to commercialization.
- Provide manufacturing support.

1994-1996 The Mearl Corporation, New York
Supervisor, New Technologies

- Developed products focused on optical effects.
- Implemented manufacturing of optical interference coatings on particulate materials.
- Produced fine particle pigments and functional coatings through various synthetic techniques such as aqueous precipitation, Sol-Gel, electroless deposition, hydrothermal techniques and CVD.
- Provide manufacturing support.

1993-1994 The Mearl Corporation, New York
Chemist

- Conducted research and development on pearlescent pigments and fine particle synthesis.
- Utilized aqueous/hydrothermal techniques for encapsulating and synthesizing particles for optical effects.
- Modify particle surfaces for enhanced functionality.

1991-1993 GEO-Centers, Inc., Maryland
Senior Scientist

- Supervised fine particle technology and materials research for military applications.
- Conducted research, characterization and powder processing of aerosol obscurant fine particles, flakes and fibers.
- Preparation of proposals for governmental solicitations around basic/applied research.

1985-1990 Clarkson University, New York

Graduate Research Assistant, Department of Chemistry

- Performed research in aerosol reaction synthesis on organic, inorganic and organometallic pre-ceramic colloids, powder characterization and modification.
- Conducted research in homogeneous precipitation of inorganic colloid powders and surface modification of particulate materials.

PATENTS

- Hanckel, J.M. and Zimmermann, C.J., U.S. Patent 5,951,750, "Anti-Yellowing Polyolefin Compositions Containing Pearlescent Pigment to Prevent Yellowing and Method Thereof," September 14, 1999.
- Christie, J.D., Fuller, D.S., Sullivan, W.J. and Zimmermann, C.J., U.S. Patent 6,325,847, "Precious Metal Color Effect Materials and Production Thereof," December 4, 2001.
- Christie, J.D., Fuller, D.S. and Zimmermann, C.J., U.S. Patent 6,440,208, "Alloy Color Effect Materials and Production Thereof," August 22, 2002.
- Doxey, V.K., Fuller, D.S. and Zimmermann, C.J., U.S. Patent 6,475,273, "Color Effect Materials and Production Thereof," November 5, 2002.
- Fuller, D.S., Kober, A.E., Moini, A. and Zimmermann, C.J., U.S. Patent 6,517,939, "Noble Metal Coated Substrate Pigments," February 11, 2003.
- Fuller, D.S. and Zimmermann, C.J., U.S. Patent 6,582,764, "Hybrid Inorganic/Organic Color Effect Materials and Production Thereof," June 24, 2003.
- Jones, S.A. and Zimmermann, C.J., U.S. Patent 6,794,037, "High Chroma Effect Materials," September 21, 2004.
- Jones, S.A. and Zimmermann, C.J., U.S. Patent 6,800,125, "Oxide Metallic Effect Materials," October 5, 2004.
- Christie, J.D., Doxey, V.K., Fuller, D.S. and Zimmermann, C.J., U.S. Patent 6,821,333, "Color Effect Materials And Production Thereof," November 23, 2004.
- Fuller, D.S. and Zimmermann, C.J., U.S. Patent 6,875,264, "Multi-Layer Effect Pigments," April 5, 2005.
- Bagala, F. and Zimmermann, C.J., U.S. Patent 7,318,861, "Effect Pigment," January 15, 2008.
- Mazzella, F. and Zimmermann, C.J., U.S. Patent No. 7,842,130, "Complex Inorganic Effect Materials," November 30, 2010.
- Fuller, D. and Zimmermann, C.J., U.S. Patent No. 7,993,443, "Multi-Layer Effect Pigment," August 9, 2011.
- Fuller, D. and Zimmermann, C.J., U.S. Patent No. 7,993,444, "Multi-Layer Effect Pigment," August 9, 2011.
- Fuller, D. and Zimmermann, C.J., U.S. Patent No. 8,007,583, "Multi-Layer Effect Pigment," August 30, 2011.
- Christie, J.D., Doxey, V.K., Fuller, D.S. and Zimmermann, C.J., U.S. Patent 8,083,846, "Color Effect Materials and Production Thereof," December 27, 2011.
- Fuller, D. and Zimmermann, C.J., U.S. Patent No. 8,088,214, "Transparent Goniochromatic Multilayer Effect Pigment," January 3, 2012.
- Fuller, D. and Zimmermann, C.J., U.S. Patent No. 8,282,729, "Transparent Goniochromatic Multilayer Effect Pigment" October 9, 2012.
- Chirayil, T., Johnson, G.M. and Zimmermann, C.J. U.S. Patent 8, 916, 234, "Method of Making Thin Film Structure and Composition Thereof," December 23, 2014.

SELECTED PUBLICATIONS

Zimmermann, C.J., Ryde, N., Kallay, N., Partch, R.E. and Matijevic, E., "Plasma Modification of Polyvinyltoluene and Polystyrene Latices," *J. Mater. Res.* **1991**, 6(4), 855-860.

Zimmermann, C.J., Partch, R.E. and Matijevic, E., "Synthesis of a Silazane Polymer by Chemical Reaction in an Aerosol: A Precursor for Silicon Nitride," *J. Aerosol Sci.* **1991**, 22(7), 881-886.

Zimmermann, C.J., Partch, R.E. and Matijevic, E., "Influence of Plasma on Surface Properties of Some Inorganic Oxide Particles," *Colloid Surfac* **1991**, 57(1), 177-183.

INSTRUCTOR

- "Surface Modification Technologies To Enhance Industrial Performance of Powdered Materials - An Introduction to Particle Coating Technology," Particles 2001 Conference, Orlando, Florida, February 2001.
- "Particle Surface Modification," Composites at Lake Louise Conference, Lake Louise, Canada, October 2001.
- "An Introduction to Particle Coating Technology by Physical and Chemical Methods," 45th Society of Vacuum Coaters International Conference, Orlando, Florida, April 2002.
- "Particle Coating Technology by Physical and Chemical Methods," 46th Society of Vacuum Coaters International Conference, San Francisco, California, May 2003.

CONTINUING EDUCATION

- Managing Technical Organizations – Sloan Business School at MIT.
- Patent Law & Trade Secrets/Patent & Trademark Law & IP in the 21st Century – NYU.
- Market Driven Management