

Robert A. Iezzi, Ph.D.

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Qualifications Summary

Accomplished technologist with an outstanding record of achievement in chemical Research and Development. Strength areas include new product development. Drive profitability through utilization of well-honed creativity, innovation, and project management skills. Possess in-depth knowledge of the sciences, along with excellent business acumen. Particular expertise in:

- fluoropolymers
- organic / metal coatings
- corrosion
- polymers & nanocomposites
- expert witness
- materials / polymer science
- general chemistry
- electrochemistry
- plastics
- pretreatments

Demonstrated ability to build a cohesive team of highly motivated technical personnel to achieve organizational, technical, and business unit goals. Technically adaptable, self-starting, innovative professional with excellent communication, interpersonal, and organizational abilities.

Professional Experience

RAI TECHNICAL SOLUTIONS®, INC., West Chester, PA 2006 – Present

Founder and CEO of my own consulting business specializing in corrosion, coatings, polymers, and nanocomposites.

NEI CORPORATION, Somerset, NJ 2009 - 2012

Vice President, Coating Technologies

Responsible for new product development of novel polymers and coatings based on nano-materials.

PENN STATE UNIVERSITY – GREAT VALLEY CAMPUS, Malvern, PA 2006 – 2010

Teach graduate level engineering courses in innovation, creativity, and project management, along with an MBA course in New Business Ventures and Entrepreneurship.

ARKEMA CHEMICALS RESEARCH CENTER, King of Prussia, PA 1994-2006

Manager, Plastic Additives Research (2002-2006)

Responsible for the management of the new product development of novel additives for plastics products (i.e., impact modifiers, process aids, etc. for use in various polymers such as polycarbonate, polyesters, and PVC).

- Managed a group of 8 individuals, including 3 Chemistry or Chemical Engineering PhD's.
- Conceived and led the development of a compatibilizer for wood-PVC composites. Co-inventor on a Patent Application filed in 2005.
- Led the development of Clearstrength® E-950, a new MBS impact modifier commercialized in 2005. Patent Application filed in 2005.
- Led the development of Durastrength® 440, a novel acrylic impact modifier commercialized in 2005. Patent Application filed in 2005.
- Led the effort to improve MBS blocking. This work saved \$8 million per year of business.
- Led the development of Clearstrength® E-922, which was commercialized in 2005.

Manager, Coatings Research, Technical Polymers (1994 – 2002)

Responsible for the new product development and technical service of polyamide and fluoropolymer coatings.

- Managed a group of 12 individuals, including seven Chemistry or Chemical Engineering PhD's.
- Led the development of Aquatec® (Acrylic Modified Fluoropolymer), which is currently commercial.
- Led the development of Primgreen®2, a non-toxic primer for polyamide powder coatings.
- Led the technical activity to qualify the use of polyamide powder coatings for dishwasher baskets.
- Authored a chapter in the book *Modern Fluoropolymers*, published several technical papers in respected journals, and presented numerous papers at various technical conferences (see attached list of publications).

BETZ LABORATORIES RESEARCH CENTER, Trevoze, PA

1989 – 1994

Section Head, Metal and Plastic Pretreatments

Directed the new product & process development, and technical service of cleaner and pretreatment chemicals for metals and plastics. Managed 15 individuals.

CAMPBELL SOUP COMPANY, Camden, NJ

1985 – 1989

Director, Packaging Technology

Managed a staff of 18. Responsible for the development of new metal & plastic food packages, organic coatings for metal containers, technical service, and container specifications. Additional “dotted line” responsibility for seven manufacturing plants, which produced 5 billion cans per year.

EARLY EXPERIENCE

New product & process development of inorganic and organic coatings on steel at Bethlehem Steel Corporation and Republic Steel Corporations.

Education

- **Ph. D., Metallurgy and Materials Science** - Lehigh University, Bethlehem, PA
- **M. S., Physics** - Kent State University, Kent, OH
- **Seven M.B.A. courses** - Kent State University, Kent, OH
- **B.S., Engineering** - Widener University, Chester, PA

Awards

- *Packaging Institute International* Annual Educational Award – best paper.
- *National Association of Corrosion Engineers* Romanoff Award – best paper published in *Corrosion Journal*.
- Chosen to participate in the *Industrial Research Institute* Visiting Scientist Program.
- *National Coil Coating Association* Technical Section Certificate of Appreciation.

Associations

- Forensic Expert Witness Association
- American Chemical Society
- American Coatings Association
- Philadelphia Society for Coatings Technology
- American Architectural Manufacturers Association
- National Coil Coating Association – Board of Directors (past)
- Delaware Valley Volunteers of America – Board of Directors (past)

Patents

WO/2007/050324 - Patent pending - Compatibilizers for PVC-Wood Composites
U.S. Pat. #8,664,298 - Self Healing Polymer Nanocomposite Coatings for Use on Surfaces Made of Wood
U.S. Pat. #3,559,662 - Method and Valve Apparatus for Metering Flow of Liquid Metal
U.S. Pat. #4,470,897 - Electroplated Product and Method
U.S. Pat. #5,562,833 - Dual Feed Paint Detackification Program
U.S. Pat. #5,614,103 -Methods for Detackifying Paint Spray Booth Water
U.S. Pat. #5,354,494 - Reactive Silane Composition and Process for Enhanced Drainage of Residual
Aqueous Rinse on the External Surfaces of Plastic Parts
U.S.Pat. #5,719,224 – Compositions and Methods for Detackifying Paint Spray Booth Water
Several foreign patents also granted on these U.S. patents.

Publications and Presentations

Polyvinylidene Fluoride-Based Coatings Technology, chapter published in book *ASM Handbook – Protective Organic Coatings*, vol. 5B, ASM International, 2015, pp. 80-87.

Corrosion Mechanisms of Painted Metal, presented at the Eastern Coatings Show, April 30, 2013, and at the PSCT Symposium, September 20, 2012.

Corrosion-Resistant Nanocomposite Coating for Metal Structures, *Paint & Coatings Industries*, September 2012, pp. 40 – 43.

Enhancing the Energy Efficiency of Condensers, presented at the 2012 Navy Opportunity Forum, June 6, 2012.

High Performance Fluoroelastomers, presented at the 2012 Navy Opportunity Forum, June 5, 2012.

Novel Nanocomposite Self-Healing Coatings, presented at the 2012 Navy Opportunity Forum, June 4, 2012.

Novel Nanocomposite Self-Healing Coatings – A Systems Approach, presented at the Metropolitan New York City Coating Society Symposium, March 22, 2012.

Corrosion Resistant Nanocomposite Coating for Marine Structures, presented at the Society of Naval & Marine Engineers Annual Conference, November 18, 2011.

For Protection and Repair, *Furniture Design & Manufacturing Asia*, Nov/Dec 2011, pp. 16-19.

Corrosion Mechanisms of Painted Metal, presented at the DoD Corrosion 2011 Conference, August 1, 2011, and published in the Conference Proceedings.

Novel Self-Healing Nanocomposite Coatings, presented at the DoD Corrosion 2011 Conference, August 2, 2011, and published in the Conference Proceedings; and presented at Smart Coatings 2011 Conference, February 25, 2011.

Novel Self-Healing Nanocomposite Coatings for Wood Substrates, presented at the Wood Coatings and Substrates Conference, September 10, 2010.

Corrosion Resistant Nanocomposite Coatings, presented at the Navy Opportunity Forum, June 8, 2010.

Crystallinity of Coatings Based on Polyvinylidene Fluoride, *Paint and Coatings Industries*, Oct. 2008, pp. 62-68.

Recent Advances in Wood – Polymer Composites, *Additives 2006*, January 2006.

Fundamentals of Corrosion and Their Application to Coil-Coated Metal, *National Coil Coatings Association* Technical Manual, 2002.

Acrylic-Fluoropolymer Mixtures and Their Use in Coatings, *Progress in Organic Coatings*, December 2000, pp 55-61; presented at the 6th Biennial North American Research Conference on the Science and Technology of Organic Coatings, Hilton Head, SC, November 8, 2000; presented at Fluoropolymer 2000, Savannah, GA, October 16, 2000; presented at the 25th Annual International Conference on Organic Coatings, Athens, Greece, July 6, 1999.

Corrosion of Painted Aluminum, presented at the Aluminum Extruders Council Management Meeting, September 1998.

Creating Coatings for Better Buildings, *Paint and Coatings Industries*, July 1998, pp. 48-60.

Update on Fluoropolymer Coating Technology, panel discussion at the National Coil Coaters Association Annual Meeting, April 1998. Published in NCCA Meeting Proceedings, pp. 49-58; and in *Coil World*, November/December 1998, pp. 22-28.

Novel VF₂/HFP Copolymers for Exterior Coatings, presented at the European Coil Coaters Association Technical Meeting, November 1997, and published in Conference Proceedings.

Fluoropolymer Coatings for Architectural Applications, chapter published in book *Modern Fluoropolymers*, John Wiley, 1997, pp. 271-299.

PVDF Coatings for Aluminum, presented at Alumitech 97, May 1997.

Corrosion of Painted Metal Buildings, presented at Metalcon, October 1996.

Corrosion of Coil Coated Metal, presented at the National Coil Coaters Association Fall Meeting, and published in NCCA Conference Proceedings, October 1996.

No Rinse Chromium Pretreatment for Aerospace Applications, presented at the 7th Annual Aerospace Hazardous Material Conference, October 1992, and Aeromet Conference, June 1993.

No Rinse Chromium Pretreatment for Aluminum Extrusions, presented at SME Finishing '91 Conference, September 1991.

Packaging Strategy - Two Piece Can Making, presented at the National Metal Decorators Association Annual Meeting, October 1988.

Campbell Soup's Two Piece DRD Metal Can Technology, two-hour lecture presented at Michigan State University Graduate School Course - Advanced Packaging Materials, May 1986, June 1987 and May 1988.

Campbell Soup Company and Coil Coating - Partners for the Future, presented at the NCCA Annual Meeting, April 1987.

How Campbell Tests CPET Trays, *Packaging*, April 1987, pp. 102-103.

Innovative Plastic Technologies and Their Application to Food Packaging, presented at the ACS Annual Meeting, April 1987.

New Packaging Technologies, *Meat Processing*, April 1987, pp. 38-42.

Plastic Packaging Thrusts at Campbell Soup, presented at the Packaging Institute International Annual Meeting, September 1986 (paper won PII Annual Education Award), and the 5th International Conference on Packaging, Bristol, England, October 1986.

Critical Process Parameters Affecting Zincrometal Performance, SAE Paper 840209, presented at the 1984 SAE International Congress, and the 1984 ACS Annual Meeting.

The New Prepainted Galvalume Sheet, Proceedings of NCCA Fall Meeting, pp. 2-9, presented September 1983; also published in *Metal Building Review*, May 1984.

Prepainted Galvalume - U.S. Perspective, *Steel Times International*, September 1981, pp. 130-137, presented at the European Coil Coaters Association Annual Meeting, Stockholm, Sweden, April 1981.

Surface Characteristics of Cold-Rolled Steel as they Affect Paint Performance, *Corrosion*, January 1981, pp. 28-38 (paper won Romanoff Award).

Theoretical and Practical Considerations of Sheet Steel Surface Cleanliness, SAE Paper 800149, February 1980.

Galvalume in Metal Buildings, Proceedings of the NCCA Fall Meeting, pp. 28-36, presented October 1979.

Industrial Applications of Surface Chemistry, presented at the University of Montevallo, March 1979.

Surface Characteristics Controlling Paint Adhesion on Cold-Rolled Steel, presented at:
ASM Annual Meeting, November 1978
Society Manufacturing Engineers, October 1978
Gordon Research Conference on Corrosion, July 1978

How Ford's Work Relates to the Coil Coating Industry, Proceedings of the NCCA Annual Meeting, pp. 18-25, presented May 1978.

Lower Antimony Contents Improve Terne Coatings, *Materials Protection and Performance*, 1978, Vol. 12, pp. 43-46.