BIOGRAPHICAL DATA

Dr. Branko N. Popov
Carolina Distinguished Professor

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Citizenship: US Citizen

EDUCATION

Ph.D., 1972, University of Zagreb, Croatia.
M.S., 1969, Chemistry, University of Illinois.
B.S., 1965, University Kiril and Metodij, Skopje, Macedonia.

PROFESIONAL EMPLOYMENT

2005-present, Carolina Distinguished Professor, Department of Chemical Engineering, USC.
2003-2005, Tenured Full Professor, Department of Chemical Engineering, USC.
2001-Present, Director, Center for Electrochemical Engineering (CEE), USC, USA.
2000-2003, Tenured Track Professor, Department of Chemical Engineering, USC.
1993–2000, Research Professor, Chemical Engineering, USC.
1990-1993, Associate Director CEE, Texas A&M University, College Station, Texas, USA.
1989-1993, Visiting Professor, Department of Chem. Eng. Texas A&M University.
1978-1989, Dean, Professor, University Kiril and Metodij, Skopje, Macedonia.
1972-1978, Associate Professor, University, Kiril and Metodij, Skopje, Macedonia.

SOCIETY MEMBERSHIP

The Electrochemical Society, International Society of Electrochemistry, American Chemical Society, American Electroplaters and Surface Finishers Society, National Association of Corrosion Engineers, Tau Beta Pi.

PROFESSIONAL HONORS and AWARDS

- Russell Award for Research in Science, Mathematics, and Engineering, University of South Carolina (2015).
- Breakthrough Leadership in Research Award, University of South Carolina (2014).
- Thomson Reuters Highly Cited Researcher in the Nation 2002 – 2014 and 2015. (http://highlycited.com/ and http://www.cec.sc.edu/news-2014/8.7.14_Popov.html)
- $3,800,000 Research Award from Department of Energy (2010).
- 2007 USC College of Engineering and Computing Research Award.
- 2005 Fuel Cell South Crystal Flame Innovation Award – Research.
- $1,700,000 Research Award from Department of Energy (2003).
- American Electroplaters and Surface Finishers Society (AESF) Scientific Achievement Award (2002).
- 10 USC Intellectual Property Awards (1996-2005).
- Golden Medal/Education Achievement Award from Macedonian Government (1988)
- United Nation Expert Award (1987).

- Honorary Citizen of Tempe Arizona, USA (1985).
- Fulbright Awards 1967 and 1989.

COURSES TAUGHT

Courses taught in former Yugoslavia: Electrochemistry, Corrosion and Corrosion Control, Physical Chemistry, Graduate Courses of Chemical and Electrochemical Kinetics, Corrosion and Corrosion Control, Electrochemical DC and AC Techniques, Electrochemical Processes and Chemical Engineering Thermodynamics.

Courses taught at Texas A&M University, College Station USA: "Corrosion Engineering"

Courses taught at USC, Department of Chemical Engineering USA: ECHE 311 Engineering Thermodynamics, ECHE 571 Corrosion Engineering, ECHE 798 B Electrochemical Techniques, ECHE 711 Advance Corrosion Engineering.

COLLABORATION WITH OTHER UNIVERSITIES AND NATIONAL LABORATORIES

Professor Alfred Anderson, Department of Chemistry, Case Western Reserve University.
Professor Sanjeev Mukerjee, North Eastern University.
Professor Doron Aurbach, Bar-Ilan University, Ramat Gan 52900, Israel.
Professor Gregory Jerkievich, University of Sherbrooke, Sherbrooke, Quebec, Canada.
Professor Andrzej Lasia, University of Sherbrooke, Sherbrooke, Quebec, Canada.
Dr. Radoslav Adzic, Brookhaven National Laboratory, Department of Applied Sciences.
Professor J. Bruce Wagner, Jr, Arizona State University.
Professor Richard B. Griffin, Texas A & M University.
Professor D Jakov Ivschin, Chemical and Technological Institute, S. M. Kirov, Kazan, Russia.
Professor Drgutin Drazic, Institute of Physical Chemistry and Electrochemistry, University of Belgrade, Faculty of Technology and Metallurgy, Serbia-Montenegro.
Dr. Howard W. Pickering, Distinguished Professor of Metallurgy, The Pennsylvania State University.
Dr. Hanno ZurLoye, Department of Chemistry, University of South Carolina.
Dr. Kenneth Roberts, Department of Chemical Engineering, North Carolina A&T University.
Dr. Ron Guidotti, Sandia National Laboratories.
Dr. Yuri Podrazhansky, Enrev Corporation.
Dr. Ken Chen, Sandia National Laboratories.

PROFESSIONAL MEMBERSHIPS

- Electrochemical Society
- International Society of Electrochemistry
- American Chemical Society
- American Electroplaters and Surface Finishers Society
- National Association of Corrosion Engineers

HONORS AND AWARDS

- Traveling Fulbright Award (1967)
- Honorary Citizen of Tempe Arizona, USA (1985)
- United Nation Travel Award to USA, (1986)
- United Nation Travel Award to Russia (1987)
- United Nation Award for the Project "Deposition of Solar Selective Black Chromium"
- Government of Macedonia Golden Medal Award for Achievements in Teaching/ Education (1987)
- United Nation Expert (1987)
- Macedonian Institute of Engineering Senior Fellow, 1985-Present.
- President of the Organizing Committee of the Fifth Annual Meeting of Chemists and
- Technologies, Skopje (1987)
- Fulbright Award (1989)
- USC Intellectual Property Award for the discovery: "Optimization of Particle Size of Metal Hydride Alloys 1996-1997"

- USC Intellectual Property Award for the discovery: "Electrochemical Decontamination of Soils Employing Ionic Migration" 1995-1996
- Electroplaters and Surface Finishers Society- ABNER BRENNER AWARD- SILVER MEDAL AWARD for an outstanding paper published in Plating & Surface Finishing 1999
- USC Invention Disclosure Award for the discovery: "Catalyzed Hydrolysis of Nerve Gases by Metal Chelate Compounds" 1999-2000
- USC Invention Disclosure Award for the discovery: "A Novel Electrochemical Detection Technology for Nerve Gases" 1999-2000
- USC Invention Disclosure Award for the discovery: "Synthesis of High Performance Metal Hydrides Alloys through Cobalt Microencapsulation" 1999-2000
- USC Invention Disclosure Award for the discovery: "Development of a New Electrodeposition Process for Plating of Zn-Ni-Cd Alloys" 1999-2000
- USC Invention Disclosure Award for the discovery: "Development of New Anode Materials for Li-ion Batteries" 1999-2000
- USC Invention Disclosure Award for the discovery: "Modified Chromium Oxides as Cathode Materials for Secondary Lithium Ion Batteries" 1999-2000
- USC Invention Disclosure Award for the discovery: "Development of Hybrid Ruthenium Oxide-Carbon Supercapacitors" 1999-2001
- 2002 American Electroplaters and Surface Finishers Society (AESF) Scientific Achievement Award
- 2005 Fuel Cell South Crystal Flame Innovation Award - Research, Fuel Cell South
- 2007 USC College of Engineering and Computing Research Award
- Thomson Reuters Highly Cited Researcher in the Nation 2002 - 2014 (http://highlycited.com/ and http://www.cec.sc.edu/news-2014/8.7.14_Popov.html)
- Breakthrough Leadership in Research Award, University of South Carolina (2014)
- Russell Award for Research in Science, Mathematics, and Engineering, University of South Carolina (2015).

Funded Research Projects (including grant proposals submitted)

I. Research Grants and Contracts (1999-2015)

1. DOE-OER, "Synthesis, Characterization and Testing of Novel Anode and Cathode Materials", $ 708,000, Submitted 1998, three years, PI: B.N. Popov, R.E. White and J.A. Ritter, Funded.
2. DOE/EPSCOR, "Research Implementation Plan: Electrochemical Power Sources", $2,250,000, 1999-2001, PI: R.E. White and B.N. Popov (sub-task PI), Funded.
3. DOD, "Technology Development for Chemical Detection", $ 273,000, submitted 1999, three years, PI: B.N. Popov, Funded.
4. SC Commission for Higher Education, "Studies on High Performance Supercapacitors Based on RuO_x Carbon Electrodes", $ 103,000, Submitted 2001, one year PI: B.N. Popov and Hanno zur Loye, Funded.
5. DOE/Office of Basic Energy Science, "Synthesis, Characterization and Testing of Novel Cathode and Anode Materials for Li-ion Batteries", $ 100,000, submitted 2000, one year, PI: B.N. Popov, Funded.
6. DOE, "Optimization of the Cathode Long Term Stability in Molten Carbonate Fuel Cells: Experimental Study and Mathematical Modeling", $ 560,000, submitted June 1999, three years, PI: B.N. Popov, M.D. Amiridis and R.E. White, Funded.
7. SANDIA, "Development of Superior Carbon Anodes for Li-ion Batteries", $25,000, submitted January 2000, six months, PI: B.N. Popov, Funded.
8. U. S. Corps of Engineers, "Optimization of Long Term Molten Carbonate Fuel Cell Performance", $ 100,000, submitted January 2000, one year, B.N. Popov (PI USC) and Ken Roberts (PI, NCSU), Funded.
9. National Reconnaissance Office, $282,000, submitted April 2000, two years, PI: R.E. White and B.N. Popov, Funded.
10. North Star Battery Company, "Evaluation of Corrosion Properties of Lead Alloys in Sulfuric Acid", $ 10,000, submitted November 2000, six months, PI: B.N. Popov, Funded.
11. SCDOT, "Evaluation of Economical & Efficient Method for Corrosion Protection of Structural Concrete: Experimental Study and Mathematical Modeling", $ 194,215, submitted May, 2000, two years, PI: B. N. Popov and B. Haran, Funded.
12. NASA, "Deposition of Thin Films of Zn-Ni-P on AerMet 100 Steel Samples", $ 7,500, submitted May 2000, one month, PI: B.N. Popov, Funded
13. ONR, "Development and Characterization of Novel Zn-Ni-X [X=Cd, Sn or Mo) Ternary Alloys to Prevent Corrosion and Hydrogen Embrittlement", $ 140,000, submitted January 2001, two years, PI: B.N. Popov, Funded.
14. AESF, "Development of a New Process for Electrodeposition of Zn-Ni-X (X=Cd, SiO_2, P, Sn, Mo) Ternary Alloys", $ 25,000, submitted February 2001, one year, PI: B.N. Popov, Funded.
15. SANDIA National Laboratories, "Electrodeposition of Ni and Ni-Fe Thin Films on Planar Conductive Substrates", $ 23,000, submitted March 2001, one year, PI: B.N. Popov, Funded.
16. Chema Technology Inc., "Optimization of Pt-Titanium Based Non-Dissolvable Anodes for Copper Plating", $ 33,384, submitted June 2001, one month, PI: B.N. Popov, Funded.
17. ONR/DURIP, "To Acquire M-Cert Constant Cracking Extension Rate Test System to Study Hydrogen Assisted Cracking", $ 50,375, submitted February 2001, one year, PI: B.N. Popov, Funded.
18. Elisha Technologies Co. LLC, "Development of Electroless Processes for Deposition of Zn Silicate Coatings – Part I", $ 46,379, submitted March 2001, six months, PI: B.N. Popov, Funded.
19. ONR, "Development and Characterization of Novel Zn-Ni-X Ternary Alloys to Prevent Corrosion and Hydrogen Embrittlement", $ 45,155, submitted September 2001, one year, PI: B.N. Popov, Funded.
20. Elisha Technologies Co. LLC, "Development of Electroless Processes for Deposition of Zn Silicate Coatings – Part II", $ 36,379, submitted September 2001, six months, PI: B.N. Popov, Funded.
21. MMFX Steel Corp., "Corrosion Evaluation of MMFX Reinforcing Steel", $ 17,277, submitted January 2001, six months, PI: B.N. Popov, Funded.
22. AESF, "Development of a New Process for Plating Thin Films of Zn-Ni-P-X (X-Pb, Bi, Ce, Mo, or Cd (1-5%)) Quaternary Alloys onto Steel to Prevent Corrosion and Hydrogen Embrittlement", $ 25,000, submitted September 2001, one year, PI: B.N. Popov, Funded.
23. DOE/Material Sciences, "Development of Thin Film Membrane Assemblies with Novel Nanostructured Electrocatalyst for Next Generation of Fuel Cells", $ 250,000, submitted March 2002, two years, PI: B.N. Popov, Funded.

24. Elisha Technologies Co. LLC, "Development of Electroless Processes for Deposition of Zn Silicate Coatings – Part III", $ 26,000, submitted March 2002, PI: B.N. Popov, Funded.
25. ONR, "Development of Novel Process for Deposition of Nanostructured Ternary Alloys and Composites for Replacement of Cadmium Coatings", $ 50,000, submitted July 2002, one year, PI: B.N. Popov, Funded.
26. NRO, "Li-ion Comprehensive Model-Capacity Fade of Li-Ion Batteries," submitted March 2003, $ 1,000,000.00, one year, PI: R. E. White, B.N. Popov and E. Gatzke, Funded.
27. AESF, "Development of a New Process for Plating Zn-Ni-P-X (X=Sn., Pb, Bi, Ce, Mo or Cd) Quaternary Alloys onto Steel to Prevent Corrosion and Hydrogen Embrittlement", $25,000, submitted May 2003, one year, PI: B. N. Popov, Funded.
28. AESF, "Development of a New Process for Electrodeposition of Zn-Ni-X (X=Cd, SiO_2, P, Sn, Mo) Ternary Alloys", $ 100,000, 2002-2006, PI: B.N. Popov, Funded.
29. SCDOT, "Investigation into Performance of Various Corrosion Resistant Reinforcement Steel in Highway Bridges", $ 85,000, 08/26/2003 – 11/01/2006, PI: B.N. Popov, Funded.
30. ONR/DURIP, "DURIP Proposal to Acquire Fischerscope XDAL and Mini Plating Plant", $ 63,000, 2005, PI: B.N. Popov, Funded.
31. Faraday Technology Inc., "Development of PEM Fuel cell Electrodes Using Pulse Electrodeposition", $ 120,001, 01/01/2005 – 12/31/2006, PI: B.N. Popov, Funded.
32. Faraday Technology Inc., "Development of Nanostructured Catalyst for PEM Electrolyzer", $ 30,000, 04/01/2005 – 08/30/2006, PI: B.N. Popov, Funded.
33. NASA/EPSCoR, "Development of Capacity Fade Model for Li-Ion Batteries: Demonstration of the Applicability of Li-Ion Batteries for Space", $25,659, 11/01/2005 – 07/31/2006, PI: B.N. Popov, Funded.
34. NASA/SC Space Grant Consortium, "Development of Mathematical Model for Life Time Prediction of Li-Ion Batteries under the Combined Storage and LEO Cycling Conditions", $30,000, submitted February 2007, PI: B.N. Popov, Funded.
35. St. Jude Medical, "Performance Study of Lithium/SVO Batteries for Implantable Cardioverter Defibrillators", $ 170,759, submitted May 2003, 03/31/2004 – 05/31/2007, PI: B.N. Popov, Funded.
36. Fuji Film Inc., "Development of a Low Cost Bench Scale Coating Process for Preparation of Gas Diffusion Layers", $ 222,340, 09/01/2004 – 05/30/2007, PI: B.N. Popov, Funded.
37. DOE, "Novel Non-Precious Metal Catalyst for Oxygen Reduction", $ 1,376,292, 09/30/2003 – 03/31/2008, PI: B.N. Popov with CWRU and NEU, Funded.
38. ONR, "Development of Novel Process for Plating Nanostructured Ternary Alloys and Composites for Replacement of Cadmium Coatings", $ 243,677, 01/15/2004 – 01/15/2008, PI: B.N. Popov, Funded.
39. NSF/I-UCRC, "Effect of Synthesizing Method of the Oxygen Electrocatalyst on the Catalyst Durability: Evaluation of the Sintering Effect", $ 205,923, 09/15/2002 – 12/31/2007, Co-PI: B.N. Popov, Funded.
40. NSF/I-UCRC Supplement, "Novel Non Carbon Supports for Fuel Cell Applications", $ 150,000, 10/01/2006 – 09/30/2008, Co-PI: B.N. Popov, Funded.
41. ONR/DURIP, "DURIP Proposal to Acquire Mini Plating Plant", $ 55,360, submitted September 2006, 04/01/2007 - 03/31/2008, PI: B.N. Popov, Funded.
42. Faraday Technologies Inc., "Development of Nanostructured Catalyst for PEM Electrolyzer (Phase II)", $ 50,000, submitted December 2006, 09/01/2007 - 08/31/2008, PI: B.N. Popov, Funded.
43. DOE/General Electric., "Durability Study of SOFC Cathodes in the Presence of Metallic Interconnects", $ 75,000, submitted March 2007, 04/01/2007 - 01/31/2008, PI: B.N. Popov, Funded.
44. Faraday Technology, "Development of Diagnostic Model for Hydrogen Permeation through High –Strength Alloys under Corroding Conditions", $50,000, submitted June 2008, Funded.
45. NASA-EPSCoR, "Development of Advanced Unitized Regenerative Fuel Cell", $ 750,000, submitted July 2007, 02/01/2008 - 01/31/2011, PI: B.N. Popov, Funded.
46. DOE, "Development of Carbon Composite Electrocatalyst for the Oxygen Reduction Reaction (ORR)", $300,000, submitted Jan 2008, Funded.
47. SC-EPSCoR, "Development of Advanced Unitized Regenerative Fuel Cell", $ 126,266, 07/01/2007 - 06/30/2008, PI: B.N. Popov, Funded.
48. NASF, "Development of Ni Based High Wear Resistance Composite Coatings", $25,000, submitted March 2008, PI: B. N. Popov, Funded.
49. Development of Plating Process for Deposition of Colored Chromium Plates, Stanley Black & Decker, Inc., 01/01/2012-30/06/2012, $33,535, PI: B. N. Popov, Funded.
50. NSF, "Development of Ultra-low Loading Platinum Alloy Cathode Catalysts for PEM Fuel Cells: Theoretical and Experimental Studies", $300,000, 04/01/2010-03/31/2013, PI: B. N. Popov, Funded.

51. Boeing Research & Technology (BR&T), Development of Sacrificial Coatings Based on Manganese and Zinc-Manganese Alloys, 09/15/2011- 05/31/2013, $150,000, PI: B. N. Popov, Funded.

Current Projects

1. DOE, Development of Ultra-low Platinum Alloy Cathode Catalyst for PEM Fuel Cells, $4,750,000, 06/01/2010-05/31/2015, PI: B. N. Popov, Funded.

Published Books and Chapters

1. B.N. Popov, *Calculation in Physical Chemistry*, Ed. University Kiril and Metodij, Skopje (1973), pgs. 292.
2. B.N. Popov, Lj. Arsov, Dragan Slavkov and Abdurauf Prusi, *"Experimental Physical Chemistry"*, Ed. University Kiril and Metodij, Skopje (1985), pgs. 459.
3. B.N. Popov, Z. Koneska and G. Jovanovski, "Electrodeposition of Titanium from Nonaqueous Media", in *Emerging Materials by Advanced Processing*, Ed. By Wolfgang A. Kaysser and Jutta Weber-Bock Max-Planck Institut fur Metallforschung, Hirsau/ Stuttgart (1989), pgs. 447-454.
4. B.N. Popov, J.B Wagner, Jr. and H. Wendt, "Electrodeposition of Titanium from Molten Salts" in *Emerging Materials by Advanced Processing*, Ed. by Wolfgang A. Kaysser and Jutta Weber-Bock Max-Planck Institut fur Metal Forschung, Hirsau/Stuttgart (1989), pgs. 427-445.
5. B.N. Popov and D. Slavkov "Reduction of Chromium (VI) When Solar Selective Black Chromium is Deposited," in *Emerging Materials by Advanced Processing*, Ed. by Wolfgang A. Kaysser and Jutta Weber-Bock Max-Planck Institut fur Metal Forschung, Herisau/Stuttgart, (1989), pgs. 467-478.
6. B.N. Popov, "Electrodeposition of Metals and Metal Oxides from Molten Salts", in *Emerging Materials by Advanced Processing*, Ed. By Wolfgang A. Kaysser and Jutta Weber-Bock Max-Planck Institut fur Metallforschung, Hirsau/Stuttgart (1989), pgs. 415-425.
7. B.N. Popov, Ed. *Proceedings of the Symposium on Chemical Technology and Emerging Materials*, University Kiril and Metodij, Skopje, June (1987), pgs. 550.
8. B.N. Popov, *Physical Chemistry*, Ed. University Kiril and Metodij, Skopje (1990), pgs. 507.
9. B.N. Popov, A. Durairajan, B.S. Haran, D. Zhang, R.E. White and Y.M. Podrazhansky, "Battery Research at University of South Carolina", in *Battery Letters*, Vol 1, No.2 (1999), Special Issue for NPC'99, pgs. 250-265.
10. G. Jerkiewicz, J.M. Feliu and B.N. Popov Editors, "Hydrogen at Surfaces and Interfaces", The Electrochemical Society, Pennington, NJ, 2000, pgs. 268.
11. Lj. Arsov, M. Ramasubramanian, B. N. Popov, "Ellipsometry Methods in Material Research," John Wiley and Sons, Inc, New York 2001, Pgs 10.
12. B.N. Popov and S.P. Kumaraguru, "Cathodic Protection of Pipelines", Handbook of Environmental Degradation of Materials, pp. 503-521, 2005.
13. Molten carbonate fuel cells, Prabhu Ganesan, Rajam Pattabiraman and Branko N. Popov, *Encyclopedia of Chemical Processing*, Taylor and Francis, NY, pp. 1747-1765, 2005.
14. Lj. Arsov, M. Ramasubramanian, B. N. Popov, "Ellipsometry Methods in Material Research," John Wiley and Sons, Inc, New York 2011, Pgs 10.
15. Branko Popov, CORROSION ENGINEERING- Principles and Solved Problems, Textbook 744 pages, ELSEVIER, Amsterdam, Boston, Heidelberg, London, New York, Oxford, Paris, Sidney, Tokyo, (2015), ISBN 978-0-444-67222-3, British Library cataloging from the British Library.

Selected and Recent Publications

1. B. Popov and H. A. Laitinen, "Electrochemical Reduction of Chromate in the Presence of Nickel Chloride in Molten Lithium Chloride-Potassium Chloride Eutectic", J. Electrochem. Soc., 11 (1970) 482-485.
2. R. Cvetkovic, B. Popov and P. Kirkov, "Chronopotentiometry of Molten Lithium Chloride –Potassium Chloride Eutectic", Bull. Chem. Technol. (II) (2) (1970) 39-46.
3. B.N. Popov, "Electrochemical Deposition of Indium in Molten Lithium Chloride-Potassium Chloride Eutectic Melt", Bulletin de la Societe Chemique (Macedonian), (III), 3 (1972) 49-54.
4. B.N. Popov and H.A. Laitinen, "Electrochemical Reduction of Molybdenum (VI) Compounds in Molten Lithium Chloride-Potassium Chloride Eutectic Melt", J. Electrochem. Soc., 120 (1973) 1346-1351.
5. B.N. Popov, "Cathodic Passivation of Silver", Macedonian Academy of Sciences, 6 (1973) 2-11.
6. R. Cvetkovic and B.N. Popov, "Electrochemical Reduction of MoO3 and Mo2O2Cl2 in the presence of Li2MoO4 in molten LiCl-KCl Eutectic", Bull. Chem. Technol., 1 (1974) 45-55.

7. T. Grcev and B.N. Popov, "Investigation of he Electrochemical Passivation of Silver In Chromate and non Chromate Solutions", Bulletin de la Societe Chemique, (V) 1 (1974) 77-88.
8. B.N. Popov, "Electrochemical Reduction of Molybdenum Oxy-anions in Molten Lithium Chloride-Potassium Chloride Eutectic", Bulletin de la Societe Chemique, 1 (1974) 45-55.
9. B.N. Popov and H.A. Laitinen, "Electrochemical Reduction of Molybdate in the Presence of Zinc Chloride-Potassium Chloride Eutectic Melt", J. Electrochem. Soc., 122 (1975) 1616-1620.
10. B.N. Popov, T. Todorovski and M. Brajevic, "Electrochemical Reduction of Li2Mo2O7 in Molten Lithium Chloride-Potassium Chloride Eutectic", Bulletin de la Societe Chemique, (VI) 3 (1975) 61-66.
11. T. Todorovski, M. Kalpakcijan and B. Popov, "Determination of copper and Lead in Tomato Paste by Interferometric Precipitation Titration with Organic Reagents", Bulletin de la Societe Chemique, 2 (1975) 23-32.
12. B.N. Popov, "Electrochemical Passivation of Silver in Chromate Solutions", Kem. Ind., 10 (1975) 543-549.
13. B. Popov, "Chronopotentiometry of MoO2Cl2 in Molten Lithium Chloride Potassium Chloride Eutecic", Bulletin de la Societe Chemique, (VI) 2 (1975) 49-63.
14. B. Popov, R. Cvetkovic and S. Spaseva, "Electrochemical Reduction of Li2MoO4 in the Presence of NiCl2 in the Molten Li-Cl-KCl Eutectic", Bulletin de la Societe Chemique, 3 (VII) (1976) 43-48.
15. B. Popov and N. Nikolovski, "Nickel Electroless Plating, and the Influence of Oxyions on the Quality of the Deposit", Bulletin de la Societe Chemique, (2) (VII) (1976) 33-40.
16. B.N. Popov, "Electrode Kinetics of Indium in Chloride Solutions", Bulletin de la Societe Chemique (Macedonian), 1 (1976) 19-24.
17. B.N. Popov, "Electrochemical Reduction of Molybdate in Molten Lithium Chloride- Potassium Chloride Eutectic", Bulletin de la Societe Chemique, (Macedonian), 3 (1976) 43-51.
18. B.N. Popov, "Electrochemical Reduction of Molybdenum Oxy-Chloride in Molten Lithium Chloride-Potassium Chloride Eutectic", Bulletin de la Societe Chemique, 4 (1976) 99-105.
19. P. Zifovska, R. Cvetkovic and B.N. Popov, "Electrochemical reduction of In2O3 in molten LiCl-KCl eutectic", Bulletin de la Societe Chemique, 1-2 (IX) (1977) 79-85.
20. N. Nikolovski and B.N. Popov, "Adsorption of α-Naphtol on the Indium Amalgame Electrode", Bulletin de la Societe Chemique, 28 (1978) 51-62.
21. T. Grcev, B. Popov, L. Klampfer and T. Todrovski, "Potentiodynamic Examinations of the Influence First and Second rate Additives on the Polarization Potential During deposition of Metallic Nickel", 30 (1980) 111-117.
22. N. Nikoloski, B. Popov and Lj. Arsov, "Electrode Kinetics of Indium amalgam in Presence of Naphtol", Bulletin de la Societe Chemique, 30 (1980) 67-77.
23. Lj. Arsov and B. Popov, "Les Etudes Potentiostatiques sur Le Corrosion Stabilite du Titane L'Acide Nitrique", Bulletin de la Societe Chemique, 30 (1980) 135-131.
24. A Prusi and B. Popov, "The Influence of Nitric Acid on Chemical Polishing of Aluminum", Bulletin de la Societe Chemique (3) (1980) 60-65.
25. Prusi, B. Popov and Lj. Arsov, "Optical Characteristics of Chemically Polished Aluminum", Bulletin de la Societe Chemique, 30 (1980) 99-106.
26. B.N. Popov, A. Cobanov and N. Nikolovski, "Examination of the Mechanism of Cathodic Passivation of Silver Using Impedance Method", Bulletin de la Societe Chemique, 1 (1982) 139-145.
27. N. Nikolovski, B. Dimova, B. Popov and Lj. Arsov, "Electrode Kinetics of Thin in Chloride Solutions in Presence of NaF and Surface Active Substance", Bulletin de la Societe Chemique, 1 (1982) 123-137.
28. B.N. Popov and H.A. Laitinen, "Electrochemical Reduction of Li2Mo2O7 in Molten Lithium Chloride Potassium Chloride Eutectic", Bull. de la Soc.Chem, 1 (1982) 5-14.
29. B.N. Popov, D. Slavkov, S. Handjiski and N. Nikolovski, "Electrodeposition of Zinc in the Presence of Organic Compounds", Bulletin de la Societe Chemique, 1 (1982) 36-45.
30. B.N. Popov, "Contribution to the Knowledge of the Electrodeposition of Nickel in the Presence of Organic Compounds", Kem. Ind., 31 (1982) 455-461.
31. B.N. Popov, "Electrochemical Reduction of Molybdenum Trioxide in Molten Lithium Chloride-Potassium Chloride Eutectic", Kem. Ind. 35 (1983) 65-70.
32. B.N. Popov, "Chronopotentiometry of Molybdenum (III) in Molten Lithium Chloride-Potassium Chloride Eutectic", Macedonian Academy of Sciences, 6 (1985) 21-32.
33. D. Ikonomov, N. Nikolovski, B. Popov and Lj. Arsov, "Electrochemical Investigation of Composite Two-Component Polymer Epoxide Antistatic Materials", Macedonian Academy of Sciences, 7 (1986) 17-27.
34. B.N. Popov, D. Slavkov,T. Grcev, Lj. Arsov and S. Karivanov, "Electrochemical Deposition of Zinc in the Presence of Organic Compounds", Kem. Ind., 35 (1986) 1-7.

35. B.N. Popov, "Electrochemical Reduction of Indium (III) in molten lithium chloride-potassium chloride eutectic", Macedonian Academy of Sciences, 7 (1986) 18-27.
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36. B. Veeraraghavan, S.P. Kumaraguru and B. N. Popov, "Development of Nanostructured Ni-Zn-P Alloys by Electroless Deposition for Replacement for Cadmium Coatings," in *Proceedings of AESF SUR/FIN 2003*, Milwaukee, Illinois, 2003, pp. 561-573.
37. S.P. Kumaraguru and B.N. Popov, "Corrosion and hydrogen Permeation properties of Zn-Ni-X alloys" Proceedings of ECS, October 2004, HI.
38. S.P. Kumaraguru, P. Ganesan and B.N. Popov, "Corrosion and Hydrogen Embrittlement Properties of Zn-Ni-X (X= Cd, P) Alloys", *Corrosion in Marine and Saltwater Environments II* (D. A. Shifler, T. Tsuru, P. M. Natishan, and S. Ito), The Electrochemical Society, Pennington, NJ, 2004, pp. 432-442.
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40. S.P. Kumaraguru, N.P. Subramanian, H. Colon and B.N. Popov, "Non-noble Metal Catalysts for Oxygen Reduction Reaction in Acidic Media", *ECS Trans.*, 1 (2006) 27-39.
41. L. Liu and B.N. Popov, "Highly Active Ruthenium Based Catalysts for Oxygen Reduction Reaction", *ECS Trans.*, 1 (2006) 41-49.
42. S.P. Kumaraguru, P. Ganesan and B.N. Popov, "A Novel Approach to Deposit Compositionally Modulated Zn-Ni Multilayer as a Replacement for Cadmium Coating", *ECS Trans.*, 1 (2006) 87-96.
43. S.P. Kumaraguru and B.N. Popov, "Novel Silica Based Coatings as a Substitute for Chrome Passivates: Role of Surface Activation", *ECS Trans.*, 1 (2006) 107-116.
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46. J.-W. Lee, Y.K. Anguchamy and B.N. Popov, "Discharge Characteristics of Polypyrrole/Silver Vanadium Oxide Composite Used for Lithium Primary Batteries," *ECS Trans.*, 6 (2007) 9-14.
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49. X. Li, H.R. Colon-Mercado, G. Wu, J.-W. Lee and B.N. Popov, "Development of Stable Pt-Co Cathode Catalysts for PEM Fuel Cells," *ECS Trans.*, 11 (2007) 1259-1266.
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53. Xuguang Li, Sheng-Yang Huang, Branko Popov, "Development of Low Pt Loading Cathode Catalysts for Polymer Electrolyte Membrane Fuel Cells", *ECS Trans.* 2010, *33*, 239-246.
54. Sheng-Yang Huang, Prabhu Ganesan, Won Suk Jung, Nicholas Cadirov, Branko Popov, "Titania Supported Platinum Catalyst with High Electrocatalytic Activity andStability for Polymer Electrolyte Membrane Fuel Cell", *ECS Trans.* 2010, *33*, 483-491.
55. Sheng-Yang Huang, Prabhu Ganesan, Won Suk Jung, Nicholas Cadirov, Branko Popov, "Development of Supported Bifunctional Oxygen Electrocatalysts with High Performance for Unitized Regenerative Fuel Cell Applications", *ECS Trans.* 2010, *33*, 1979-1987.
56. Xuguang Li and Branko N. Popov, Development of Non-Precious Metal Catalysts for Oxygen Reduction Reaction in Fuel Cells with High Activity and Stability, *ECS Trans.* 2010, *33*, 2333-2339.
57. Xuguang Li, Gang Liu, Prabhu Ganesan, Hansung Kim, Bumwook Roh, and Inchul Hwang, Development of Ultra-Low Pt Alloy Cathode Catalyst for PEM Fuel Cells, Branko N. Popov, *ECS Transactions*, 2011, 41 (1), 955-969.
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59. Branko N. Popov, Tianyuan Xie, Taekeun Kim, Won-suk Jung, Akos Kriston Brian Murphy and Prabhu Ganesan, "Development of Ultra-Low Pt Alloy Cathode Catalyst for PEM Fuel Cells", *ECS Transactions*, **50** (2) (2013) 773-785.
60. Tianyuan Xie, Taekeun Kim, Won Suk Jung, Kriston Akos Prabhu Ganesan and Branko N. Popov, "Development of Highly Active Pt_2Ni/C Catalyst for PEM Fuel Cell", *ECS Transactions*, **50** (2) (2013) 1615-1626.
61. Taekeun Kim, Won Suk Jung, Tianyuan Xie, Akos Kriston, Prabhu Ganesan, David Gamliel, Brian Murphy and Branko N. Popov, "Development of Hybrid Cathode Catalyst for PEM Fuel Cells", *ECS Transactions*, **50** (2) (2013) 1875-1885.
62. Akos Kriston, Tianyuan Xie, Taekeun Kim, Won Suk Jung, David Gamliel, Brian Murphy Prabhu Ganesan, Branko N. Popov, Analyzing the effect of Ultra-Low Pt Loading on Mass and Specific Activity of PEM Fuel Cells, *ECS Transactions*, **50**, (2013) 1427-1438.
63. Selvarani Ganesan, Ganesan Prabhu, and Branko N. Popov, "Development of Zn-Mn Alloy Based Sacrificial Coatings," *ECS Transactions*, **50**(31) (2013) 405-424.
64. Branko N. Popov, Tianyuan Xie, Taekeun Kim, Won Suk Jung, and Prabhu Ganesan, "Development of Ultra-Low Loading Pt Alloy Cathode Catalyst for PEM Fuel Cells," *ECS Transactions*, 58 (2013) 761-778.

Presentations in the Last Fifteen Years

Number of Technical Publications 207

Recent Seminars

1. "Novel Cathode and Anode Materials for Li-ion Batteries", Faculty of Technology and Metallurgy, University K&M, Skopje, Macedonia, June 1998.
2. "Development of High Performance Anode Materials for Nickel Metal Hydride Batteries", Center for Electrochemical Systems & Hydrogen Research, Texas A&M University, College Station, TX 77843-3402, May 1998.
3. "Battery Research at University of South Carolina", NCP Nagoya, Japan, September 1999.
4. "Novel Materials for Power Sources", College of Engineering, Science and Technology, SCSU, Orangeburg, SC, May 1999.
5. "Hydrogen Permeation in Metals and Alloys", Department of Chemistry, University of Sherbrooke, Sherbrooke, Quebec, Canada, February, 2000.
6. "Development of Corrosion and Hydrogen Permeation Resistant Nanostructured Composites", Nanomaterials Workshop, Las Vegas, NV, December 11-12, 2001.
7. "Overview of Nanotechnology", Nanomaterials Workshop, Las Vegas, NV, December 11-12, 2001.
8. "Development of an Electroless Deposition Process for Elisha", Elisha Technologies L.L.C., February 6, 2002.

9. "Battery Research at University of South Carolina, University Kiril and Metodij, Faculty of Technology and Metallurgy, Skopje, Macedonia, May 23, 2002.
10. "Power Source Research at University Of South Carolina", University of New Mexico, Department of Chemical Engineering, Albuquerque, NM, April 26, 2003.
11. "Battery and Fuel Cell Research at USC", Department of Chemistry, Dalhousie University, Canada.
12. "Novel Approaches to Mitigate the Degradation of Materials in Electrochemical Systems: Experimental Studies and Mathematical Modeling," General Electric Global Research, Albany, NY, September 20, 2007.
13. "Development of Novel Non-carbon Based Catalysts for PEM Fuel Cells", South Carolina State University, Orangeburg, SC, April 2010.

Meeting Presentations

1. "Application of Electrochemical DC and AC Techniques for Corrosion Prediction and Evaluation of Degree of Delamination of Organic Coatings," EG&G PAR Symposium on Electrochemical Corrosion Techniques, St. Louis, Missouri 1990, invited.
2. "Electrodeposition of Thin Layers of Amorphous Alloys," AIChE 1991 Annual Meeting, Los Angeles, California, November 1991, invited.
3. B.N. Popov and R. E. White, "Reductive Dissolution of Magnetite in Citric Acid," Electrochemical Society, Fall 1991 Meeting, Phoenix, Arizona, October, 1991 contributed.
4. "Electrochemical Deposition of Zinc-Nickel Alloys in the Presence of Organic Additives," American Electroplaters and Surface Finishers Society, International Technical Conference 1992, Atlanta, Georgia, 1992, contributed.
5. "Electrodeposition Modeling of Nickel-Iron Alloys in the Presence of Organic Additives," American Electroplaters and Surface Finishers Society, International Technical Conference 1992, Atlanta, Georgia, 1992, contributed.
6. "Plating of Iron-Nickel Alloys in the Presence of Organic Additives," American Electroplaters and Surface Finishers Society, International Technical Conference 1992, Atlanta, Georgia, 1992, invited.
7. B.N. Popov and R. E. White, "A Mathematical Model of Pulse Plating on a Rotating Disc Electrode," Electrodeposition, AIChE 1992 Annual Meeting, Miami Beach, Florida, November, 1992, contributed.
8. B.N. Popov and R. E. White, "Potentiostatic Study of Nickel-Iron Deposition in the Presence of Organic Additives," AIChE 1992 Annual Meeting, Miami Beach, Florida, November, 1992, contributed.
9. B.N. Popov and R. E. White, "Surface Treatment with Underpotential-Deposition of Lead for Inhibition of Corrosion into 4340 Steel," American Electroplaters and Surface Finishers Society, International Technical Conference, June 1993, Anaheim, California, 1993, contributed.
10. "Galvanostatic Pulse Plating of Fe-Ni Alloys" American Electroplaters and Surface Finishers Society, International Technical Conference, June 1993, Anaheim, California, 1993, contributed.
11. "Surface Treatment with Underpotential-Deposited Bismuth for Inhibition of Corrosion of Inconel 718," American Electroplaters and Surface Finishers Society, International Technical Conference, June 1993, Anaheim, California, 1993, invited.
12. "*Deposition of Nickel Iron Thin Films from Electrolytes Containing Organic Compounds on a Rotating Disk Electrode*, Abs. No. 569, 183 Electrochemical Society Meeting, Spring 1993, Honolulu, Hawaii, contributed.
13. B.N. Popov, G. Zheng and Ralph E.White, " Surface Treatment for Mitigation of Hrdrogen Absorption and Penetration into AISI 4340 Steel", *in the Proceedings of The International Technical Conference of AESF SUR/FIN* , 1993, Anaheim, June 21-24, Pg 809-828.
14. B.N. Popov, Ken-Ming Yin and Ralph E.White, " Galvanostatic Pulse Plating of Fe-Ni Alloys in the Presence of Additives", in the *Proceedings of The International Technical Conference of AESF SUR/FIN* , 1993, Anaheim, June 21-24, Pg 791-808.
15. B. N. Popov, G. Zheng, and R. E. White, "Surface Treatment for Mitigation of Hydrogen Absorption and Penetration into AISI 4340 Steel and Inconel 718 Alloy," in *Corrosion Protection by Coating and Surface Modification*, Martin W. Kendig Ed., The Electrochemical Society, Inc., Pennington, NJ (1993), Pg 88-99.
16. B.N.Popov, W.Zheng, E.C. Carcy and Ralph E.White, " AC Impedance Spectroscopy as a Nondestructive Health Interrogation Tool for Lithium-BCX Cells," in *Batteries and Fuel Cells for Stationary and Electrical Vehicle Applications*, A. R. Landgrebe Ed. The Electrochemical Society, Inc., Pennington, NJ (1993). 93-28, Pg 74-96.
17. B. N. Popov and R. E. White "Galvanostatic Pulse Plating of Zinc-Nickel Alloys in the Presence of Organic Additives," in *Electrochemically Deposited Thin Films*, Milan Paunovic Ed., The Electrochemical Society, Inc., Pennington, NJ (1993), Pg 96-107.

18. B. N. Popov, G. Zheng, and R. E. White, "Surface Treatment for Mitigation of Hydrogen Absorption and Penetration into AISI 4340 Steel and Inconel 718 Alloy," *in the proceedings of the symposium on Corrosion protection by Coatings and Surface Modification*,of The Electrochemical Society Pennington, NJ 93-28, 1993, Pg 100-111.
19. "The Hydrogen Atom Direct Entry Mechanism through a Metal Membrene," Electrochemical Society Meeting, Fall 1994, Miami, Florida, contributed.
20. "Electroplating of Thin Films of Bismuth onto AISI 4340 and Inconel 718 to prevent Hydrogen," Electrochemical Society Meeting Fall 1994, Miami, Florida, contributed.
21. "Solution Chemistry of Fe- Ni Plating Bath and Galvanostatic Pulse Plating of Iron-Nickel Alloys in the Presence of Organic Additives," Electrochemical Society Meeting, Spring 1994, San Francisco, California, invited.
22. "Underpotential Deposition of Zinc for Mitigation of Hydrogen Absorption and Penetration into HY-130 Steel,"Electrochemical Society Meeting, Spring, 1994, San Francisco, California, invited.
23. "The Effect of Thallium on Hydrogen Entry into HY-130 Steel," Electrochemical Society Meeting, Spring 1994, San Francisco, California, contributed.
24. "Modeling of Electrochemical Deposition of Ni-Fe Alloys in the Presence of Inert Particles-A Statistical Approach," 188th Meeting of the Electrochemical Society, Inc, Chicago, Illinois, Fall (1995), contributed.
25. "Electrodeposition of Fe-Ni-SiO_2 Alloys," 188TH Meeting of the Electrochemical Society, Inc, Chicago, Illinois, Fall (1995), invited.
26. "Determination of Transport and Electrochemical Kinetic Parameters of M-H Electrodes," 188th Meeting of the Electrochemical Society, Inc, Chicago, Illinois, Ext. Fall (1995), contributed.
27. "Application of Porous Electrode Theory on Metal-Hydride Electrodes in Alkaline Solution," 188th Meeting of the Electrochemical Society, Inc, Chicago, Illinois, Fall, (1995), contributed.
28. "Electrochemical Decontamination of Soils: Development of a New Electrochemical Method for Decontamination of Hexavalent Chromium from Sand," 187th Meeting of the Electrochemical Society, Inc, Reno, Nevada, (1995), invited.
29. "Anodic Oxidation of Tetrasodium Ethlyenediaminetetraacetic Acid in Alkaline Solutions," 187th Meeting of the Electrochemical Society, Inc, Reno, Nevada, Spring (1995) contributed.
30. "Electrochemical Determination of the Diffusion Coefficient of Hydrogen Through a $LaNi_{4.25}Al_{0.75}$ Electrode in Alkaline Solution," 187TH Meeting of the Electrochemical Society, Inc, Reno, Nevada, Spring (1995), contributed.
31. "Bare and Copper Coated $LaNi_{4.27}Sn_{0.24}$ Electrodes in Alkaline Solutions," 187TH Meeting of the Electrochemical Society, Inc, Reno, Nevada, Spring (1995), contributed.
32. "Corrosion and Hydrogen Permeation Inhibition by Thin Layer Zn-Ni Alloy Electrodeposition," *Materials for the New Millennium*, The Fourth Materials Engineering Conference, Washington, DC Spring (1996), contributed.
33. "Inhibiting Action of Calcium Nitrite on Carbon Steel Rebars," *Materals for the New Millenium*, The Fourth Materials Engineering Conference, Washington, DC Spring (1996), contributed.
34. "Studies on Galvanized Carbon Steel in Ca(OH)2 Solutions," *Materials for the New Millenium*, The Fourth Materials Engineering Conference, Washington, DC Spring (1996), contributed.
35. "Corrosion Effects of Cement Stabilized Backfill on Galvanized Steel Reinforcement," *Materials for the New Millenium*, The Fourth Materials Engineering Conference, Washington, DC Spring(1996), invited.
36. "Corrosion Initiation Time of Steel Reinforcement in a Chloride Environment-A One Dimensional Solution," *Materials for the New Millenium*, The Fourth Materials Engineering Conference, Washington, DC Spring (1996), contributed.
37. "Electrodeposition of Corrosion Resistant Zn-Ni Films," 190TH Meeting of the Electrochemical Society, Inc, San Antonio, Texas, Fall (1996), invited.
38. "Galvanostatic Pulse and Pulse Reverse Plating of Zinc-Nickel Alloys from Sulfate Electrolytes," 190TH Meeting of the Electrochemical Society, Inc, San Antonio, Texas, Ext. Abst. No 273, (1996), contributed.
39. "Potentiostatic Deposition Model of Iron-Nickel Alloys on the Rotating Disk Electrode at the Presence of Surface Inhibitor," 190TH Meeting of the Electrochemical Society, Inc, San Antonio, Texas, Fall (1996), invited.
40. "Analysis of Chloride Diffusion in Concrete," 190TH Meeting of the Electrochemical Society, Inc, San Antonio, Texas, Ext. Abst. No 204, (1996) contributed.
41. "Investigations of Metal Hydride Electrodes Microencapsulated with Nickel," 190TH Meeting of the Electrochemical Society, Inc, San Antonio, Texas, Fal (1996), contributed.

42. "Effect of Temperature on Performance of $LaNi_{4.27}Sn_{0.24}$ Metal Hydride Electrodes," 190TH Meeting of the Electrochemical Society, Inc, San Antonio, Texas, Fall 1996, contributed.
43. "Electrochemical Oxidation of Ethylenediaminetetraacetic Acid in Alkaline Medium," 189TH Meeting of the Electrochemical Society, Inc, San Antonio, Texas Fall (1996), contributed.
44. "Characterization of Metal Hydride Electrodes in Different Weights and Different Percentages of Binder," 189TH Meeting of the Electrochemical Society, Inc, Los Angeles, California, Spring (1996), contributed.
45. "Equilibrium and Kinetic Characteristics of Tartrate and EDTA Based Electrode Copper Deposition Baths," Technical Conference Proceedings, Session L: Research, at SUR/FIN '97, June 23-29, 1997, AESF Society, Orlando, FL (1997), invited.
46. Electrochemical Characterization of LixNiO2 and $LiCryNiO_2$ as Cathodes for Lithium-ion Batteries," 191st Meeting of the Electrochemical Society, Inc, Montreal, Spring (1997), contributed.
47. Electrochemical Characterization of Chromium Oxide as Cathode Materials for Li-ion Batteries," 191st Meeting of the Electrochemical Society, Inc, Montreal, Spring (1997), contributed.
48. "Theoretical Model for Metal Hydride Electrode-Determination of Thermodynamic and Kinetic Parameters," 191st Meeting of the Electrochemical Society, Inc, Montreal, Spring (1997) contributed.
49. "Characterization of Hydrogen Storage Alloys Modified by Electroless Cobalt Coatings," 191st Meeting of the Electrochemical Society, Inc, Montreal, Sping (1997), contributed.
50. "Hydrogen Permeation Characteristics of Zn-Ni Alloys Imbedded with SiO2 Particles," 191st Meeting of the Electrochemical Society, Inc, Montreal, Spring (1997), invited.
51. "Analysis of Chloride Diffusion in Concrete," 190th Meeting of the Electrochemical Society, Inc, Spring (1997), contributed.
52. "Transport and Electrochemical Kinetic Parameters of Bare and Microencapsulated MH Electrodes in Alkaline Solutions," 191st Meeting of the Electrochemical Society, Inc, Montreal, Fall (1997), contributed.
53. "Surface Treatments for Mitigation of Hydrogen Adsorption and Permeation into Alloys," 191st Meeting of the Electrochemical Society, Inc, Montreal, Spring, (1997), invited.
54. "Characterization of Chromium Oxides and Cobalt Doped Chromium Oxides as Cathode Materials for Lithium-Ion Batteries", 194th Meeting of Electrochemical Society, Inc, Boston, Fall (1998), invited.
55. "Sol-Gel Derived Carbon Aerogels and Xerogels for Use as the Anode in the Lithium Ion Battery", 194th Meeting of Electrochemical Society, Inc, Boston, Fall (1998), contributed.
56. "High Performance Metal Hydride Alloys by Cobalt Microencapsulation", 194th Meeting of Electrochemical Society, Inc, Boston, Fall (1998), invited.
57. "Theoretical Analysis of an Electrochemical Capacitor with Double-Layer and Faradic Processes", 194th Meeting of Electrochemical Society, Inc, Boston, Fall (1998), contributed.
58. "Sol-Gel Derived Carbon-Ruthenium Xerogels for Use as Electrochemical Capacitors", 194th Meeting of Electrochemical Society, Inc, Boston, Fall (1998) contributed.
59. "Carbon-Metal Oxide Supercapacitors by Electroless Deposition", 194th Meeting of Electrochemical Society, Inc, Boston, Fall (1998), contributed.
60. "Composite Carbon-Metal Oxide Materials for Energy Applications by a Novel Electroless Plating Process", 194th Meeting of Electrochemical Society, Inc, Boston, Fall (1998), contributed.
61. "Studies on Hydrogen Diffusion in Metal Hydrides Using Impedance Spectroscopy", 194th Meeting of Electrochemical Society, Inc, Boston, Fall (1998), contributed.
62. "Characterization of Hydrogen Permeation through Zinc-Nickel-Phosphorus Alloys", 194th Meeting of Electrochemical Society, Inc, Boston, Fall (1998), invited.
63. "Electrochemical Insertion/Extraction of Lithium Ion in $LiCr_3O_8$", 194th Meeting of Electrochemical Society, Inc, Boston, Fall (1998), contributed.
64. "Capacity Fade Studies of Li-Ion Batteries", 194th Meeting of Electrochemical Society, Inc, Boston, Spring (1998), contributed.
65. "Electrodeposition of Zn-Ni-SiO_2 Composites from Acidic and Alkaline Media for Corrosion and Hydrogen Permeation Inhibition," 193rd Meeting of Electrochemical Society, Inc, San Diego, Spring (1998), contribute.
66. "Performance of Carbon Xerogels as Double Layer Capacitors," 193rd Meeting of the Electrochemical Society, Inc, San Diego, Fall (1998), contributed.
67. "High Performance Carbon Materials for Energy Devices by a Novel Electroless Plating Process, 193rd Meeting of the Electrochemical Society, Inc, San Diego, Spring (1998), contributed.
68. "Characterization and Testing of Modified $LiNiO_2$ as Cathode Materials for Li-Ion Batteries, 193rd Meeting of the Electrochemical Society, Inc, San Diego Spring (1998), contributed.

69. "Novel Cathode Materials for Li-ion Batteries," 193rd Meeting of the Electrochemical Society, Inc, San Diego, Spring (1998), contributed.
70. "Deterioration of Metal Hydride Alloys-Theoretical and Experimental Study," 193rd Meeting of the Electrochemical Society, Inc, San Diego, Spring (1998), contributed.
71. "High Performance Metal Hydride Alloys by a Novel Electroless Plating Process, 193rd Meeting of the Electrochemical Society, Inc, San Diego, Spring (1998), contributed.
72. "Zn-Ni-X (X = Cd, P) Ternary Alloys As a Replacement For Cadmium Coatings", 196th Meeting of Electrochemical Society, Inc, Hawaii, Spring (1999), invited.
73. "Characterization of Mixed Ru-X (X=Mo,W,Ni,Co) Carbon Supercapacitors", 196th Meeting of Electrochemical Society, Inc, Hawaii, Spring (1999), contributed.
74. "Capacity Fade of Lithium-ion Batteries", 196th Meeting of Electrochemical Society, Inc, Hawaii, Spring (1999), contributed.
75. "Characterization of Vanadium Modified Chromium Oxides as Cathode Materials for Lithium Batteries" - 196th Meeting of Electrochemical Society, Inc, Hawaii, Spring (1999), contributed.
76. "Ni Composite Coated Graphite as an Anode for Li-Ion Batteries with PC-Based Solvent", 196th Meeting of Electrochemical Society, Inc, Hawaii, Spring (1999), contributed.
77. "Chromium Doped Spinel $Li_4Mn_5O_{12}$ as Cathode Materials for Secondary Lithium Batteries", 196th Meeting of Electrochemical Society, Inc, Hawaii, Spring (1999), contributed.
78. "High Performance Pd-Coated Graphite for Li-Ion Batteries with PC-Based Electrolyte", 196th Meeting of Electrochemical Society, Inc, Hawaii, Spring, (1999), contributed.
79. "A Novel Electrochemical Detection Technology for Nerve Gases", 195th Meeting of Electrochemical Society, Inc, Seatle, Fall, (1999), invited.
80. "SIMCORR - Simulation Software for Prediction Of Concrete Corrosion", 195th Meeting of Electrochemical Society, Inc, Seattle, Fall (1999), contributed.
81. "Cycle Life and Utilization Studies on Modified AB5 and AB2 Metal Hydrides", 195th Meeting of Electrochemical Society, Inc, Fall, Spring (1999), contributed.
82. "Corrosion and Hydrogen Permeation Resistant Composite Coatings", 195th Meeting of Electrochemical Society, Inc, Seattle, Spring (1999), invited.
83. "Studies on the Effect of Oxygen on Corrosion of Concrete Rebars", 195th Meeting of Electrochemical Society, Inc, Seattle, Fall (1999), contributed.
84. "Lithium Intercalation into Graphite: Estimating Diffusion Coefficient and Exchange Current from the Discharge Curves", 198th Meeting of Electrochemical Society, Inc, Phoenix, Fall (2000), invited.
85. "Nanostructured Hydrous RuO2/Carbon Supercapacitor Electrode Prepared by Colloidal Methods", 198th Meeting of Electrochemical Society, Inc, Phoenix, Fall (2000), contributed.
86. "UV-Cured Blend Polymer Electrolytes for Rechargeable Lithium Batteries", 198th Meeting of Electrochemical Society, Inc, Phoenix, Fall (2000), contributed.
87. "Cobalt Doped Chromium Oxides: 3 V Class High Capacity Cathode for Lithium Batteries", 198th Meeting of Electrochemical Society, Inc, Phoenix, Fall (2000), contributed.
88. "New Charging Protocol for Efficient Cycling of Li-Ion Batteries", 198th Meeting of Electrochemical Society, Inc, Phoenix, Spring (2000), contributed.
89. "Novel Graphite and Carbon Composite Anodes for Li-Ion Batteries", 198th Meeting of Electrochemical Society, Inc, Phoenix, Spring (2000), contributed.
90. "Corrosion Resistant Current Collectors for Molten Carbonate Fuel Cell Applications", 198th Meeting of Electrochemical Society, Inc, Phoenix, Spring (2000), contributed.
91. "Surface Modification to Improve Hydrogen Entry Efficiency and Storage Capabilities of Metal Hydride Alloys", 197th Meeting of Electrochemical Society, Inc, Toronto, Spring (2000), contributed.
92. "Hydrogen Transport Rate in Metal Hydride Alloys", 197th Meeting of Electrochemical Society, Inc, Toronto, Spring (2000), invited.
93. "Corrosion and Hydrogen Permeation Resistant Composite Coatings", 197th Meeting of Electrochemical Society, Inc, Toronto, Spring (2000), contributed.
94. "Capacity fade of Li-ion Cells Cycled Using Pulse and DC Charging Protocols", 197th Meeting of Electrochemical Society, Inc, Toronto, Spring (2000), invited
95. "Development of Corrosion Resistant Current Collectors for Molten Carbonate Fuel Cells", 199th Meeting of Electrochemical Society, Inc, Washington DC, Spring (2001), contributed.
96. "New Corrosion and Hydrogen Permeation Resistant Nanostructured Composite Coatings" 199th Meeting of Electrochemical Society, Inc, Washington DC, Spring, (2001), contributed.

97. "High Stability Cathodes for Molten Carbonate Fuel Cell Applications", 199th Meeting of Electrochemical Society, Inc, Washington DC, Spring (2001), contributed.
98. "Characterization of Mn Based Alloy Materials for Supercapacitors", 199th Meeting of Electrochemical Society, Inc, Washington DC, Contributed Spring (2001), contributed.
99. "Optimization of Molten Carbonate Fuel Cell Cathodes", 199th Meeting of Electrochemical Society, Inc, Washington DC, Spring (2001), contributed.
100. "Tin Encapsulated Graphite as Anode Material for Li-Ion Batteries", 199th Meeting of Electrochemical Society, Inc, Washington DC, Spring 2001, contributed.
101. "Development of New Zn-Ni-Cd Coatings from Alkaline Solutions", Abstract 746, 200th Meeting of Electrochemical Society, Inc, San Francisco, CA, Fall (2001), contributed.
102. "Evaluation of Strategies Used for Protecting Steel in Concrete", 200th Meeting of Electrochemical Society, Inc, San Francisco, CA, Fall (2001), contributed.
103. "Study of surface Modified SS 304 as Current Collector in MCFC", Abstract 350, 200th Meeting of Electrochemical Society, Inc, San Francisco, CA, Fall (2001), contributed.
104. "Development of High Stability Cathodes for Molten Carbonate Fuel Cell Applications", 200th Meeting of Electrochemical Society, Inc, San Francisco, CA, Fall (2001), contributed.
105. "Impedance Analysis of Molten Carbonate Fuel Cell Cathodes", 200th Meeting of Electrochemical Society, Inc, San Francisco, CA, Fall (2001), contributed.
106. "Polymer Graphite Composite as Anodes for Li-ion Batteries", 200th Meeting of Electrochemical Society, Inc, San Francisco, CA, Fall (2001), contributed.
107. "Capacity Fade Studies on Spinel Based Li-Ion Cells", 200th Meeting of Electrochemical Society, Inc, San Francisco, CA, Fall (2001), contributed.
108. "Capacity Fade of Li-ion Cells at Elevated Temperatures Cycled Using Pulse and DC Charging Protocols", 200th Meeting of Electrochemical Society, Inc, San Francisco, CA, Fall (2001), contributed.
109. "Development of Low Cost Composites for Supercapacitors", 200th Meeting of Electrochemical Society, Inc, San Francisco, CA, Fall (2001), contributed.
110. "Effect of Sn and Ca Doping on the Corrosion of Pb Anodes in Lead Acid Batteries", 200th Meeting of Electrochemical Society, Inc, San Francisco, CA, Fall (2001), contributed.
111. "Characterization of Nanostructured Hydrous RuO2/carbon Supercapacitor Electrode Prepared by Colloidal Methods", 36th Annual Intersociety Energy Conversion Engineering Conference (AIECEC), Savannah, GA, Fall (2001), Invited.
112. "Studies on capacity fade of Spinel Based Li-ion Batteries", 36th Annual Intersociety Energy Conversion Engineering Conference (AIECEC), Savannah, GA, Fall (2001), Invited.
113. "Capacity Fade of Li-ion Cells at Elevated Temperatures Cycled Using Pulse and DC Charging Protocols", The 17th Annual Battery Conference, Long Beach, CA, Spring (2002), Invited.
114. "Studies on capacity fade of Spinel Based Li-ion batteries", The 17th Annual Battery Conference, Long Beach, CA, Spring (2002), Invited.
115. Evaluation of Economical and Efficient Methods for Corrosion Protection of Structural Concrete; Symposium on Performance of Corrosion Inhibitors in Reinforced Concrete Structures, 81st Annual Meeting of the Transportation Research Board, Washington DC, January 13-17,2002.
116. "Development of Corrosion and Hydrogen Permeation Resistant Zn-Ni-X (X=P, Cd) Ternary Alloys, 2002 Tri-Service Corrosion Conference, San Antonio, TX, Spring (2002), Invited.
117. "Optimization of Zn to Ni Ratio in Zn-Ni-Cd Deposits: Experimental Study and Mathematical Modeling", 2002 Tri-Service Corrosion Conference, San Antonio, TX, Spring (2002), Invited.
118. "A Novel Non-Chrome Electrolytic Surface Treatment Process to Protect Zinc Coatings", 201st Meeting of the Electrochemical Society, Philadelphia, PA, Spring (2002), Contributed.
119. "Capacity Fade Studies of Li-ion Cells Cycled at Different Temperatures", 201st Meeting of the Electrochemical Society, Philadelphia, PA, Spring (2002), Contributed.
120. "$La_{0.8}Sr_{0.2}CoO_3$ Coated Nickel Cathodes for Molten Carbonate Fuel Cells", 201st Meeting of the Electrochemical Society, Philadelphia, PA, Spring (2002), Contributed.
121. "Development of Novel Charging Protocols for Lithium ion Cells", 201st Meeting of the Electrochemical Society, Philadelphia, PA, Spring (2002), Contributed.
122. "Pulse Deposition of Zn-Ni-Cd ternary alloys", *AESF SURFIN 2002*, Chicago, IL, June 24-27 (2002), Invited.
123. "Capacity Fade of Li-ion Cells: Experimental Studies and Mathematical Modeling", NASA Aerospace Battery Workshop Huntsville, AL, November 20, (2002), Invited.

124. "Capacity Fade Analysis of 18650 Li-ion Cells: A Methodology for Cycle Life Prediction", 202nd Meeting of the Electrochemical Society, Salt Lake City, UT, Oct 20-24 (2002), Contributed.
125. "Development of Cathode Electrode for PEM Fuel Cell using Pulse Electrodeposition", 202nd Meeting of the Electrochemical Society, Salt Lake City, UT, Oct 20-24 (2002), Contributed.
126. "Performance of Co Coated Nickel Cathode Prepared by Tape Casting for Molten Carbonate Fuel Cells", 202nd Meeting of the Electrochemical Society, Salt Lake City, UT, Oct 20-24 (2002), Contributed.
127. "Performance of Titanium Alloy and Co Plated Titanium Alloy for MCFC Current Collector", 202nd Meeting of the Electrochemical Society, Salt Lake City, UT, Oct 20-24 (2002), Contributed.
128. "Performance of Commercial Li-ion Batteries Cycled with a Rapid Charging Protocol", 202nd Meeting of the Electrochemical Society, Salt Lake City, UT, Oct 20-24 (2002), Contributed.
129. "Quantitative Estimation of Capacity Fade of Sony 18650 cells Cycled at Elevated Temperatures", 202nd Meeting of the Electrochemical Society, Salt Lake City, UT, Oct 20-24 (2002), Contributed.
130. "Development of a Theoretical Model to Analyze the Performance of the Molten Carbonate Fuel Cell", 202nd Meeting of the Electrochemical Society, Salt Lake City, UT, Oct 20-24 (2002), Contributed.
131. "Studies on Electrodeposited Zn-Ni-X (X = Cu, SiO_2) Ternary Alloys as a Replacement for Cadmium Coatings", 202nd Meeting of the Electrochemical Society, Salt Lake City, UT, Oct 20-24 (2002), Contributed.
132. "Non-Anomalous Zn-Ni-X (X=P, SiO_2) Deposits as A Replacement for Cadmium Coating", 202nd Meeting of the Electrochemical Society, Salt Lake City, UT, Oct 20-24 (2002), Contributed.
133. "Pt-alloy/C Catalysts for PEMFC Prepared Using Electroless Deposition", N. Subramanian, H. Colon-Mercado, and B. N. Popov, 204 ECS Meeting at Orlando, FL (USA) October 12-16 (2003), contributed.
134. Development of PEM Fuel Cell Electrodes Using Pulse Electrodeposition - H. Kim, H. Colon, N. Subramanian, and B. Popov (University of South Carolina), 2003 ECS Meeting at Orlando, FL (USA) October 12-16 (2003), contributed.
135. Procedures for Evaluation of Durability of Oxygen Electrocatalysts - H. Colón-Mercado, H. Kim, and B. Popov (University of South Carolina), 2003 ECS Meeting at Orlando, FL (USA) October 12-16 (2003), contributed.
136. " A Novel Electrocatalytic Method for Depositing Silicate films for Preventing Corrosion of Metal Substrates " - V. Basker, S.P. Kumaraguru, and B. Popov (University of South Carolina), 2004 ECS Meeting at Orlando, FL (USA) October 12-16 (2003), contributed.
137. " Electrodeposited Ni-Zn-P Coatings as Substitute for Cadmium/Experimental Studies and Mathematical Modeling" - S.P. Kumaraguru, B. Veeraraghavan, and B. Popov (University of South Carolina) , 2003 ECS Meeting at Orlando, FL (USA) October 12-16 (2003), contributed.
138. "Performance Studies of Li-ion Battery-Super Capacitor Hybrid Systems - G. Sikha, B. Popov, and R. White (University of South Carolina)," 2004 ECS Meeting at Orlando, FL (USA) October 12-16 (2003), contributed.
139. "Capacity Prediction of Pouch Lithium-ion Battery - G. Ning, B. Haran, and B. Popov (University of South Carolina)," 204 ECS Meeting at Orlando, FL (USA) October 12-16 (2003), contributed
140. "Cycle Life Evaluation of Pouch Lithium-ion Battery - G. Ning, B. Haran, R. White, and B. Popov (University of South Carolina)," 204 ECS Meeting at Orlando, FL (USA) October 12-16 (2003), contributed.
141. "Electroless Deposition of Ni-Zn-P Alloys as a Replacement for Cadmium Coatings", *AESF/EPA P2 week*, Daytona Beach, FL, Feb 3-5 (2003), Invited.
142. "Electrodeposition of Non-anomalous Ni-Zn Coatings from Alkaline Electrolytes", *AESF/EPA P2 week*, Daytona Beach, FL, Feb 3-5 (2003), Invited.
143. "Development of a New Electroless Process for Deposition of SiO_2 Coatings for Protection of Zinc Substrates", *AESF/EPA P2 week*, Daytona Beach, FL, Feb 3-5 (2003), Invited.
144. "Electrodeposition of Alloys and Composites with Superior Corrosion and Electrocatalytic Properties", AESF Scientific Achievement Award Plenary Lecture, *AESF SUR/FIN 2003*, Milwaukee, MO, June 23-26, (2003), Invited.
145. "Nanostructured Zn-Ni Alloys as a Replacement for Cadmium Coatings," in *Proceedings of AESF SUR/FIN 2003*, Milwaukee, MO, June 23-26, (2003), Contributed.
146. "Development of Nanostructured Ni-Zn-P Alloys by Electroless Deposition for Replacement for Cadmium Coatings", *AESF SUR/FIN 2003*, Milwaukee, MO, June 2003, Contributed.
147. "Evaluation of Durability and Catalytic Activity of Different Pt Oxygen Electrocatalysts", *206th meeting of the Electrochem Soc.*, Honolulu, HI, October, 2004. Contributed
148. "Calendar life performance of lithium ion pouch cells", *206th meeting of the Electrochem Soc.*, Honolulu, HI, October, 2004. Contributed

149. "Novel Non Precious Metal Catalysts for PEMFC Applications", *206th meeting of the Electrochem Soc.,* Honolulu, HI, October, 2004. Contributed
150. "Analysis of carbon substrates used in non-precious metal catalysts for fuel cell applications", *206th meeting of the Electrochem Soc.,* Honolulu, HI, October, 2004. Contributed
151. "Corrosion and Hydrogen Permeation Properties of Zn-Ni-X (X= P,Cd) Ternary Alloys", *206th meeting of the Electrochem Soc.,* Honolulu, HI, October, 2004. Contributed
152. "Novel Surface Treatment Processes to Protect Metal Substrates", *206th meeting of the Electrochem Soc.,* Honolulu, HI, October, 2004. Contributed
153. "A Mathematical Model for a Lithium-ion Battery/Electrochemical capacitor Hybrid System", *206th meeting of the Electrochem Soc.,* Honolulu, HI, October, 2004. Contributed
154. "Calendar Life Studies on Lithium-Ion Pouch Cells", *206th meeting of the Electrochem Soc.,* Honolulu, HI, October, 2004. Contributed
155. "Low Cadmium Content Zn-Ni Alloys by Pulse Electrodeposition", *6th International Conference on Aircraft Corrosion*, Solomon Islands, MD, August 2004. Contributed
156. "Novel non chrome process for the protection of zinc substrates", *6th International Conference on Aircraft Corrosion*, Solomon Islands, MD, August 2004. Contributed
157. "Effects of Temperature on Zn-Ni and Zn-Ni-Cu Deposition in Alkaline Bath" *6th International Conference on Aircraft Corrosion*, Solomon Islands, MD, August 2004. Contributed
158. "Nano structured Zn-Ni and Zn-Ni-X (X=Cd, Cu, P) by pulse electrodeposition" *AESF SURFIN*, Chicago, IL, June 2004. Contributed.
159. "Development of Zn-Ni-X (Cd, Cu) Ternaty alloys for the Corrosion Protection of Steel Substrates", *AESF SURFIN*, Chicago, IL, June 2004. Contributed
160. "Novel Non chrome process for the protection of zinc coatings", *AESF SURFIN*, Chicago, IL, June 2004. Contributed
161. "Development of a Novel Method for the Preparation of PEM Electrodes by Pulse Electrodeposition", *AESF SURFIN*, Chicago, IL, June 2005. Contributed.
162. "Optimization of a Coating Process for Preparation of Gas Diffusion Layer", *1st Symposium on Manufacturing of MEAs for Hydrogen Applications*, August, 2005, Dayton, OH. Contributed.
163. "Non Precious Metal Catalysts for PEMFC Applications", *1st Symposium on Manufacturing of MEAs for Hydrogen Applications*, August, 2005, Dayton, OH. Contributed.
164. "Novel Silica Based Coatings as a Substitute for Chrome Passivates: Role of Surface Activation" *208th Meeting of the Electrochem Soc.*, Los Angeles, CA, October (2005). Contributed.
165. "A Novel Approach to Deposit Compositionally Modulated Zn-Ni Multilayer as a Replacement for Cadmium Coating", *208th Meeting of the Electrochem Soc.*, Los Angeles, CA, October (2005). Contributed.
166. "Modeling Self Discharge Capacity Loss of the Anode in a Lithium ion Cell", *208th Meeting of the Electrochem Soc.*, Los Angeles, CA, October (2005). Contributed.
167. "Electrochemical Intercalation of Lithium into Silver Vanadium Oxides Used for Primary Batteries", *208th Meeting of the Electrochem Soc.*, Los Angeles, CA, October (2005). Contributed.
168. "Bimetallic Chelate Catalysts for Oxygen Reduction Reaction in PEM Fuel Cells", *208th Meeting of the Electrochem Soc.*, Los Angeles, CA, October (2005). Contributed.
169. "Preparation and Characterization of Microporous Layers for Gas Diffusion Media" *208th Meeting of the Electrochem Soc.*, Los Angeles, CA, October (2005). Contributed.
170. "Non Noble Metal Catalysts for Oxygen Reduction Reaction", *208th Meeting of the Electrochem Soc.*, Los Angeles, CA, October (2005). Contributed.
171. "Development of a Plating Process for Deposition of Zn-Ni-X (X=Co, Cd, Fe and SiO_2) Alloys as a Replacement for Cadmium Coatings", *AESF SURFIN'05 Conference*, St. Louis (2005). Contributed.
172. "Compositionally Modulated Zn-Ni Multilayer as a Replacement for Cadmium Coating", *AESF SURFIN'05 Conference*, St. Louis (2005). Contributed.
173. "Development of Capacity Fade Model for Lithium Ion Batteries under LEO Conditions", *2006 Space Power Workshop*, April, 2006, Manhattan Beach, CA. Contributed.
174. "Stability of Platinum-Based Alloy Cathode Catalysts in PEM Fuel Cells", *1st Annual Korea-USA Joint Symposium on Hydrogen & Fuel Cell Technologies*, May, 2006, Daejeon, South Korea. Contributed.
175. "Development and Characterizations of Microporous Layer for PEM Fuel Cells", *2nd Symposium on Manufacturing of MEAs for Hydrogen Applications*, August, 2006, Dayton, OH. Contributed.
176. "Novel Thin Film Membrane Electrode Assemblies using Pulse Electrodeposition", *2nd Symposium on Manufacturing of MEAs for Hydrogen Applications*, August, 2006, Dayton, OH. Contributed.

177. "Novel Non-Precious Metals for PEMFC: Catalyst Selection Through Molecular Modeling and Durability Studies", *2nd Symposium on Manufacturing of MEAs for Hydrogen Applications*, August, 2006, Dayton, OH. Contributed.
178. "Development of Corrosion Resistant Silica Coating on Surface Modified Zinc Coated Steel", *AESF SURFIN 2006*, September, 2006, Milwaukee, WI. Contributed.
179. "Development of Sacrificial Zn-Sn Coatings by Pulse Electrodeposition Process", *AESF SURFIN 2006*, September, 2006, Milwaukee, WI. Contributed.
180. "Development of Nano-structured Electrocatalysts for PEM Fuel Cells", *5th International Conference of the Chemical Societies of the South-East European Countries*, September, 2006, Ohrid, Macedonia. Invited.
181. "Highly Active Carbon-Based Catalysts for PEM Fuel Cells", *210th Meeting of the Electrochem Soc.*, October, 2006, Cancun, Mexico. Contributed.
182. "PEM Fuel Cells: Fundamentals and Recent Developments", 58th ACS Southeast Regional Meeting, November, 2006, Augusta, GA. Invited.
183. "Preparation and Characterization of Microporous Layers for Gas Diffusion Media", *2006 Annual AIChE Meeting*, November, 2006, San Francisco, CA. Contributed.
184. "Stability of Platinum-Based Alloy Cathode Catalysts in PEM Fuel Cells", *2006 Annual AIChE Meeting*, November, 2006, San Francisco, CA. Contributed.
185. "Development of Novel Pt-Co Catalysts for PEM Fuel Cells", *2006 Annual AIChE Meeting*, November, 2006, San Francisco, CA. Contributed.
186. "Development of PEM Fuel Cell Electrodes Using Pulse Electrodeposition", *2006 Annual AIChE Meeting*, November, 2006, San Francisco, CA. Contributed.
187. "Highly Active Carbon-Based Catalysts for PEM Fuel Cells", *2006 Annual AIChE Meeting*, November, 2006, San Francisco, CA. Contributed.
188. "Discharge Characteristics of Polypyrrole/Silver Vanadium Oxide Composite Used for Lithium Primary Batteries," *211th Meeting of the Electrochemical Society*, May, 2007, Chicago, IL. Contributed.
189. "Development of Stable Pt-Co Cathode Catalysts for PEM Fuel Cells," *212th Meeting of the Electrochemical Society*, October, 2007, Washington DC. Contributed.
190. "Electrochemical Synthesis of Lithium Manganese Oxides with a Layered Crystal Structure for Lithium Batteries," *212th Meeting of the Electrochemical Society*, October, 2007, Washington DC. Contributed.
191. "Simulation of Charge-Discharge Cycling of Lithium Ion Batteries under Low-Earth Orbit Conditions," *212th Meeting of the Electrochemical Society*, October, 2007, Washington DC. Contributed.
192. "Effect of PTFE Content in Microporous Layer on Water Management," *212th Meeting of the Electrochemical Society*, October, 2007, Washington DC. Contributed.
193. "Highly Active Carbon-Based Electrocatalysts for PEM Fuel Cells," *212th Meeting of the Electrochemical Society*, October, 2007, Washington DC. Contributed.
194. "Preparation, Corrosion Characteristics and Hydrogen Permeation Properties of Zn-Ni-SiO_2 Coatings," *212th Meeting of the Electrochemical Society*, October, 2007, Washington DC. Contributed.
195. "Development of Stable Pt-Co Cathode Catalysts for PEM Fuel Cells," X. Li, V. Nallathambi, H. R. Colon-Mercado, J.-W. Lee, B. N. Popov, *212th Meeting of the Electrochem. Soc.*, Washington DC, October 2007. Contributed.
196. "Highly Active Carbon-Based Electrocatalysts for PEM Fuel Cells," V. Nallathambi, G. Wu, N.P. Subramanian, S. P. Kumaraguru, J.-W. Lee, B. N. Popov,*212th Meeting of the Electrochem. Soc.*, Washington DC, October 2007. Contributed.
197. "Development of Advanced Catalysts and Supports for PEM Fuel Cell Application", B. N. Popov, *214th Meeting of the Electrochem. Soc*., Honolulu, HI, October 2008. Contributed.
198. "Effect of Hydrophobic and Structural Properties of GDL on PEM Fuel Cell Performance", S. Park, B.N. Popov *214th Meeting of the Electrochem. Soc*., Honolulu, HI, October 2008. Contributed.
199. Electrochemical studies of Unsupported PtIr Electrocatalyst as Bi-Functional Oxygen Electrode in Unitized Regenerative Fuel Cells (URFCs), H. Jung, S. Park, P. Ganesan, B.N. Popov, *214th Meeting of the Electrochem. Soc*., Honolulu, HI, October 2008. Contributed.
200. "Stability Study of Carbon-Based Catalysts for Oxygen Reduction Reaction in Polymer Electrolyte Membrane Fuel Cells", G. Liu, X. Li, B. Popov, *216th Meeting of the Electrochem. Soc*., Vienna, Austria, October 2009. Contributed.
201. "Development of High Durability Bifunctional Oxygen Electrode for Unitized Regenerative Fuel Cell", H. Jung, P. Ganesan, B.N. Popov, *216th Meeting of the Electrochem. Soc*., Vienna, Austria, October 2009. Contributed.

202. "Development of Novel Metal Oxide Supported Pt Catalysts for Proton Exchange Membrane and Unitized Regenerative Fuel Cells Applications", S. Huang, P. Ganesan, B.N. Popov, *216th Meeting of the Electrochem. Soc*., Vienna, Austria, October 2009. Contributed.
203. "Development of Durable Cathode Catalysts for Polymer Electrolyte Membrane Fuel Cells at University of South Carolina", Fuel Cell Durability and Performance, 5th Annual Conference, Alexandria, VA, December 2009. Contributed.
204. "Development of Low Platinum Loading Cathode Catalysts for Polymer Electrolyte Membrane Fuel Cells", X. Li, S. Huang, B.N., 218th ECS Meeting, Las Vegas, Nevada, October 13, 2010. Contributed.
205. "Recent Advances in Non-Precious Metal Catalyst for Oxygen Reduction Reaction in Fuel Cells", X. Li, B.N. Popov, T. Kawahara, H. Yanagi, 218th ECS Meeting, Las Vegas, Nevada, October 13, 2010. Contributed.
206. "Titania Supported Platinum Catalyst with High Electrocatalytic Activity and Stability for Polymer Electrolyte Membrane Fuel Cell", S. Huang, P. Ganesan, W. S. Jung, N. Cardirov and B. N. Popov, 218th ECS Meeting, Las Vegas, Nevada, October 13, 2010. Contributed.
207. "Development of Supported Bifunctional Oxygen Electrocatalysts with High Performance for Unitized Regenerative Fuel Cell Applications" S.-Y. Huang, P. Ganesan, W. S. Jung, N. Cadirov, and B. N. Popov, 218th ECS Meeting, Las Vegas, Nevada, October 13, 2010. Contributed.
208. Branko N. Popov, Tae-keun Kim, Xie Tianyuan, Prabhu Ganesan, and Hansung Kim, Development of ultra-low platinum alloy cathode catalyst for PEM fuel cells, 220th ECS Meeting, Boston, MA, October 9-14, 2011. Contributed.
209. S. Huang, P. Ganesan, and B. N. Popov, Titanium Dioxide-Supported Platinum Catalysts, 220th ECS Meeting, Boston, MA, October 9-14, 2011. Contributed.
210. X. Li, G. Liu, T. Kim, S. Ganesan, P. Ganesan, and B. N. Popov, Development of Non-Precious Metal Catalysts for Oxygen Reduction Reaction in Fuel Cells with High Activity and Stability, 220th ECS Meeting, Boston, MA, October 9-14, 2011. Contributed.
211. Akos Kriston, Tianyuan Xie, Taekeun Kim, Won Suk Jung, David Gamliel, Brian Murphy Prabhu Ganesan, Branko N. Popov, Analyzing the effect of Ultra-Low Pt Loading on Mass and Specific Activity of PEM Fuel Cells, *222nd ECS Meeting*, Honolulu, HI, October 7-12, 2012.
212. Branko N. Popov, Tianyuan Xie, Taekeun Kim, Won-suk Jung, Akos Kriston Brian Murphy, David Gamliel and Prabhu Ganesan, Development of Ultra-Low Pt Alloy Cathode Catalyst for PEM Fuel Cells, *222nd ECS Meeting*, Honolulu, HI, October 7-12, 2012.
213. Tianyuan Xie, Won Suk Jung, Taekeun Kim, Kriston Akos Prabhu Ganesan and Branko N. Popov, Development of Highly Active Pt_2Ni/CCC Catalyst for PEM Fuel Cell, *222nd ECS Meeting*, Honolulu, HI, October 7-12, 2012.
214. Taekeun Kim, Won Suk Jung, Tianyuan Xie, Akos Kriston, Prabhu Ganesan, David Gamliel, Brian Murphy and Branko N. Popov, Development of Hybrid Cathode Catalyst for PEM Fuel Cells, *222nd ECS Meeting*, Honolulu, HI, October 7-12, 2012.
215. Tianyuan Xie, Taekeun Kim, Won Suk Jung, Prabhu Ganesan, and Branko N. Popov, Development of Ultra-Low Loading Pt Hybrid Catalyst for PEM Fuel Cells, *224th ECS Meeting*, San Francisco, CA, October 27-November 01, 2013.
216. Branko N. Popov, Tianyuan Xie, Taekeun Kim, Won Suk Jung, and Prabhu Ganesan, Development of Ultra-Low Loading Pt Alloy Cathode Catalyst for PEM Fuel Cells, *224th ECS Meeting*, San Francisco, CA, October 27-November 01, 2013.
217. Taekeun Kim, Won Suk Jung, and Prabhu Ganesan, Tianyuan Xie, and Branko N. Popov, Development of Ultra-Low Loading Pt/AGC Catalyst for PEM Fuel Cells, *224th ECS Meeting*, San Francisco, CA, October 27-November 01, 2013.
218. Takeun Kim, B. N. Popov, Development of Highly Active and Stable Comprehensive Pt cathode catalyst for PEMFCs, ECS Meeting, Honolulu, HI 2016