

CURRICULUM VITAE

Mark E. Orazem

Current Position

Professor
Department of Chemical Engineering
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Research Interests

Electrochemical Engineering: electrochemical impedance spectroscopy, corrosion (including cathodic protection), current distribution in electrochemical systems, energy devices (fuel cells and batteries), mathematical modeling.

Education

PhD Chemical Engineering, University of California, Berkeley, California, 1983.
MS Chemical Engineering, Kansas State University, Manhattan, Kansas, 1978.
BS Chemical Engineering, Kansas State University, Manhattan, Kansas, 1976.

Experience

- Department of Chemical Engineering, University of Florida, Gainesville, Florida.
 - Distinguished Professor, 2015-present.
 - ExxonMobil Chemical Engineering Alumni Professor of Chemical Engineering, 2015-2018
 - University of Florida Research Foundation Professor, 1999-2002, 2014-2016.
 - Charles A. Stokes Professor of Chemical Engineering, 2000-2003, 2010-2013.
 - Professor, August 1992-2015.
 - Associate Professor, August 1988-August 1992.
- Beijing University of Chemical Technology, Beijing, China.
 - Adjunct Professor, 2014-present
- Institut National Polytechnique de Toulouse, Toulouse, France.
 - July 2006 (visiting professor)
- UPR 15 du CNRS, “Physique des Liquides et Electrochimie,” Université Pierre et Marie Curie, Paris, France.
 - January 2012-June 2012 (sabbatical).
 - July 2001-July 2002 (sabbatical).
 - July 1994-April 1995 (sabbatical).
 - July 1993 (visiting professor).
- Department of Chemical Engineering, University of Virginia, Charlottesville, Virginia.
 - Assistant Professor, September 1983-August 1988.

Summary

Publication and Presentations

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Professional Honors and Societies

Honors

- Distinguished Professor, Awarded 2015.
- ExxonMobil Gator Chemical Engineering Alumni Professorship, 2015-2018
- Appointed Adjunct Professor, Beijing University of Chemical Technology, 2014.
- University of Florida Research Foundation Professorship, 2014-2017, 1999-2002.
- The 2012 *Electrochemical Society* Henry B. Linford Award for Distinguished Teaching.
- Recipient of a 2011/12 University of Florida Faculty Enhancement Opportunity (FEO) Award.
- Paper 70 listed as one of the *Top 10 Cited* (articles published in the last five years) in *Electrochimica Acta*, extracted from *Scopus* in September 2010.
- Charles A. Stokes Chemical Engineering Professorship, 2010-2013, 2000-2003.
- Associate Editor of *Journal of The Electrochemical Society*, 2001-2011.
- Elected Officer of the *International Society of Electrochemistry*, Past-President 2013-2014, President 2011-2012, President-Elect 2009-2010, Vice-President 2006-2008, US Regional Representative 2004-2005.
- 2008 University of Florida Blue Key Distinguished Professor Award.
- 2006 Excellence in Teaching Award from the University of Florida student chapter of the American Institute of Chemical Engineers.
- Fellow of *The Electrochemical Society*, Elected 2006.
- Outstanding Service as a Distinguished Educator, BP Azerbaijan, 2005.
- Distinguished International Educator, College of Engineering, University of Florida, 2005.
- Organizer of the Sixth International Symposium on Electrochemical Impedance Spectroscopy, held in Cocoa Beach, Florida in May 2004.
- Associate Editor of *Corrosion*, 1997-2002.
- Invited speaker at the Gordon Conference on the Barrier Function of Mammalian Skin, Il Ciocco, Italy, April 18-23, 1999.

- Invited speaker at the Gordon Conference on Aqueous Corrosion, New London, New Hampshire, July 20-24, 1992, July 5-9, 1998.
- University of Florida TIP Award for Outstanding Undergraduate Teaching, 1993.
- Co-Author of papers 29 and 30 that received the 1993 Campbell Young Author Award of *NACE International*.
- Co-Author of papers 25 and 26 that received the 1992 Norman Hackerman Young Author Award of *The Electrochemical Society*.
- University of Florida College of Engineering Award for Outstanding Undergraduate Teaching, 1991-1992.

Plenary Speaker

- 10th International Symposium on Electrochemical Micro & Nanosystem Technologies (EMNT2014), Okinawa, Japan, November 5-8, 2014.
- 7th International Workshop on Impedance Spectroscopy, Chemnitz, Germany, September 24-26, 2014.
- 9th International Symposium on Electrochemical Impedance Spectroscopy, EIS2013, Okinawa, Japan, June 16-21, 2013.
- 19th Electrochemical and Electroanalytical Brazilian Symposium, Campos do Jordão, São Paulo, Brazil, April 1-5, 2013.
- 24^{ème} Forum sur les Impedances Electrochimiques, Paris, France, March 12, 2013.
- XXVI Congreso de la Sociedad Mexicana de Electroquímica (and the 4th Meeting of the Mexican Section of The Electrochemical Society) (Conferencia Magisteriale), Mexico City, May 29-June 3, 2011.
- INTERCORR 2008, the 28th Congresso Brasileiro de Corrosão, 2nd International Corrosion Meeting, May 12-16, 2008, Recife, Brazil.
- 7th International Symposium on Electrochemical Impedance Spectroscopy, Argelès sur Mer, France, June 3-8, 2007.
- EMCR 2006, Dourdan, France, June 18-23, 2006.
- 14^{ème} Forum sur les Impedances Electrochimiques, Paris, France, January 14, 2002.
- Giornate dell'Elettrochimica Italiana 1994, Padova, Italy, October 11-14, 1994.
- 8^{ème} Forum sur les Impedances Electrochimiques, Paris, France, November 21, 1994.
- 2nd International Symposium on Electrochemical Impedance Spectroscopy, Santa Barbara, California, July 12-17, 1992.

Honor Societies

- Member, *Omega Chi Epsilon* (Chemical Engineering honorary society).
- Member, *Phi Lambda Upsilon* (Chemistry honorary society).
- Member, *Tau Beta Pi* (Engineering honorary society).
- Member, *Sigma Xi* (Scientific honorary society).

Professional Societies

- *American Institute of Chemical Engineers*: Member of National Program Planning Committee, Area 1e: Electrochemical Fundamentals. Vice-chairman, 1987-1989, Chairman, 1989-1991.
- *Electrochemical Society*: Former member of Executive Committee for Energy Technology. Former representative of Physical Electrochemistry Division on Society Membership Committee. Member of Committee for the “Young Author Award” 1991, 1993, 1995, 1997. Member of Selection Committee for the H. B. Linford Award. Chair of Committee for the “Young Author Award” 1999 and 2000. Former member of the Publication Committee. Current member of the Industrial Electrolysis and Electrochemical Engineering Division Programming Committee. Former Member of the Education and Finance Committees. Former Member of editorial board and Associate Editor of the *Journal of The Electrochemical Society* (2001-2011). Currently Chair of the Education Committee (2013-2017) and ECS External Relations Representative (2013-2015).
- *International Society of Electrochemistry*: member of selection committee for the Tacussel Prize, chair of selection committee for the Oronzio De Nora Foundation Young Author Prize. Elected US Regional Representative to the *International Society of Electrochemistry*, 2004-2006. Elected Vice President of the *International Society of Electrochemistry*, 2006-2008, President-Elect, 2009-2010, President, 2011-2012.
- *International Union of Pure and Applied Chemistry*: Member of committee to develop the new International Union of Pure and Applied Chemistry (IUPAC) conventions for Electrochemical Impedance Spectroscopy: Terminology, Nomenclature, and Data Exchange Formats.
- American Chemical Society.
- *NACE International*: Member of Technical Committees T-5A-31: Fluid Flow Enhanced Corrosion, T-5A Corrosion in Chemical Processes, T-5: Corrosion Problems in the Process Industries, and T-3A-11: Impingement Erosion-Corrosion (Corrosion Inhibitors). With David Silverman, coordinated revision of NACE standards for test methods for flow-enhanced corrosion. Former member of NACE Research Committee. Former member of editorial board and Associate Editor of Corrosion.

Major Academic Assignments

- College of Engineering Operations Advisory Council (OAC). Member 2013 - present.
- Department of Chemistry Chemical Safety Internal Review Board. Member 2012 - present.
- College of Engineering Search Committee for Laboratory Safety Director. Member 2012-2013.
- University of Florida College of Engineering Faculty Council. Member 2006-2011.
- University of Florida Infrastructure Council. Chair 2010/11, Member 2008-2010.
- University of Florida Faculty Senate. Member 1992-1994, 2005-2011.
- Search Committee for the University of Florida Information Security Officer. Member 2009-2010.
- University of Florida Information Technology Briefing Group. Member 2009.
- University of Florida Information Technology Action Plan Committee. Member 2008-2009.
- Director and organizer, University of Florida/BP Engineering Development Program for the Caspian Sea Region, 2004-2009.
- College of Engineering Budget Cut Advisory Committee. Member 2008.
- Faculty coordinator for the Fuel Cell component of the NASA-supported program on “Hydrogen Research for Aviation and Space-Based Applications,” 2004-2008.
- University of Florida Council on Research and Scholarship, Member 2006-2007, 2008.
- Committee to write and implement the Constitution for the University of Florida College of Engineering. Member 2005-2006.
- College of Engineering Tenure and Promotion Committee. Member, 1995-1998.
- University of Florida Teaching Improvement Committee. Member 1992/93, 1995/96.

Publications

Books

3. M. E. Orazem and B. Tribollet, *Electrochemical Impedance Spectroscopy*, Chinese translation, Chemical Industry Press, Beijing, China, 2014.
2. M. E. Orazem, editor, *Underground Pipeline Corrosion: Detection, Analysis, and Prevention*, Woodhead Publishing Limited, Cambridge, UK, 2014.
1. M. E. Orazem and B. Tribollet, *Electrochemical Impedance Spectroscopy*, John Wiley & Sons, Hoboken, New Jersey, 2008, 554 pages.

Edited Proceedings and Special Journal Issues

9. V. Vivier, M. Musiani, N. Pébère, and M. E. Orazem, guest editors, *Journal of Electroanalytical Chemistry: Special Issue in Honor of Dr. Bernard Tribollet*, **737** (2015)(242 pages).
8. V. Lvovich, P. Vanýsek, and M. E. Orazem, editors, Impedance Techniques: Diagnostics and Sensing Applications, *ECS Transactions*, **41:28** (2012) (90 pages).
7. P. Vanýsek, D. C. Hansen, and M. E. Orazem, editors, Impedance Techniques: Diagnostics and Sensing Applications, *ECS Transactions*, **25:32** (2009) (91 pages).
6. P. Vanýsek, D. C. Hansen, and M. E. Orazem, editors, Impedance in Electrochemistry: From Analytical Applications to Mechanistic Speculation 2, *ECS Transactions*, **19:20** (2009) (155 pages).
5. M. E. Orazem, J. Fenton, and P. Pintauro, editors, Tutorials in Electrochemical Technology: Current Distribution, *ECS Transactions*, **19:19** (2009) (22 pages).
4. A. M. O. Brett, A. De Battisti, E. R. Gonzalez, C. Gutierrez, O. Hammerich, G. Inzelt, M. T. M. Koper, M. E. Orazem, and P. Schmuki, guest co-editors for a special issue of *Electrochimica Acta* dedicated to the 59th Meeting of the *International Society of Electrochemistry* (Seville, 2008), volume **54** (2009), 4945-5306 (361 pages).
3. M. E. Orazem, B. Tribollet, and P. Pintauro, editors, Tutorials in Electrochemical Technology: Impedance Spectroscopy, *ECS Transactions*, **13:13** (2008) (169 pages).
2. M. E. Orazem, guest Editor for special issue of *Electrochimica Acta* on Electrochemical Impedance Spectroscopy: A selection of papers from the 6th International Symposium, Cocoa Beach, FL, May 2004, volume **51** (2006), pages 1375-1904 (529 pages).
1. M. E. Orazem, editor, *Cathodic Protection: Theory and Applications*, NACE International, Houston, Texas, 1999. These are a series of review papers by leading experts covering major developments in the field.

Refereed Chapters in Books

5. C. Liu, A. Shankar, M. E. Orazem, and D. P. Riemer, "Numerical Simulations for Cathodic Protection of Pipelines," in *Underground Pipeline Corrosion: Detection, Analysis, and Prevention*, M. E. Orazem, editor, Woodhead Publishing Limited, Cambridge, UK, 2014, 85-126.
4. D. P. Riemer and M. E. Orazem, "Modeling Coating Flaws with Non-Linear Polarization Curves for Long Pipelines," in *Corrosion and Cathodic Protection Modeling and Simulation*, Volume 12 of Advances in Boundary Elements, R. A. Adey, editor, WIT press, Southampton, 2005, 225-259.
3. P. Agarwal, M. E. Orazem, and L. H. García Rubio, "Application of the Kramers Kronig Relations in Electrochemical Impedance Spectroscopy," in *Electrochemical Impedance: Analysis and Interpretation*, ASTM STP 1188, J. Scully, D. Silverman, M. Kendig, Editors, American Society for Testing and Materials, Philadelphia, 1993, 115-139.
2. J. M. Esteban, M. Lowry, and M. E. Orazem, "Correction of Experimental Data for the Ohmic Potential Drop Corresponding to a Secondary Current Distribution on a Disk Electrode," in *The Measurement and Correction of Electrolyte Resistance in Electrochemical Tests*, ASTM STP 1056, L. L. Scribner and S. R. Taylor, Eds., American Society for Testing and Materials, Philadelphia, 1990, 127-141.

1. M. E. Orazem and J. Newman, "Photoelectrochemical Devices for Solar Energy Conversion," in *Modern Aspects of Electrochemistry*, Vol. 18, R. E. White, J. O'M. Bockris and B. E. Conway, editors, Plenum Press, New York, 1986, 61-112. (Also appeared as Lawrence Berkeley Laboratory Report, LBL 18766, January 1985).

Refereed Journal Publications

124. A. S. Nguyen, M. Musiani, M. E. Orazem, N. Pébère, B. Tribollet, and V. Vivier, "Impedance Analysis of the Distributed Resistivity of Coatings in Dry and Wet Conditions," *Electrochimica Acta*, (2015), in press.
123. C. L. Alexander, B. Tribollet, and M. E. Orazem, "Contribution of Surface Distributions to Constant-Phase-Element (CPE) Behavior: 1. Influence of Roughness," *Electrochimica Acta*, **173** (2015), 416-424.
122. S. Erol and M. E. Orazem, "The Influence of Anomalous Diffusion on the Impedance Response of LiCoO₂/C Batteries," *Journal of Power Sources*, **293** (2015), 57-64.
121. S.-L. Wu, M. E. Orazem, B. Tribollet, and V. Vivier, "The Impedance Response of Rotating Disk Electrodes," *Journal of Electroanalytical Chemistry*, **737** (2015), 11-22.
120. Y. B. Amor, E. M. M. Sutter, H. Takenouti, M. E. Orazem, and B. Tribollet, "Interpretation of Electrochemical Impedance for Corrosion of a Coated Silver Film in Terms of a Pore-in-Pore Model," *Journal of the Electrochemical Society*, **161** (2014), C573-C579.
119. M. Musiani, M. E. Orazem, N. Pébère, B. Tribollet, and V. Vivier, "Determination of Resistivity Profiles in Anti-Corrosion Coatings from Constant-Phase-Element Parameters," *Progress in Organic Coatings*, **77** (2014), 2076-2083.
118. R. Kong and M. E. Orazem, "Semicontinuous Electrokinetic Dewatering of Phosphatic Clay Suspensions," *Electrochimica Acta*, **140** (2014), 438-446.
117. S. Erol, M. E. Orazem, and R. P. Muller, "Influence of Overcharge and Over-Discharge on the Impedance Response of LiCoO₂/C Batteries," *Journal of Power Sources*, **270** (2014), 92-100.
116. Y.-C. Chang, R. Woollam, and M. E. Orazem, "Mathematical Models for Under-Deposit Corrosion: 1. Aerated Media," *Journal of The Electrochemical Society*, **161** (2014), C321-C329.
115. S.-L. Wu, M. E. Orazem, B. Tribollet, and V. Vivier, "The Influence of Coupled Faradaic and Charging Currents on Impedance Spectroscopy," *Electrochimica Acta*, **131** (2014), 3-12.
114. M. E. Orazem, B. Tribollet, V. Vivier, D. P. Riemer, E. A. White, and A. L. Bunge, "On the Use of the Power-Law Model for Interpreting Constant-Phase-Element Parameters," *Journal of the Brazilian Chemical Society*, **25** (2014), 532-539.
113. A. A. Mouayd, M. E. Orazem, E. M. Sutter, B. Tribollet, and A. Koltsov, "Contribution of Electrochemical Dissolution During Pickling of Low Carbon Steel in Acidic Solutions," *Corrosion Science*, **82** (2014), 362-368.
112. C. Cleveland, S. Moghaddam, and M. E. Orazem, "Nanometer-Scale Corrosion of Copper in De-Aerated Deionized Water," *Journal of The Electrochemical Society*, **161** (2014), C107-C114.
111. E. A. White, M. E. Orazem, and A. L. Bunge, "Characterization of Damaged Skin by Impedance Spectroscopy: Chemical Damage by Dimethyl Sulfoxide," *Pharmaceutical Research*, **30** (2013), 2607-2624.
110. E. A. White, M. E. Orazem, and A. L. Bunge, "Characterization of Damaged Skin by Impedance Spectroscopy: Mechanical Damage," *Pharmaceutical Research*, **30** (2013), 2036-2049.
109. M. E. Orazem, B. Tribollet, V. Vivier, S. Marcelin, N. Pébère, A. L. Bunge, E. A. White, D. P. Riemer, I. Frateur, and M. Musiani, "Interpretation of Dielectric Properties for Materials showing Constant-Phase Element (CPE) Impedance Response," *Journal of The Electrochemical Society*, **160** (2013), C215-C225.
108. S. Amand, M. Musiani, M. E. Orazem, N. Pébère, B. Tribollet, and V. Vivier, "Constant-Phase-Element Behavior Caused by Inhomogeneous Water Uptake in Anti-Corrosion Coatings," *Electrochimica Acta*, **87** (2013), 693-700.
107. E. A. White, M. E. Orazem, and A. L. Bunge, "Single-Frequency LCR Databridge Impedance Measurements as Surrogate Measures for the Integrity of Human Skin," *Journal of The Electrochemical Society*, **159** (2012), G161-G165.

106. J. V. Ferrari, H. G. De Melo, M. Keddam, M. E. Orazem, N. Pébère, B. Tribollet, and V. Vivier, "Influence of Normal and Radial Contributions of Local Current Density on Local Electrochemical Impedance Spectroscopy," *Electrochimica Acta*, **60** (2012), 244-252.
105. J. Hill, N. Banks, K. Haller, M. E. Orazem, and K. J. Ziegler, "An Interfacial and Bulk Charge Transport Model for Dye-Sensitized Solar Cells based on Photoanodes Consisting of Core-Shell Nanowire Arrays: Part 1. Role of Interfacial Electric Fields," *Journal of the American Chemical Society*, **133** (2011), 18663-18672.
104. M. Musiani, M. E. Orazem, N. Pébère, B. Tribollet, and V. Vivier, "Constant-Phase-Element Behavior Caused by Coupled Resistivity and Permittivity Distributions in Films," *Journal of The Electrochemical Society*, **158** (2011), C424-C428.
103. E. A. White, A. Horne, J. Runciman, M. E. Orazem, W. C. Navidi, C. Roper, and A. L. Bunge, "On the Correlation between Single-Frequency Impedance Measurements and Human Skin Permeability to Water," *Toxicology in Vitro*, **25** (2011), 774-784.
102. V. Huang, S.-L. Wu, M. E. Orazem, N. Pébère, B. Tribollet, and V. Vivier, "Local Electrochemical Impedance Spectroscopy: A Review and Some Recent Developments," *Electrochimica Acta*, **56** (2011), 8048-8057.
101. M. Musiani, M. E. Orazem, B. Tribollet, and V. Vivier, "Impedance of Blocking Electrodes Having Parallel Cylindrical Pores with Distributed Radii," *Electrochimica Acta*, **56** (2011), 8014-8022.
100. E. Patrick, M. E. Orazem, J. C. Sanchez, and T. Nishida, "Corrosion of Tungsten Microelectrodes used in Neural Recording Applications," *Journal of Neuroscience Methods*, **198** (2011), 158-171.
99. E. A. White, M. E. Orazem, and A. L. Bunge, "A Critical Analysis of Single-Frequency LCR DataBridge Impedance Measurements of Human Skin," *Toxicology in Vitro*, **25** (2011), 774-784.
98. S. K. Roy, H. Hagelin-Weaver, and M. E. Orazem, "Application of Complementary Analytical Tools to Support Interpretation of Polymer-Electrolyte-Membrane Fuel Cell Impedance Data," *Journal of Power Sources*, **196** (2011), 3736-3742.
97. J. P. McKinney and M. E. Orazem, "Electrokinetic Dewatering Phosphatic Clay Settling Areas: Numerical Simulation and Economic Assessment," *Minerals & Metallurgical Processing*, **28** (2011), 71-76.
96. J. P. McKinney and M. E. Orazem, "A Constitutive Relationship for Electrokinetic Dewatering of Phosphatic Clay Slurries," *Minerals & Metallurgical Processing*, **28** (2011), 49-54.
95. B. Hirschorn, M. E. Orazem, B. Tribollet, V. Vivier, I. Frateur, and M. Musiani, "Constant-Phase-Element Behavior Caused by Resistivity Distributions in Films: 2. Applications," *Journal of The Electrochemical Society*, **157** (2010), C458-C463.
94. B. Hirschorn, M. E. Orazem, B. Tribollet, V. Vivier, I. Frateur, and M. Musiani, "Constant-Phase-Element Behavior Caused by Resistivity Distributions in Films: 1. Theory," *Journal of The Electrochemical Society*, **157** (2010), C452-C457.
93. C. Blanc, M. E. Orazem, N. Pébère, B. Tribollet, V. Vivier, and S. Wu, "The Origin of the Complex Character of the Ohmic Impedance," *Electrochimica Acta*, **55** (2010), 6313-6321.
92. B. Hirschorn, M. E. Orazem, B. Tribollet, V. Vivier, I. Frateur, and M. Musiani, "Determination of Effective Capacitance and Film Thickness from Constant-Phase-Element Parameters," *Electrochimica Acta*, **55** (2010), 6218-6227.
91. B. Hirschorn and M. E. Orazem, "On the Sensitivity of the Kramers-Kronig Relations to Nonlinear Effects in Impedance Measurements," *Journal of The Electrochemical Society*, **156** (2009), C345-C351.
90. S. Wu, M. E. Orazem, B. Tribollet, and V. Vivier, "Impedance of a Disk Electrode with Reactions Involving an Adsorbed Intermediate: Experimental and Simulation Analysis," *Journal of The Electrochemical Society*, **156** (2009), C214-C221.
89. K. N. Allahar and M. E. Orazem, "On the Extension of CP Models to Address Cathodic Protection under a Delaminated Coating," *Corrosion Science*, **51** (2009), 962-970.

88. S. K. Roy and M. E. Orazem, "Graphical Estimation of Interfacial Capacitance of PEM Fuel Cells from Impedance Measurements," *Journal of The Electrochemical Society*, **156** (2009), B203-B209.
87. S. Wu, M. E. Orazem, B. Tribollet, and V. Vivier, "Impedance of a Disk Electrode with Reactions Involving an Adsorbed Intermediate: Local and Global Analysis," *Journal of The Electrochemical Society*, **156** (2009), C28-C38.
86. B. Hirschorn, B. Tribollet, and M. E. Orazem, "On Selection of the Perturbation Amplitude Required to Avoid Nonlinear Effects in Impedance Measurements," *Israel Journal of Chemistry*, **48** (2008), 133-142.
85. K. N. Allahar, D. Battocchi, M. E. Orazem, G. P. Bierwagen, and D. E. Tallman, "Modeling of Electrochemical Impedance Data of a Magnesium-Rich Primer," *Journal of The Electrochemical Society*, **155** (2008), E143-E149.
84. S. K. Roy and M. E. Orazem, "Analysis of Flooding as a Stochastic Process in Polymer Electrolyte Membrane (PEM) Fuel Cells by Impedance Techniques," *Journal of Power Sources*, **184** (2008), 212-219.
83. V. Huang, C. Allely, K. Ogle and M. E. Orazem, "A Mathematical Model for Cathodic Delamination of Coated Metal Including a Kinetic pH-Porosity Relationship," *Journal of The Electrochemical Society*, **155** (2008), C279-C292.
82. I. Frateur, V. Huang, M. E. Orazem, N. Pébère, B. Tribollet, and V. Vivier, "Local Electrochemical Impedance Spectroscopy: Considerations about the Cell Geometry," *Electrochimica Acta*, **53** (2008), 7386-7395.
81. M. E. Orazem and B. Tribollet, "An Integrated Approach to Electrochemical Impedance Spectroscopy," *Electrochimica Acta*, **53** (2008), 7360-7366.
80. S. K. Roy, M. E. Orazem, and B. Tribollet, "Interpretation of Low-Frequency Inductive Loops in PEM Fuel Cells," *Journal of The Electrochemical Society*, **154** (2007), B1378-B1388.
79. I. Frateur, V. Huang, M. E. Orazem, B. Tribollet, and V. Vivier, "Experimental Issues Associated with Measurement of Local Electrochemical Impedance," *Journal of The Electrochemical Society*, **154** (2007), C719-C727.
78. S. K. Roy and M. E. Orazem, "Error Analysis of the Impedance Response of PEM Fuel Cells," *Journal of The Electrochemical Society*, **154** (2007), B883-B891.
77. K. N. Allahar, M. E. Orazem, and K. Ogle, "Mathematical Model for Cathodic Delamination using a Porosity-PH Relationship," *Corrosion Science*, **49** (2007), 3638-3658.
76. V. Huang, V. Vivier, M. E. Orazem, N. Pébère, and B. Tribollet, "The Apparent Constant-Phase-Element Behavior of a Disk Electrode with Faradaic Reactions: A Global and Local Impedance Analysis," *Journal of The Electrochemical Society*, **154** (2007), C99-C107.
75. V. Huang, V. Vivier, M. E. Orazem, I. Frateur, and B. Tribollet, "The Global and Local Impedance Response of a Blocking Disk Electrode with Local Constant-Phase-Element Behavior," *Journal of The Electrochemical Society*, **154** (2007), C89-C98.
74. V. Huang, V. Vivier, M. E. Orazem, N. Pébère, and B. Tribollet, "The Apparent Constant-Phase-Element Behavior of an Ideally Polarized Blocking Electrode: A Global and Local Impedance Analysis," *Journal of The Electrochemical Society*, **154** (2007), C81-C88.
73. M. E. Orazem, N. Pébère, and B. Tribollet, "Enhanced Graphical Representation of Electrochemical Impedance Data," *Journal of The Electrochemical Society*, **153** (2006), B129-B136.
72. P. Shukla, M. E. Orazem, and G. Nellisen, "Impedance Analysis for Reduction of Ferricyanide on a Submerged Hemispherical Ni270 Electrode," *Electrochimica Acta*, **51** (2006), 1514-1523.
71. K. N. Allahar, D. P. Butt, M. E. Orazem, H. A. Chin, G. Danko, W. Ogden, and R. E. Funk, "Impedance of Steels in New and Degraded Ester Based Lubricating Oil," *Electrochimica Acta*, **51** (2006), 1497-1504.
70. J. Jorcín, M. E. Orazem, N. Pébère, and B. Tribollet, "CPE Analysis by Local Electrochemical Impedance Spectroscopy," *Electrochimica Acta*, **51** (2006), 1473-1479.¹

¹Paper 70 was cited in September 2010 as one of the Top 10 Cited Articles Published in the last five years in *Electrochimica Acta*.

69. D. P. Riemer and M. E. Orazem, "A Mathematical Model for the Cathodic Protection of Tank Bottoms," *Corrosion Science*, **47** (2005), 849-868.
68. C. Qiu and M. E. Orazem, "Assessment of Pipeline Condition Using Heterogeneous Input Data," *Journal of The Electrochemical Society*, **151** (2004), B415-B422.
67. C. Qiu and M. E. Orazem, "A Weighted Nonlinear Regression-Based Inverse Model for Interpretation of Pipeline Survey Data," *Electrochimica Acta*, **49** (2004), 3965-3975.
66. P. K. Shukla, M. E. Orazem, and O. D. Crisalle, "Validation of the Measurement Model Concept for Error Structure Identification," *Electrochimica Acta*, **49** (2004), 2881-2889.
65. P. K. Shukla and M. E. Orazem, "Hydrodynamics and Mass-Transfer-Limited Current Distribution for a Submerged Stationary Hemispherical Electrode under Jet Impingement," *Electrochimica Acta*, **49** (2004), 2901-2908.
64. M. E. Orazem, "A Systematic Approach toward Error Structure Identification for Impedance Spectroscopy," *Journal of Electroanalytical Chemistry*, **572** (2004), 317-327.
63. S. L. Carson, M. E. Orazem, O. D. Crisalle, and L. H. García-Rubio, "On the Error Structure of Impedance Measurements: Series Expansions," *Journal of The Electrochemical Society*, **150** (2003), E501-E511.
62. S. L. Carson, M. E. Orazem, O. D. Crisalle, and L. H. García-Rubio, "On the Error Structure of Impedance Measurements: Simulation of PSD Instrumentation," *Journal of The Electrochemical Society*, **150** (2003), E491-E500.
61. S. L. Carson, M. E. Orazem, O. D. Crisalle, and L. H. García-Rubio, "On the Error Structure of Impedance Measurements: Simulation of FRA Instrumentation," *Journal of The Electrochemical Society*, **150** (2003), E477-E490.
60. M. E. Orazem, P. Shukla, and M. A. Membrino, "Extension of the Measurement Model Approach for Deconvolution of Underlying Distributions for Impedance Measurements," *Electrochimica Acta*, **47** (2002), 2027-2034.
59. M. E. Orazem, J. C. Cardoso Filho, and B. Tribollet, "Application of a Submerged Impinging Jet for Corrosion Studies: Development of Models for the Impedance Response," *Electrochimica Acta*, **46** (2001) 3685-3698.
58. D. P. Riemer and M. E. Orazem, "Application of Boundary Element Models to Predict the Effectiveness of Coupons for Assessing Cathodic Protection of Buried Structures," *Corrosion*, **56** (2000) 794-800.
57. M. E. Orazem, M. Durbha, C. Deslouis, H. Takenouti, and B. Tribollet, "Influence of Surface Phenomena on the Impedance Response of a Rotating Disk Electrode," *Electrochimica Acta*, **44** (1999), 4403-4412.
56. I. Frateur, C. Deslouis, M. E. Orazem, and B. Tribollet, "Modeling of the Cast Iron/Drinking Water System by Electrochemical Impedance Spectroscopy," *Electrochimica Acta*, **44** (1999), 4345-4356.
55. M. Durbha, M. E. Orazem, and B. Tribollet, "A Mathematical Model for the Radially-Dependent Impedance of a Rotating Disk Electrode," *Journal of The Electrochemical Society*, **146** (1999), 2199-2208.
54. S. L. Carson and M. E. Orazem, "Time-Dependent Polarization Behavior of Pipeline-Grade Steel in Low Ionic Strength Environments," *Journal of Applied Electrochemistry*, **29** (1999), 703-717.
53. C. Deslouis, T. El Moustafid, M. M. Musiani, M. E. Orazem, V. Provost and B. Tribollet, "Effect of Cations on The Diffusivity of The Charge Carriers in Polyaniline Membranes," *Electrochimica Acta*, **44** (1999), 2087-2093.
52. M. Durbha and M. E. Orazem, "Current Distribution on a Rotating Disk Electrode Below the Mass-Transfer Limited Current: Correction for Finite Schmidt Number and Determination of Surface Charge Distribution," *Journal of The Electrochemical Society*, **145** (1998) 1940-1949.
51. M. E. Orazem, P. T. Wojcik, M. Durbha, I. Frateur, and L. H. García-Rubio, "Application of Measurement Models for Interpretation of Impedance Spectra for Corrosion," *Materials Science Forum*, **289-292** (1998), 813-828.

50. P. T. Wojcik and M. E. Orazem, "Variable-Amplitude Galvanostatically-Modulated Impedance Spectroscopy as a Tool for Assessing Reactivity at the Corrosion Potential without Distorting Temporal Evolution of the System," *Corrosion*, **54** (1998) 289-298.
49. M. E. Orazem, J. M. Esteban, K. J. Kennelley, and R. M. Degerstedt, "Mathematical Models for Cathodic Protection of an Underground Pipeline with Coating Holidays: 2. Case Studies of Parallel Anode CP Systems," *Corrosion*, **53** (1997), 427-436.
48. M. E. Orazem, J. M. Esteban, K. J. Kennelley, and R. M. Degerstedt, "Mathematical Models for Cathodic Protection of an Underground Pipeline with Coating Holidays: 1. Theoretical Development," *Corrosion*, **53** (1997), 264-272.
47. M. Durbha, M. E. Orazem, and L. H. García-Rubio, "Spectroscopy Applications of the Kramers-Kronig Transforms: Implications for Error Structure Identification," *Journal of The Electrochemical Society*, **144** (1997), 48-55.
46. A. N. Jansen and M. E. Orazem, "Optically-Stimulated Deep-Level Impedance Spectroscopy: Application to an n-GaAs Schottky Diode," *Journal of The Electrochemical Society*, **143** (1996), 4074-4080.
45. A. N. Jansen, P. T. Wojcik, P. Agarwal, and M. E. Orazem, "Thermally-Stimulated Deep-Level Impedance Spectroscopy: Application to an n-GaAs Schottky Diode," *Journal of The Electrochemical Society*, **143** (1996), 4066-4074.
44. M. E. Orazem, T. El Moustafid, C. Deslouis, and B. Tribollet, "The Error Structure of Impedance Spectra for Systems with a Large Ohmic Resistance with Respect to the Polarization Impedance," *Journal of The Electrochemical Society*, **143** (1996), 3880-3890.
43. R. M. Degerstedt, K. J. Kennelley, M. E. Orazem, and J. M. Esteban, "Computer Modeling Aids Traditional Cathodic Protection Design Methods for Coated Pipelines," *Materials Performance*, **35** (1996), 16-20.
42. R. M. Degerstedt, K. J. Kennelley, M. E. Orazem, and J. M. Esteban, "Advanced Technology Needed to Properly Monitor CP Systems," *Pipeline & Gas Journal*, **223** (1996), 54-56.
41. P. Agarwal, M. E. Orazem, and L. García-Rubio, "The Influence of Error Structure on Interpretation of Impedance Spectra," *Electrochimica Acta*, **41** (1996), 1017-1022.
40. P. T. Wojcik, P. Agarwal, and M. E. Orazem, "A Method for Maintaining a Constant Potential Variation during Galvanostatic Regulation of Electrochemical Impedance Measurements," *Electrochimica Acta*, **41** (1996), 977-983.
39. M. E. Orazem, P. Agarwal, C. Deslouis, and B. Tribollet, "Application of Measurement Models to Electro-Hydrodynamic Impedance Spectroscopy," *Journal of The Electrochemical Society*, **143** (1996), 948-960.
38. M. E. Orazem, P. Agarwal, and L. H. García-Rubio, "Applications of Impedance Spectroscopy to Corrosion Research," *Materials Science Forum*, **192-194** (1995), 563-572.
37. P. Agarwal, M. E. Orazem, and L. H. García Rubio, "Application of Measurement Models to Electrochemical Impedance Spectroscopy: 3. Evaluation of Consistency with the Kramers-Kronig Relations," *Journal of The Electrochemical Society*, **142** (1995), 4159-4168.
36. P. Agarwal, O. D. Crisalle, M. E. Orazem, and L. H. García Rubio, "Application of Measurement Models to Electrochemical Impedance Spectroscopy: 2. Determination of the Stochastic Contribution to the Error Structure," *Journal of The Electrochemical Society*, **142** (1995), 4149-4158.
35. M. E. Orazem, P. Agarwal, L. H. García Rubio, "Critical Issues Associated with Interpretation of Impedance Spectra," *Journal of Electroanalytical Chemistry and Interfacial Electrochemistry*, **378** (1994), 51-62.
34. C. B. Diem and M. E. Orazem, "Influence of Velocity on the Corrosion of Copper in Alkaline Chloride Solutions," *Corrosion*, **50** (1994), 290-300 .
33. B. Miller, S. L. Licht, M. E. Orazem, and P. C. Searson, "Photoelectrochemical Systems," *Critical Reviews in Surface Chemistry*, **3** (1993), 29-47.

32. M. E. Orazem, P. Agarwal, A. N. Jansen, P. T. Wojcik, and L. H. García Rubio, "Development of Physico-Chemical Models for Electrochemical Impedance Spectroscopy," *Electrochimica Acta*, **38** (1993), 1903-1911.
31. P. Agarwal, O. C. Moghissi, M. E. Orazem, and L. H. García Rubio, "Application of Measurement Models for Analysis of Impedance Spectra," *Corrosion*, **49** (1993), 278-289.
30. M. E. Orazem, K. J. Kennelley,² and L. Bone, "Current and Potential Distribution on a Coated Pipeline with Holidays: 2. A Comparison of the Effects of Discrete and Distributed Holidays," *Corrosion*, **49** (1993), 211-219.
29. K. J. Kennelley,² L. Bone, and M. E. Orazem, "Current and Potential Distribution on a Coated Pipeline with Holidays: 1. Model and Experimental Verification," *Corrosion*, **49** (1993), 199-210.
28. P. Agarwal, M. E. Orazem, and L. H. García Rubio, "Measurement Models for Electrochemical Impedance Spectroscopy: 1. Demonstration of Applicability," *Journal of The Electrochemical Society*, **139** (1992), 1917-1927.
27. A. N. Jansen and M. E. Orazem, "Identification of Deep Level States in Electronic Materials by Optically-Stimulated Deep-Level Impedance Spectroscopy," *Journal of The Electrochemical Society*, **139** (1992), 1463-1469.
26. D. B. Bonham³ and M. E. Orazem, "A Mathematical Model for the Influence of Deep Level Electronic States on Photoelectrochemical Impedance Spectroscopy: 2. Assessment of Characterization Methods Based on Mott-Schottky Theory," *Journal of The Electrochemical Society*, **139** (1992), 126-131.
25. D. B. Bonham³ and M. E. Orazem, "A Mathematical Model for the Influence of Deep Level Electronic States on Photoelectrochemical Impedance Spectroscopy: 1. Theoretical Development," *Journal of The Electrochemical Society*, **139** (1992), 118-126.
24. M. E. Orazem, J. M. Esteban, and O. C. Moghissi, "Practical Applications of the Kramers-Kronig Relations," *Corrosion*, **47** (1991) 248-259.
23. A. N. Jansen, M. E. Orazem, B. A. Fox, and W. A. Jesser, "Numerical Study of the Influence of Reactor Design on MOCVD with a Comparison to Experimental Data," *Journal of Crystal Growth*, **112** (1991), 316-336.
22. J. M. Esteban and M. E. Orazem, "On the Application of the Kramers-Kronig Relations to Evaluate the Consistency of Electrochemical Impedance Data," *Journal of The Electrochemical Society*, **138** (1991), 67-76.
21. J. M. Esteban, G. Hickey, and M. E. Orazem, "The Impinging Jet Electrode: Measurement of the Hydrodynamic Constant and Its Use for Evaluating Film Persistency," *Corrosion*, **46** (1990), 896-901.
20. M. E. Orazem and D. O. Shah, "A One Hour Professional Development Course for Chemical Engineers," *Chemical Engineering Education*, **24** (1990), 124-129.
19. M. E. Orazem, "The Impedance Response of Semiconductors: An Electrochemical Engineering Perspective," (**invited paper**) *Chemical Engineering Education*, **24** (1990), 48-55.
18. A. B. Bulsari, M. E. Orazem, and J. G. Rice, "The Influence of Axial Diffusion on Convective Heat and Mass Transfer in a Horizontal CVD Reactor," *Journal of Crystal Growth*, **92** (1988), 294-310.
17. C. B. Diem, B. Newman, and M. E. Orazem, "The Influence of Small Machining Errors on the Primary Current Distribution at a Recessed Electrode," *Journal of The Electrochemical Society*, **135** (1988), 2524-2530.
16. D. B. Bonham and M. E. Orazem, "A Mathematical Model for the A.C. Impedance of Semiconducting Electrodes," *AIChE Journal*, **34** (1988), 465-473.
15. M. Kazeminy and M. E. Orazem, "The Influence of Electrolytic Mass Transfer on the Performance of Photoelectrochemical Cells," *Chemical Engineering Communications*, **57** (1987), 335-349.
14. E. C. Gan and M. E. Orazem, "A Mathematical Model for the Corrosion of Iron in Sulfuric Acid," *Journal of The Electrochemical Society*, **134** (1987), 1357-1366.

²K. J. Kennelley received the 1993 Campbell Young Author Award of *NACE International* for papers 29 and 30.

³D. B. Bonham received the 1992 Norman Hackerman Young Author Award of The Electrochemical Society for papers 25 and 26.

13. M. E. Orazem and M. G. Miller, "The Distribution of Current and Formation of a Salt Film on an Iron Disk Below the Passivation Potential," *Journal of The Electrochemical Society*, **134** (1987), 392-399.
12. M. E. Orazem and W. Ruch, "An Improved Analysis of the Potential Drop Method for Measuring Crack Lengths in Compact Tension Specimens," *International Journal of Fracture*, **31** (1986), 245-258.
11. D. B. Bonham and M. E. Orazem, "Activity Coefficients of Electrons and Holes in Semiconductors with a Parabolic Density of States," *Journal of The Electrochemical Society*, **133** (1986), 2081-2086.
10. M. E. Orazem, "Electron and Hole Transport in Degenerate Semiconductors," *AIChE Journal*, **32** (1986), 765-772.
9. M. E. Orazem, "Calculation of the Electrical Resistance of a Compact Tension Specimen for Crack Propagation Measurements," *Journal of The Electrochemical Society*, **132** (1985), 2071-2076.
8. M. E. Orazem and J. Newman, "Activity Coefficients of Electrons and Holes in Semiconductors," *Journal of The Electrochemical Society*, **131** (1984), 2715-2717. (Also appeared as Lawrence Berkeley Laboratory Report, LBL 16786, October 1983).
7. M. E. Orazem and J. Newman, "Mathematical Modeling of Liquid Junction Photovoltaic Cells: III. Optimization of Cell Configurations," *Journal of The Electrochemical Society*, **131** (1984), 2582-2589. (Also appeared as Lawrence Berkeley Laboratory Report, LBL 16212, June 1983).
6. M. E. Orazem and J. Newman, "Mathematical Modeling of Liquid Junction Photovoltaic Cells: II. Effect of System Parameters on Current Potential Curves," *Journal of The Electrochemical Society*, **131** (1984), 2574-2582. (Also appeared as Lawrence Berkeley Laboratory Report, LBL 16211, June 1983).
5. M. E. Orazem and J. Newman, "Mathematical Modeling of Liquid Junction Photovoltaic Cells: I. Governing Equations," *Journal of The Electrochemical Society*, **131** (1984), 2569-2574. (Also appeared as Lawrence Berkeley Laboratory Report, LBL 16210, June 1983).
4. M. E. Orazem and J. Newman, "Primary Current Distribution and Resistance of a Slotted Electrode Cell," *Journal of The Electrochemical Society*, **131** (1984), 2857-2861. (Also appeared as Lawrence Berkeley Laboratory Report, LBL 15294, November 1982)
3. M. E. Orazem, L. T. Fan, and L. E. Erickson, "Characterization of Two Directional Dispersed Phase Flow Through Time Series Analysis," *Chemical Engineering Communications*, **6** (1980), 161-173.
2. M. E. Orazem, L. T. Fan, and L. E. Erickson, "Bubble Flow in the Downflow Section of an Air Lift Tower," *Biotechnology and Bioengineering*, **21** (1979), 1579-1606.
1. M. E. Orazem and L. E. Erickson, "Oxygen Transfer Rates and Efficiencies in One and Two Stage Air Lift Towers," *Biotechnology and Bioengineering*, **21** (1979), 69-88.

Other Journal Publications

13. N. Pébère, M. Musiani, O. Mattos, M. E. Orazem, and V. Vivier, "Tribute to Bernard Tribollet," *Journal of Electroanalytical Chemistry*, **737** (2015), 1-10.
12. D. P. Riemer and M. E. Orazem, "Impedance Based Characterization of Raw Materials As Used In Electrochemical Manufacturing," *The Electrochemical Society Interface*, **23:3** (2014), 63-67.
11. M. E. Orazem, "Editorial on the outgoing EiC," *Electrochimica Acta*, **115** (2014), xxv.
10. E. A. White, A. Horne, J. Runciman, M. E. Orazem, W. C. Navidi, C. S. Roper, and A. L. Bunge, "Corrigendum to the correlation between single-frequency impedance measurements and human skin permeability to water [Toxicology in Vitro 25 (2011) 2095], *Toxicology In Vitro*, **27** (2013), 993.
9. E. A. White, M. E. Orazem, and A. L. Bunge, "Corrigendum to critical analysis of single-frequency LCR databridge impedance measurements of human skin [Toxicology in Vitro 25 (2011) 774], *Toxicology In Vitro*, **27** (2013), 994.
8. M. E. Orazem, "Fully Charged," *Public Service Review: UK Science & Technology*, **1:3** (2011), 178-179.

7. S. K. Roy and M. E. Orazem, "Erratum: Error Analysis of the Impedance Response of PEM Fuel Cells [J. Electrochem. Soc., 154, B883 (2007)]," *Journal of The Electrochemical Society*, **155** (2008), S1.
6. V. M.-W. Huang, V. Vivier, M. E. Orazem, N. Pébère, and B. Tribollet, "Erratum: The Apparent Constant-Phase-Element Behavior of a Disk Electrode with Faradaic Reactions. A Global and Local Impedance Analysis [J. Electrochem. Soc., 154, C99 (2007)]," *Journal of The Electrochemical Society*, **154** (2007), S8.
5. V. M.-W. Huang, V. Vivier, I. Frateur, M. E. Orazem, and B. Tribollet, "Erratum: The Global and Local Impedance Response of a Blocking Disk Electrode with Local Constant-Phase-Element Behavior [J. Electrochem. Soc., 154, C89 (2007)]," *Journal of The Electrochemical Society*, **154** (2007), S7.
4. V. M.-W. Huang, V. Vivier, M. E. Orazem, N. Pébère, and B. Tribollet, "Erratum: The Apparent Constant-Phase-Element Behavior of an Ideally Polarized Blocking Electrode. A Global and Local Impedance Analysis [J. Electrochem. Soc., 154, C81 (2007)]," *Journal of The Electrochemical Society*, **154** (2007), S6.
3. M. E. Orazem and B. Tribollet, "Perspectives on Newman's Work on Resistance for Flow of Current to a Disk," *The Electrochemical Society Interface*, **18:1** (2009), 56-58.
2. M. E. Orazem, "Editorial: EIS-2004: The 6th International Symposium on Electrochemical Impedance Spectroscopy," *Electrochimica Acta*, **51** (2006), 1375.
1. M. E. Orazem and L. Bone, "Simulation Software Can Help Operators Evaluate CP Needs," *Pipe Line & Gas Industry*, June 2000, 48-49.

Refereed Conference Proceedings

54. Y.-C. Chang and M. E. Orazem, "Mathematical Models for Under-Deposit Corrosion in Aerated Media," *ECS Transactions*, **50:31** (2013), 181-196.
53. M. E. Orazem, "Application of Impedance Spectroscopy to Characterize Polymer-Electrolyte-Membrane (PEM) Fuel Cells," *ECS Transactions*, **50:2** (2013), 247-260.
52. M. E. Orazem, B. Tribollet, V. Vivier, S. Marcelin, N. Pébère, A. L. Bunge, E. A. White, D. P. Riemer, I. Frateur, and M. Musiani, "Interpretation of Dielectric Properties for Materials showing Constant-Phase Element (CPE) Impedance Response," *ECS Transactions*, **45:13** (2013), 15-35.
51. E. A. White, M. E. Orazem, and A. L. Bunge, "Single-Frequency LCR Databridge Impedance Measurements as Surrogate Measures for the Integrity of Human Skin," *ECS Transactions*, **41:28** (2012), 3-14.
50. B. Hirschorn, M. E. Orazem, B. Tribollet, V. Vivier, I. Frateur and M. Musiani, "Constant-Phase-Element Behavior Caused by Resistivity Distributions in Films," *ECS Transactions*, **28:24** (2010), 77-94.
49. C. Blanc, M. E. Orazem, N. Pébère, B. Tribollet, and V. Vivier, "On the Origin of the Imaginary Part of the Ohmic Impedance," *ECS Transactions*, **19:19** (2009), 11-22.
48. J. P. McKinney and M. E. Orazem, "Electrokinetic Methods for Dewatering of Phosphatic Clay Slurries," *ECS Transactions*, **19:26** (2009), 35-43.
47. O. C. Moghissi, J. P. McKinney, M. E. Orazem, and D. D'Zurko, "Predicting Coating Holiday Size Using ECDA Survey Data," Paper #09-146, *Proceedings of Corrosion/09*, National Association of Corrosion Engineers, Houston, Texas, 2009.
46. M. E. Orazem and B. Tribollet, "The Influence of Nonuniform Current and Potential Distributions on the Impedance Response of a Disk Electrode," *ECS Transactions*, **16:13** (2008), 91-110.
45. K. Nisancioglu and M. E. Orazem, "Applications of Potential Theory in Cathodic Protection," *ECS Transactions*, **16:13** (2008), 45-57.
44. S. K. Roy and M. E. Orazem, "Guidelines for Evaluation of Error Structure for Impedance Response of Polymer Electrolyte Membrane (PEM) Fuel Cells," *ECS Transactions*, **13:13** (2008), 153-169.
43. B. Hirschorn, I. Ibrahim, M. E. Orazem, H. Takenouti, and B. Tribollet, "Effect of Large Perturbation Amplitudes on the Impedance Response of an Electrochemical System," *ECS Transactions*, **13:13** (2008), 81-100.

42. S.-L. Wu, M. E. Orazem, B. Tribollet, and V. Vivier, "Impedance of a Disk Electrode with Reactions Involving an Adsorbed Intermediate: Local and Global Analysis," *ECS Transactions*, **13:13** (2008), 19-42.
41. S. K. Roy and M. E. Orazem, "Stochastic Analysis of Flooding in PEM Fuel Cells by Electrochemical Impedance Spectroscopy," in *Proton Exchange Membrane Fuel Cells 7*, T. Fuller, H. Gasteiger, S. Cleghorn, V. Ramani, T. Zhao, T. Nguyen, A. Haug, C. Bock, C. Lamy, and K. Ota, editors, *ECS Transactions*, **11:1** (2007), 485-495.
40. M. E. Orazem, V. Huang, V. Vivier, B. Tribollet and N. Pébère, "The Apparent CPE Behavior of a Disk Electrode with Faradaic Reactions," in *Critical Factors in Localized Corrosion 5: A Symposium in Honor of Hugh Isaacs*, N. Missert, A. Davenport, M. Ryan, and S. Virtanen, editors, *ECS Transactions*, **3:31** (2007), 567-585.
39. S. K. Roy and M. E. Orazem, "Deterministic Impedance Models for Interpretation of Low-Frequency Inductive Loops in PEM Fuel Cells," in *Proton Exchange Membrane Fuel Cells 6*, T. Fuller, C. Bock, S. Cleghorn, H. Gasteiger, T. Jarvi, M. Mathias, M. Murthy, T. Nguyen, V. Ramani, E. Stuve, T. Zawodzinski, editors, *ECS Transactions*, **3:1** (2006), 1031-1040.
38. J. R. Smith, A. Chen, K. L. Duncan, M. E. Orazem and E. D. Wachsman, Evaluation of Time Constants Governing the Cathodic Reaction in SOFCs, *ECS Transactions*, **1:7** (2006), 243-253.
37. J. P. McKinney, M. E. Orazem, O. Moghissi, and D. D'Zurko, "Development of ECDA Criteria for Prioritization of Indications," *Paper #06-188*, National Association of Corrosion Engineers, Houston, Texas, 2006.
36. M. E. Orazem, N. Pébère, and B. Tribollet, "A New Look at Graphical Representation of Impedance Data," in *Corrosion in Marine and Saltwater Environments*, D. A. Shifler, T. Tsuru, P. M. Natishan, and S. Ito, editors, PV 2004-14, Electrochemical Society, Pennington, NJ, 2005, 13-29.
35. M. E. Orazem, D. P. Riemer, C. Qiu, and K. Allahar, "Computer Simulations for Cathodic Protection of Pipelines," in *Corrosion Modeling for Assessing the Condition of Oil and Gas Pipelines*, F. King and J. Beavers, editors, NACE International, Houston, Texas, 2004, 25-52.
34. K. Allahar, K. Ogle, and M. E. Orazem, "A Mathematical Model for the Cathodic Delamination Process of Coatings on Zinc," in *Critical Factors in Localized Corrosion IV: A Symposium in Honor of the 65th Birthday of Hans Böhm*, S. Virtanen, P. Schmuki, and G. S. Frankel, editors, PV 2002-24, Electrochemical Society, Pennington, NJ, 474-489, 2002.
33. J. C. Cardoso Filho and M. E. Orazem, "Application of a Submerged Impinging Jet to Investigate the Influence of Temperature, Dissolved CO₂, and Fluid Velocity on Corrosion of Pipeline-Grade Steel in Brine," paper #01-058, *Proceedings of Corrosion/01*, National Association of Corrosion Engineers, Houston, Texas, 2001.
32. K. Allahar and M. E. Orazem, "Development of Quasipotential Transformation Models of the Steady-State Electrochemistry in a Pit with Multiple Heterogeneous Reactions," in *Pits and Pores: Formation, Properties, and Significance for Advanced Materials*, P. Schmuki, D.J. Lockwood, Y.H. Ogata, and H.S. Isaacs, editors, PV 2000-25, *The Electrochemical Society*, Pennington, New Jersey, 352-369, 2001.
31. K. Jeffers and M. E. Orazem, "Application of Electrochemical Impedance Spectroscopy to Characterize the Time-Dependent Corrosion of Steel in Simulated Soil Environments," in *New Trends on Electrochemical Impedance Spectroscopy (EIS) and Electrochemical Noise Analysis (ENA)*, F. Mansfeld, F. Huet, and O. Mattos, editors, PV 2000-24, *The Electrochemical Society*, Pennington, New Jersey, 140-157, 2001.
30. S. L. Carson, M. E. Orazem, O. D. Crisalle, L. H. García-Rubio, "Influence of Instrumentation on the Error Structure of Impedance Measurement," in *Electrochemical Approach to Selected Corrosion and Corrosion Control Studies (The First Joint EFC/ISE Symposium, 1999)*, P. L. Bonora and F. Deflorian, editors. Publication number 28 in European Federation of Corrosion Series. Published by The Institute of Materials, London, 2000, 344-360.
29. D. P. Riemer and M. E. Orazem, "Application of Boundary Element Models to Predict the Effectiveness of Coupons for Assessing Cathodic Protection of Buried Structures," Paper #00-488, *Proceedings of Corrosion/00*, National Association of Corrosion Engineers, Houston, Texas, 2000.

28. K. Allahar, and M. E. Orazem, "Modeling Disbonded Coatings using the Quasipotential Transformation," in *Passivity in Localized Corrosion (International Symposium in Honor of N. Sato)*, R. G. Kelly, B. MacDougall, M. Seo, and H. Takahashi, editors, PV 99-27, *The Electrochemical Society*, Pennington, New Jersey, 609-623, 1999.
27. J. C. Cardoso Filho and M. E. Orazem, "Application of a Submerged Impinging Jet to Study Corrosion of Steel in Brine Saturated with CO₂," in *Corrosion and Corrosion Control in Seawater Environments*, P. M. Natishan, S. Ito, D. A. Shifler, and T. Tsuru, editors, PV 99-26, *The Electrochemical Society*, Pennington, New Jersey, 213-226, 1999.
26. M. E. Orazem, "Tutorial: Application of Mathematical Models for Interpretation of Impedance Spectra," *Tutorials in Electrochemical Engineering: Mathematical Modeling*, PV 99-14, R.F. Savinell, A.C. West, J.M. Fenton and J. Weidner, editors, Electrochemical Society, Inc., Pennington, N.J., 68-99, 1999.
25. D. P. Riemer and M. E. Orazem, "Models for Cathodic Protection of Multiple Pipelines with Coating Holidays," *Cathodic Protection: Theory and Applications*, M. E. Orazem, editor, NACE International, Houston, Texas, 1999.
24. D. Riemer and M. E. Orazem, "Development of Mathematical Models for Cathodic Protection of Multiple Pipelines in a Right-of-Way," *Proceedings of the 1998 International Gas Research Conference*, San Diego, November 8-11, 1998.
23. M. Durbha and M. E. Orazem, "A Mathematical Model for the Radially Dependent Impedance of a Rotating Disk Electrode," in *Advances in Modeling and Simulation of Electrochemical Processes and Oxygen Depolarized Cathodes and Activated Cathodes for Chlor-Alkali and Chlorate Processes*, J. W. van Zee, T. F. Fuller, P. C. Foller, and F. Hine, editors, PV-98-10, Electrochemical Society, Inc., Pennington, N.J., 1998, 106-131.
22. M. E. Orazem, "A Tutorial on Impedance Spectroscopy," Paper #98-302, *Proceedings of Corrosion/98*, National Association of Corrosion Engineers, Houston, Texas, 1998.
21. P. T. Wojcik, E. Charrière, and M. E. Orazem, "Experimental Study of the Erosion-Corrosion of Copper and Copper-Nickel Alloys at the Corrosion Potential and at Anodic Potentials," *Proceedings of the Tri-Service Conference on Corrosion*, November 17-21, 1997.
20. P. T. Wojcik and M. E. Orazem, "Experimental Study of the Erosion-Corrosion of Copper and Copper-Nickel Alloys Using a Submerged Impinging Jet," Paper #97-435, *Proceedings of Corrosion/97*, National Association of Corrosion Engineers, Houston, Texas, 1997.
19. P. T. Wojcik and M. E. Orazem, "Variable-Amplitude Galvanostatically Modulated Impedance Spectroscopy as a Non-Invasive Tool for Assessing Reactivity at the Corrosion Potential," Paper #97-282, *Proceedings of Corrosion/97*, National Association of Corrosion Engineers, Houston, Texas, 1997.
18. M. Durbha, M. E. Orazem, and L. H. García-Rubio, "Propagation of Spectroscopy Errors Through the Kramers-Kronig Relations: A Common Ground for Interpretation of Measurements," in *New Directions in Electroanalytical Chemistry*, J. Leddy and R. M. Wightman, editors, Electrochemical Society, Inc., Pennington, N.J., 1996, 385-397.
17. M. E. Orazem, P. Agarwal, and L. H. García-Rubio, "Applications of Impedance Spectroscopy to Corrosion Research," in *Electrochemical Methods in Research V*, M. G. S. Ferreira and A.M.P. Simões, editors, Trans Tech Publications, Switzerland, 1995, 563-572. (also published as *Materials Science Forum*, **192-194** (1995)).
16. R. M. Degerstedt, K. J. Kennelley, M. E. Orazem, and J. M. Esteban, "Traditional Cathodic Protection Design Methods for Coated Pipelines and the Necessity of Computer Modeling," Paper #95-346, *Proceedings of Corrosion/95*, National Association of Corrosion Engineers, Houston, Texas, 1995.
15. J. M. Esteban, M. E. Orazem, K. J. Kennelley, and R. M. Degerstedt, "Mathematical Models for Cathodic Protection of an Underground Pipeline with Coating Holidays," Paper #95-347, *Proceedings of Corrosion/95*, National Association of Corrosion Engineers, Houston, Texas, 1995.
14. J. M. Esteban, M. E. Orazem, K. J. Kennelley, and R. M. Degerstedt, "Case Studies of Parallel Anode CP Systems for Pipelines using Two and Three-Dimensional BEM Computer Simulations," Paper #95-529, *Proceedings of Corrosion/95*, National Association of Corrosion Engineers, Houston, Texas, 1995.

13. K. J. Kennelley, M. E. Orazem, J. M. Esteban, and R. M. Degerstedt, "Full-Scale Laboratory Evaluation of Parallel Anode CP Systems for Coated Pipelines with Comparison to 2 and 3-D Models," Paper #95-528, *Proceedings of Corrosion/95*, National Association of Corrosion Engineers, Houston, Texas, 1995.
12. M. E. Orazem, P. Agarwal, L. H. García Rubio, "Critical Issues in Electrochemical Impedance Spectroscopy," Paper #93-349, *Proceedings of Corrosion/93*, National Association of Corrosion Engineers, Houston, Texas, 1993.
11. P. Agarwal, O. C. Moghissi, M. E. Orazem, and L. H. García Rubio, "Application of Measurement Models to Electrochemical Impedance Spectroscopy," Paper #92-227, *Proceedings of Corrosion/92*, National Association of Corrosion Engineers, Houston, Texas, 1992. Also published in *Techniques for Corrosion Measurement*, A. Bronson and G. Warren, editors, National Association of Corrosion Engineers, Houston, Texas, 1992.
10. M. E. Orazem, K. J. Kennelley, and L. Bone, "Current and Potential Distribution on a Coated Pipeline with Holidays: 2. A Comparison of the Effects of Discrete and Distributed Holidays," Paper #92-380, *Proceedings of Corrosion/92*, National Association of Corrosion Engineers, Houston, Texas, 1992.
9. K. J. Kennelley, L. Bone, and M. E. Orazem, "Current and Potential Distribution on a Coated Pipeline with Holidays: 1. Model and Experimental Verification," Paper #92-379, *Proceedings of Corrosion/92*, National Association of Corrosion Engineers, Houston, Texas, 1992.
8. M. E. Orazem, "Mathematical Modeling for Photoelectrochemical Applications," *Electrochemical Microfabrication*, M. Datta, K. Sheppard, and D. Snyder, Editors, Electrochemical Society, Inc., Pennington, N.J., 1991, 116-126.
7. P. Agarwal, M. E. Orazem, and A. Hiser, "Application of Electrochemical Impedance Spectroscopy to Metal Hydrides," *Hydrogen Storage Materials, Batteries, and Chemistry*, D. A. Corrigan and S. Srinivasan, Editors, Electrochemical Society, Inc., Pennington, N.J., 1991, 120-137.
6. M. E. Orazem, J. M. Esteban, and O. C. Moghissi, "Practical Applications of the Kramers Kronig Relations," Paper #91-139, *Proceedings of Corrosion/91*, Proceedings of Corrosion/91, National Association of Corrosion Engineers, Houston, Texas, 1991.
5. C. B. Diem and M. E. Orazem, "The Corrosion of Copper in Flowing Alkaline Chloride Solutions," *Velocity Enhanced Corrosion*, K. J. Kennelley, R. H. Hausler, and D. Silverman, editors, National Association of Corrosion Engineers, Houston Texas, 1991, 23:1-23:15. Also published as Paper #90-17, *Proceedings of Corrosion/90*, National Association of Corrosion Engineers, Houston, Texas, 1990.
4. D. B. Bonham and M. E. Orazem, "The Influence of Deep Level Electronic Defects on Characterization Methods involving Mott-Schottky Theory," *Transient Techniques in Corrosion Science and Engineering*, W. Smyrl, D. D. Macdonald, and W. J. Lorenz, editors, Electrochemical Society, Inc., Pennington, N.J., 1989, 39-56.
3. M. E. Orazem, "A Mathematical Model for the Photoelectrochemical Etching of Semiconductors," *Electrochemical Engineering Applications*, R. E. White, R. F. Savinell, and A. Schneider, editors, AIChE Symposium Series, No. 254, Vol. 83, New York, 1987, 25-33.
2. M. Kazeminy and M. E. Orazem, "The Influence of Electrolytic Mass Transfer on Photoelectrochemical Processes," *Processing of Electronic Materials*, C. G. Law, Jr. and R. Pollard, editors, American Institute of Chemical Engineers, New York, 1987, 74-88.
1. G. Hickey and M. E. Orazem, "An Experimental Technique for Evaluating Film Persistency," Paper #87-449, *Proceedings of Corrosion/87*, National Association of Corrosion Engineers, Houston, Texas, 1987.

Refereed and Published Research Reports

2. M. E. Orazem and D. P. Riemer, *CP3D: User Workbook and Orientation Manual*, published for the Pipeline Research Council International, Inc., by Technical Toolboxes, Inc., Houston, Texas, 2002, (254 pages).
1. M. E. Orazem and S. L. Carson, *Time-Dependent Polarization Behavior as a Function of Soil Type*, American Gas Association, Arlington, VA, 1995 (366 pages).

Non-Refereed Conference Proceedings

15. M. E. Orazem, "The Influence of Coupled Faradaic and Charging Currents on Impedance Spectroscopy," *24^{ème} Forum sur les Impedances Electrochimiques*, Hubert Perrot, Editor, UPR 15 du CNRS, Paris, France, 2013, 5-15.
14. S. Marcelin, N. Pèbère, M. E. Orazem, and S. Regnier, "Comportement Electrochimique d'un Acier Inoxydable Martensitique en Milieu Chlorure," *23^{ème} Forum sur les Impedances Electrochimiques*, Hubert Perrot, Editor, UPR 15 du CNRS, Paris, France, 2011, 139-148.
13. I. Frateur, B. Hirschorn, M. E. Orazem, B. Tribollet, V. Vivier, and M. Musiani, "Détermination de la Capacité et de l'Épaisseur d'un Film à Partir des Paramètres CPE (Determination of Capacity and Film Thickness from CPE Parameters)," *22^{ème} Forum sur les Impedances Electrochimiques*, Claude Gabrielli, Editor, UPR 15 du CNRS, Paris, France, 2010, 117-129.
12. S-L. Wu, M. E. Orazem, B. Tribollet, and V. Vivier, "Influence des Intermédiaires Adsorbés sur l'Impédance Ohmique Locale (Influence of Adsorbed Intermediates on the Local Ohmic Impedance)," *21^{ème} Forum sur les Impedances Electrochimiques*, Claude Gabrielli, Editor, UPR 15 du CNRS, Paris, France, 2008, 125-136.
11. S. K. Roy and M. E. Orazem, "Interpretation of Low-Frequency Inductive Loops in PEM Fuel Cell Impedance Data in Terms of Reactions Influencing the Life-Time of Fuel Cell Performance," *Proceedings of the 2007 NHA Annual Hydrogen Conference*, the National Hydrogen Association, Washington, DC, 2007.
10. I. Frateur, V. M-W. Huang, M. E. Orazem, N. Pèbère, B. Tribollet, and V. Vivier, "La Partie Imaginaire de la Chute Ohmique," *19^{ème} Forum sur les Impedances Electrochimiques*, Claude Gabrielli, Editor, UPR 15 du CNRS, Paris, France, 2006, 43-53.
9. M. E. Orazem, "Interpretation of Impedance Spectroscopy," *Proceedings of EuroCorr 2005*, Lisbon, Portugal, September 4-8, 2005.
8. M. E. Orazem, S. L. Carson, O. D. Crisalle, and L. H. García-Rubio, "On the Error Structure of Impedance Measurements: Instrument Simulations," *14^{ème} Forum sur les Impedances Electrochimiques*, Claude Gabrielli, Editor, UPR 15 du CNRS, Paris, France, 2002, 3-28.
7. M. A. Membrino, M. E. Orazem, E. Scott, and J. B. Phipps, "Electrochemical Impedance Measurements For Characterization of Ion Transport Pathways In Skin," *Minutes: Transdermal Administration: A Case Study, Iontophoresis*, Éditions de Santé, Paris, France, 1997, 313-317.
6. S. Carson and M. E. Orazem, "Development of Rotational Electrophoretic Spectroscopy," *Proceedings of the 1997 Annual Meeting of the American Institute of Chemical Engineers*, AIChE, New York, New York, 1997, Paper 239f.
5. S. Carson and M. E. Orazem, "Time-Dependent Polarization of Pipeline Steel in High Moisture Content Soil Environments," *Proceedings of the 1996 Annual Meeting of the American Institute of Chemical Engineers*, AIChE, New York, New York, 1996, Paper 112a.
4. L. García-Rubio, M. E. Orazem, and O. D. Crisalle, "Chemometrics Techniques and Particle Characterization," *Proceedings of the 5th World Congress of Chemical Engineering*, AIChE, New York, New York, 1996, paper 99k.
3. M. E. Orazem, P. Agarwal, and L. H. García-Rubio, "The Influence of the Error Structure on Interpretation of Impedance Spectra," *8^{ème} Forum sur les Impedances Electrochimiques*, Claude Gabrielli, Editor, UPR 15 du CNRS, Paris, France, 1994, 14-30.
2. M. E. Orazem, "Oxygen Transfer in One and Two Stage Air Lift Towers," *Proceedings of the Seventh Annual Biochemical Engineering Symposium*, P. J. Reilly, editor, Engineering Research Institute, Iowa State University, Ames, Iowa, 1977, (ISU ERI Ames 78056), 42-53.
1. M. E. Orazem, "Effect of Column Height on Oxygen Transfer in Air Lift Fermentors," *Proceedings of the Sixth Annual Biochemical Engineering Symposium*, P. J. Reilly, editor, Engineering Research Institute, Iowa State University, Ames, Iowa, 1976 (ISU ERI Ames 77102), 8-14.

Patents and Invention Disclosures

10. M. E. Orazem, R. Kong, S. Moghaddam, H. Lai, D. Yu, Y. Huang, and D. Bloomquist “Continuous Electrokinetic Dewatering of Phosphatic Clay Suspensions,” UF #14774, submitted May 28, 2013. The University of Florida asserted its interest.
9. M. E. Orazem, Y.-M. Chen, C. L. Alexander, “Impedance-Based Detection of Corrosion in Post-Tensioned Cables,” UF #14692, submitted April 9, 2013. The University of Florida asserted its interest.
8. M. E. Orazem and R. Kong, Disclosure, “Electrokinetic Dewatering of Phosphatic Clay Suspensions,” UF #14017, submitted December 9, 2011. The University of Florida asserted its interest.
7. M. E. Orazem, “System for Assessing Pipeline Condition,” US Patent No: 8,310,251, Issued: November 13, 2012.
6. M. E. Orazem and D. P. Riemer, “Mathematical Model for Cathodic Protection of Pipelines,” November 11, 1999. The University of Florida asserted its interest.
5. M. E. Orazem “Method for Characterization of Material Properties of Concrete by Electrochemical Impedance Spectroscopy,” December 9, 1999.
4. M. E. Orazem, “A Non-Destructive In-Situ Method for Following Temporal Evolution During Chemical-Mechanical Polishing of Semiconductor Wafers: Evaluation of End Points and Physical Properties,” July 18, 1997. The University of Florida asserted its interest.
3. M. E. Orazem and L. H. Garca-Rubio, “Rotational Electrophoretic Spectroscopy: A Sensing Technology for Measurement of the Distribution of Particle Charge Heterogeneity and Shape,” joint disclosure to the University of Florida and the University of South Florida, May 19, 1997. The University of South Florida asserted its interest. The University of Florida declined.
2. M. E. Orazem and D. Silverman, “Crevice Corrosion Sensor,” University of Florida, December 18, 1990.
1. M. E. Orazem, D. B. Bonham, and F. Smolko “New application of non destructive photoelectrochemical A.C. impedance spectroscopy to identify deep level electronic defects in semiconductors,” University of Virginia, March 17, 1988.

Book Reviews

3. M. E. Orazem, “Review of *Industrial Electrochemistry*, 2nd Edition, by D. Pletcher and F. Walsh,” *Chemical Engineering Education*, **25** (1991), 225.
2. M. E. Orazem, “Review of *Science, Engineering, and Ethics: State of the Art and Future Directions, Report on a AAAS Workshop and Symposium (February 1988)*, M. S. Frankel, editor,” *Chemical Engineering Education*, **23** (1989), 67.
1. M. E. Orazem, “Review of *Electrode Processes and Electrochemical Engineering* by Fumio Hine,” *Chemical Engineering*, (November 25, 1985), 77-78.

Presentations*International Conferences*

100. S. Erol and M. E. Orazem, “The Influence of Anomalous Diffusion on the Impedance Response of LiCoO₂—C Batteries,” to be presented at the 66th Annual Meeting of the International Society of Electrochemistry, Taipei, Taiwan, October 4-9, 2015.
99. A. S. Nguyen, M. Musiani, M. E. Orazem, Nadine Pébère, B. Tribollet, and V. Vivier, “Distributions de Résistivité dans les Peintures: Analyse des Diagrammes d’Impédance en Conditions Séche et Humide,” to be presented at the Journées d’Electrochimie, Rome, Italy, July 9-10, 2015.
98. C. L. Alexander, M. E. Orazem and B. Tribollet, Influence of Micrometric-Scale Electrode Heterogeneity on Electrochemical Impedance Spectroscopy, **invited lecture** presented at the 17th Topical Meeting of the International Society of Electrochemistry, Saint-Malo, France, May 31-June 3, 2015.

97. A. S. Nguyen, M. Musiani, M. E. Orazem, Nadine Pébère, B. Tribollet, and V. Vivier, "The Impedance Response of AA2024-T3 Protected by Chromated and Non-Chromated Waterborne Coatings", AETOC 2015, Ninth International Workshop on Application of Electrochemical Techniques to Organic Coatings, Sainte Marie de Ré, France, April 22-25, 2015.
96. M. E. Orazem, "On interpretation of the Constant Phase Element (CPE)," **invited lecture**, presented at the 7th Waseda Workshop on Electrochemistry, Tokyo, Japan, November 11, 2014.
95. M. E. Orazem, "Corrosion of Nanoscale Copper Structures used to Enhance Energy Transport for High-Performance Electronics," **invited plenary lecture**, presented at the 10th International Symposium on Electrochemical Micro & Nanosystem Technologies (EMNT2014), Okinawa, Japan, November 5-8, 2014.
94. M. E. Orazem and B. Tribollet, "*The Philosophy behind Electrochemical Impedance Spectroscopy*," **invited lecture**, presented at the Publishing Ceremony for M. E. Orazem and B. Tribollet, *Electrochemical Impedance Spectroscopy*, Chinese translation, Chemical Industry Press, Beijing, China, October 21, 2014.
93. B. Tribollet and M. E. Orazem, "The Physical Meaning of the Constant Phase Element," **invited lecture**, presented at the Publishing Ceremony for M. E. Orazem and B. Tribollet, *Electrochemical Impedance Spectroscopy*, Chinese translation, Chemical Industry Press, Beijing, China, October 21, 2014.
92. M. E. Orazem, Y. Huang, R. Kong, D. A. Horner, S. Moghaddam, D. Bloomquist, C. Cleveland, and H. Lai, "Development of Electrokinetic Dewatering for Phosphate Mine Tailings," **invited lecture**, presented at the 226th Meeting of The Electrochemical Society, Cancun, Mexico, October 5-10, 2014.
91. M. E. Orazem, "Challenges for Electrochemical Impedance Spectroscopy," **invited plenary lecture**, presented at the 7th International Workshop on Impedance Spectroscopy, Chemnitz, Germany, September 24-26, 2014.
90. M. E. Orazem, "Understanding the Error Structure of Electrochemical Impedance Spectroscopy Measurements," **invited tutorial lecture**, presented at the 7th International Workshop on Impedance Spectroscopy, Chemnitz, Germany, September 24-26, 2014.
89. M. E. Orazem, S.-L. Wu, M. Harding, B. Tribollet, and V. Vivier, "Frequency Dispersion caused by Coupled Faradaic and Charging Currents in Impedance Spectroscopy," presented at the 65th Annual Meeting of the *International Society of Electrochemistry*, Lausanne, Switzerland, August 31-September 5, 2014.
88. A. S. Nguyen, M. Musiani, M. E. Orazem, N. Pébère, Bernard Tribollet, and Vincent Vivier, "Determination of Organic Coatings Properties with Immersion Time from Constant-Phase-Element Parameters," presented at the 65th Annual Meeting of the *International Society of Electrochemistry*, Lausanne, Switzerland, August 31-September 5, 2014.
87. S.-L. Wu, M. Harding, M. E. Orazem, B. Tribollet, and V. Vivier, "Coupling of Faradaic and Charging Currents in Impedance Spectroscopy," **invited lecture**, presented at the 15th Topical Meeting of the *International Society of Electrochemistry*, Niagara Falls, Canada, April 27-30, 2014.
86. M. E. Orazem, "Conversion of CPE Parameters to Capacitance: Surface and Axial Distributions of Parameters," **invited lecture**, presented at the Electrochemistry Seminar, Norwegian University of Science and Technology, October 7, 2013.
85. M. E. Orazem, "Coupling Charging and Faradaic Currents: Modeling the Impedance of Systems Influenced by Mass Transfer," **invited lecture**, presented at the Electrochemistry Seminar, Norwegian University of Science and Technology, October 7, 2013.
84. M. Musiani, M. E. Orazem, N. Pébère, B. Tribollet, and V. Vivier, "A New Model for the Analysis of Water Uptake in Anti-Corrosion Coatings Exhibiting a CPE Behavior," presented at the 64th Annual Meeting of the *International Society of Electrochemistry*, Santiago de Querétaro, Mexico, September 8-13, 2013.
83. R. Kong and M. E. Orazem, "Semi-Continuous Electrokinetic Dewatering of Phosphate Mine Tailings," presented at the 64th Annual Meeting of the *International Society of Electrochemistry*, Santiago de Querétaro, Mexico, September 8-13, 2013.
82. M. E. Orazem and B. Tribollet, "Teaching Electrochemical Impedance Spectroscopy," presented at the 64th Annual Meeting of the *International Society of Electrochemistry*, Santiago de Querétaro, Mexico, September 8-13, 2013.

81. M. E. Orazem, "The Influence of Nonuniform Current and Potential Distributions on the Impedance Response of a Disk Electrode," **invited keynote lecture**, presented at the Second International Seminar, International Workshop on Green Energy Conversion, Kuomi, Japan, September 2-4, 2013.
80. M. Musiani, M. E. Orazem, N. Pébère, B. Tribollet, and V. Vivier, "Nouveau Modèle pour l'Évaluation de la Prise en Eau des Revêtements l'Aide de la Spectroscopie d'Impédance Electrochimique," presented at the Journées d'Electrochimie, Paris France, July 8-11, 2013.
79. M. E. Orazem, "The Promise and Challenges of Impedance," **invited plenary lecture**, presented at the 9th International Symposium on Electrochemical Impedance Spectroscopy, EIS2013, Okinawa, Japan June 16-21, 2013.
78. C. Cleveland, M. E. Orazem, and S. Moghaddam, "Corrosion of Copper in De-Aerated Water by Impedance Spectroscopy," presented at the 223rd Meeting of *The Electrochemical Society*, Toronto, Ontario, Canada, May 12-16, 2013.
77. M. E. Orazem, A. Bunge, and E. White, "Estimation of Dielectric Constant from CPE Parameters for Human Skin," presented at the 223rd Meeting of *The Electrochemical Society*, Toronto, Ontario, Canada, May 12-16, 2013.
76. M. E. Orazem, B. Tribollet, and V. Vivier, "Influence of Current and Potential Distributions on The Impedance Response of a Rotating Disk Electrode," **invited lecture** presented at the 223rd Meeting of *The Electrochemical Society*, Toronto, Ontario, Canada, May 12-16, 2013.
75. K. N. Allahar, M. E. Orazem, and D. P. Butt, "EIS Response of a Contaminated Disk Electrode," presented at the 223rd Meeting of *The Electrochemical Society*, Toronto, Ontario, Canada, May 12-16, 2013.
74. V. Vivier, M. E. Orazem, N. Pébère, and B. Tribollet, "Local Electrochemical Impedance Spectroscopy: Correlation with Global Impedance Measurements," presented at the 223rd Meeting of *The Electrochemical Society*, Toronto, Ontario, Canada, May 12-16, 2013.
73. M. Musiani, M. E. Orazem, N. Pébère, B. Tribollet, and V. Vivier, "Evaluation of Water Uptake in Anti-Corrosion Coatings from Constant-Phase-Element Parameters," presented at the 8th International Workshop on Application of Electrochemical Techniques to Organic Coatings (AETOC), Emmetten, Switzerland, April 24-27, 2013.
72. M. E. Orazem, "Corrosion and Electrochemical Impedance Spectroscopy," **invited plenary lecture** presented at the 19th Electrochemical and Electroanalytical Brazilian Symposium, Campos do Jordão, São Paulo, Brazil, April 1-5, 2013.
71. M. E. Orazem, "The Influence of Coupled Faradaic and Charging Currents on Impedance Spectroscopy ," **invited plenary lecture** presented at the *24^{ème} Forum sur les Impedances Electrochimiques*, Paris, France, March 12, 2013.
70. S. Amand, M. Musiani, M. E. Orazem, N. Pébère, B. Tribollet, and V. Vivier, "Constant-Phase-Element Behavior Caused by Inhomogeneous Electrolyte Uptake in Anti-Corrosion Coatings," keynote Lecture presented at the 10th Symposium on Electrochemical Methods in Corrosion Research, Maragogi, Brazil, November 18-23, 2012
69. A. Shankar, C. Liu, and M. E. Orazem, "Application of Mathematical Models for Evaluating Cathodic Protection Strategies for Complex Structures," presented at the 63rd Annual Meeting of the *International Society of Electrochemistry* in Prague, Czech Republic, August 19-24, 2012.
68. S. Marcelin, N. Pébère, M. E. Orazem, and S. Regnier, "Comportement Electrochimique d'un Acier Inoxydable Martensitique en Milieu Chlorure," poster presented at *the 23^{ème} Forum sur les Impedances Electrochimiques*, Paris, France, December 8, 2011.
67. S. Erol, M. E. Orazem, and R. Muller, "The Impedance Response of LiCoO₂ Batteries after Overcharge and Over-discharge," presented at the 62nd Annual Meeting of the *International Society of Electrochemistry*, Niigata, Japan, September 11-16, 2011.

66. S. Amand, M. Musiani, N. Pébère, M. E. Orazem, B. Tribollet, and V. Vivier, "Analyse du Comportement CPE de la Partie Haute Fréquence des Spectres d'Impédance obtenus sur des Revêtements Sol-Gel Hybrides Déposés sur l'Alliage d'Aluminium 2024," presented at Journées d'Électrochimie, Grenoble, France, July 4-8, 2011.
65. M. E. Orazem, "Impedance Spectroscopy and its Application to Industrial Problems," **invited plenary lecture (conferencia magisteriale)**, presented at XXVI Congreso de la Sociedad Mexicana de Electroquímica (and the 4th Meeting of the Mexican Section of The Electrochemical Society), Mexico City, May 29 - June 3, 2011.
64. K. Allahar, D. Butt, and M. E. Orazem, "Influence of Electrode Surface Condition on Constant Phase Element Characterization," presented at the 219th Meeting of *The Electrochemical Society*, Montréal, Canada, May 1-6, 2011.
63. B. Hirschorn, M. E. Orazem, B. Tribollet, V. Vivier, I. Frateur, and M. Musiani, "Constant-Phase Element (CPE) Behavior Caused by Resistivity Distributions in Films," **invited lecture** presented at the 61st Annual Meeting of the *International Society of Electrochemistry*, Nice, France, September 26-October 1, 2010.
62. I. Frateur, B. Hirschorn, M. Musiani, M. E. Orazem, B. Tribollet, and V. Vivier, "Relationships Between CPE Parameters and Capacitance," *8th International Symposium on Electrochemical Impedance Spectroscopy (EIS 2010)*, Carvoeiro, Algarve, Portugal, June 6-11, 2010.
61. I. Frateur, B. Hirschorn, M. Musiani, M. E. Orazem, B. Tribollet, and V. Vivier, "A Physical Model for A CPE Characteristic of a Coating," *8th International Symposium on Electrochemical Impedance Spectroscopy (EIS 2010)*, Carvoeiro, Algarve, Portugal, June 6-11, 2010.
60. M. Musiani, M. E. Orazem, B. Tribollet, and V. Vivier, "Impedance of Blocking Electrodes Having Parallel Cylindrical Pores with Distributed Radii," *8th International Symposium on Electrochemical Impedance Spectroscopy (EIS 2010)*, Carvoeiro, Algarve, Portugal, June 6-11, 2010.
59. Z. Stoyanov, C. Brett, and M. E. Orazem, "Advanced Techniques for Impedance Data Handling," *8th International Symposium on Electrochemical Impedance Spectroscopy (EIS 2010)*, Carvoeiro, Algarve, Portugal, June 6-11, 2010.
58. S. Wu, M. E. Orazem, B. Tribollet, and V. Vivier, "Impedance Response of a Rotating Disk Electrode below the Mass-Transfer-Limited Current," presented at the 217th Meeting of *The Electrochemical Society*, Vancouver, BC, Canada, April 25-30, 2010.
57. B. Hirschorn, M. E. Orazem, B. Tribollet, V. Vivier, I. Frateur, and M. Musiani, "On Time-Constant Distributions Associated with the Constant-Phase Element," presented at the 217th Meeting of *The Electrochemical Society*, Vancouver, BC, Canada, April 25-30, 2010.
56. I. Frateur, B. Hirschorn, M. E. Orazem, B. Tribollet, V. Vivier, and M. Musiani, "Détermination de la Capacité et de l'Épaisseur d'un Film à Partir des Paramètres CPE," poster presented at *the 22ème Forum sur les Impedances Electrochimiques*, Paris, France, January 18, 2010.
55. B. Tribollet, B. Hirschorn, M. E. Orazem, I. Frateur, M. Musiani, and V. Vivier, "The Influence of Heterogeneities on Impedance Response," **invited lecture** at the *Second Symposium on Fundamentals of Electrodeposition for Future Nanoelectronic Applications*, Schloß Reisenburg, Germany, October 14, 2009.
54. M. E. Orazem, "Perspective on the *International Society of Electrochemistry*," **invited lecture** at the *Second Symposium on Fundamentals of Electrodeposition for Future Nanoelectronic Applications*, Schloß Reisenburg, Germany, October 14, 2009.
53. M. Keddah, M. E. Orazem, N. Portail, B. Tribollet and V. Vivier, "On the Simultaneous Measurements of Two Components of the AC-Current Density for Localized Electrochemical Impedance Spectroscopy," presented at the 216th Meeting of *The Electrochemical Society*, Vienna, Austria, October 7, 2009.
52. B. Tribollet, B. Hirschorn, M. E. Orazem, I. Frateur and V. Vivier, "On the Relations Between Constant Phase Elements and Capacitance," presented at the 216th Meeting of *The Electrochemical Society*, Vienna, Austria, October 7, 2009.

51. M. E. Orazem, "Application of Impedance Spectroscopy to Characterize PEM Fuel Cells," **invited lecture** at the *International Symposium on Diagnostic Tools for Fuel Cell Technologies*, Trondheim, Norway, June 23-24, 2009.
50. S-L. Wu, M. E. Orazem, B. Tribollet, and V. Vivier, "Influence des Intermédiaires Adsorbés sur l'Impédance Ohmique Locale (Influence of Adsorbed Intermediates on the Local Ohmic Impedance)," poster presented at the *21ème Forum sur les Impedances Electrochimiques*, Paris, France, December 15, 2008.
49. M. E. Orazem, "Applications of Mathematical Models to Cathodic Protection of Pipelines and Aboveground Storage Tanks," **invited plenary lecture** presented at *INTERCORR 2008, the 28th Congresso Brasileiro de Corrosão, 2nd International Corrosion Meeting*, Recife, Brazil, May 12-16, 2008.
48. I. Frateur, M. E. Orazem, N. Pébère, B. Tribollet, V. Vivier, "Mesures d'Impedance Electrochimique Locale: Influence de la Geometrie de l'Electrode (Local Impedance Measurements: Influence of Electrode Geometry)," presented at *la Cinquième Rencontre Nationale d'Electrochimie (RNE 05) sous le thème Electrochimie et ses Applications Industrielles et Environnementales*, Agadir, Morocco, March 28-29, 2008.
47. V. Huang, K. Ogle, M. E. Orazem, "Mathematical Models for Cathodic Delamination of Coated Metals," presented at the 58th Annual Meeting of the *International Society of Electrochemistry*, Banff, Canada, September 9-14, 2007.
46. M. E. Orazem and S. K. Roy, "On Modeling the Impedance Response of PEM Fuel Cells," Invited lecture, presented at the *International Conference on Polymer Batteries Fuel Cells-PABFC-2007* on the occasion of Professor Scrosati's 70th birthday, Rome, Italy, June 11-15, 2007.
45. M. E. Orazem, "An Integrated Approach to Impedance Spectroscopy," **invited plenary lecture** presented at the *7th International Symposium on Electrochemical Impedance Spectroscopy*, Argelès sur Mer, France, June 3-8, 2007.
44. I. Frateur, V. M-W. Huang, M. E. Orazem, N. Pébère, B. Tribollet, and V. Vivier, "La Partie Imaginaire de la Chute Ohmique," poster presented at the *19ème Forum sur les Impedances Electrochimiques*, Paris, France, December 11, 2006.
43. S. K. Roy and M. E. Orazem, "Interpretation of Low-Frequency Inductive Loops in PEM Fuel Cell Impedance Data," presented at the 210th meeting of *The Electrochemical Society*, Cancun, Mexico, October 29-November 3, 2006.
42. M. E. Orazem, J. P. McKinney, C. Chu, O. Moghissi, D. P. Riemer, and D. D'Zurko, "Evaluation of ECDA Indications for Assessing Pipeline Integrity," presented at the 210th meeting of *The Electrochemical Society*, Cancun, Mexico, October 29-November 3, 2006.
41. M. E. Orazem, V. Huang, V. Vivier, B. Tribollet and N. Pébère, "The Apparent CPE Behavior of a Disk Electrode with Faradaic Reactions," presented at the 210th meeting of *The Electrochemical Society*, Cancun, Mexico, October 29-November 3, 2006.
40. D. P. Riemer, J. P. McKinney, O. Moghissi, C. Chu, D. D'Zurko, and M. E. Orazem, "Models of Close-Interval Potential Surveys for Buried Pipelines," **invited lecture** presented at the 57th Annual Meeting of the *International Society of Electrochemistry*, Edinburgh, Scotland, August 27-September 1, 2006.
39. I. Frateur, M. E. Orazem, B. Tribollet, and V. Vivier, "Characterization of an Oxide Film by EIS and LEIS," presented at the 57th Annual Meeting of the *International Society of Electrochemistry*, Edinburgh, Scotland, August 27-September 1, 2006.
38. I. Frateur, G. G. O. Cordeiro, M. Musiani, M. E. Orazem, and B. Tribollet, "Estimation of Oxide Layer Capacitance from High Frequency EIS Results," presented at *EMCR 2006*, Dourdan, France, June 18-23, 2006.
37. J. P. McKinney, M. E. Orazem, O. Moghissi, D. P. Riemer, and D. D'Zurko, "The Use of Mathematical Models to Explore Methods to Assess the Condition of Buried Pipelines," poster presented at *EMCR 2006*, Dourdan, France, June 18-23, 2006.
36. M. E. Orazem, "The Role of Current and Potential Distributions on CPE Behavior," **invited plenary lecture**, presented at *EMCR 2006*, Dourdan, France, June 18-23, 2006.

35. M. E. Orazem, "Interpretation of Impedance Spectroscopy," **invited keynote lecture** presented at *EuroCorr 2005*, Lisbon, Portugal, September 4-8, 2005.
34. C. Qiu and M. E. Orazem, "Estimation of Pipeline Coating Condition by Computer-Assisted Interpretation of Survey Data," presented at the 54th Annual Meeting of the *International Society of Electrochemistry*, August 31-September 5, 2003, São Pedro, Brazil.
33. D. P. Riemer and M. E. Orazem, "Mathematical Models for Evaluating Cathodic Protection Strategies for Aboveground Storage Tanks," **invited keynote lecture**, presented at the 54th Annual Meeting of the *International Society of Electrochemistry*, August 31-September 5, 2003, São Pedro, Brazil.
32. P. K. Shukla, M. E. Orazem, and O. D. Crisalle, "On the Measurement Model Paradigm for Identification of the Error Structure of Impedance Measurements," **invited keynote lecture**, presented at *EMCR 2003*, Ysermonde, Belgium, May 4-9, 2003.
31. P. K. Shukla and M. E. Orazem, "Hydrodynamics and Mass-Transfer-Limited Current Distribution for a Submerged Stationary Hemispherical Electrode under Jet Impingement," presented at *EMCR 2003*, Ysermonde, Belgium, May 4-9, 2003.
30. M. E. Orazem and O. D. Crisalle, "On the Propagation of Errors from the Time Domain to the Frequency Domain," presented at the 203rd Meeting of *The Electrochemical Society*, Paris, France, April 27-May 2, 2003.
29. M. E. Orazem, S. L. Carson, O. D. Crisalle, and L. H. García-Rubio, "On the Error Structure of Impedance Measurements: Instrument Simulations," **invited plenary lecture** presented by M. E. Orazem at the *14^{ème} Forum sur les Impedances Electrochimiques*, Paris, France, January 14, 2002.
28. J. C. Cardoso Filho and M. E. Orazem, "Investigação Eletroquímica da Corrosão em Oleoduto na Presença de Gás Carbônico," *XXI CONBRASCORR*, São Paulo, Brazil, August 20-22, 2001.
27. P. K. Shukla, M. A. Membrino, and M. E. Orazem, "Nested Design Analysis of Impedance Spectroscopy Data for Excised Human Skin," (poster) presented at the *5th International Symposium on Electrochemical Impedance Spectroscopy*, Marilleva, Italy, June 17-22, 2001.
26. K. E. Jeffers and M. E. Orazem, "Application of Electrochemical Impedance Spectroscopy to Characterize the Time-Dependent Corrosion of Steel in Simulated Soil Environments," presented at the *5th International Symposium on Electrochemical Impedance Spectroscopy*, Marilleva, Italy, June 17-22, 2001.
25. P. Shukla and M. E. Orazem, "On the Error Structure of Impedance Measurements and its Implication for Interpretation of Measurements," **invited keynote lecture** presented at the *5th International Symposium on Electrochemical Impedance Spectroscopy*, Marilleva, Italy, June 17-22, 2001.
24. J. C. Cardoso Filho, B. Tribollet, and M. E. Orazem, "Application of a Submerged Impinging Jet for Corrosion Studies: Development of Models for the Impedance Response," presented at *EMCR 2000*, Budapest, Hungary, May 28-31 2000.
23. J. C. Cardoso Filho and M. E. Orazem, "Application of a Submerged Impinging Jet to Investigate the Influence of Temperature, Dissolved CO₂, and Fluid Velocity on Corrosion of Pipeline-Grade Steel in Brine," presented at *EMCR 2000*, Budapest, Hungary, May 28-31 2000.
22. J. C. Cardoso Filho, M. A. Membrino, and M. E. Orazem, "Application of Impedance Spectroscopy to Monitor Transient Systems," presented at the 196th Meeting of *The Electrochemical Society*, Toronto, Canada, May 14-19, 2000.
21. S. L. Carson, M. E. Orazem, O. D. Crisalle, and L. H. García-Rubio, "On the Error Structure of Impedance Measurements and its Implication for Interpretation of Measurements," presented at the 196th Meeting of *The Electrochemical Society*, Toronto, Canada, May 14-19, 2000.
20. S. L. Carson, M. E. Orazem, O. D. Crisalle, L. H. García-Rubio, "Influence of Instrumentation on the Error Structure of Impedance Measurement," presented at the 50th Annual Meeting of the *International Society of Electrochemistry*, Pavia, Italy, September 5-10, 1999.
19. I. Frateur, C Deslouis, M. E. Orazem, and B. Tribollet, "Modeling of the Cast Iron/Drinking Water System by Electrochemical Impedance Spectroscopy," presented at the *4th International Symposium on Electrochemical Impedance Spectroscopy*, Rio de Janeiro, Brazil, August 2-7, 1998.

18. S. S. Philbrick, M. A. Membrino, M. E. Orazem, "Characterization of Relaxation Phenomena in Human Skin Using Coupled Optical And Electrochemical Impedance Spectroscopy," **invited keynote lecture** presented at the *4th International Symposium on Electrochemical Impedance Spectroscopy*, Rio de Janeiro, Brazil, August 2-7, 1998.
17. M. E. Orazem, M. Durbha, C. Deslouis, H. Takenouti, and B. Tribollet, "Influence of Surface Phenomena on the Impedance Response of a Rotating Disk Electrode," presented at the *4th International Symposium on Electrochemical Impedance Spectroscopy*, Rio de Janeiro, Brazil, August 2-7, 1998.
16. M. A. Membrino, S. Philbrick, M. E. Orazem, E. Scott, and J. B. Phipps, "Complementary Spectroscopic Techniques For Characterization of Ion Transport Through Skin," presented at the 1997 Joint International Meeting of *The Electrochemical Society* and the *International Society of Electrochemistry*, Paris, France, August 31-September 5, 1997.
15. M. E. Orazem, P. T. Wojcik, I. Frateur, and L. H. García-Rubio, "Application of Measurement Models for Interpretation of Impedance Spectra for Corrosion," **invited keynote lecture** presented at *EMCR 97*, Trento, Italy, August 25-29, 1997.
14. M. E. Orazem, C. Deslouis, and B. Tribollet, "Comparison of Impedance Models for Mass Transfer to a Disk Electrode," **invited lecture** presented at the 191st Meeting of *The Electrochemical Society*, Montréal, Canada, May 6, 1997.
13. M. E. Orazem and L. H. García-Rubio, "The Influence of Error Structure on the Interpretation of Impedance Spectra," **invited lecture** presented at the 191st Meeting of *The Electrochemical Society*, Montréal, Canada, May 8, 1997.
12. M. Durbha, M. E. Orazem, C. Deslouis, H. Takenouti, and B. Tribollet, "The Influence of Current Distribution on the Reduction of Ferricyanide on a Pt Disk Electrode below the Mass-Transfer Limited Current," presented at the 191st Meeting of *The Electrochemical Society*, Montréal, Canada, May 6, 1997.
11. M. A. Membrino, M. E. Orazem, E. Scott, and J. B. Phipps, "Electrochemical Impedance Measurements For Characterization of Ion Transport Pathways In Skin," presented at the *Symposium on Transdermal Administration: A Case Study, Iontophoresis*, Paris, France, March 3-4, 1997.
10. P. Agarwal, M. E. Orazem, and L. García-Rubio, "The Influence of Error Structure on Interpretation of Impedance Spectra," presented at the *3rd International Symposium on Electrochemical Impedance Spectroscopy*, Ysermonde, Belgium, May 7-12, 1995.
9. P. T. Wojcik, P. Agarwal, and M. E. Orazem, "A Method for Maintaining a Constant Potential Variation during Galvanostatic Regulation of Electrochemical Impedance Measurements," presented at the *3rd International Symposium on Electrochemical Impedance Spectroscopy*, Ysermonde, Belgium, May 7-12, 1995.
8. M. E. Orazem, P. Agarwal, and L. H. García-Rubio, "The Influence of the Error Structure on Interpretation of Impedance Spectra," **invited plenary lecture** presented at the *8ème Forum sur les Impedances Electrochimiques*, Paris, France, November 21, 1994.
7. M. E. Orazem, "Development of Mathematical Models for Cathodic Protection of Coated Pipelines with Discrete Coating Holidays," **invited lecture** presented at *Giornate dell'Elettrochimica Italiana 1994*, Padova, Italy, October 11-14, 1994.
6. M. E. Orazem and L. H. García-Rubio, "Applications of Impedance Spectroscopy to Corrosion Research," **invited keynote lecture** presented at the *5th International Symposium on Electrochemical Methods in Corrosion Research*, Sesimbra, Portugal, September 5-8, 1994.
5. A. N. Jansen, P. T. Wojcik, and M. E. Orazem "Impedance Techniques for Identification of Deep Level States in Electronic Materials," **invited lecture** presented at the 182nd Meeting of *The Electrochemical Society*, Toronto, Canada, October 11-16, 1992.
4. M. E. Orazem, "Identification of Deep-Level Electronic Defects by Photoelectrochemical A.C. Impedance Spectroscopy," **invited lecture** presented at the *Mini-symposium on Electrochemistry of Semiconductors and Electroactive Polymer Materials*, the Institutt for Teknisk Elektrokjemi, the Norwegian Institute of Technology (NTH), Trondheim, Norway, May 29-30, 1989.

3. M. E. Orazem, "Mathematical Modeling of Charge and Mass Transport at the Semiconducting Electrode-Electrolyte Interface," **invited lecture** presented at the *Mini-symposium on Electrochemistry of Semiconductors and Electroactive Polymer Materials*, the Institutt for Teknisk Elektrokjemi, the Norwegian Institute of Technology (NTH), Trondheim, Norway, May 29-30, 1989.
2. D. B. Bonham and M. E. Orazem, "Applications of Mathematical Models of Photoelectrochemical A. C. Impedance Spectroscopy for Identification of Deep-Level Electronic Defects in Semiconductors," presented at the *1st International Symposium on Electrochemical Impedance Spectroscopy*, Bombannes, France, May 26, 1989.
1. L. E. Erickson, G. T. MacLean, M. E. Orazem, and L. T. Fan, "Oxygen Transfer in Cultures with Two Liquid Phases," presented at the *5th International Fermentation Symposium*, Berlin, June 1976.

National Conferences

140. C. L. Alexander, B. Tribollet, and M. E. Orazem, "Contribution of Surface Roughness to Constant-Phase Element (CPE) Behavior," to be presented at the 228th Meeting of the Electrochemical Society, Phoenix, Arizona, October 11-16, 2015.
139. M. E. Orazem and A. L. Bunge, "On the Dielectric Properties of Human Skin," to be presented at the 228th Meeting of the Electrochemical Society, Phoenix, Arizona, October 11-16, 2015.
138. S. Erol, M. E. Orazem, and M. Shirpour, "The Influence of Anomalous Diffusion on the Impedance Response of LiCoO_2 -C Batteries," to be presented at Materials Science & Technology 2015, Columbus, Ohio, October 4-8, 2015.
137. M. E. Orazem, R. Kong, Y. Huang, H. Lai, D. A. Horner, S. Moghaddam, D. Bloomquist, P. Kucera, Y. C. Guan, and B. Baylor, "A Prototype for improving the Percent Solids of a Phosphate Mines Clay Effluent," presented at 29th Annual SME Regional Phosphate Conference, Lakeland, Florida, October 8-9, 2014.
136. C. Cleveland, M. E. Orazem, and S. Moghaddam, "Corrosion of Copper in De-Aerated Water," presented at the 225th Meeting of *The Electrochemical Society*, Orlando, Florida, May 11-16, 2014.
135. Y. M. Chen, C. Alexander, and M. E. Orazem, "Corrosion Behavior of ASTM A416 Steel in Simulated Pore Solution," presented at the 225th Meeting of *The Electrochemical Society*, Orlando, Florida, May 11-16, 2014.
134. H. Lai, R. Kong, S. Moghaddam, M. E. Orazem, Y. Huang, D. Yu, and D. Bloomquist, "Clay Fabric in Electrokinetic Dewatering," presented at the 225th Meeting of *The Electrochemical Society*, Orlando, Florida, May 11-16, 2014.
133. Y. Huang, M. E. Orazem, R. Kong, D. Yu, H. Lai, S. Moghaddam, D. Bloomquist, and C. Cleveland, "Laboratory-Scale Apparatus for Semi-Continuous Electrokinetic Dewatering of Phosphatic Clay Suspensions," presented at the 225th Meeting of *The Electrochemical Society*, Orlando, Florida, May 11-16, 2014.
132. C. Alexander, Y. M. Chen, and M. E. Orazem, "An Indirect Impedance Technique to Determine Reinforcing Steel Properties," presented at the 225th Meeting of *The Electrochemical Society*, Orlando, Florida, May 11-16, 2014.
131. R. Kong, M. E. Orazem, Y. Huang, D. Yu, H. Lai, S. Moghaddam, and D. Bloomquist, "Evolutionary Development for Electrokinetic Dewatering of Phosphate Mine Tailings," presented at the 225th Meeting of *The Electrochemical Society*, Orlando, Florida, May 11-16, 2014.
130. M. E. Orazem and S. Erol, "Evaluation of Energy Storage Materials by Impedance Spectroscopy," **invited lecture**, presented at the Materials Research Society Fall 2013 Meeting, Boston, Massachusetts, December 1-6, 2013.
129. S. Erol and M. E. Orazem, "A Process Model for Electrochemical Impedance Spectroscopy of LiCoO_2 Batteries," poster presented at the 224th Meeting of *The Electrochemical Society*, San Francisco, California, October 27-November 1, 2013.
128. A. Alaoui Mouayd, M. E. Orazem, E. Sutter, B. Tribollet, and A. Koltsov, "Study of pickling and over-pickling mechanisms of silicon high alloyed steel grade by Electrochemical Impedance Spectroscopy," presented at the 224th Meeting of *The Electrochemical Society*, San Francisco, California, October 27-November 1, 2013.

127. S.-L. Wu, M. E. Orazem, B. Tribollet, and V. Vivier, "The Influence of Coupled Faradaic and Charging Currents on Impedance Spectroscopy," presented at the 224th Meeting of *The Electrochemical Society*, San Francisco, California, October 27-November 1, 2013.
126. M. E. Orazem, B. Tribollet, I. Frateur, M. Musiani, and V. Vivier, "Tutorial: The Power Law Model for Interpretation of CPE Parameters," **invited lecture**, presented at the 224th Meeting of *The Electrochemical Society*, San Francisco, California, October 27-November 1, 2013.
125. K. N. Allahar, D. P. Butt, M. E. Orazem, M. Shaltry, and M. Simpson, "Electrochemical Impedance Spectroscopy of Uranium Chloride in Molten LiCl-KCl Eutectic," presented at TMS 2013, San Antonio, Texas, March 3-7, 2013.
124. M. E. Orazem, "Application of the Kramers-Kronig Relations to Impedance Spectroscopy," **invited lecture** presented at PRiME 2012, the 222nd Meeting of *The Electrochemical Society*, Honolulu, Hawaii, October 7-12, 2012.
123. Y. C. Chang and M. E. Orazem, "Mathematical Models for Under-Deposit Corrosion," presented at PRiME 2012, the 222nd Meeting of *The Electrochemical Society*, Honolulu, Hawaii, October 7-12, 2012.
122. B. Tribollet, I. Frateur, M. Musiani, M. E. Orazem, and V. Vivier, "CPE Behavior of Oxide Layer Impedance," presented at PRiME 2012, the 222nd Meeting of *The Electrochemical Society*, Honolulu, Hawaii, October 7-12, 2012.
121. M. E. Orazem, "Application of Impedance Spectroscopy to Characterize PEM Fuel Cells," **invited lecture** presented at PRiME 2012, the 222nd Meeting of *The Electrochemical Society*, Honolulu, Hawaii, October 7-12, 2012.
120. M. E. Orazem, "Henry B. Linford Award for Distinguished Teaching of the Electrochemical Society: Electrochemical Impedance Spectroscopy," **invited Award lecture** presented at the 221st Meeting of *The Electrochemical Society*, Seattle, Washington, May 6-10, 2012.
119. M. E. Orazem, B. Tribollet, V. Vivier, S. Marcelin, N. Pébère, A. L. Bunge, E. A. White, D. P. Riemer, I. Frateur, and M. Musiani, "Interpretation of Dielectric Properties for Materials showing Constant-Phase Element (CPE) Impedance Response," presented at the 221st Meeting of *The Electrochemical Society*, Seattle, Washington, May 6-10, 2012.
118. S. Marcelin, N. Pébère, S. Regnier, and M. E. Orazem, "Electrochemical Behavior of a Martensitic Stainless Steel in a Chloride Solution," presented at the 220th Meeting of *The Electrochemical Society*, Boston, MA, October 9-14, 2011.
117. S. Amand, M. Musiani, M. E. Orazem, N. Pébère, B. Tribollet, and V. Vivier, "Frequency Dispersion in EIS due to Resistivity Distribution in a Layer: Application to Hybrid Sol-Gel Coatings on 2024 Aluminum Alloy," presented at the 220th Meeting of *The Electrochemical Society*, Boston, MA, October 9-14, 2011.
116. S. Erol, M. E. Orazem, and R. Muller, "Influence of Overcharge and Over-discharge on the Impedance Response of LiCoO₂ Batteries," presented at the 220th Meeting of *The Electrochemical Society*, Boston, MA, October 9-14, 2011.
115. E. A. White, M. E. Orazem, A. L. Bunge, "Single-Frequency LCR Databridge Impedance Measurements as Surrogate Measures for the Integrity of Human Skin," presented at the 220th Meeting of *The Electrochemical Society*, Boston, MA, October 9-14, 2011.
114. M. E. Orazem, and D. P. Riemer, "Mathematical Models for Cathodic Protection of Pipelines," **invited lecture** presented at the 8th Spring Meeting of the *International Society of Electrochemistry* (on Advances in Corrosion Science for Lifetime Prediction and Sustainability), Columbus, Ohio, May 5, 2010.
113. M. E. Orazem and D. P. Riemer, "Current Distributions associated with Cathodic Protection of Pipelines," presented at the 215th Meeting of *The Electrochemical Society*, San Francisco, California, May 24-29, 2009.
112. C. Blanc, M. E. Orazem, N. Pébère, B. Tribollet, and V. Vivier, "Influence of the Steady State Radial Current on the Local Ohmic Impedance," presented at the 215th Meeting of *The Electrochemical Society*, San Francisco, California, May 24-29, 2009.

111. J. P. McKinney and M. E. Orazem, Electrokinetic Methods for Dewatering of Phosphatic Clay Slurries, presented at the 215th Meeting of *The Electrochemical Society*, San Francisco, California, May 24-29, 2009.
110. O. C. Moghissi, J. P. McKinney, M. E. Orazem, and D. D'Zurko, "Predicting Coating Holiday Size Using ECDA Survey Data," presented at *Corrosion/2009*, Atlanta, Georgia, March 22-26, 2009.
109. M. E. Orazem and B. Tribollet, "The Influence of Nonuniform Current and Potential Distributions on the Impedance Response of a Disk Electrode," **invited lecture** at the 214th Meeting of *The Electrochemical Society*, Honolulu, Hawaii, October 12-17, 2008.
108. K. Nisancioglu and M. E. Orazem, "Applications of Potential Theory in Cathodic Protection," **invited lecture** at the 214th Meeting of *The Electrochemical Society*, Honolulu, Hawaii, October 12-17, 2008.
107. B. Hirschorn, I. Ibrahim, M. E. Orazem, H. Takenouti, and B. Tribollet, "Effect of Large Perturbation Amplitudes on the Impedance Response of an Electrochemical System," presented at the 213th Meeting of *The Electrochemical Society*, Phoenix, Arizona, May 18-23, 2008.
106. S.-L. Wu, V. Huang, M. E. Orazem, V. Vivier, and B. Tribollet, "The Influence of Nonuniform Current and Potential Distributions on the Impedance Response of a Disk Electrode," presented at the 213th Meeting of *The Electrochemical Society*, Phoenix, Arizona, May 18-23, 2008.
105. S. K. Roy and M. E. Orazem, "Guidelines for Evaluation of Error Structure for Impedance Response of PEM Fuel Cells," presented at the 213th Meeting of *The Electrochemical Society*, Phoenix, Arizona, May 18-23, 2008.
104. M. E. Orazem, "Computer Simulations for Cathodic Protection of Pipelines and Cathodic Delamination," **invited keynote lecture** presented at the 212th Meeting of *The Electrochemical Society*, Washington DC, October 7-12, 2007.
103. S. Roy and M. E. Orazem, "Stochastic Analysis of Flooding in PEM Fuel Cells by Electrochemical Impedance Spectroscopy," presented at the 212th Meeting of *The Electrochemical Society*, Washington DC, October 7-12, 2007.
102. V. Vivier, I. Frateur, V. Huang, M. E. Orazem, N. Pébère, and B. Tribollet, "Local Electrochemical Impedance Spectroscopy: Theoretical and Experimental Considerations on Measurable Quantities," presented at the 211th Meeting of *The Electrochemical Society*, Chicago, Illinois, May 6-May 10, 2007.
101. S. K. Roy and M. E. Orazem, "Interpretation of Low-Frequency Inductive Loops in PEM Fuel Cell Impedance Data in Terms of Reactions Influencing the Life-Time of Fuel Cell Performance," *NHA Annual Hydrogen Conference*, San Antonio, Texas, March 19-22, 2007.
100. J. R. Smith, M. E. Orazem, and E. D. Wachsman, "Use of a Measurement Model Technique for the Evaluation of Convolved Processes Occurring in SOFC Cathodes," poster presented at the *31st International Cocoa Beach Conference on Advanced Ceramics and Composites*, January 21-26, 2007.
99. M. E. Orazem and B. Tribollet, "Educational Needs for Electrochemical Impedance Spectroscopy," presented at the 209th Meeting of *The Electrochemical Society*, Denver, Colorado, May 7-12, 2006.
98. S. K. Roy and M. E. Orazem, "Application of Measurement Models to Impedance Data of PEMFC," presented at the 209th Meeting of *The Electrochemical Society*, Denver, Colorado, May 7-12, 2006.
97. V. Huang, K. Ogle and M. E. Orazem, "A Mathematical Model for Cathodic Delamination of Coated Zinc including a kinetic pH-Porosity Relationship," presented at the 209th Meeting of *The Electrochemical Society*, Denver, Colorado, May 7-12, 2006.
96. J. D. Beach, A. L. Bunge, and M. E. Orazem, "Evidence That Pores Are the Primary Conductive Pathway in Human Skin," presented at the 209th Meeting of *The Electrochemical Society*, Denver, Colorado, May 7-12, 2006.
95. I. Frateur, M. E. Orazem, B. Tribollet, and V. Vivier, "Estimation of Oxide Layer Capacitance from EIS and LEIS Results," presented at the 209th Meeting of *The Electrochemical Society*, Denver, Colorado, May 7-12, 2006.

94. V. Huang, B. Tribollet, V. Vivier, N. Pébère, and M. E. Orazem, "Mathematical Model for Impedance Response of a Blocking Disk Electrode," presented at the 209th Meeting of *The Electrochemical Society*, Denver, Colorado, May 7-12, 2006.
93. J. P. McKinney, M. E. Orazem, O. Moghissi, "Evaluation of the Utility of ECDA Indications for Assessing Pipeline Integrity," poster presented at *Corrosion/2006*, San Diego, California, March 12-16, 2006.
92. J. P. McKinney, M. E. Orazem, O. Moghissi, and D. D'Zurko, "Development of ECDA Criteria for Prioritization of Indications," presented at *Corrosion/2006*, San Diego, California, March 12-16, 2006.
91. J. Smith, E. Wachsman, M. E. Orazem, and K. Duncan, "Evaluation of Time Constants Governing the Cathodic Reaction in SOFCs," presented at the 208th Meeting of *The Electrochemical Society*, Los Angeles, California, October 16-21, 2005.
90. V. Huang, K. Ogle and M. E. Orazem, "A Mathematical Model for Cathodic Delamination of Coated Zinc," presented at the 208th Meeting of *The Electrochemical Society*, Los Angeles, California, October 16-21, 2005.
89. M. E. Orazem, N. Pébère, and B. Tribollet, A New Look at Graphical Representation of Impedance Data with Application to Corrosion in Saline Solutions, **invited lecture** presented at the 206th Meeting of *The Electrochemical Society*, Honolulu, Hawaii, October 3-8, 2004.
88. K. N. Allahar, M. E. Orazem, D. P. Butt, H. A. Chin, and W. Ogden, Application of Measurement Models to High Impedance Data of Steels in Used Oil, presented at the *6th International Symposium on Electrochemical Impedance Spectroscopy*, Cocoa Beach, Florida, May 16-21, 2004.
87. J.-B. Jorcin, M. E. Orazem, N. Pébère, and B. Tribollet, CPE Analysis by Local Electrochemical Impedance Spectroscopy, **keynote lecture**, presented at the *6th International Symposium on Electrochemical Impedance Spectroscopy*, Cocoa Beach, Florida, May 16-21, 2004.
86. P. Shukla, G. Nellisen, and M. E. Orazem, "EIS on a Stationary Hemispherical Nickel-270 Electrode," presented at the *6th International Symposium on Electrochemical Impedance Spectroscopy*, Cocoa Beach, Florida, May 16-21, 2004.
85. M. E. Orazem, D. P. Riemer, C. Qiu, and K. Allahar, "Computer Simulations for Cathodic Protection of Pipelines," **invited lecture** presented at *Corrosion/2004*, New Orleans, March 28-April 1, 2004.
84. C. Qiu and M. E. Orazem, "Assessment of Pipeline Condition Using Heterogeneous Input Data," presented at the 204th Meeting of *The Electrochemical Society*, Orlando, Florida, October 12-16, 2003.
83. P. K. Shukla and M. E. Orazem, "Current Distribution for Submerged Stationary Hemispherical Electrode under Jet impingement," **invited lecture** presented at the 204th Meeting of *The Electrochemical Society*, Orlando, Florida, October 12-16, 2003.
82. K. Allahar, K. Ogle, and M. E. Orazem, "A Mathematical Model for the Cathodic Delamination Process of Coatings on Zinc," presented at the 202nd Meeting of *The Electrochemical Society*, Salt Lake City, Utah, October 20-25, 2002.
81. M. E. Orazem and B. Tribollet, "Error Analysis for Interpretation of Impedance Data using Mathematical Models," presented at the 201st Meeting of *The Electrochemical Society*, Philadelphia, Pennsylvania, May 12-17, 2002.
80. M. Membrino, P. Shukla, and M. E. Orazem, "Application of Electrochemical Impedance Spectroscopy to Characterize Skin with Application to Transdermal Delivery of Therapeutic Drugs," presented at the 200th Meeting of *The Electrochemical Society* and the 52nd Annual Meeting of the *International Society of Electrochemistry*, San Francisco, California, September 2-7, 2001.
79. D. Riemer and M. E. Orazem, "Modeling Cathodic Protection for Pipeline Networks," presented at the 199th Meeting of *The Electrochemical Society*, Washington, DC, March 25-30, 2001.
78. J. C. Cardoso Filho and M. E. Orazem, "Application of a Submerged Impinging Jet to Investigate the Influence of Temperature, Dissolved CO₂, and Fluid Velocity on Corrosion of Pipeline-Grade Steel in Brine," paper 01-058 presented at *Corrosion/2001*, Houston, Texas, March 11-16, 2001.

77. M. E. Orazem, J. C. Cardoso Filho, and B. Tribollet, "The Influence of Submerged Impinging Jet Flow on Viscous Colloidal Gels formed by Corrosion of Steel," presented at the Annual Meeting of the *American Institute of Chemical Engineers*, Los Angeles, California, November 14, 2000.
76. K. Allahar and M. E. Orazem, "Development of Quasipotential Transformation Models of the Steady-State Electrochemistry in a Pit with Multiple Heterogeneous Reactions," presented at the 197th Meeting of *The Electrochemical Society*, Phoenix, Arizona, May 14-19, 2000. October 25, 2000.
75. K. Jeffers and M. E. Orazem, "Application of Electrochemical Impedance Spectroscopy to Characterize the Time-Dependent Corrosion of Steel in Simulated Soil Environments," presented at the 197th Meeting of *The Electrochemical Society*, Phoenix, Arizona, May 14-19, 2000. October 25, 2000.
74. M. E. Orazem, "Cathodic Protection Performance Simulations: An Industry-University Collaboration," *51st Annual Pipeline Conference & Cybernetics Symposium*, April 18-20, 200, New Orleans, Louisiana.
73. D. P. Riemer and M. E. Orazem, "Application of Boundary Element Models to Predict the Effectiveness of Coupons for Assessing Cathodic Protection of Buried Structures," presented at *Corrosion/2000*, Orlando, Florida, March 26-31, 2000.
72. M. E. Orazem and K. Jeffers, "Application of Impedance Spectroscopy to Monitor Temporal Evolution of Corrosion" presented at Annual Meeting of the *American Institute of Chemical Engineers*, Dallas, Texas, October 31-November 5, 1999.
71. P. T. Wojcik, J. C. Cardoso Filho, and M. E. Orazem, "Applications of Impinging Jets to Study Corrosion under High-Shear Flows," **invited lecture** presented at the 196th Meeting of *The Electrochemical Society*, Honolulu, Hawaii, October 17-22, 1999.
70. K. Allahar, D. S. Dunn, M. E. Orazem, N. Sridhar, M. Lencka, and A. Anderko, "Modeling and Experimental Investigation of Corrosion in Crevices and Under Disbonded Coatings," presented at the 196th Meeting of *The Electrochemical Society*, Honolulu, Hawaii, October 17-22, 1999.
69. M. E. Orazem, "Tutorial: Application of Mathematical Models for Interpretation of Impedance Spectra," **invited lecture** presented at 195th Meeting of *The Electrochemical Society*, Seattle, Washington, May 2-7, 1999.
68. D. P. Riemer and M. E. Orazem, "Models for Cathodic Protection of Multiple Pipelines with Coating Holidays," presented at *Corrosion/99*, April 25-30, 1999.
67. D. P. Riemer and M. E. Orazem, "Development of Mathematical Models for Cathodic Protection of Multiple Pipelines in a Right-of-Way," *1998 International Gas Research Conference*, San Diego, November 8-11, 1998.
66. M. Durbha, M. E. Orazem, C. Deslouis, H. Takenouti, and B. Tribollet, "Influence of Current and Potential Distribution on the Faradaic Impedance below the Mass-Transfer-Limited Current for a Rotating Disk Electrode," presented at the 193rd Meeting of *The Electrochemical Society*, San Diego, May 3-8, 1998.
65. S. S. Philbrick, M. A. Membrino, and M. E. Orazem, "Characterization of Transdermal Delivery in-vitro using Optical and Electrochemical Impedance Spectroscopy," presented at the 193rd Meeting of *The Electrochemical Society*, San Diego, May 3-8, 1998.
64. M. E. Orazem, "A Tutorial on Impedance Spectroscopy," **invited lecture** presented at *Corrosion/98*, San Diego, California, March 22-27, 1998.
63. M. Durbha, S. L. Carson, A. H. Kalajian, M. J. Lazzara, M. E. Orazem, and L. H. García-Rubio, "Common Features of Electrochemical and Mechanical Spectroscopy Measurements," presented at the Annual Meeting of the *American Institute of Chemical Engineers*, Los Angeles, California, November 16-21, 1997.
62. S. L. Carson and M. E. Orazem, "Development of Rotational Electrophoretic Spectroscopy for Particle Shape and Charge Heterogeneity," presented at the Annual Meeting of the *American Institute of Chemical Engineers*, Los Angeles, California, November 16-21, 1997.
61. P. T. Wojcik, E. Charrière, and M. E. Orazem, "Experimental Study of the Erosion-Corrosion of Copper and Copper-Nickel Alloys at the Corrosion Potential and at Anodic Potentials," presented at *the Tri-Service Conference on Corrosion*, November 17-21, 1997.

60. M. E. Orazem and S. Tait, "Enhanced Interpretation of Impedance Data for Coated Specimens, presented at the *3rd Workshop on Quantitative Methods for Predicting Coating Performance*, Carderock, Maryland, October 20-21, 1997.
59. P. T. Wojcik and M. E. Orazem, "Experimental Study of the Erosion-Corrosion of Copper and Copper-Nickel Alloys Using a Submerged Impinging Jet," paper 97-435 presented at *Corrosion/97*, New Orleans, Louisiana, March 9-14, 1997.
58. P. T. Wojcik and M. E. Orazem, "Variable-Amplitude Galvanostatically Modulated Impedance Spectroscopy as a Non-Invasive Tool for Assessing Reactivity at the Corrosion Potential," paper 97-282 presented at *Corrosion/97*, New Orleans, Louisiana, March 9-14, 1997.
57. S. Carson and M. E. Orazem, "Time-Dependent Polarization of Pipeline Steel in High Moisture Content Soil Environments," Paper 112a presented at the Annual Meeting of the *American Institute of Chemical Engineers*, Chicago, Illinois, November 13, 1996.
56. P. T. Wojcik and M. E. Orazem, "Evaluation of Corrosion under Controlled Flow by Variable-Amplitude Galvanostatically Modulated Impedance Spectroscopy and Video Microscopy," presented at the 190th Meeting of *The Electrochemical Society*, San Antonio, Texas, October 10, 1996.
55. L. García-Rubio, M. E. Orazem, and O. D. Crisalle, "Chemometrics Techniques and Particle Characterization," presented at the *5th World Congress of Chemical Engineering*, San Diego, California, July 14-18, 1996.
54. M. Durbha, M. E. Orazem, and L. García-Rubio, "Propagation of Spectroscopy Errors through the Kramers Kronig Relations," presented at the 189th Meeting of *The Electrochemical Society*, Los Angeles, California, May 8, 1996.
53. P. T. Wojcik, P. Agarwal, and M. E. Orazem, "Variable-Amplitude Galvanostatically Modulated Impedance Spectroscopy as a Non-Invasive Tool for Assessing Reactivity at the Corrosion Potential," presented at the *2nd Workshop on Quantitative Methods for Predicting Coating Performance*, Annapolis, Maryland, November 1-3, 1995.
52. M. E. Orazem, "Fundamental Issues for Electrochemical Separations," **invited keynote lecture** presented at *Electro-Separations 2020*, an NSF-EPRI workshop on Electroseparations, Arlington, Virginia, October 9-11, 1995.
51. R. M. Degerstedt, K. J. Kennelley, M. E. Orazem, and J. M. Esteban, "Traditional Cathodic Protection Design Methods for Coated Pipelines and the Necessity of Computer Modeling," presented at *Corrosion/95*, Orlando, Florida, March 26-31, 1995.
50. M. E. Orazem, J. M. Esteban, K. J. Kennelley, and R. M. Degerstedt, "Mathematical Models for Cathodic Protection of an Underground Pipeline with Coating Holidays," presented at *Corrosion/95*, Orlando, Florida, March 26-31, 1995.
49. J. M. Esteban, M. E. Orazem, K. J. Kennelley, and R. M. Degerstedt, "Case Studies of Parallel Anode CP Systems for Pipelines using Two and Three-Dimensional BEM Computer Simulations," presented at *Corrosion/95*, Orlando, Florida, March 26-31, 1995.
48. K. J. Kennelley, M. E. Orazem, J. M. Esteban, and R. M. Degerstedt, "Full-Scale Laboratory Evaluation of Parallel Anode CP Systems for Coated Pipelines with Comparison to 2 and 3-D Models," presented at *Corrosion/95*, Orlando, Florida, March 26-31, 1995.
47. M. E. Orazem, Pankaj Agarwal, and L. H. García-Rubio, "Assessment of the Error Structure of Impedance Spectroscopy Data through use of Measurement Models as a Filter," presented at the Annual Meeting of the *American Institute of Chemical Engineers*, San Francisco, California, November 13-18, 1994.
46. M. E. Orazem, J. M. Esteban, K. J. Kennelley, and R. M. Degerstedt, "Development of Mathematical Models for Cathodic Protection of Coated Pipelines with Discrete Coating Holidays," presented at the Annual Meeting of the *American Institute of Chemical Engineers*, San Francisco, California, November 13-18, 1994.
45. M. E. Orazem and L. H. García-Rubio, "Identification of Models for Impedance Spectroscopy," **invited lecture** presented at the Annual Meeting of the *American Institute of Chemical Engineers*, San Francisco, California, November 13-18, 1994.

44. M. E. Orazem, P. Agarwal, C. Deslouis, and B. Tribollet, "Application of Measurement Models to Electrohydrodynamical Impedance Spectroscopy," presented at the 185th Meeting of *The Electrochemical Society*, San Francisco, California, May 23, 1994.
43. M. E. Orazem and P. T. Wojcik, "Application of Impedance Spectroscopy to Characterization of Semiconducting Superlattice Structures," presented at the 185th Meeting of *The Electrochemical Society*, San Francisco, California, May 23, 1994.
42. O. C. Moghissi and M. E. Orazem, "The Effect of Convective Diffusion on Chemical and Electrochemical Processes Occurring on Copper Electrodes in Aerated Brines," presented at *Corrosion/94*, Baltimore, Maryland, March 2, 1994.
41. M. E. Orazem, P. Agarwal, and L. H. García Rubio, "Applications of Measurement Models to Electrochemical Impedance Spectroscopy," presented at the Annual Meeting of the *American Institute of Chemical Engineers*, St. Louis, Missouri, November 12, 1993.
40. L. H. García Rubio, M. E. Orazem, and P. Agarwal, "Error Identification in Spectroscopy Models: Applications to Impedance Spectroscopy," presented at the Annual Meeting of the *American Institute of Chemical Engineers*, St. Louis, Missouri, November 12, 1993.
39. P. Agarwal, M. E. Orazem, and L. H. García Rubio, "Evaluation of Electrochemical Impedance Data with Measurement Models: Determination of the Error Structure and Consistency with the Kramers Kronig Relations," presented at the 184th Meeting of *The Electrochemical Society*, New Orleans, Louisiana, October 10-15, 1993.
38. M. E. Orazem, P. Agarwal, L. H. García Rubio, "Critical Issues in Electrochemical Impedance Spectroscopy," **invited lecture** presented at *Corrosion/93*, New Orleans, Louisiana, March 1993.
37. P. Agarwal, M. E. Orazem, and L. H. García Rubio, "Application of Measurement Models to Electrochemical Impedance Spectroscopy," presented at the *2nd International Symposium on Electrochemical Impedance Spectroscopy*, Santa Barbara, California, July 12-17, 1992.
36. M. E. Orazem, "Development of Physico Chemical Models for Electrochemical Impedance Spectroscopy," **invited plenary lecture** presented at the *2nd International Symposium on Electrochemical Impedance Spectroscopy*, Santa Barbara, California, July 12-17, 1992.
35. P. Agarwal, O. C. Moghissi, M. E. Orazem, and L. H. García Rubio, "Application of Measurement Models to Electrochemical Impedance Spectroscopy," presented at *Corrosion/92*, Nashville, Tennessee, April 27-May 1, 1992.
34. M. E. Orazem, K. J. Kennelley, and L. Bone, "Current and Potential Distribution on a Coated Pipeline with Holidays: 2. A Comparison of the Effects of Discrete and Distributed Holidays," presented at *Corrosion/92*, Nashville, Tennessee, April 27-May 1, 1992.
33. K. J. Kennelley, L. Bone, and M. E. Orazem, "Current and Potential Distribution on a Coated Pipeline with Holidays: 1. Model and Experimental Verification," presented at *Corrosion/92*, Nashville, Tennessee, April 27-May 1, 1992.
32. P. Agarwal, M. E. Orazem, and L. H. García-Rubio, "Application of the Kramers Kronig Relations to Electrochemical Impedance Spectroscopy," presented at the *ASTM International Symposium on Electrochemical Impedance: Analysis and Interpretation*, San Diego, California, November 3-4, 1991.
31. M. E. Orazem, "Mathematical Modeling for Photoelectrochemical Applications," **invited lecture** presented at the 180th Meeting of *The Electrochemical Society*, Phoenix, Arizona, October 13-18, 1991.
30. P. Agarwal, M. E. Orazem, and A. Hiser, "Application of Electrochemical Impedance Spectroscopy to Metal Hydrides," presented at the 180th Meeting of *The Electrochemical Society*, Phoenix, Arizona, October 13-18, 1991.
29. O. Moghissi and M. E. Orazem, "A Mathematical Model for the Impedance Response of Copper in Alkaline Chloride Solutions," presented at the 179th Meeting of *The Electrochemical Society*, Washington, D.C., May 5-10, 1991.

28. A. N. Jansen and M. E. Orazem, "Application of Photon-Enhanced Impedance Spectroscopy (PEIS) to Semiconductors," presented at the 179th Meeting of *The Electrochemical Society*, Washington, D.C., May 5-10, 1991.
27. M. E. Orazem, J. M. Esteban, and O. C. Moghissi, "Practical Applications of the Kramers-Kronig Relations," presented at *Corrosion/91*, Cincinnati, Ohio, March 11-15, 1991.
26. J. M. Esteban and M. E. Orazem, "On the Use of the Kramers Kronig Relations to Test the Consistency of Impedance Data," presented at the Annual Meeting of the *American Institute of Chemical Engineers*, Chicago, Illinois, November 16, 1990.
25. M. E. Orazem, "Characterization of Semiconductors by Coupling Impedance Spectroscopy with Sub-Bandgap Illumination," presented at the Annual Meeting of the *American Institute of Chemical Engineers*, Chicago, Illinois, November 15, 1990.
24. O. C. Moghissi and M. E. Orazem, "An Electrochemical Impedance Study on the Corrosion of Copper and its Aluminum Alloys in Alkaline Chloride Solutions," 1990 NACE Research in Progress Symposium, *Corrosion/90*, Las Vegas, Nevada, April 23-27, 1990.
23. C. B. Diem and M. E. Orazem, "The Use of Scanning Ellipsometry to Investigate the Influence of Velocity on the Corrosion of Copper in Alkaline Chloride Solutions," *Corrosion 90*, Las Vegas, Nevada, April 23-27, 1990.
22. M. E. Orazem and J. M. Esteban, "A Chemical Engineer's Perspective on the Photoelectrochemical Etching of Semiconductors," **invited lecture** presented at the Annual Meeting of the *American Institute of Chemical Engineers*, San Francisco, California, November 5-10, 1989.
21. C. B. Diem and M. E. Orazem, "The Influence of Velocity of the Corrosion of Copper in Alkaline Chloride Solutions," 176th Meeting of *The Electrochemical Society*, Hollywood, Florida, October 15-20, 1989.
20. C. B. Diem, B. Newman, and M. E. Orazem, "The Influence of Small Machining Errors on the Primary Current Distribution at a Recessed Electrode," 176th Meeting of *The Electrochemical Society*, Hollywood, Florida, October 15-20, 1989.
19. M. E. Orazem, "Identification of Deep-Level Electronic Defects in III-V Semiconductors by Photoelectrochemical A. C. Impedance Spectroscopy of Semiconductors," **invited lecture** presented at the 18th Annual Symposium of the *American Vacuum Society*, Clearwater Beach, Florida, February 8, 1989.
18. D. B. Bonham and M. E. Orazem, "The Influence of Deep-Level Electronic Defects on Photoelectrochemical A. C. Impedance Spectroscopy of Semiconductors," presented at the Annual Meeting of the *American Institute of Chemical Engineers*, Washington, D.C., December 1, 1988.
17. D. B. Bonham and M. E. Orazem, "The Influence of Deep-Level Electronic Defects on Characterization Methods involving Mott-Schottky Theory," presented at the 174th Meeting of *The Electrochemical Society*, Chicago, Illinois, October 12, 1988.
16. D. B. Bonham and M. E. Orazem, "Identification of Deep-Level Electronic Defects by Photoelectrochemical A. C. Impedance Spectroscopy," **invited lecture** presented at the 174th Meeting of *The Electrochemical Society*, Chicago, Illinois, October 11, 1988.
15. J. M. Esteban, M. Lowry, and M. E. Orazem, "Correction of Experimental Data for the Ohmic Potential Drop Corresponding to a Secondary Current Distribution on a Disk Electrode," **invited lecture** presented at the *ASTM Symposium on Ohmic Electrolyte Resistance Measurement and Compensation*, Baltimore, Maryland, May 19, 1988.
14. C. B. Diem and M. E. Orazem, "A Scanning Ellipsometer to Evaluate the Influence of Fluid Velocity on Corrosion," presented at the T-5A Workshop on Fluid Flow Enhanced Corrosion, *Corrosion/88*, Saint Louis, Missouri, March 23, 1988.
13. D. B. Bonham and M. E. Orazem, "In-Situ Characterization of Surface States with Application to Photoelectrochemical Semiconductor Processing," presented at the Spring Meeting of the *American Institute of Chemical Engineers*, Houston, Texas, March 30, 1987.

12. G. Hickey and M. E. Orazem, "An Experimental Technique for Evaluating Film Persistency," presented at *Corrosion/87*, San Francisco, California, March 13, 1987.
11. M. E. Orazem, "A Mathematical Model for the Photoelectrochemical Etching of Semiconductors," presented at the 79th Annual Meeting of the *American Institute of Chemical Engineers*, Miami Beach, Florida, November 5, 1986.
10. E. C. Gan and M. E. Orazem, "A Mathematical Model for the Corrosion of Iron in Sulfuric Acid," presented at the 169th Meeting of *The Electrochemical Society*, Boston, Massachusetts, May 7, 1986.
9. M. E. Orazem and M. G. Miller, "Current Distribution and Formation of a Salt Film on an Iron Disk below the Passivation Potential," presented at the 169th Meeting of *The Electrochemical Society*, Boston, Massachusetts, May 7, 1986.
8. M. Kazeminy and M. E. Orazem, "The Influence of Electrolytic Mass Transfer on Photoelectrochemical Processes," presented at the *1st Engineering Foundation Conference on the Processing of Electronic Materials*, Santa Barbara, California, February 24, 1986.
7. M. E. Orazem, "Electron and Hole Transport in Degenerate Semiconductors," presented at the 77th Annual Meeting of the *American Institute of Chemical Engineers*, San Francisco, California, November 28, 1984.
6. M. E. Orazem, "Primary Resistance of a Test Specimen for Crack-Propagation Measurements," presented at the 166th Meeting of *The Electrochemical Society*, New Orleans, Louisiana, October 12, 1984.
5. M. E. Orazem and J. Newman, "Theoretical Analysis of Liquid-Junction Photovoltaic Cells," presented at the 159th Meeting of *The Electrochemical Society*, Minneapolis, Minnesota, May 14, 1981.
4. M. E. Orazem, L. T. Fan, and L. E. Erickson, "Characterization of Two-Directional Dispersed Phase Flow Through Time-Series Analysis," presented at the 72nd Annual Meeting of the *American Institute of Chemical Engineers*, San Francisco, California, November 26, 1979.
3. L. E. Erickson, C. S. Ho, and M. E. Orazem, "Oxygen Transfer in One and Two-Stage Air-Lift Towers," presented at the *Engineering Foundation Conference on Mass Transfer and Scale-Up of Fermentations*, Hennicker, New Hampshire, July 1977.
2. M. E. Orazem, "Oxygen Transfer in One and Two-Stage Air-Lift Towers," presented at the *7th Annual Biochemical Engineering Symposium*, Ames, Iowa, May 21, 1977.
1. M. E. Orazem, "Effect of Column Height on Oxygen Transfer in Air-Lift Fermentors," presented at the *6th Annual Biochemical Engineering Symposium*, Kansas City, April 11, 1976.

Invited Lectures

69. Department of Chemical Engineering, University of Florida, March 2015.
68. AIChE Senior Dinner, University of Florida, April 2014.
67. Student Chapter of the Electrochemical Society, University of Florida, April 2012.
66. Student Chapter of the Electrochemical Society, University of Florida, April 2011.
65. AIChE Senior Dinner, University of Florida, April 2011.
64. Sandia National Labs, Albuquerque, New Mexico, March 2011.
63. Department of Chemistry, University of Mississippi, February, 2011.
62. Sandia National Labs, Albuquerque, New Mexico, December 2010.
61. Department of Chemistry, University of Florida, September 2010.
60. Center for Study of Matter at Extreme Conditions, College of Engineering and Computing, Florida International University, Miami, Florida, October 2009
59. Student Chapter of *The Electrochemical Society*, University of Florida, September 2009

58. Laboratoire Interfaces et Systemes Electrochimiques, Université Pierre et Marie Curie, Paris, France, June 2009
57. Department of Chemical Engineering, University of Florida, April 2009
56. SouthWest Research Institute, San Antonio, Texas, October 2007.
55. Argonne National Laboratories, Argonne, Illinois, December 2006.
54. Department of Mechanical Engineering, University of Hawaii, Honolulu, Hawaii, November 2006.
53. Institut National Polytechnique de Toulouse, Toulouse, France, (2 lectures) July 2006.
52. Departamento de Qumica, Universidade de Coimbra, Coimbra Portugal, September 2005.
51. Georgia Institute of Technology, School of Chemical and Biomolecular Engineering, 2003.
50. Laboratoire Liquides Ioniques et Interfaces Chargées, Université Paris et Marie Curie, Paris, France, December 2001.
49. Laboratoire Physique des Liquides et Electrochimie, Université Paris et Marie Curie, Paris, France, 22 October, 2001.
48. Biomedical Engineering Program, University of Florida, April 2000.
47. Colorado School of Mines, Department of Chemical Engineering, April 2000.
46. Department of Aerospace Engineering, Mechanics & Engineering Science, University of Florida, April 2000.
45. National Institute of Standards and Technology, Gaithersburg, Maryland, February 2000.
44. Naval Research Labs, Chemistry Division, Washington DC, February 2000.
43. Florida State University, Department of Chemical Engineering, January 2000.
42. University of California, San Francisco, Department of Pharmacy, 1998.
41. ALZA Corporation, Palo Alto, California, 1998.
40. IRSID, Maizieres-les-Metz, France, 1997.
39. Southwest Research Institute, San Antonio, Texas, 1997.
38. École Poytechnique Fédérale de Lausanne, Lausanne, Switzerland, 1996.
37. Department of Chemical Engineering, University of Florida, Gainesville, Florida, 1996.
36. Department of Chemical Engineering, University of South Carolina, Columbia, South Carolina, 1995.
35. École Poytechnique Fédérale de Lausanne, Lausanne, Switzerland, 1995.
34. Physique des Liquides et Electrochim., Laboratoire Propre du CNRS, Universite Pierre et Marie Curie, Paris, France, 1995.
33. École Nationale Supérieure de Chimie, Toulouse, France, 1995
32. ALZA Corporation, Palo Alto, California, 1994.
31. ARCO Oil and Gas, Plano, Texas, 1994.
30. ALZA Corporation, Minneapolis, Minnesota, 1993.
29. Institutt for Teknisk Elektrokjemi, the Norwegian Institute of Technology (NTH), Trondheim, Norway, 1993.
28. Physique des Liquides et Electrochim., Laboratoire Propre du CNRS, Universite Pierre et Marie Curie, Paris, France, 1993.
27. NIST, Gaithersburg, Maryland, 1992.

26. ALZA Corporation, Palo Alto, California, 1992.
25. ARCO Oil and Gas, Plano, Texas, 1992.
24. ARCO Oil and Gas, Plano, Texas, 1991.
23. Gates Energy Products, Gainesville, Florida, 1991.
22. Department of Chemical Engineering, University of South Florida, Tampa, Florida, 1991.
21. Gates Energy Products, Gainesville, Florida, 1990.
20. ARCO Oil and Gas, Plano, Texas, 1990.
19. Monsanto, Pensacola, Florida, 1990.
18. Institutt for Teknisk Elektrokjemi, the Norwegian Institute of Technology (NTH), Trondheim, Norway, 1990 (three lectures).
17. Physique des Liquides et Electrochim., Laboratoire Propre du CNRS, Universite Pierre et Marie Curie, Paris, France, 1990.
16. Raychem Corporation, Menlo Park, California, 1989.
15. Department of Chemical Engineering, Case Western Reserve University, Cleveland, Ohio, 1989.
14. Hydro Aluminium, Suundals ra, Norway, 1989.
13. Department of Chemistry, Tel Aviv University, Tel Aviv, Israel, 1989.
12. Rockwell Science Center, Thousand Oaks, California, 1989.
11. SRI, International, Menlo Park, California, 1989.
10. Department of Chemical Engineering, Tulane University, New Orleans, Louisiana, 1989.
9. Department of Chemical Engineering and Applied Chemistry, Columbia University, New York, New York, 1988.
8. Department of Chemical Engineering, Texas A&M University, College Station, Texas, 1988.
7. Department of Chemical Engineering, University of Florida, Gainesville, Florida, 1988.
6. AT&T Bell Laboratories, Murray Hill, New Jersey, 1987.
5. Department of Chemical Engineering, Johns Hopkins University, Baltimore, Maryland, 1987.
4. Department of Chemical Engineering, University of Florida, Gainesville, Florida, 1987.
3. Department of Chemical Engineering, Virginia Polytechnic Institute and State University, Blacksburg, Virginia, 1986.
2. Department of Chemical Engineering, University of Houston, Houston, Texas, 1985.
1. Department of Chemical Engineering, Kansas State University, Manhattan, Kansas, 1980.

Service on Organizing Committees for International Conferences

17. Co-Chair, 68th Annual Meeting of the International Society of Electrochemistry, Providence, Rhode Island, August 27 - September 1, 2017.
16. Member, 65th Annual Meeting of the International Society of Electrochemistry, Lausanne, Switzerland, August 31 - September 5, 2014.
15. Member, 10th International Symposium on Electrochemical Micro & Nanosystem Technologies (EMNT2014), Okinawa, Japan, November 5-8, 2014.
14. Member, 64th Annual Meeting of the *International Society of Electrochemistry*, Santiago de Querétaro, Mexico, September 8-13, 2013.

13. Member, 63rd Annual Meeting of the *International Society of Electrochemistry*, Prague, Czech Republic, August 1924, 2012.
12. Member, 11th Spring Meeting of the *International Society of Electrochemistry*, Washington DC, USA, May 23-25, 2012.
11. Member, 10th Spring Meeting of the *International Society of Electrochemistry*, Perth, Australia, April 16-19, 2012.
10. Member, 62nd Annual Meeting of the *International Society of Electrochemistry*, Niigata, Japan, September 11-16, 2011.
9. Member, 9th Spring Meeting of the *International Society of Electrochemistry*, Turku, Finland, May 8-11, 2011.
8. Member, *8th International Symposium on Electrochemical Impedance Spectroscopy*, Algarve, Portugal, June 6-11, 2010.
7. Member, 8th Spring Meeting of the *International Society of Electrochemistry* (on Advances in Corrosion Science for Lifetime Prediction and Sustainability), Columbus, Ohio, May 5, 2010.
6. Member, *7th International Symposium on Electrochemical Impedance Spectroscopy*, Argelès sur Mer, France, June 3-8, 2007.
5. Chair, *6th International Symposium on Electrochemical Impedance Spectroscopy*, Cocoa Beach, Florida, May 16-21, 2004.
4. Member, *5th International Symposium on Electrochemical Impedance Spectroscopy*, Marilleva, Italy, June 17-22, 2001.
3. Member, *4th International Symposium on Electrochemical Impedance Spectroscopy*, Rio de Janeiro, Brazil, August, 1998.
2. Member, *Frumkin Centenary Symposium on Fundamental Aspects of Electrochemistry*, Moscow, Russia, August, 1995.
1. Member, *2nd International Symposium on Electrochemical Impedance Spectroscopy*, Santa Barbara, California, July 12-17, 1992.

Theses and Dissertations Directed

Current Students (alphabetical order)

5. Christopher Alexander, doctoral student
4. Yu-Min (Blake) Chen, doctoral student
3. Christopher Cleveland, doctoral student
2. Arthur Dizon, doctoral student
1. Morgan Harding, doctoral student

Doctoral Degree

26. Rui Kong, *Continuous Electrokinetic Dewatering of Phosphatic Clay Suspensions*, Ph.D. dissertation, University of Florida, May 2015.
25. Salim Erol, *Electrochemical Impedance Spectroscopy Analysis and Modeling of Lithium Cobalt Oxide/Carbon Batteries*, Ph.D. dissertation, University of Florida, May 2015.
24. Ya-Chiao Chang, *Mathematical Models for Under-Deposit Corrosion in Aerated and De-Aerated Solutions*, Ph.D. dissertation, University of Florida, December 2013.
23. Erick A. White, *Characterization of the Skin Barrier to Chemical Permeation by Impedance Spectroscopy*, Ph.D. dissertation, Colorado School of Mines, September 2011 (co-advised with Prof. Annette L. Bunge, Colorado School of Mines, Department of Chemical Engineering).

22. Erin Patrick, *Design, Fabrication, and Characterization of Microelectrodes for Brain-Machine Interfaces*, Ph.D. dissertation, University of Florida, August 2010 (co-advised with Prof. Toshi Nishida, University of Florida, Department of Electrical Engineering).
21. Bryan Hirschorn, *Distributed Time-Constant Impedance Responses Interpreted in Terms of Physically Meaningful Properties*, Ph.D. dissertation, University of Florida, August 2010.
20. Shao-ling Wu, *Influence of Electrode Geometry on Local and Global Impedance Response*, Ph.D. dissertation, University of Florida, August 2010.
19. J. Patrick McKinney, *Design of Electrolytic Dewatering Systems for Phosphatic Clay Suspensions*, Ph.D. dissertation, University of Florida, May 2010.
18. Sunil K. Roy, *Use of Impedance Spectroscopy to Investigate Factors That Influence the Performance and Durability of Proton Exchange Membrane (PEM) Fuel Cells*, Ph.D. dissertation, University of Florida, August 2008.
17. Vicky Mei-Wen Huang, *Fundamental Approach to Practical Corrosion Problems*, Ph.D. dissertation, University of Florida, May 2007.
16. Nelliann Pérez-Garcia, *Enhanced Interpretation Models for Impedance of Lithium Ion Batteries*, Ph.D. dissertation, University of Florida, May 2006.
15. Pavan Shukla, *Stationary Hemispherical Electrode under Submerged Jet Impingement and Validation of the Measurement Model Concept for Impedance Spectroscopy*, Ph.D. dissertation, University of Florida, August 2004.
14. Chenchen Qui, *Model for Interpretation of Pipeline Survey Data*, Ph.D. dissertation, University of Florida, December 2003.
13. Kerry Allahar, *Mathematical Modeling of Disbonded Coating and Cathodic Delamination Systems*, Ph.D. dissertation, University of Florida, December 2003.
12. Michael A. Membrino, *Transdermal Delivery of Therapeutic Compounds by Iontophoresis*, Ph.D. dissertation, University of Florida, May 2002.
11. Douglas Riemer, *Modeling Cathodic Protection for Pipeline Networks*, Ph.D. dissertation, University of Florida, December 2000.
10. Steven L. Carson, *Application of Complex Spectroscopic Techniques to the Characterization of particles in Suspension*, Ph.D. dissertation, University of Florida, May 1999.
9. Madhav Durbha, *Influence of Current Distributions on the Interpretation of the Impedance Spectra Collected For Rotating Disk Electrode*, Ph.D. dissertation, University of Florida, August 1998.
8. Paul T. Wojcik, *The Electrochemical Behavior of Copper and Copper Nickel Alloys in Synthetic Seawater*, Ph.D. dissertation, University of Florida, August 1997.
7. Pankaj Agarwal, *Applications of Measurement Models to Impedance Spectroscopy*, Ph.D. dissertation, University of Florida, December 1994.
6. Oliver C. Moghissi, *The Electrochemical Behavior of Copper in Chloride Solutions*, Ph.D. dissertation, University of Florida, May 1993.
5. Andrew N. Jansen, *Deep-Level Impedance Spectroscopy of Electronic Materials*, Ph.D. dissertation, University of Florida, December 1992.
4. Matthew Esteban, *Transient Electrochemical Phenomena: Applications of the Kramers-Kronig Relations and Photoelectrochemical Etching of GaAs*, Ph.D. dissertation, University of Florida, December 1991.
3. Conrad B. Diem, *The Influence of Velocity on the Corrosion of Copper in Alkaline Chloride Solutions*, Ph.D. dissertation, University of Virginia, May 1990.

2. David Bivings Bonham, *A Mathematical Model for Identification of Deep-Level Electronic Defects in Semiconductors by Photoelectrochemical A.C. Impedance Spectroscopy*, Ph.D. dissertation, University of Virginia, May 1988.
1. Abhay B. Bulsari, *Mathematical Modeling of MOCVD in Horizontal CVD Reactors*, Ph.D. dissertation, University of Virginia, January 1988.

Masters of Science Degree

24. Pei-Han (Betty) Chiu, *Settling of Supernatant from Semicontinuous Electrokinetic Processing of Phosphatic Clay Suspensions*, University of Florida, August 2012.
23. Alok Shankar, *Cathodic Protection Modelling of Buried Structures*, M.S. thesis, University of Florida, May 2012.
22. Chao (Gilbert) Liu, *Cathodic Protection for On- and Off-Shore Structures*, M.S. thesis, University of Florida, May 2012.
21. Yu-Min Chen, *Influence of CO₂ on Corrosion of Steel in Saline Electrolytes*, M.S. thesis, University of Florida, December 2011.
20. Salim Erol, *Electrochemical Impedance Analysis of Lithium Cobalt Oxide Batteries*, M.S. thesis, University of Florida, August 2011.
19. Rui Kong, *Semi-continuous Electrokinetic Dewatering of Clay Suspensions*, M.S. thesis, University of Florida, August 2011.
18. J. Patrick McKinney, *Evaluation of the Utility of ECDA Indications for Assessing Pipeline Integrity*, M.S. thesis, University of Florida, May 2006.
17. Nelliann Pérez-Garcia, *Transdermal Drug Delivery by Iontophoresis: Study of the Stratum Corneum Reservoir Capacity*, M.S. thesis, University of Florida, August 2003.
16. Kenneth Jeffers, *Electrochemical Impedance Spectroscopy for the Characterization of Corrosion and Cathodic Protection of Buried Pipelines*, M.S. thesis, University of Florida, August 1999.
15. Steven Philbrick, *Characterization of Transdermal Delivery in Vitro using Optical and Electrochemical Impedance Spectroscopy*, M.S. thesis, University of Florida, May 1998.
14. Juleh Minoo, *Critical Issues on Electrochemical Impedance Spectroscopy Measurements on Skin*, M.S. thesis, University of Florida, December 1995.
13. Steven Carson, *Cathodic Protection Requirements as a Function of Soil Type*, M.S. thesis, University of Florida, August 1995.
12. Paul T. Wojcik, *Thermally Stimulated Impedance Spectroscopy*, M.S. thesis, University of Florida, August 1992.
11. Andrew N. Jansen, *Mathematical Modeling of MOCVD: Effect of Reactor Geometry and Operating Parameters*, M.S. thesis, University of Virginia, August 1989.
10. Oliver C. Moghissi, *An Electrochemical Study of Copper and Copper-Aluminum Alloys in Saline Solutions*, M.S. thesis, University of Virginia, August 1989.
9. Frank L. Smolko, *Impedance Method for Characterization of Deep-Level States in Semiconductor Materials*, M.S. thesis, University of Virginia, May 1988.
8. Marc M. Lowry, *The Corrosion of Iron in Acidic Chloride Solutions*, M.S. thesis, University of Virginia, January 1988.
7. Matthew R. Esteban, *Evaluation of Inhibitor Film Persistency in Air-Saturated Acidic Chloride Solutions*, M.S. thesis, University of Virginia, January 1988.
6. Muhammad Kazeminy, *Mathematical Modeling of Mass-Transfer Effects in a Photoelectrochemical System*, M.S. thesis, University of Virginia, May 1986.

5. Lucinda A. Joyce, *The Influence of Hydrogen Sulfide on the Corrosion of Iron in Acidic Chloride Solutions*, M.S. thesis, University of Virginia, May 1986.
4. Gregory S. Hickey, *An Experimental Technique for the Study of the Persistency of Films*, M.S. thesis, University of Virginia, May 1986.
3. C. Gan, *A Mathematical Model for the Corrosion of Iron in Sulfuric Acid*, M.S. thesis, University of Virginia, May 1986.
2. Brian K. Faillon, *A Mathematical Model of the Active-Passive Transition of Iron in Sulfuric Acid*, M.S. thesis, University of Virginia, May 1986.
1. Michael G. Miller, *The Influence of Fluid Velocity on the Corrosion of Iron in Sulfuric Acid*, M.S. thesis, University of Virginia, May 1985.

Masters of Engineering Degree

3. Matthew Wendling, "Measurement Model Application to and Internal Resistance Prediction from Impedance Spectroscopy Data of NiMH Storage Cells," M.E. report, University of Florida, December 1999.
2. Nhan T. Ha, "The Effect of Additives and Chloride Ions on the Kinetics and Morphology of Copper Deposition in Plated-Through-Hole Boards," M.E. report, University of Virginia, January 1988.
1. Donna Grubb-Hewlett, "Degenerate Semiconductors: Band Theory, the Effects of Degeneracy, and Modeling" M.E. report, University of Virginia, May 1985.

Masters of Science (Non-Thesis) Degree

4. Vishnuvardhan (Vishnu) Pinjala, University of Florida, May 2012.
3. Darshit P Shah, University of Florida, May 2012.
2. Yan (Sophia) Yu, University of Florida, May 2012.
1. Michael Matlock, University of Florida, May 2006.

Research Grants

- Medtronic Diabetes, "Models for impedance of Enzyme Based Electrochemical Biosensors," 11/1/14 - 10/31/17, \$358,553.
- Florida Department of Transportation, "Impedance-Based Detection of Corrosion in Post-Tensioned Cables: Phase 2 From Concept to Application", PI, 12/14/14-1/1/17, \$308,233.
- Florida Department of Transportation, "Impedance-Based Detection of Corrosion in Post-Tensioned Cables: Phase 1b. Sensor Development", PI, 3/1/14-10/1/14, \$90,856.
- Mosaic Fertilizer, LLC, "Prototype for Continuous Electrokinetic Dewatering of Phosphatic Clay Suspensions," PI, with co-PI Saeed Moghaddam and David Bloomquist, 7/1/12-6/30/16, \$1,503,644.
- Florida Department of Transportation, "Impedance-Based Detection of Corrosion in Post-Tensioned Cables: Phase 1. Sensor Development", PI with co-PI David Bloomquist, 4/1/12-3/1/14, \$315,450.
- BP America Inc., "Modeling Underdeposit Corrosion in Oil and Gas Pipelines," 5/1/12-12/31/13, \$83,150.
- DARPA, "Thermohydraulic and Material Characterization of Nanostructured Wicks," Co-PI with PI Saeed Moghaddam, 2/7/12-2/28/14, \$299,732.
- BP America Inc., "Modeling Underdeposit Corrosion in Oil and Gas Pipelines," 5/1/09-4/30/12, \$337,423.
- Sandia National Laboratories, "Impedance Investigation of Lithium Batteries," 9/10/11-9/9/12, \$45,000.
- Planar Systems, Inc., "ARPA-E BEEST: Solid State Lithium Battery – Solid-State All Inorganic Rechargeable Lithium Batteries," 7/1/10-6/30/12, \$58,302.
- Sandia National Laboratories, "Impedance Investigation of Lithium Batteries," 9/10/10-9/9/11, \$55,000.

- Mosaic Fertilizer, LLC, “Electrokinetic Concepts for Dewatering Clay Suspensions,” 12/2/10-12/31/11, \$100,000.
- Sandia National Laboratories, “Impedance Investigation of Lithium Batteries,” 3/31/2010-9/9/2010, \$58,632
- Exxon-Mobil, unrestricted gift, 8/10/09, \$60,000.
- Mosaic Fertilizer, LLC, “Advanced Concepts for Phosphate Mining and Phosphate Processing,” 5/1/09-4/30/10, \$100,000.
- Mosaic Fertilizer, LLC, “Advanced Concepts for Phosphate Mining and Phosphate Processing,” 5/1/08-4/30/09, \$40,000.
- BP Azerbaijan, “University of Florida/BP Engineering Development Program for the Caspian Sea Region,” 8/1/08-7/31/09, \$49,895.
- BP Azerbaijan, “University of Florida/BP Engineering Development Program for the Caspian Sea Region,” 5/1/07-4/30/08, \$121,088.
- Argonne National Labs, “Investigation of Electrochemical Steps in a Low-Temperature Thermo-Chemical Process for Generating Hydrogen,” \$104,690, 11/1/2006 through 10/31/2007.
- NASA, “A Test Bed for Impedance Measurements on PEM Fuel Cells,” \$75,000, 4/30/2005-4/30/2008.
- NASA, “Interpretation Models for PEMFC Membrane Electrode Assemblies,” \$80,000, 9/30/2005-4/30/2008.
- BP Azerbaijan, “University of Florida/BP Engineering Development Program for the Caspian Sea Region,” 5/1/06-4/30/07, \$118,821.
- BP Azerbaijan, “University of Florida/BP Engineering Development Program for the Caspian Sea Region,” 5/1/05-4/30/06, \$91,969.
- NASA, “A Test Bed for Impedance Measurements on PEM Fuel Cells,” \$91,982, 9/30/2004-9/29/2005.
- NASA, “Interpretation Models for PEMFC Membrane Electrode Assemblies,” \$74,461, 9/30/2004-9/29/2005.
- NASA, “Development of Interpretation Models for Impedance Spectroscopy of Lithium-Ion Battery Systems,” Graduate Student fellowship Application for Nelliann Prez-Garca, \$24,000, 7/1/2004-6/30/2005.
- BP Azerbaijan, “University of Florida/BP Engineering Development Program for the Caspian Sea Region,” 8/1/04-7/31/05, \$82,093.
- CC Technologies, “Use of CP3D to Evaluate Criteria for Pipeline Integrity,” \$100,000, duration 1 year.
- Pratt & Whitney, “Quantitative Assessment of the Corrosion of Bearing Alloys and a Corrosion Rate Monitor Under Simulated Applications at Sea: A Feasibility Study” (co-PI with Darryl Butt (PI)), \$106,000, 6/1/2003-12/31/2003.
- Pratt & Whitney, “Quantitative Assessment of the Corrosion of Bearing Alloys and a Corrosion Rate Monitor Under Simulated Applications at Sea: A Feasibility Study” (co-PI with Darryl Butt (PI) and Gerhard E. Fuchs, \$90,000, 10/15/2003-5/31/2004.
- NSF, “Graduate Student Support for the 6th International Symposium on Impedance Spectroscopy,” \$12,000, 4/1/04-3/31/05.
- ARCELOR Group, (IRSID) France, “Model for Delamination of Paint from Galvanized Steel,” \$249,603, 1/1/2003-12/31/2006.
- International Union of Pure and Applied Chemistry (IUPAC), “Electrochemical Impedance Spectroscopy: Terminology, Nomenclature, and Data Exchange Formats,” (with Zdravko Stoyanov, Bulgaria; Christopher Brett, Portugal; and Jrg Vogelsang, Germany), \$3,800, 1/1/2002-12/31/2004.
- IRSID, USINOR Group, France, “Modeling the Delamination of Paint from Galvanized Steel,” \$17,609, 11/1/2001-4/30/2002.
- Pipeline Research Committee International, “Model for Interpretation of Pipeline Survey Data,” \$154,000, 1/1/2001-6/30/2002.

- ARCO Exploration and Production Technology, “Impinging Jet Studies of CO₂ Corrosion,” \$30,000, 12/1/98-5/31/99.
- S.C. Johnson, “Development of Statistical Tools for Enhanced Interpretation of Electrochemical Impedance Measurements on Coated Specimens,” \$173,767, 7/1/98-6/30/01
- Southwest Research Institute, “Quasipotential Models for Crevices,” \$162,159, 12/1/97-11/30/00
- Alza Corporation, unrestricted gift, \$10,000, 1998.
- S.C. Johnson, Graduate Student Fellowship, \$10,000, 8/1/97-7/31/98.
- Alza Corporation, unrestricted gift, \$26,000, 1997.
- S.C. Johnson, Graduate Student Fellowship, \$10,000, 8/1/96-7/31/97.
- Office of Naval Research, “New Theories for Erosion-Corrosion,” \$54,000, 10/1/96-8/31/98.
- American Gas Association, “Development of User-Friendly Models for Design of CP Systems for Buried Pipelines,” \$473,302, 12/1/95-10/30/00.
- National Science Foundation, “Engineering Research Center for Particle Science and Technology,” \$18,000, 9/1/97-8/31/98.
- National Science Foundation, “Engineering Research Center for Particle Science and Technology,” \$29,140 (+\$13,540 cost sharing), 9/1/96-8/31/97.
- National Science Foundation, “Engineering Research Center for Particle Science and Technology,” \$29,140 (+\$13,540 cost sharing), 9/1/95-8/31/96.
- Alza Corporation, unrestricted gift, \$20,000, 1996.
- National Science Foundation, “Transfer Function Methods for Electrochemical Systems,” \$18,000 (US-France Research Collaboration Grant), 9/95-6/99.
- National Science Foundation, “Engineering Research Center for Particle Science and Technology,” \$29,140 (+\$13,540 cost sharing), 9/1/94-8/31/95.
- Alza Corporation, unrestricted gift, \$15,000, 1995.
- Alza Corporation, unrestricted gift, \$30,000, 1994.
- Office of Naval Research, “New Theories for Erosion-Corrosion,” \$396,792, 10/1/93-9/30/96.
- Office of Naval Research, “New Theories for Erosion-Corrosion, ASSERT supplement,” \$105,000, 10/1/93-9/30/96.
- Alyeska, “Cathodic Protection Modeling for TAPS: Phase II,” \$75,000, 3/1/93 - 12/31/94.
- American Gas Association, “The Influence of Soil Type on Cathodic Protection Requirements,” \$160,000, 11/1/92-10/31/94.
- Office of Naval Research, “New Theories for Erosion-Corrosion,” \$79,999, 10/1/92-9/30/93.
- NATO Grant for Collaborative Research, (in collaboration with Georg Hagen, PI, Institutt for Teknisk Elektrokjemi, the Norwegian Institute of Technology, Trondheim, Norway), 165,000BF (\$6,000), 4/1/92.
- Alyeska, “Cathodic Protection Modeling for TAPS: Addition to Phase I,” \$25,000, 3/15/92 - 12/31/92.
- Alyeska, “Cathodic Protection Modeling for TAPS: Phase II,” \$60,000, 3/15/92 - 12/31/92.
- Gates Energy Systems, unrestricted gift, \$18,000, 1992.
- Office of Naval Research, “The Influence of Cathodic Protection on Erosion-Corrosion of Metals and Model Alloys,” \$82,000, 2/28/91-3/31/92.
- Alyeska, “Cathodic Protection Modeling for TAPS,” \$60,000, 7/22/91-3/15/92.

- Gates Energy Systems, “Electrochemical Impedance Spectroscopy of Metal Hydrides for Battery Applications,” \$16,500, 2/1/89-12/31/90.
- Gates Energy Systems, “Electrochemical Impedance Spectroscopy of Metal Hydrides for Battery Applications,” \$5,000, 11/14/89-6/30/90.
- DARPA, “Compound Semiconductor Heterostructures for Wave-Guided Optical Source Detectors,” \$58,200 (awarded as part of a University of Florida block grant), 8/31/89 - 9/30/90.
- DARPA, “Compound Semiconductor Heterostructures for Wave-Guided Optical Source Detectors,” \$75,000 (equipment monies awarded as part of a University of Florida block grant), 7/1/88 - 9/30/89.
- DARPA, “Compound Semiconductor Heterostructures for Wave-Guided Optical Source Detectors,” \$21,689 (awarded as part of a University of Florida block grant), 7/1/88 - 9/30/89.
- NASA, “Stress Effects in Multilayers: Flow Effects on Interfacial Stress and Junction Abruptness,” \$128,199 (co-principal investigator with W. A. Jesser), 12/1/87 - 2/1/88.
- National Science Foundation, “Photoelectrochemical Processing of Semiconducting Materials,” \$67,630, 7/1/87 - 6/30/87; \$75,000 7/1/88 - 12/31/89. (This grant was transferred from the University of Virginia to the University of Florida, August 1, 1988).
- Office of Naval Research, “The Influence of Cathodic Protection on Erosion-Corrosion of Metals and Model Alloys,” \$337,497, 12/1/86 - 2/28/91. (This contract was closed at the University of Virginia and reopened as a grant at the University of Florida, March 1, 1989).
- NASA, “Stress Effects in Multilayers: Flow Effects on Interfacial Stress and Junction Abruptness,” \$56,401 (contributing investigator with W. A. Jesser as principal investigator), 12/1/86 - 11/30/87.
- Virginia Center for Innovative Technology, Institute of Materials Science and Engineering, “Influence of Fluid Flow on Corrosion Inhibition,” \$10,000, 3/1/86 - 7/31/87.
- Dow Chemical, U.S.A., “Influence of Fluid Flow on Corrosion Inhibition,” \$5,000, 3/1/85 - 2/28/87.
- Virginia Center for Innovative Technology, Institute of Materials Science and Engineering, “Improved Interpretation of MOCVD Experiments,” \$15,000, 6/1/86 - 5/31/87.
- Dow Chemical, U.S.A., “Experimental Characterization of Corrosion,” \$20,000, 1/1/85 - 12/31/85.
- Virginia Center for Innovative Technology, Institute of Materials Science and Engineering, “Characterization of Corrosion Inhibition by Ethylene-Amine-Based Compounds,” \$10,000, 1/1/85 - 12/31/85.

Consultation

- Instructor, Short Course on Advanced Impedance Spectroscopy, *The Electrochemical Society*, Phoenix, Arizona, October 11, 2015.
- Short Course and consultation on applications of impedance spectroscopy, General Motors, Warren, Michigan, May 19-21, 2015.
- Short Course on Impedance Spectroscopy, Università degli Studi di Palermo, Palermo, Italy, May 4-6, 2015.
- Consultation on applications of impedance spectroscopy, Medtronic Diabetes, Northridge, California, 2014-present.
- Instructor, Short Course on Basic Impedance Spectroscopy, *The Electrochemical Society*, Cancun, Mexico, October 5, 2014.
- Consultation on applications of impedance spectroscopy, Medtronic, Minneapolis, Minnesota, 2014-present.
- Instructor, Short Course on Advanced Impedance Spectroscopy, *The Electrochemical Society*, Orlando, Florida, May 11, 2014.
- Consultation on impedance-based corrosion sensing, Eastman Chemical, 2013-present.

- Instructor, Short Course on Advanced Impedance Spectroscopy, *The Electrochemical Society*, San Francisco, California, October 27, 2013.
- Instructor, Electrochemical Measurements Workshop, (with D. Scherson and H. White), Case Western Reserve University, Cleveland, Ohio, August, 2013.
- Instructor, Lectures on Advanced Impedance Spectroscopy, Waseda University, Tokyo, Japan.
- Instructor, Short Course on Basic Impedance Spectroscopy, *The Electrochemical Society*, Toronto, Ontario, Canada, May 12, 2013.
- Instructor, Short Course on Advanced Impedance Spectroscopy, *The Electrochemical Society*, Honolulu, Hawaii, October 7, 2012.
- Instructor, Electrochemical Measurements Workshop, (with D. Scherson and H. White), Case Western Reserve University, Cleveland, Ohio, August, 2012.
- External Evaluation Committee Member for the University of Yamanashi doctoral program "Green Energy Conversion Science and Technology," Kofu, Japan, 2012-2018.
- Consultation on AC Corrosion, BP America, 2012-present.
- Instructor, Short Course on Basic Impedance Spectroscopy, *The Electrochemical Society*, Seattle, Washington, May 6, 2012.
- Instructor, Short Course on Advanced Impedance Spectroscopy, *The Electrochemical Society*, Boston, Massachusetts, October 9, 2011.
- Instructor, Electrochemical Measurements Workshop, (with D. Scherson and H. White), Case Western Reserve University, Cleveland, Ohio, August, 2011.
- Instructor, Short course on impedance spectroscopy, Rocky Mountain Section of the Materials Research Society, Boulder, Colorado, July 19-20, 2011.
- Instructor, Short course on impedance spectroscopy, (with B. Tribollet, and V. Vivier), Institut Carnot CIRI-MAT, Toulouse, France, June 20-24, 2011.
- Instructor, Short course on impedance spectroscopy, (with B. Tribollet, V. Vivier, and G. Galicia), Sociedad Mexicana de Electroquímica, Mexico City, Mexico, May 29-June 3, 2011.
- Instructor, Short course on impedance spectroscopy, Gentex Corporation, Zeeland, Michigan, May 17-18, 2011.
- Consultation on impedance spectroscopy, BD Technologies, Research Triangle Park, North Carolina, October, 2010 - February 2012.
- Consultation on impedance spectroscopy, Saint-Gobain High Performance Materials, Northboro, Massachusetts, August 2010.
- Member of editorial board and Associate Editor of *Journal of The Electrochemical Society*, 2001-2011.
- Instructor, Short Course on Basic Impedance Spectroscopy, *The Electrochemical Society*, Montréal, Canada, May, 2011.
- Instructor, Electrochemical Measurements Workshop, (with D. Scherson and H. White), Case Western Reserve University, Cleveland, Ohio, August, 2010.
- Panelist, DOE Site Visit Team, EPSCoR NM Implementation Program: Materials for Energy Conversion, University of New Mexico, Albuquerque, New Mexico, May, 2010.
- Instructor, Short Course on Advanced Impedance Spectroscopy, *The Electrochemical Society*, Vancouver, Canada, May, 2010.
- Instructor, Short Course on Electrochemical Impedance Analysis for Fuel Cells, *Electrochemical Society* sponsored short course at the Fuel Cell Seminar, Palm Springs, California, November, 2009.

- Instructor, Short Course on Basic Impedance Spectroscopy, *The Electrochemical Society*, Vienna, Austria, October, 2009.
- Instructor, Short Course on Electrochemical Impedance Analysis, Eastman Chemical, July, 2009.
- Consultation on cathodic protection of off-shore structures, BP America, June, 2009.
- Instructor, Short Course on Advanced Impedance Spectroscopy, *The Electrochemical Society*, San Francisco, California, May, 2009.
- Consultation on impedance spectroscopy and corrosion, ExxonMobil, October, 2008.
- Instructor, Short Course on Basic Impedance Spectroscopy, *The Electrochemical Society*, Honolulu, Hawaii, October, 2008.
- Instructor, Electrochemical Measurements Workshop, (with D. Scherson and H. White), Case Western Reserve University, Cleveland, Ohio, August, 2008.
- Instructor, Short Course on Advanced Impedance Spectroscopy, *The Electrochemical Society*, Phoenix, Arizona, May, 2008.
- Instructor, Training Sessions on Fluid Mechanics, BP Exploration Caspian Sea, Baku, Azerbaijan, March 2008.
- Instructor, Short Course on Electrochemical Impedance Analysis, *Electrochemical Society* sponsored short course at the Fuel Cell Seminar, San Antonio, Texas, October, 2007.
- Instructor, Short Course on Basic Impedance Spectroscopy, *The Electrochemical Society*, Washington DC, October, 2007.
- Instructor, Short Course on Electrochemical Impedance Analysis, Battery Company, September, 2007.
- Instructor, Electrochemical Measurements Workshop, (with D. Scherson and H. White), Case Western Reserve University, Cleveland, Ohio, August, 2007.
- Instructor, Short Course on Advanced Impedance Spectroscopy, *The Electrochemical Society*, Chicago, Illinois, May, 2007.
- Instructor, Training Sessions on Fluid Mechanics, BP Exploration Caspian Sea, Baku, Azerbaijan, February 2007.
- Instructor, Short Course on Basic Impedance Analysis, *Electrochemical Society* sponsored short course at the Fuel Cell Seminar, Honolulu, Hawaii, November, 2006.
- Instructor, Short Course on Basic Impedance Spectroscopy, *The Electrochemical Society*, Cancun, Mexico, October, 2006.
- Impedance expert, Colorado School of Mines, 2005-2009
- Instructor, Short Course on Advanced Impedance Spectroscopy, *The Electrochemical Society*, Denver Colorado, May, 2006.
- Instructor, with Pankaj Agarwal, Short Course on Basic Impedance Spectroscopy, *The Electrochemical Society*, Los Angeles, October, 2005.
- Expert witness, Electronic chip packaging corrosion failure litigation, Palo Alto, California, 2004-2005.
- Instructor, Series of three Short Courses on Corrosion and on Electrochemical Impedance Spectroscopy, the San Francisco Bay Area Section of *The Electrochemical Society*, Pleasanton, California, May 2005.
- Instructor, Short Course on Electrochemical Impedance Analysis, *The Electrochemical Society*, Quebec City, Canada, May 2005.
- Instructor, Short Course on Electrochemical Impedance Analysis, *The Electrochemical Society*, Honolulu, Hawaii, October 2004.

- Instructor, Short Course on Electrochemical Impedance Analysis, the Twins Cities Section of *The Electrochemical Society*, Minneapolis, Minnesota, April 22, 2004.
- Instructor, Short Course on Electrochemical Impedance Analysis, *The Electrochemical Society*, Orlando, Florida, October 2003.
- Instructor, Short Course on Electrochemical Impedance Analysis, Roche Diagnostics, Indianapolis, Indiana, August 2003.
- Instructor, Training Sessions on Corrosion, BP Exploration Caspian Sea, Baku, Azerbaijan, December 2003.
- Instructor, Training Sessions on Transport Processes and Unit Operations, BP Exploration Caspian Sea, Baku, Azerbaijan, July 2003, December 2003, March 2004, August 2004, December 2004, March 2005.
- Instructor, Short Course on Electrochemical Impedance Analysis, *The Electrochemical Society*, Paris, France, May 2003.
- Instructor, Short Course on Electrochemical Impedance Analysis, *The Electrochemical Society*, Philadelphia, Pennsylvania, May 2002.
- Instructor, Short Course on Electrochemical Impedance Analysis, *The Electrochemical Society*, San Francisco, California, September 2001.
- Member, Academic Review Panel, OLI Systems, 2000-2003.
- Instructor, Short Course on Electrochemical Impedance Analysis, *The Electrochemical Society*, Toronto, Canada, May 2000.
- Instructor, corrosion tutorial, Laque Corrosion Services, Wrightsville Beach, NC, 1997.
- Co-Instructor, Short Course on Electrochemical Impedance Analysis, Twin Cities Section of *The Electrochemical Society*, 1996.
- Impedance analysis for therapeutic drug delivery systems, ALZA Corporation, Palo Alto, California, 1992-1998.
- Corrosion studies, ARCO Oil and Gas Company, Plano, Texas, 1990-1996.
- Impedance analysis, Gates Energy Products, Gainesville, Florida, 1990-1993.
- Co-Instructor, Short Course on Electrochemical Impedance Spectroscopy, University of Virginia, Charlottesville, Virginia, 1990.
- Process Simulations, Quadrex Transform Service Company, Gainesville, Florida, 1990.
- Instructor, Corrosion tutorial, Rohm and Haas, Spring House, Pennsylvania, 1990.