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<http://scholar.google.com/citations?user=HN8c1fMAAAAJ>

- June 1987 Ph.D. in Analytical Chemistry (Photoelectrochemistry), Cornell University, Ithaca, New York. Advisor: Professor Héctor D. Abruña. Thesis: Synthesis and Photoelectrochemistry of Polycrystalline Thin Films of Transition Metal Dichalcogenides.
- July 1982 B.S. in Chemistry (), Undergraduate Research in Environmental Chemistry, University of Puerto Rico, San Juan, Puerto Rico
- July/2013 Visiting Faculty, DOE-Brookhaven National Laboratory, Upton, NY
- June-August/2012 Visiting Faculty, DOE-Brookhaven National Laboratory, Upton, NY
- Jan/2012-Present Interim Scientific Director, UPR Molecular Sciences Research Building
- Oct/2010-Present Associate Vice President for Technology, University of Puerto Rico
- Oct/2008-Present Project Director, Center for Advanced Nanoscale Materials (NASA-University Research Center-\$5M/UPR-\$1M), UPR, (<http://nanomat.uprrp.edu>)
- Jan/2003-Jan/09 Project Director, Center for Nanoscale Materials (NASA-University Research Centers-\$6M), University of Puerto Rico, <http://nanomat.uprrp.edu>.
- Jan/2003-Jan/09 Founder and Director, Nanoscopy Facility: Transmission electron microscope (TEM) and focus ion beam (FIB), <http://nanoscopy.ifn.upr.edu/>
- Aug/2000-Aug/01 NASA Administrator's Fellow, Applied RF Technology Branch and Electrochemistry Branch, NASA Glenn Research Center, Cleveland, Ohio
- July/1997-Present Professor, Department of Chemistry, University of Puerto Rico at Río Piedras
- Mar/1995-May/99 Associate Director of Puerto Rico EPSCoR Program, University of Puerto Rico.
- Mar/1995-Present Founder and Director, Surface Microscopy and Spectroscopy Facility, Materials Characterization Center, UPR, <http://www.mcc.com.pr/mcc/services/sas>
- July/1992-June/97 Associate Professor, Department of Chemistry, University of Puerto Rico
- Jan/1989-June/92 Assistant Professor, Department of Chemistry, University of Puerto Rico
- July/1987-Jan/89 Postdoctoral Research Associate under Professor Allen J. Bard, Electrochemistry in Supercritical Fluids, University of Texas at Austin.
- June/1984-July/87 Research Assistant under Professor Héctor D. Abruña, Cornell University
- Aug/1983-May/84 Teaching Assistant, Analytical Chemistry Laboratory and General Chemistry II Laboratory, Department of Chemistry, Cornell University

English and Spanish

- (a) Dean's List, UPR, 1979-81
- (b) ACS Analytical Chemistry Student Award, 1981-82
- (c) President, ACS, UPR-Rio Piedras Student Chapter, 1981-82
- (d) Scholarly Productivity Award (SPA)-EPSCoR, UPR:(8/9) 1989-2001
- (e) President, ACS, Puerto Rico Chapter, 1996
- (f) Excellence in Teaching and Productivity, UPR, 1998
- (g) NASA Administrator's Fellowship Program, 2000-2001
- (h) University of Puerto Rico Presidents Research Award 2000
- (i) Member of the Nanotechnology Technical Advisory Group (TAG) of the President's Council of Advisors on Science and Technology, 2003-2005, 2007-2008.
- (j) Professor-Researcher of the year 2007, UPR Chemistry Graduate Student Society.
- (k) Igaravidez Research Award, Puerto Rico Section, American Chemical Society, 2010.

American Chemical Society, Electrochemical Society, International Society of Electrochemistry, Materials Research Society, AAAS

A. Graduate Courses

1. Techniques in Surface Analysis
2. Electrochemistry
3. Instrumental Methods of Analysis
4. Theory of Analytical Chemistry
5. Fuel Cells: Theory and Applications
(Videoconference between two UPR campuses and University of Alabama)
6. Nanotechnology

B. Undergraduate Courses

1. Instrumental Methods of Analysis
2. Laboratory of Instrumental Methods of Analysis
3. Laboratory of Analytical Chemistry
4. General Chemistry

1. SBIR/STTR Grant Writing Workshop, March 16, 2012. Puerto Rico Small Business & Technology Centers.
2. SunShot- U.S. Department of Energy, Workshop on Thermochemical Energy Storage for Concentrating Solar Power, Washington, DC, January 8, 2013 (Invited)
3. NSF- Chemical Measurement and Imaging (CMI) EC/SENSR panel review, Virtual-Webex, February 12 and 13, 2013. (Invited)
4. SunShot- U.S. Department of Energy Merit Panel Reviewer for the Concentrating Solar Power (CSP):ELEMENTS Program, September 25 and 26, 2013. (Invited)

1. DOD-EPSCoR (\$483,333), "Custom Design of CO-Tolerant Catalysts for Direct Methanol Fuel Cell by Subnanostructuring", Carlos R. Cabrera (PI) and three Co-PIs. 2000-03. Funded. This project is geared toward the design and synthesis of nanocatalyst for methanol oxidation, with application to direct methanol fuel cells.
2. Army Research Laboratory - Collaborative Technical Alliance, sub-contract, (\$982,674), "Methanol Fuel Cell Anode Development". (Co-PI with 2 others.). 2001-2009. Funded. This project is a collaborative effort in fuel cells between UPR, Illinois Institute of Technology, Penn State University, University of New Mexico, Motorola, Case Western Reserve University, and Honeywell. The project is on the testing, in real fuel cells, of the catalyst that have been developed at UPR laboratories.
3. NASA-Glenn Research Center "Self-Assembly of Carbon Nanotubes on Pt and Si Electrodes"(NAG3-2769)(\$24,947, 2002-03), PI.
4. NASA-Glenn Research Center "Training Excellence on Nanotechnology Education and Research (TENER)"(\$99,811, 2002-2003), PI.
5. NASA-University Research Center, "Center for Nanoscale Materials" (\$6M, 2002-2007), PD and 9 co-PIs.
6. NSF-MRI: Acquisition of an Atomic Force Microscope Nanolithography DPN 5000 System, National Science Foundation, DMR, \$243,600, 3 years, C. R. Cabrera (Co-PI), L. F. Fonseca, R. Furlan, G. Morell, L. G. Rosa (PI), N. Sepúlveda, and J. Vedrine. October 2009-2012.
7. NASA-URC, "Center for Advanced Nanoscale Materials" (\$5.0M-NASA + 1.5M-UPR, 2008-2013, Non-Cost Extension May 2014), PD and 12 co-PIs. Funded.
8. NSF-Chemistry: Label-Free Electrochemical Capacitance DNA Sensing with Passive Wireless Radio Frequency Identification Sensor Technology, \$360,000, 3 years, C.R. Cabrera (PI) and Yi Jia (Co-PI), August 15, 2012- August 14, 2015, Funded.
9. NSF-NSEC- UMASS-Center for Hierarchical Manufacturing, Subaward: \$450,000, April 1, 2011-March 30, 2016, Funded
10. NASA-Announcement of Flight Opportunities, "Microgravity effects of nanoscale mixing on diffusion limited processes using electrochemical electrodes", PI and Michael Flynn (NASA-ARC) (Co-PI), September 2012, Funded.
11. NASA-Ames Research Center: The development of an ammonia electrochemical removal system (EAR) for water reclamation applications, \$60,000, Oct. 1, 2012-Sept. 30, 2014, Funded.
12. NASA- Planetary Instrument Concepts for the Advancement of Solar System Observations (PICASSO), Development of an Unlabelled Real-time Impedimetric Polymerase Chain Reaction (PCR) Microchip for Astronauts Health Monitoring Applications, PI with one Co-PI. \$800,000, March 2014-Feb. 2017. Pending

(Graduated 20 Ph.D. and 8 M.S.)

1. Dr. Yolanda Santiago, Hispanic US Citizen, HP, Corvallis, Oregon
2. Dr. Raúl J. Castro, Hispanic US Citizen, Professor, UPR at Cayey, PR.
3. Dr. Héctor De Jesús, , Hispanic US Citizen, Professor, UPR at Bayamon, PR.
4. Dr. María E. Rosa-Montañez, , Hispanic US Citizen, Pharmaceutical Industry, PR.
5. Dr. Estevão Rosim Fachini, Assistant Professor, UPR at Rio Piedras, PR.
6. Dr. Rolando Tremont (MS and Ph.D.), Profesor, UPR at Humacao, PR.
7. Dr. Angel Morales (MS and Ph.D.), Hispanic US Citizen, Professor, UPRRP, PR.
8. Dr. Rosa Brito, Professor, Interamerican University-Metro, PR.
9. Dr. Tatiana Morante-Catacora, Academic Position, Denmark.
10. Dr. Belinda Rosario-Castro, Hispanic US Citizen, Professor, UPR at Humacao, PR.
11. Dr. Germarie Sanchez-Pomales, Hispanic US Citizen, FDA, Missouri.
12. Dr. Lenibel Santiago-Rodríguez, Hispanic US Citizen, EPA, Georgia
13. Dr. Ileana González-González, Hispanic US Citizen, NASA Glenn Research Center
14. Dr. Joel Rivera-Gandia, Hispanic US Citizen, Scientists, Amgen, Juncos, PR
15. Dr. Lyda La Torre (MS and Ph.D.), Faculty, University of Peru, Peru
16. Dr. Eduardo Nicolau, Hispanic US Citizen, Postdoc., NASA-Ames Research Center
17. Dr. Lisandra Arroyo-Ramírez, Hispanic US Citizen, Post-Doctoral, University of Pennsylvania.
18. Dr. Diana Santiago, Hispanic US Citizen, Scientist, NASA-Glenn Research Center, OH
19. Dr. Enid Contés-de Jesús, Hispanic US Citizen, Scientist, NASA-Ames Research Center, CA
20. Dr. Rolando Guzmán-Blas (Chemical Physics), Postdoctoral Researcher UPR.
21. Dr. Lisandro Cunci, Postdoctoral Researcher UPR.
22. Idalia Rivera(MS), Hispanic US Citizen, Pharmaceutical Industry, PR.
23. Jorge García Orozco (MS), Hispanic US Citizen, HP, Aguadilla, PR.
24. Hugo Bolivar (MS), Pharmaceutical Industry, San Juan, PR.
25. Ramonita Diaz-Ayala (MS), Hispanic US Citizen, Pursuing Ph.D. at UPR-Mayagüez
26. Dámaris Suazo (MS), Hispanic US Citizen, Pursuing her Ph.D. in my laboratory

1. Ileana Feliciano, Hispanic US Citizen May. 2014-Ph.D.
2. Christian Menéndez, Spanish Citizen, May 2014-Ph.D.
3. Damaris Suazo, Hispanic US Citizen, May 2014-Ph.D.
4. Yaritza Hernández, Hispanic US Citizen, May 2014-Ph.D.
5. Edwin Ortiz-Quiles, Hispanic US Citizen, May 2014-Ph.D.
6. Carlos Poventud (Chemical Physics), Hispanic US Citizen, May 2014-Ph.D.
7. Amal Suleiman, Hispanic US Citizen, May 2015-Ph.D.
8. Roberto Martinez, Hispanic US Citizen, May 2015-Ph.D.
9. Raul Acevedo (Physics), Hispanic US Citizen, May 2016 - Ph.D.
10. Myreisa Morales Cruz, Hispanic US Citizen, May 2016-Ph.D.
11. Nadja Solis, Hispanic US Citizen, May 2016- Ph.D.
12. Luis Betancourt, Hispanic US Citizen, 2017 – Ph.D.
13. Diana Coral Diaz, Hispanic US Citizen, 2017 – Ph.D.
14. Juan Corchado, Hispanic US Citizen, 2017 – Ph.D.
15. Keyla Soto, Environmental Science, Hispanic US Citizen, 2017 – Ph.D.
16. Carlos A. Vélez, Hispanic US Citizen, 2017 – Ph.D.

Dr. André Morneau, Pharmaceutical Company, Puerto Rico
Dr. A. Manivannan, DOE, West Virginia
Dr. Guangli Che, Fuel Cell Company, USA
Dr. Takashi Ohmori, Academia, Japan
Dr. Ying Wang, Fuel Cell Company, MTI, USA
Dr. Yimin Zhu, Fuel Cell Company, Los Alamos, USA
Dr. Felipe Rodríguez-Nieto, Universidad de la Plata, Argentina
Dr. Donald A. Tryk, Yamanashi University, Japan
Dr. M. Aulice Scibioh, North Carolina State University, USA
Dr. Ileana González-González, Assistant Professor at University of Turabo, Gurabo, PR
Dr. Eduardo Nicolau, Joint Postdoctoral with NASA-Ames Research Center

1. Project Director of the Center for Advanced Nanoscale Materials (<http://nanomat.uprrp.edu/>), a \$11M NASA-University Research Center funded program. The Center is currently in its second 5-year cycle that started in October 2008. Fourteen Faculties from the Departments of Chemistry, Physics, and Chemical Engineering from three different University of Puerto Rico (UPR) Campuses, Cayey, Mayagüez, and Río Piedras are part of the Center.
2. Founded in 2003 the Nanoscopy Facility (<http://nanoscopy.ifn.upr.edu/>) at UPR and was under his supervision until January 2009 when UPR hired an Electron Microscopist.
3. Founder of the Materials Characterization Center (<http://www.mcc.com.pr/>) and the Surface Microscopy and Spectroscopy Facility (<http://www.mcc.com.pr/mcc/services/sas>).
4. Presentations at Middle and High Schools in Puerto Rico. These activities are coordinated through the local NSF-Alliance for Minority Participation program. Through the years, Dr. Cabrera's laboratory has had high school students and teachers doing research during the summers.
5. Organized the Nano Summer Camp since 2004 that is sponsored by the Center for Advanced Nanoscale Materials (a NASA-University Research Center). Twelve High School teachers and students (2 teachers and 10 students) participate in this activity every year. They work for 6 weeks in research laboratories at UPR-Rio Piedras, Mayagüez, and Cayey Campuses.
6. Regular reviewer for scientific journals such as Langmuir, Journal of Electroanalytical Chemistry, Nanoletters, Analytical Chemistry, J. Electrochemical Society, J. American Chemical Society, J. Chemical Education, Surface Science, and Applied Surface Science.
7. National Science Foundation continuously uses Dr. Cabrera as a mail and panel reviewer.
8. Science Foundations from Argentina, Chile, Israel, and Poland have used Dr. Cabrera as a mail and/or panel reviewer.
9. Member of the American Chemical Society, Electrochemical Society, and Materials Research Society.
10. Organizing committees of local and international meetings.

Dr. Héctor D. Abruña, Cornell University
Dr. Luis Echegoyen, University of Texas at El Paso
Mr. Michael Flynn and Dr. Jing Li, NASA Ames Research Center
Dr. Zhongfang Chen, UPR
Dr. Miguel José-Yacamán, Department of Physics and Astronomy, University of Texas at San Antonio

Dr. Michael Meador and Dr. Félix Miranda, NASA Glenn Research Center
Dr. Bryan Coughlin and Dr. James Watkins, University of Massachusetts at Amherst
Dr. Yi Jia, University of Puerto Rico at Mayagüez.
Dr. Dario J. Stacchiola and Dr. Kotaro Sasaki, DOE-Brookhaven National Laboratory

Dr. Héctor D. Abruña, Cornell University, Ph.D. Advisor
Dr. Allen J. Bard, University of Texas at Austin, Post-Doctoral Advisor

1. Research Letters in Nanotechnology (2007-2009, merged with Journal of Nanotechnology)
2. Journal of Nano Education (2007- present)
3. Journal of Nanotechnology (2007)

1. Cabrera, C. R.; Abruña, H. D., Blocking of Recombination Sites and Photoassisted Hydrogen Evolution at Surface-Modified Polycrystalline Thin-Films of p-WSe₂. **1985**, 89, (7), 1279-1285.
2. Wilcox, C. F.; Weber, K. A.; Abruna, H. D.; Cabrera, C. R., Electrochemical Reduction of Cyclooctabiphenylene and Cyclodecabiphenylene - An Improved Empirical-Model for the Prediction of reduction Potentials of Polycyclic Aromatic-Hydrocarbons. **1986**, 198, (1), 99-105.
3. Cabrera, C. R.; Abruña, H. D., Electrocatalysis of CO₂ Reduction at Surface Modified Metallic and Semiconducting Electrodes. **1986**, 209, (1), 101-107.
4. Cabrera, C. R.; Abruña, H. D.; Simko, S.; Murray, R. W., Synthesis, Surface Characterization and Photoelectrochemical Studies of Polycrystalline Thin-Films of p-WSe₂ with added Ca and Mg. **1987**, 15, (4), 277-291.
5. Cabrera, C. R.; Abruña, H. D., Photoelectrochemistry and Catalysis at Surface Modified Polycrystalline Thin-Films of Transition-Metal Dichalcogenides. **1987**, 134, (8B), C462-C462.
6. Cabrera, C. R.; Abruña, H. D., Synthesis and Photoelectrochemistry of Polycrystalline Thin-Films of p-WSe₂, p-WSe₂, and p-MoSe₂. **1988**, 135, (6), 1436-1442.
7. Cabrera, C. R.; Garcia, E.; Bard, A. J., Electrochemistry in Near-Critical and Supercritical Fluids. 7. SO₂. **1987**, 260, (2), 457-460.
8. Cabrera, C. R.; Bard, A. J., Electrochemistry in Near-Critical and Supercritical Fluids. 8. Methyl Viologen, Decamethylferrocene, and Ferrocene in Acetonitrile and the Effect of Pressure on Diffusion-Coefficients under Supercritical Conditions. **1987**, 273, (1-2), 147-160.
9. Castro, R. J.; Cabrera, C. R., Photoelectrochemistry and Surface Studies of Copper Interaction with Rough Surfaces of p-MoSe₂. **1982**, 139, (12), 3335-3390.
10. Rivera, I. M.; Cabrera, C. R., Mass Measurement of Ferrocene Adsorption at Gold Electrode with the Electrochemical Quartz Crystal Microbalance. **1983**, 140, (3), L36-L38.
11. Manivannan, A.; Cabrera, C. R., Surface Morphology of a Mechanically Pressed Polycrystalline Silver Wire Studied by Scanning Tunneling Microscopy. **1983**, 72, (4), 435-439.
12. Santiago, Y.; Cabrera, C. R., Surface Analysis and Electrochemistry of MoS₂ Thin Films Prepared by Intercalation-Exfoliation Techniques. **1984**, 41, (3), 629-635.
13. Manivannan, A.; Santiago, Y.; Cabrera, C. R., Scanning-Tunneling Microscopy and Spectroscopy of MoS₂ Thin-Films Prepared by an Intercalation-Exfoliation Method. **1984**, 12, (3), 2111-2114.
14. Morneau, A.; Manivannan, A.; Cabrera, C. R., Osmium Carbonyl Cluster Growth on Self-Assembled (3-Mercaptopropyl)Trimethoxysilane on a Gold Surface. **1984**, 10, (11), 3940-3942.
15. Castro, R. J.; Cabrera, C. R., Silver Photoelectrodeposition at p-MoSe₂. **1985**, 11, (4), 1375-1380.
16. Manivannan, A.; Cabrera, C. R.; Fujishima, A., Characteriation of Exfoliated TaS₂ Thin-Films and The Existence of Charge-Density Waves. **1985**, 13, (3), 1172-1177.
17. Santiago-Cortiz, Y.; Torres, G. I.; Diaz, A.; Cabrera, C. R., Surface-Analysis and Photoelectrochemical Studies of Mixed Polycrystals of p-WSe₂/WS₂. **1985**, 142, (8), 2770-2776.

18. Che, G. G.; Manivannan, A.; Cabrera, C. R., Electrochemically controlled microstructure based on self-assembled thin film of (3-mercaptopropyl)trimethoxysilane at gold electrodes and STM characterization. *J Electroanal Chem*, **1996**, 231, (1-3), 304-316.
19. Che, G. L.; Cabrera, C. R., Molecular recognition based on (3-mercaptopropyl)trimethoxysilane modified gold electrodes. *J Electroanal Chem*, **1996**, 417, (1-2), 155-161.
20. Manivannan, A.; Morneau, A.; Diaz, D. J.; Cabrera, C. R., STM analysis of tellurium carbonyl cluster adsorption at HOPG. *J Electroanal Chem*, **1996**, 350, (1-3), 239-246.
21. Rosa-Montanez, M. E.; DeJesusCardona, H.; Cabrera, C. R., Experimental setup for the study of oxygen- and water-sensitive electrochemical systems. *J Electroanal Chem*, **1997**, 42, (12), 1839-1846.
22. Castro, R. J.; Cabrera, C. R., Photovoltammetry and surface analysis of MoSe₂ thin films prepared by an intercalation-exfoliation method. *J Electroanal Chem*, **1997**, 144, (9), 3135-3140.
23. Ohmori, T.; Cabrera, C. R., Electrode potential-dependent adsorptor images in p-MoSe₂ observed by electrochemical scanning tunneling microscopy. *J Electroanal Chem*, **1998**, 14, (14), 3723-3726.
24. Che, G. L.; Li, Z. L.; Zhang, H. Q.; Cabrera, C. R., Voltammetry of defect sites at a self-assembled monolayer on a gold surface. *J Electroanal Chem*, **1998**, 453, (1-2), 9-17.
25. Salgado, L.; Sanchez, H.; Cabrera, C. R.; Castro, R. J.; Meas, Y., Underpotential deposition of Cu on partially oxidized Rh electrodes. *J Electroanal Chem*, **1998**, 2, (6), 405-412.
26. Ohmori, T.; Castro, R. J.; Cabrera, C. R., Surface modification of MoSe₂ in solution using a combined technique of scanning tunneling microscopy indentation with electrochemical etching. *J Electroanal Chem*, **1998**, 14, (21), 6287-6290.
27. Ohmori, T.; Castro, R. J.; Cabrera, C. R., In situ study of silver electrodeposition at MoSe₂ by electrochemical scanning tunneling microscopy. *J Electroanal Chem*, **1998**, 14, (23), 6755-6760.
28. Rosa-Montanez, M. E.; De Jesus-Cardona, H.; Cabrera-Martinez, C. R., Airtight in situ thin-layer reflection-absorption FTIR microspectroelectrochemical cell for the study of nonaqueous systems. *J Electroanal Chem*, **1998**, 70, (5), 1007-1011.
29. Colucci-Ríos, J.A.; Hernández, R.; Saliceti-Piazza, L.; Cabrera, C.R.; Orengo, A.;

36. Pérez-Davis, E.; Kohout, L.L.; Loyselle, P.L.; Manzo, M.A.; Burke, K.A.; Hoberecht, M.A.; Cabrera, C.R., "Energy Storage for Aerospace Applications",
2001.
37. Cabrera, C. R.; Tremont, R.; Blasini, D.; Morales, A.; Mueller, C. H.; Warner, J. D.; Miranda, F. A.; Guo, L. J.; Singh, J., Ferroelectric charge injection MOSFET devices. **2001**, 38, (1-4), 913-921.
38. Wang, Y.; Fachini, E. R.; Cruz, G.; Zhu, Y.; Ishikawa, Y.; Colucci, J. A.; Cabrera, C. R., Effect of surface composition of electrochemically codeposited platinum/molybdenum oxide on methanol oxidation. **2001**, 148, (3), C222-C226.
39. Zhu, Y. M.; Cabrera, C. R., Methanol oxidation at the electrochemical codeposited Pt-Os composite electrode. **2001**, 4, (4), A45-A48.
40. De Jesus-Cardona, H.; del Moral, C.; Cabrera, C. R., Voltammetric study of CO₂ reduction at Cu electrodes under different KHCO₃ concentrations, temperatures and CO₂ pressures. **2001**, 513, (1), 45-51.
41. Cabrera, C. R.; Warner, J. D.; Mueller, C. H.; Van Kester, F. J.; Miranda, F. A.; Brito, R.; Blasini, D.; Morales, A. "Self-Assembled 3-Mercaptopropyltrimethoxysilane (MPS) on Ba_{0.5}Sr_{0.5}TiO₃ as an Adhesion Layer for Microwave Devices", **2001**, 666, F9.1/1-F9.1/6.
42. Brito, R.; Rodriguez, V. A.; Figueroa, J.; Cabrera, C. R., Adsorption of 3-mercaptopropyltrimethoxysilane and 3-aminopropyltrimethoxysilane at platinum electrodes. **2002**, 520, (1-2(1) 3 (ect)3 (rT 4 Q 0 4 0 0 Tm /TT1.0 1 Tf [(, 6) -5 (6) -5 (6) -5 (,)

52. Sosa, E.; Cabrera-Sierra, R.; Oropeza, M. T.; Hernandez, F.; Casillas, N.; Tremont, R.; Cabrera, C.; Gonzalez, I., Chemical characterization of corrosion films electrochemically grown on carbon steel in alkaline sour environment. **2003**, 150, (11), B530-B535.
53. Bolivar, H.; Izquierdo, S.; Tremont, R.; Cabrera, C. R., Methanol oxidation at Pt/MoO_x/MoSe₂ thin film electrodes prepared with exfoliated MoSe₂. **2003**, 33, (12), 1191-1198.
54. Jaime Dulce, H.; Dougar, V.; Cabrera, C.R., “ Estudio Mediante XPS de un Acero al Carbon Implantado con Nitrogeno por Medio de Descargas de Alto Voltaje a Bajas Presiones, **2003**, 35(2), 332.
55. D.A. Tryk, C.R. Cabrera, A. Fujishima, N. Spataru, Oxygen electroreduction on carbon materials (**2005**), PV 2003-30, art. no. 3, pp. 45-57.
56. Diaz-Morales, R. R.; Liu, R. X.; Fachini, E.; Chen, G. Y.; Segre, C. U.; Martinez, A.; Cabrera, C.; Smotkin, E. S., XRD and XPS analysis of as-prepared and conditioned DMFC array membrane electrode assemblies. **2004**, 151, (9), A1314-A1318.
57. Diaz-Ayala, R.; Arroyo, L.; Raptis, R.; Cabrera, C. R., Thermal reduction of Pn, R.;;yr;yr

69. Perez, A.; Vilkas, M. J.; Cabrera, C. R.; Ishikawa, Y., Density functional theory study of water activation and COads+OHads reaction on pure platinum and bimetallic platinum/ruthenium nanoclusters. **2005**, 109, (49), 23571-23578.
70. Gonzalez-Gonzalez, I.; de Jesus, J.; Tryk, D. A.; Morell, G.; Cabrera, C. R., Oxygen effect on the electrochemical behavior of n-type sulfur-doped diamond. **2006**, 15, (2-3), 221-224.
71. Gonzalez-Gonzalez, I.; Tryk, D. A.; Cabrera, C. R., Polycrystalline boron-doped diamond films as supports for methanol oxidation electrocatalysts. **2006**, 15, (2-3), 275-278.
72. Blasini, D. R.; Rochefort, D.; Fachini, E.; Alden, L. R.; DiSalvo, F. J.; Cabrera, C. R.; Abruna, H. D., Surface composition of ordered intermetallic compounds PtBi and PtPb. **2006**, 600, (13), 2670-2680.
73. Rosario-Castro, B. I.; Fachini, E. R.; Hernandez, J.; Perez-Davis, M. E.; Cabrera, C. R., Electrochemical and surface characterization of 4-aminothiophenol adsorption at polycrystalline platinum electrodes. **2006**, 22, (14), 6102-6108.
74. Diaz-Ayala, R.; Fachini, E. R.; Raptis, R.; Cabrera, C. R., Palladium nanostructures and nanoparticles from molecular precursors on highly ordered pyrolytic graphite. **2006**, 22, (24), 10185-10195.
75. Rodriguez, F. J.; Pasquale, M. A.; Cabrera, C. R.; Arvia, A. J., Morphology of platinum electrodeposits in the three-dimensional sublayer to full layer range produced under different potential modulations on highly oriented pyrolytic graphite. **2006**, 22, (25), 10472-10482.
76. Sánchez-Pomales, G.; Rivera-Vélez, N.E.; Cabrera, C.R., DNA-Wrapped Carbon Nanotubes Assembled on Gold Substrates, **2006**, 3(12), 21-29.
77. Ishikawa, Y.; Mateo, J. J.; Tryk, D. A.; Cabrera, C. R., Direct molecular dynamics and density-functional theoretical study of the electrochemical hydrogen oxidation reaction and underpotential deposition of H on Pt(111). **2007**, 607, (1-2), 37-46.
78. Sanchez-Pomales, G.; Cabrera, C. R., Vertical attachment of DNA-CNT hybrids on gold. **2007**, 606, (1), 47-54.
79. Rivera-Gandía, J.; Cabrera, C. R., Self-assembled monolayers of 6-mercapto-1-hexanol and mercapto-n-hexyl-poly(dT) 18-fluorescein on polycrystalline gold surfaces: An electrochemical impedance spectroscopy study. **2007**, 605, (2), 145-150.
80. Sanchez-Pomales, G.; Santiago-Rodriguez, L.; Rivera-Velez, N. E.; Cabrera, C. R., Characterization of the DNA-assisted purification of single-walled carbon nanotubes. **2007**, 204, (6), 1791-1796.
81. Nicolau, E.; Cabrera, C. R.; Berberena, M., Immobilization of alcohol dehydrogenase on platinum surface by using self-assembly monolayer technique for biofuel cell applications. **2007**, 131, (2), S125-S126.
82. Morales-Cruz, A. L.; Fachini, E. R.; Miranda, F. A.; Cabrera, C. R., Surface analysis monitoring of polyelectrolyte deposition on Ba0.5Sr0.5TiO3 thin films. **2007**, 253, (22), 8846-8857.
83. Sanchez-Pomales, G.; Santiago-Rodriguez, L.; Rivera-Velez, N. E.; Cabrera, C. R., Control of DNA self-assembled monolayers surface coverage by electrochemical desorption. **2007**, 611, (1-2), 80-86.
84. Sánchez-Pomales, G.; L. Santiago-Rodríguez, L.; N. E. Rivera-Vélez, N.E.; Cabrera, C.R., "DNA-mediated self-assembly of carbon nanotubes on gold", **2007**, 61, 1017-1021.
85. Santiago-Rodriguez, L.; Sánchez-Pomales, G.; Ríos-Pagan, A.; Cabrera, C.R., "Electrochemical Study and Preparation of Gold Substrates Functionalized with Single-Walled Carbon Nanotubes for DNA Biosensor Applications", **2007** (3(28)) 15.

86. Santiago, D.; Cruz-Quiñonez, M.; Tryk, D.A.; Cabrera, C.R., "Preparation of Pt/C Catalysts Using a Rotating Disk-Slurry Electrode Technique", *Electrochimica Acta*, **2007**, 52(21), 35.
87. La Torre-Riveros, L.; Soto, K.; Tryk, D.A.; Cabrera, C.R., "Electrophoretic preparation and characterization of porous electrodes from diamond nanoparticles", *Electrochimica Acta*, **2007**, 52, 1022-1026.
88. Morante-Catacora, T. Y.; Ishikawa, Y.; Cabrera, C. R., Sequential electrodeposition of Mo and Pt and PtRu methanol oxidation catalyst particles on HOPG surfaces. *Electrochimica Acta*, **2008**, 53(1), 103-112.
89. Rivera-Gandia, J.; Georgiadis, R. M.; Cabrera, C. R., In-situ fluorescence spectroscopy of self-assembled monolayers of HS-(CH₂)_n-fluorescein and HS-(CH₂)₆-poly(dT)(18)-fluorescein at gold electrodes under cyclic voltammetric conditions. *Electrochimica Acta*, **2008**, 53(1), 75-82.
90. Mateo, J.; Tryk, D.; Cabrera, C.; Ishikawa, Y., Underpotential deposition of hydrogen on Pt(111): a combined direct molecular dynamics/density functional theory study. *Electrochimica Acta*, **2008**, 53(10-15), 1065-1072.
91. Diaz-Ortiz, T. L.; Malave-Leon, M.; Rivera-Claudio, M.; Castillo-Ramirez, J.; Cabrera-Martinez, C. R.; Brito-Gomez E.; Tremont, R. J., Modification of Au surfaces using new ferrocene derivatives. *Electrochimica Acta*, **2008**, 53(6), 1587-1592.
92. Rosario-Castro, B. L.; Contes, E. J.; Lebron-Colon, M.; Meador, M. A.; Sanchez-Pomales, G.; Cabrera, C. R., Combined electron microscopy and spectroscopy characterization of as-received, acid purified, and oxidized HiPCO single-wall carbon nanotubes. *Electrochimica Acta*, **2007**, 52(12), 1442-1453.
93. Jimenez, J. A.; Lysenko, S.; Liu, H.; Fachini, E.; Resto, O.; Cabrera, C. R., Silver aggregates and twofold-coordinated tin centers in phosphate glass: A photoluminescence study. *Electrochimica Acta*, **2007**, 52(12), 1546-1554.
94. Lin, Y. G.; Colon-Garcia, J. E.; Cabrera, C. R.; Quinones, E., Rotational Structure of a Super-Excited State of the NO Molecule Revealed by OODR-Multiphoton Laser Spectroscopy. *Electrochimica Acta*, **2007**, 52(42), 11262-11265.
95. Nicolau, E.; Gonzalez-Gonzalez, I.; Flynn, M.; Griebenow, K.; Cabrera, C. R., Bioelectrochemical degradation of urea at platinumized boron-doped diamond electrodes for bioregenerative systems. *Electrochimica Acta*, **2007**, 52(8), 965-970.
96. Gonzalez-Gonzalez, I.; Fachini, E. R.; Scibioh, A. A.; Tryk, D. A.; Tagua, M.; Abruna, H. D.; Cabrera, C. R., Facet-Selective Platinum Electrodeposition at Free-standing Polycrystalline Boron-Doped Diamond Films. *Electrochimica Acta*, **2007**, 52(17), 10329-10336.
97. Kinch, R. T.; Cabrera, C. R.; Ishikawa, Y., A Density-Functional Theory Study of the Water-Gas Shift Mechanism on Pt/Ceria(111). *Electrochimica Acta*, **2007**, 52(21), 9239-9250.
98. Sanchez-Pomales, G.; Santiago-Rodriguez, L.; Cabrera, C. R., DNA-Functionalized Carbon Nanotubes for Biosensing Applications. *Electrochimica Acta*, **2007**, 52(4), 2175-2188.
99. Santiago-Rodriguez, L.; Vargas-Barbosa, N. M.; Sanchez-Pomales, G.; Cabrera, C. R., Bioelectrochemical Sensing Based on Single Stranded Deoxyribonucleic Acid-Carbon Nanotubes Covalently Attached on Gold Electrodes. *Electrochimica Acta*, **2007**, 52(9), 2450-2455.
100. Nieto, F. J. R.; Fachini, E.; Cabrera, C. R.; Arvia, A. J., X-ray photoelectron spectroscopy of oxygen-containing layers formed by a linear potential scan on stepped gold (111) films in aqueous 1 M sulphuric acid. *Electrochimica Acta*, **2007**, 52(5), 1534-1540.

101. Gonzalez-Gonzalez, I.; De Jesus, J.; Rivera, J.; Pagan, A. R.; Tryk, D. A.; Morell, C.; Weiner, B. R.; Scibioh, M. A.; Cabrera, C. R., Modulation of Electron Transfer Activity at Diamond Films by Dissolved Oxygen in Aqueous Solution. **2007**, 156, (6), J152-J157.
102. Arroyo-Ramírez, L.; Montano-Serrano, R.; Raptis, R.G.; Cabrera, C.R., "Nanostructural Formation of Pd-

117. Nicolau, E.; Rodríguez-Martínez, J.A.; Fonseca, J.J.; Justine-Richardson, T.-M.; Flynn, M.; Griebenow, K.; Cabrera, C.R., "Bioelectrochemical Oxidation of Urea with Urease and Platinized Boron Doped Diamond Electrodes for Water Recycling in Space Applications", *Journal of Electroanalytical Chemistry*, **2010**, 33(Polymer Electrolyte Fuel Cells 10), 1853 – 1859.
118. Feliciano-Ramos, I.; Caban-Acevedo, M.; Cabrera, C.R., "Electron Transfer at L-Cysteine Monolayer on Palladium Surface: A pH Effect Study", *ECS Transactions* 2010, 33(26), 105-112.
119. Daza, C. E.; Cabrera, C. R.; Moreno, S.; Molina, R., Syngas production from CO(2) reforming of methane using Ce-doped Ni-catalysts obtained from hydrotalcites by reconstruction method. *Journal of Electroanalytical Chemistry*, **2010**, 378, (2), 125-133.
120. González, C. , Vázquez, A., Morales, A., Díaz, L., Cabrera, C.R., Griebenow, K., Development of a peroxidase biosensor for the detection of Endocrine Disrupting Chemicals (EDCS) , *Proceedings of the ASME 1st Global Congress on NanoEngineering for Medicine and Biology 2010, NEMB2010*, 2010, Pages 89-91.
121. Feliciano-Ramos, I., Cabrera, C.R., Electrochemical oxidation of NADH in L-cysteine monolayer on palladium surface, *Journal of Electroanalytical Chemistry*, **2011**, 35(26), 25-32.
122. Rivera-Vélez, N.E., Valdez, T., González, I., Fachini, E., Manzo, M., Cabrera, C.R., Iridium and

132. Nicolau, E.; Poventud, C.; Fonseca, J.J.; Arroyo-Ramirez, L.; Flynn, M.; Cabrera, C.R., "Microgravity Effects on the Electrochemical Oxidation of Ammonia: A parabolic flight experiment", *Electrochimica Acta*, **2012**, 75, 88-93. DOI: [10.1016/j.electacta.2012.04.077](https://doi.org/10.1016/j.electacta.2012.04.077)
133. La-Torre-Riveros, L.; Guzman-Blas, R.; Méndez-Torres, A.; Prelas, M.; Tryk, D.; Cabrera, C., "Diamond nanoparticles as Pt and PtRu catalysts support for direct methanol fuel cells", *Electrochimica Acta*, **2012**, 4, 1134-1147. DOI: [10.1021/j1218628](https://doi.org/10.1021/j1218628)
134. Lisandra Arroyo-Ramírez, Diego Rodríguez, Wilfredo Otaño and Carlos R. Cabrera, Palladium Nanoshells Catalysts for Oxygen Reduction Reaction, *Electrochimica Acta*, **2012**, 4, 2018-2024. DOI: [10.1021/j121860](https://doi.org/10.1021/j121860)
135. Eunyoung You, Rolando P. Guzman-Blas, Eduardo Nicolau, M. Aulice Scibioh, Christos F. Karanikas, James J. Watkins, and Carlos R. Cabrera, "Co-Deposition of Pt and Ceria Anode Catalyst in Supercritical Carbon Dioxide for Direct Methanol Fuel Cell Applications", *Electrochimica Acta*, **2012**, 75, 201-207. DOI: [10.1016/j.electacta.2012.04.071](https://doi.org/10.1016/j.electacta.2012.04.071)
136. Yafei Li, Dihua Wu, Zhen Zhou, Carlos R. Cabrera, and Zhongfang Chen, Enhanced Li Adsorption and Diffusion on MoS₂ Zigzag Nanoribbons by Edge Effects: A Computational Study", *Electrochimica Acta*, **2012**, 67, 2221-2227. DOI: [10.1021/j1300772](https://doi.org/10.1021/j1300772)
137. E. Nicolau, J. Fonseca, C. Vu, J. Richardson, M. Flynn, and C.R. Cabrera "Evaluation of granulated activated carbons and carbon molecular sieves for removal of urea in urine: A water reclamation approach". 42nd International Conference on Environmental Systems (ICES) **2012**, American Institute of Aeronautics and Astronautics <http://dx.doi.org/10.2514/6.2012-3627>
138. E. Nicolau, José J. Fonseca, and Carlos R. Cabrera, "Development of a urea bioprobe based on platinumized boron-doped diamond electrodes", *Electroanalysis* **2012**, 24, 2102-2108. DOI: [10.1002/elan.201200457](https://doi.org/10.1002/elan.201200457)
139. Diana Santiago, Gabriel G. Rodríguez-Calero, Amit Palkar, Alvaro Mayoral, Miguel José-Yacamán, Luis Echegoyen, and Carlos R. Cabrera, "Platinum Electrodeposition on Unsupported Carbon Nano-Onions", *Electrochimica Acta*, **2012**, 67, 17202-17210, [10.1021/ja3031396](https://doi.org/10.1021/ja3031396)
140. Enid Contes-de Jesus, Diana Santiago, Gilberto Casillas-Garcia, Alvaro Mayoral, Cesar Magen, Miguel José-Yacamán, Jing Li, and Carlos R. Cabrera, "Platinum Electrodeposition on Unsupported Single Wall Carbon Nanotubes as Methane Sensing Material", *Sensors*, **2013**, 13, H1-H7.
141. Lisandro Cunci, Chitturi Venkateswara Rao, Carlos Velez, Yasuyuki Ishikawa and Carlos R. Cabrera, "Graphene-Supported Pt, Ir and Pt-Ir Nanoparticles as Electrocatalysts for the Oxidation of Ammonia", *Electrocatalysis* **2013**, 4(1), 61-69.
142. Damaris Suazo-Dávila, Carlos R. Cabrera, "X-ray Photoelectron Spectroscopy and d

013-0152-3.

146. Rosario-Castro, B.I.; Contés-de-Jesús, E.J.; Lebrón-Colón, M.; Meador, M.A.; Scibioh, M.A.; Cabrera, C.R. "Lithium Electrointercalation at Single-wall carbon nanotubes chemically attached on platinum electrodes", *Electrochimica Acta*, **2013**, *108*, 242-248. DOI:10.1016/j.jelechem.2013.06.011.
147. Li, Y.; Zhou, Z.; Cabrera, C.R.; Chen, Z. "Preserving the Edge Magnetism of Zigzag Graphene Nanoribbons by Ethylene Termination: Insight by Clar's Rule", *Carbon*, **2013**, *51*, Article number: 2030 doi:10.1038/srep02030.
148. Arroyo-Ramirez, L.; Montano-Serrano, R.; Luna-Pineda, T.; Román, F.; Raptis, R.G.; Cabrera, C.R., "Synthesis and Characterization of Palladium and Palladium-Cobalt Nanoparticles on Vulcan XC-72R for Oxygen Reduction Reaction", *Journal of Electroanalytical Chemistry*, **2013**, *759*, 11603-11612.
149. Jing, Y; Zhou, Z.; Cabrera, C.R.; Chen, Z., "Metallic VS₂ Monolayer: A Promising 2D Anode Material for Lithium Ion Batteries", *Journal of Electroanalytical Chemistry*, **2013**, *759*, 25409–25413. DOI: 10.1021/jp410969u
150. Zhou, Y.; Menéndez; C.L.; Guinel, M.J.; Needels; E.C.; González-González, I.; Jackson, D.; Lawrence, N.J.; Cabrera, C.R.; Ph.D.; Cheung, C.L., "Influence of nanostructured ceria support on platinum nanoparticles for alkaline methanol Electrooxidation", *Journal of Electroanalytical Chemistry*, **2014**, *767*, 1270-1275.
151. Nicolau, E.; Fonseca, J.; Rodríguez-Martínez, J.; Richardson, Tra-My; Flynn, M.; Griebenow, K.; Cabrera, C.R., "Evaluation of an externally interfaced forward osmosis and bio-electrochemical system for energy recovery and wastewater reclamation", *Journal of Electroanalytical Chemistry*, **2014**, in press.
152. Cunci, Lisandro; Vélez, Carlos A.; Pérez, Ivan; Suleiman, Amal; Larios, Eduardo; Jose-Yacaman, Miguel; Watkins, James J.; Cabrera, Carlos R., "Platinum Electrodeposition at Unsupported Electrochemically Reduced Nanographene Oxide for Ammonia Oxidation", *Journal of Electroanalytical Chemistry*, **2014**, in press.
153. Ortiz-Quiles, E.; Soler, J.; Gobet, M.; Nosach, T.; García-Ricard, O.; Hernandez-Maldonado, A.; Greenbaum, S.; West, W.; Cabrera, C.R., "LiCl Molten Flux Synthesis of Layered-Layered Composite Li₂MnO₃- LiMO₂ (M= Mn, Ni, Co) Li-ion Battery Cathode Materials", *Journal of Electroanalytical Chemistry*, **2014**, in press.
154. Martínez-Rodríguez, Roberto; Vidal-Iglesias, Francisco; Solla-Gullon, Jose; Cabrera, Carlos; Feliu, Juan, "Synthesis of Pt nanoparticles in water-in-oil microemulsion: on the effect of HCl on their surface structure", *Journal of Electroanalytical Chemistry*, **2014**, in press.
155. Díaz Ayala, R.; Arroyo-Ramírez, L.; Raptis, RG, Cabrera, CR, "Thermal and Surface Analysis of Palladium Pyrazolate Molecular Precursors", *Journal of Electroanalytical Chemistry*, **2014** in press.
156. Contés-de Jesús, E.; Cabrera, C.R.; Li, J. "Methane Detection at Room Temperature Under Humid Conditions Using Carbon Nanotubes Decorated with Platinum Nanoparticles", *Journal of Electroanalytical Chemistry*, **2014** submitted.
157. Jing, Yu; Ortiz-Quiles, Edwin O.; Cabrera, Carlos; Chen, Zhongfang; Zhou, Zhen, "Layer-by-Layer Hybrids of MoS₂ and Reduced Graphene Oxide for Lithium Ion Batteries", *Journal of Electroanalytical Chemistry*, **2014**, submitted.

1. Electroquímica y Electrocatálisis: Volumen Ila: Técnicas de investigación aplicada a sistemas in

- electroquímicos: y (A Chapter on XPS in Electrochemistry with over 90 references). Chapter 16, 220-277. Edited by Professor Nicolás Alonso-Vante. _____, **2003**.
2. - , Y. Ishikawa, M.-S. Liao, C. R. Cabrera, in "Computational Material Sciences, 15" volume of Theoretical and Computational Chemistry Series, Ed. Jerzy Leszczynski, Elsevier Science, **2004**.
 3. Chapter in , Donald A. Tryk and Carlos R. Cabrera, , Eds. Aldrin E. Sweeney and Sudipta Sea, ISBN: 1-58883-085-3, **2008**.
 4. - , G. Sánchez-Pomales, C. Pagán-Miranda, L. Santiago-Rodríguez, and Carlos R. Cabrera, Carbon Nanotubes, ISBN 978-953-307-054-4, Edited by: J. M. Marulanda, Publisher: InTech, **2010**.
 5. - , J. J. Fonseca-Vega, E. Nicolau and C. R. Cabrera, Ed. R.J. Tremont, Recent Advances in Electrochemical Research, ISBN: 978-81-7895-545-2, Transworld Research Network, **2012**.
 6. , Carlos R. Cabrera, Editor, and Félix A. Miranda, Co-Editor. Submitted, Pan Stanford Publishing **2014**. Under Galley Proofs Revisions.
 7. / - , Enid Contés-de Jesús, Jing Li, and Carlos R. Cabrera, "Syntheses and Applications of Carbon Nanotubes and Their Composites", ISBN 978-953-51-1125-2.
1. Provisional Patent Application 61/529,633, "Externally interfaced urea electrochemical bioreactor at forward osmosis/reverse osmosis subsystem for energy and waste recovery in water recycling".
 2. Provisional Patent Application 61/471,776, "Preparation and Electrochemistry of Boron Doped Diamond Nanoparticles on Glassy Carbon Electrodes".
1. "Photoelectrochemistry of Polycrystalline Thin Films of p-WSe₂", **1985**, Department of Chemistry,
 2. "Photoelectrochemistry and Catalysis with Polycrystalline Thin Films of Transition Metal Dichalcogenide", **1988**, Department of Chemistry, Río Piedras (invited)
 3. "Photoelectrochemistry and Catalysis with Polycrystalline Thin Films of Transition Metal Dichalcogenides", **1988**, Department of Chemistry, University of Puerto Rico, Mayagüez (invited)
 4. "Electrochemistry in Near-Critical and Supercritical Acetonitrile", **1988**, Department of Chemistry, Toledo, Ohio. (invited)
 5. "Electrochemistry in Near-Critical and Supercritical Acetonitrile and SO₂", **1987**, Department of Physics, Río Piedras, P.R.
 6. "Photointercalation and Photoelectrochemistry with Polycrystalline Thin Films of Transition Metal Dichalcogenides of Group IV and Mixed Dichalcogenides of Group VI", **22-23, 1987**, Second Puerto Rico EPSCoR Annual Conference, San Juan, P.R.

7. "Photoelectrochemistry and Photoelectrocatalysis: Source of Energy", 1990, UPR, Cayey, P.R. (invited)
8. "Photoelectrochemistry and Intercalation with Transition Metal Dichalcogenides", 1990, 27, 1990, Third Puerto Rico EPSCoR Annual Conference, Mayaguez, P.R.
9. "Photoelectrochemistry and Intercalation with Transition Metal Dichalcogenides", 1990, ACS Senior Technical Meeting, UPR, Río Piedras, P.R.
10. "Photoelectrochemistry and Intercalation with p-WS₂/WSe₂ and n-MoSe₂", 1991, Gordon Conference on Electrochemistry, Ventura, CA.(Poster).
11. "Photoelectrochemistry and Intercalation with p-WS₂/WSe₂ and n-MoSe₂", 1991, Electrochemical Society Meeting, Washington, D.C.(invited)
12. "Spectroscopic and Electrochemical Studies of Pt(terpy)Cl⁺", 1991, 202nd ACS National Meeting, New York, N.Y..
13. "Photoelectrochemical and Surface Studies of Copper Electrodeposition at n-MoSe₂", 1991, 2nd Pan American Chemical Congress, San Juan, P.R..
14. "Mass Measurements of Adsorption and Underpotential Deposition Processes with the Electrochemical Quartz Crystal Microbalance", 1991, Fourth Puerto Rico EPSCoR Annual Conference, Carolina, P.R.
15. "Mass Measurements of Adsorption and Underpotential Deposition Processes with the Electrochemical Quartz Crystal Microbalance", 1991, 15th Senior Technical Meeting, Ponce, PR.
16. "Mass Measurement of Ferrocene Adsorption at Thin Films of Gold with The Electrochemical Quartz Crystal Microbalance", 1992, Gordon Conference on Physical Electrochemistry, New London, NH.
17. "Synthesis, Surface Analysis, and Photoelectrochemical Properties of p-WSe₂/WS₂", 23-28, 1992, 204th ACS National Meeting, Washington, D.C.
18. "Electrochemical Studies of Ru₃(CO)₁₀(bpy)", 23-28, 1992, 204th ACS National Meeting, Washington, D.C.
19. "Photoelectrochemistry and Surface Studies of Thin Films of MoS₂ on Ti", 1992, 43rd Meeting of the International Society of Electrochemistry, Cordoba, Argentina.
20. "Mass Measurement of Ferrocene Adsorption at Gold Films with The Electrochemical Quartz Crystal Microbalance", 1992, Electrochemical Society Meeting, Toronto, Canada.
21. "Photoelectrochemistry and Surface Studies of Thin Films of MoS₂ on Ti", 1992, Electrochemical Society Meeting, Toronto, Canada.
22. "Adsorption Measurements with The Electrochemical Quartz Crystal Microbalance", 1992, Rochester, N.Y. (invited)
23. "Adsorption Measurements with the EQCM", 1993, Gordon Research Conference on Electrochemistry, Ventura, CA. (Invited Speaker)
24. "STM of Cluster Modified Surfaces of Au(111) and HOPG", 1993, Gordon Research Conference on Metal and Semiconductor Clusters.
25. "Silver Photoelectrodeposition at p-MoSe₂: A Surface Reaction", 1993, 44th International Society of Electrochemistry Meeting (ISE), Berlin, Germany.
26. "Mechanistic Studies on the Electrochemical Reduction of CO₂ at Copper Electrodes at Different Pressures and Temperature", 1993, Progress in Electrocatalysis: Theory and Practice, Ferrara, Italy. (Poster)
27. "CO₂ activation at Cu Surfaces on Piezoelectric Devices", 1993, Progress in Electrocatalysis: Theory and Practice, Ferrara, Italy.(Poster)
28. "STM of Layer Semiconductors and Cluster Modified Surfaces", 1993, 17th Senior Technical Meeting, Humacao, Puerto Rico.

29. "STM Studies of Microcrystalline Osmium Cluster on HOPG Substrate", 1994, 207th ACS National Meeting, San Diego, CA.
30. "Scanning Tunneling Microscopy of Osmium Cluster Modified Gold and Graphite Surfaces", 1994, Sixth Puerto Rico EPSCoR Annual Conference, San Juan, PR.
31. "STM of the Cluster Self-Assembled Triosmium Monolayer on Gold Surface", 1994, 207th ACS National Meeting, San Diego, CA.
32. "Photoelectrochemical Behavior of Mixed Polycrystalline Thin Films of p-WS_xSe_y", 1994, The Electrochemical Society Meeting, San Francisco, CA.
33. "STM and QCM Studies of Osmium Cluster Modified Thiol/Au and HOPG Surface", 1994, The Electrochemical Society Meeting, San Francisco, CA.
34. "Surface Analysis Studies of Silver Photoelectrodeposition at p-MoSe₂", 1994, 208th ACS National Meeting, Washington, DC.
- 35.

49.

69. "3-Mercaptopropyltrimethoxysilane and Propyltrimethoxysilane as Cu Corrosion Inhibitor in KCl Solution", **1999**, 195th Electrochemical Society Meeting, Seattle, Washington.
70. "pH Dependent Controlled Patterning of p-MoSe₂ Surfaces by In Situ Electrochemical Scanning Tunneling Microscopy", **1999**, 195th Electrochemical Society Meeting, Seattle, Washington.
71. "Study on The (3-Mercaptopropyl)trimethoxysilane Self-Assembly on Iodine Coated Gold Electrodes", **1999**, 195th Electrochemical Society Meeting, Seattle, Washington.
72. "X-ray Photoelectron Spectroscopy of Modified Surfaces", **1999**, Argonne National Laboratory, Argonne, Illinois.
73. "The Undergraduate Experience at UPR", Workshop on Minority Ph.D. Development in Chemistry, Georgia Institute of Technology, Atlanta, Georgia, **2-4, 1999**.
74. "Nanostructuring of Electrochemical Interfaces", Metropolitan University, San Juan, Puerto Rico, **1999**.
75. "Nanostructuring Electrochemical Interfaces", Lehman College, CUNY, New York, NY, **1999**.
76. "Atomic Force Microscopy", Medical Science Campus, University of Puerto Rico, San Juan, Puerto Rico, **1999**.
77. "Co-Electrodeposition of Pt/MoOx for Methanol Oxidation", Gordon Research Conference on Electrochemistry, Ventura, California, **2000**.
78. "Pt/Ru and Pt/MoOx Catalyst for Methanol Oxidation", University of Tokyo, Tokyo, Japan, **2000**. (invited)
79. "Pt/Ru and Pt/MoOx Catalyst for Methanol Oxidation", Toyota Central R&D Laboratories, Nagakute, Aichi, Japan, **2000**. (invited)
80. "Nanoestructurando superficies de electrodos por Autoensamblaje Molecular", Plenaria, XIV Congreso de la Sociedad Iberoamericana de Electroquímica y XV Congreso de la Sociedad Mexicana de Electroquímica, Oaxaca, México, **2000**.
81. "Atomic Force Microscopy", Pfizer, Connecticut, **2000**.
82. "Bimetallic Particle Preparation by Coordination Chemistry and Co-Electrodeposition Methods: Its use in methanol oxidation", International Conference on Elementary Processes in Molecule-Metal Surface Interactions, Carolina, Puerto Rico, **2000**.
83. "Self-assembled Monolayers with Adhesion Properties", NASA Glenn Research Center, Cleveland, Ohio, **2001**.
84. "Polarization Charge Control in a MOS Structure", International Symposium on Integrated Ferroelectrics (ISIF) 2001 Meeting, Colorado Springs, Colorado, **11-14, 2001**.
85. "Modeling of Nanoscale Ferroelectric MOSFET Devices", International Symposium on Integrated Ferroelectrics (ISIF) 2001 Meeting, Colorado Springs, Colorado, **2001**.
86. "Carbon Nanotubes as a Material for NanoEnergy Storage Concepts", NANOSPACE 2001, **2001**, Galvestone, Texas.
87. "Self-Assembled 3-Mercaptopropyltrimethoxysilane (MPS) on Ba_{0.5}Sr_{0.5}TiO₃ as an Adhesion Layer for Microwave Devices", MRS Spring Meeting, **2001**.
88. "Nanotechnology", **2001**, Universidad Metropolitana, San Juan, PR.
89. "Direct Methanol Fuel Cell Catalysts Prepared by Co-deposition and Coordination Chemistry", University of Kentucky, Lexington, KY, **2001**.
90. "X-ray Photoelectron Spectroscopy in Electrochemistry", **2002**, Universidad de Santander, Bucaramanga, Colombia. (invited)
91. "Sequential and Co-Deposition of Pt/Ru on HOPG Substrates: A morphological and electrocatalytic study", International Conference on Elementary Processes in Molecule-Metal Surface Interactions II, **2003**, San Juan, Puerto Rico.
92. "Sequential and Co-Deposition of Pt/Ru on HOPG Substrates", Pan-American Advance Study Institute (PASI), **2003**, Rio de Janeiro.

93. "Sequential and Co-Deposition of Pt/Ru on HOPG Substrates: A morphological and electrocatalytic Study", Materials Research Society Fall Meeting, **2003**, Boston.
94. "Center for Nanoscale Materials", Purdue University, Argonne National Lab., and Kennedy Space Center, **2004**.
95. "Center for Nanoscale Materials", NASA-Glenn Research Center, **2004**.
96. "Novel Self-Assembly of Nano-to-Microsized Palladium Rings and Tubes, Nanostructured Materials and Nanotechnology, The XIV International Materials Research Congress 2005, Cancún, México. **22, 2005**. (invited)
97. "Self-assembled monolayers of DNA-functionalized carbon nanotubes, The XIV International Materials Research Congress 2005, Cancún, México. **23, 2005**.
98. "Nanotechnology", Polytechnic University, San Juan Puerto Rico, **2005**. (invited)
99. "Nanotechnology in Puerto Rico", 18th EPSCoR National Conference, Rio Grande, PR, **2005**. (invited).
100. "Nanotechnology in Puerto Rico", Universidad de La Habana, **2006**.
101. "Nanotechnology in Puerto Rico", Universidad de San Carlos de Guatemala, **27, 2006**.
102. "Fuel Cells and Nanotechnology", Universidad Javeriana, Bogota, Colombia **. 2006**.
103. "DNA and Carbon Nanotube Self-Assembled Monolayers on Metallic Surfaces: An Electrochemistry and Surface Analysis Study", Federation of Analytical Chemistry & Spectroscopy Societies (FACSS), Orlando, FL, **2006**. (invited)
104. "Nanostructuring Electrochemical Interfaces", University of South Florida, Tampa, FL, **2006**.
105. Sequential Deposition of Pt-Ru, Pt-Mo, Pt-Ru-Mo at HOPG, Vulcan, and Diamond Films, Electrochemical Society Meeting, Cancun, MX, **2006**.
106. Pt deposition on Carbon (Vulcan) using the rotating disk slurry electrode technique, Electrochemistry Gordon Conference (Poster), **2007**.
107. "Electrochemical Deposition and Electrocatalysis of Direct Methanol Fuel Cell Catalysts at Different Carbon Support Material", University of South Carolina, **2007**
108. "Electrochemical Deposition and Electrocatalysis of Direct Methanol Fuel Cell Catalysts at Different Carbon Support Material", Clemson University, South Carolina, **2007**
109. "Nanostructuring Electrochemical Interfaces: Li Ion Batteries, Fuel Cells, and DNA Sensors", Cornell University, **2007**
110. "Nanostructuring Electrochemical Interfaces: Li Ion Batteries, Fuel Cells, and DNA Sensors", University of Puerto Rico- Rio Piedras, **2007**
111. Lithium Intercalation at Single-Wall Carbon Nanotubes Chemically Attached at Platinum Electrode Surfaces, 212th Meeting, The Electrochemical Society, Washington, DC, **2007**
112. Rotating Disk-Slurry Electrode Technique: Electrochemical Preparation of Pt and PtRu Nanoparticles for Direct Methanol Fuel Cell Applications, 212th Meeting, The Electrochemical Society, Washington, DC, **2007**
113. Electrochemical Impedance Spectroscopy Detection of Single-Stranded DNA Self-Assembled Monolayers on Gold Electrode Surfaces", 212th Meeting, The Electrochemical Society, Washington, DC, **2007**.
114. "Nanostructuring Electrochemical Interfaces: Li Ion Batteries, Fuel Cells, and DNA Sensors", NSF, Washington, DC, **2008**. (invited)
115. "Nanostructuring Electrochemical Interfaces: Li Ion Batteries, Fuel Cells, and DNA Sensors", University of Texas at San Antonio, Texas, **2008**. (invited)
116. "Electrochemical Preparation of Pt and PtRu Nanoparticles at Carbon Support Materials using Rotating Disk Slurry Electrode (RoDSE) Technique", ISE, Seville, Spain, **2008**. (invited)
117. Nanotechnology Education at UPR, San Carlos University of Guatemala, Guatemala City, Guatemala, **2008**. (invited)

118. Nanostructuring Electrochemical Interfaces, The Ohio State University, Columbus, OH, **2008**. (invited)
119. Center for Advanced Nanoscale Materials, CANEUS 2009 Workshop, NASA Ames Research Center, Moffett Field, CA, **2009**.
120. Center for Advanced Nanoscale Materials, HBCU/MI Symposium, NASA Glenn Research Center, Cleveland, OH, **2009**.
121. Advanced Nanoscale Materials for Aerospace Applications, Nanoscience and Nanotechnology Workshop 2009, Frascati, Italy, **2009**. (invited)
122. Advanced Nanoscale Materials for Aerospace Applications, Interamerican University, Bayamón, PR, **2010**. (invited)
123. Advanced Nanoscale Materials for Aerospace Applications, Catholic University, Ponce, PR, **2010**. (invited)
124. Bioelectrochemical Oxidation of Urea at Urease and Platinum Modified Boron Doped Diamond Electrodes, ICEI 2010, Geneva, NY, **2010**.
125. Thermal and Electrochemical Analysis of Electrodeposited Pt Nanoparticles at Nanocarbon Materials, 38th Annual North American Thermal Analysis Society Conference, Philadelphia, PA, **2010**. (invited)
126. Transmission Electron Microscopy of Electrodeposited Platinum Nanoparticles at High Surface Area Carbon Bulk Material, 17th International Microscopy Congress, Rio de Janeiro, Brazil, **2010**. (invited)
127. “Ammonia Oxidation Enhancement at Square-Wave Treated Platinum Particle Modified Boron-Doped Diamond Electrodes”, Electrochemical Society Meeting, Las Vegas, **2010**.
128. “Bioelectrochemical Oxidation of Urea with Urease and Platinized Boron Doped Diamond Electrodes”, Electrochemical Society Meeting, Las Vegas, **2010**
129. “Nanostructuring Electrochemical Interfaces : from Li ion anodes to fuel cell catalysts“, Georgia Institute of Technology, **2010**. (invited)
130. “Nanostructuring Electrochemical Interfaces : from Li ion anodes to (bio) fuel cell catalysts“, University of Texas at El Paso, El Paso, Texas, **2011**. (invited)
131. “Nanostructuring Electrochemical Interfaces : from Li ion anodes to (bio) fuel cell catalysts“, University of Puerto Rico at Humacao, **2011**. (invited)
132. “Nanostructuring Electrochemical Interfaces : from Li ion anodes to (bio) fuel cell catalysts“, University of Turabo, Caguas, PR, **2011**. (invited)
133. “Nanostructuring Electrochemical Interfaces : Synthesis of Fuel Cell Catalysts“, New York University, New York, NY, **2011**. (invited)
134. “Nanostructuring Electrochemical Interfaces : Synthesis of fuel cell catalysts“, DOE Brookhaven National Laboratory, Long Beach, NY, **2011**. (invited)
135. NASA-University Research Centers : Center for Advanced Nanoscale Materials, NASA Education Stakeholders' Summit, VA, **2011**. (invited)
136. “Doped Diamond Nanoparticles as a Support for Pt and PtRu Catalysts for Direct Methanol Fuel Cells”, Materials Research Society Meeting, San Francisco, CA, **2012**. (invited)
137. “Diamond Nanoparticles as Catalyst Support for Direct Methanol Fuel Cells”, New Diamond and Nano Carbons Conference, San Juan, PR, **2012**. (invited)
138. “Nanostructured Electrochemical Interfaces: Synthesis of Fuel Cell Catalyst/Support Systems”, XXVII Congreso de la Sociedad Mexicana de Electroquímica and 5th Meeting of the Mexican Section of The Electrochemical Society, 11-15, Toluca, México, **2012**. (invited)
139. “Nanostructured Electrochemical Interfaces: From Li-ion Battery Anodes to Synthesis of Fuel Cell Catalyst/Support Systems”, Annual Meeting Puerto Rico Chemist Association, Rio Grande, PR, **2012**. (invited)

140. "Faradaic and Non-Faradaic Electrochemical Biosensors", IBERSENSOR 2012, San Juan, Puerto Rico, **2012**. (invited)
141. "Nanostructured Electrochemical Interfaces: From Li-ion Battery Anodes to Synthesis of Fuel Cell Catalyst/Support Systems", 30th Congreso Latinoamericano de Química, Cancun, México, **2012**. (invited)
142. "Nanostructured Electrochemical Interfaces: From Li-ion Battery Anodes to Synthesis of Fuel Cell Catalyst/Support Systems", Department of Chemistry, University of Puerto Rico at Mayagüez, **2013**. (invited)
143. "EDTA Assisted Ce(III)/Pt Vulcan XC-72 Catalyst Synthesis for Direct Methanol Fuel Cell Applications", NSLS User Meeting, Brookhaven National Laboratory, NY, **2013**.
144. "Pt-Ceria Nanorods and Nanoparticles Direct Methanol and Butanol Fuel Cell Applications", Photon Science Friday Lunch Time Seminar Series, NSLS, Brookhaven National Laboratory, NY **11**, **2013**. (invited)
145. "Behavior of Fuel Cells", The 64th Annual Meeting of the International Society of Electrochemistry, Querétaro, Mexico, September 10, 2013. (invited)
146. "Nanostructured Electrochemical Interfaces: From Li-ion Battery Anodes to Synthesis of Fuel Cell Catalyst/Support Systems", Department of Chemistry, University of Guanajuato, Guanajuato, Mexico, **11**, **2013**. (invited)
147. "Faradaic and Non-Faradaic Electrochemical Biosensors", Metropolitan University, San Juan, Puerto Rico, **2013**. (invited)