

Carlos D Garcia / Curriculum Vitae

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DR. CARLOS D. GARCÍA

Professor & Associate Department Chair
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Summary of Work Experience

Dr. Garcia received his B.S. in Biochemistry and Ph.D. in Chemistry from the National University of Cordoba (Argentina) in 1996 and 2001, respectively. From 01/2002 to 08/2004, he was a postdoctoral fellow at Mississippi State University and Colorado State University under the supervision of Dr. W. Wilson and Dr. Charles Henry, respectively. In September of 2004 he joined the faculty at The University of Texas at San Antonio as an Assistant Professor of Analytical Chemistry, where he was promoted to Associate Professor with tenure (2010) and then to Full Professor (2014). In 2015 he moved to Clemson University. Currently, our group is dedicated to advance the understanding and applicability of microfluidic devices, nanomaterials, and electrochemical processes. We are focused on the development of integrated analytical approaches that span from highly specialized instrumentation to simple paper-based devices. Applications of these projects include the quantification of biomedically-relevant analytes, the design of biocatalysts, and the implementation of artificial intelligence to address analytical problems.

Educational Background

- **Postdoctoral Research Associate**
Colorado State University, CO. (11/02 – 07/04)
- **Postdoctoral Research Associate**
Mississippi State University, MS. (01/02 – 11/02)
- **PhD in Chemistry**
National University of Córdoba, Argentina. (08/96 – 12/01)
- **BS in Biochemistry**
National University of Córdoba, Argentina. (01/91 – 08/96)

Professional Employment History

- **Clemson University, Provost's Office**
Faculty ADVANCEment Fellow (05/2023 – date)
- **Clemson University, Department of Chemistry**
Professor (08/2015 – date)
Associate Department Chair (01/2018 – 08/2023)
- **The University of Texas at San Antonio, Department of Chemistry**
Professor (09/2014 – 08/2015)
Associate Professor (09/2010 – 08/2014)
Assistant Professor (08/2004 – 08/2010)
- **Colorado State University, Department of Chemistry**
Postdoctoral Research Associate (11/2002 – 07/2004)
- **Mississippi State University, Department of Chemistry**
Postdoctoral Research Associate (01/2002 – 11/2002)
- **National Council of Research and Technology (Argentina)**
Graduate Research Assistant Level II (1999 – 2001)
Graduate Teaching Assistant Level I (1997 – 1999)
- **National University of Córdoba (Argentina), Department of Physical-Chemistry**
Graduate Teaching Assistant (1997 – 2000)
Undergraduate Teaching Assistant (1992 – 1996)

Associated Appointments

- **Nature – Scientific Reports (Springer)**
Associate Editor & Member of the Editorial Board (06/2023 – date)
- **Sensors and Diagnostics (Royal Society of Chemistry)**
Associate Editor & Member of the Editorial Board (09/2021 – date)

- **Clemson University School of Health Research**
Faculty Scholar (05/2016 – date)
- **Electrophoresis (Wiley)**
Editor-in-Chief (06/2023 – date)
Senior Deputy Editor (01/2022 – 05/2023)
Deputy Editor (04/2016 – 12/2021) and Member of the Editorial Board (04/2016 – date)
- **RSC Advances (Royal Society of Chemistry)**
Associate Editor & Member of the Editorial Board (2016 – 2020)

Awards and Honors

- Outstanding Reviewers for Analytical Methods in 2022 (03/2023)
- Outstanding Reviewers for Analytical Methods in 2020 (<https://doi.org/10.1039/D1AY90053F>, 06/2021)
- Fellow of the Royal Society of Chemistry (10/2018 – date)
- Top 10% Highly-cited authors in the RSC Analytical portfolio (03/2016)
- 2014 College of Sciences Award for Research Achievements – Tenured Faculty category
- 2014 Faculty Service to Undergraduate Research and Creative Inquiry Award, UTSA
- 2013 College of Sciences Advancing Globalization Award, UTSA
- 2013 UTSA's President's Distinguished Achievement Awards for Advancing Globalization
- 2012 College of Sciences Advancing Globalization Award, UTSA
- 2011 Recognition by the UTSA Honors Alliance for excellence in promoting academic integrity, intelligent living, and meaningful learning
- 2009 Recognition by the UTSA Honors Alliance for excellence in promoting academic integrity, intelligent living, and meaningful learning
- UTSA's 2008 President's Distinguished Achievement Awards for Research Achievement – Tenure Track Faculty category
- 2008 College of Sciences Award for Research Achievements – Tenure Track Faculty category
- University of Kentucky/NIH Grant Writing Program (2007)
- UTSA - Faculty Research Award – (2004) The University of Texas at San Antonio
- FOMEC – Graduate Travel Award (2000)
- CONICET (level II) – PhD Scholarship, Argentina (2000)
- AAIFQ, Argentina (1999)
- CONICET (level I), Argentina – PhD Scholarship (1998)
- SIBAE – Travel award (1998)
- SeCyT – National University of Cordoba, Argentina – PhD Scholarship (1998)
- AAIFQ, University of Buenos Aires, Argentina – Travel award (1997)
- Intercampus AL.E. (Valladolid, Spain) Graduate Scholarship (1997)
- Municipality of Córdoba, Argentina – Undergraduate Research Scholarship (1995)

Research, Scholarly, and Creative Activities

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Articles in Preparation or Submitted

- **Ultra-Dense Chips Enable Single-Response Multiplexing of Label-Free Electrochemical Biosensors**
Juliana N. Yumi Costa, Gabriel J. C. Pimentel, Júlia A. Poker, Leandro M. Silva, Waldemir J. Paschoalino Junior, Luis C. S. Vieira, Ana C. H. Castro, Wendel A. Alves, Lucas B. Ayres, Lauro T. Kubota, Carlos D. Garcia, Maria H. O. Piazzetta, Angelo L. Gobbi, Flávio M. Shimizu and Renato S. Lima
Advanced Functional Materials (2023) – submitted
- **Au-Modified Carbon Electrodes Produced by Laser Scribing for Electrochemical Analysis of Probiotic Activity**
Juliana L. M. Gongoni, George Chumanov, Thiago R. L. C. Paixão, and Carlos D. Garcia
Analysis & Sensing (2023) – submitted

Publications in Peer-Reviewed Journals (* denotes corresponding author)

- **Prediction of NADES Formation Using a Transformer-Based Model**
 Lucas B. Ayres, Federico J. V. Gomez, Maria Fernanda Silva, Jeb R. Linton, and Carlos D. Garcia*
Scientific Reports (2024) – in press
- **Predicting Antioxidant Synergism via Artificial Intelligence and Benchtop Data**
 Lucas B. Ayres, Tomás E. Benavidez, Armelle Varillas, Jeb R. Linton, Daniel C. Whitehead, and Carlos D. Garcia
Journal of Agricultural and Food Chemistry (2023) – in press, [Cover article](#)
- **Lab-on-a-Drone: Remote Voltammetric Analysis of Water with Real-Time Data Transmission**
 João Paulo B. de Almeida, Vinicius de A. Carvalho, Leandro Paulo, Maysa L. do Nascimento, Severino B. de Oliveira, Willian T. Suarez, Carlos D. Garcia and Vagner B. dos Santos
Analytical Methods (2023) – in press, [Cover article](#)
- **Strategies for capillary electrophoresis: Method development and validation for pharmaceutical and biological applications – Update**
 Finja Krebs, Holger Zagst, Matthias Stein, Ratih Ratih, Robert Minkner, Mais Olabi, Sophie Hartung, Christin Scheller, Blanca H. Lapizco-Encinas, Cari Sängner-van de Griend, Carlos D. García, Hermann Wätzig
Electrophoresis 44 (2023) 1279–1341, [Cover article](#)
- **Big Data for a Deep Problem: Understanding the Formation of NADES Through Comprehensive Chemical Analysis and RDKit**
 Lucas B. Ayres, Grayson Weavil, Mays Alhoubani, Barbara Guinati, and Carlos D. Garcia
Journal of Molecular Liquids 389 (2023) 122891
- **Use of lateral flow assay for cardiac biomarkers detection: state of the art and future prospects**
 Stella Schuster, Mylena Lemes, Lucas Blanes, Carlos D Garcia, and Lucas Ayres*
Analytical Methods 15 (2023) 3610 – 3630
- **Removal of metals and inorganics from rendered fat using polyamine-modified cellulose nanocrystals**
 Ezequiel Vidal, Carlos D. Garcia*, and Daniel C. Whitehead*
RSC Sustainability 1 (2023) 1184 – 1191, [Cover article](#)
- **Lab-on-a-Bead: Polymeric Natural Deep Eutectic Solvent as Versatile Platform for (Bio)sensors Design**
 Federico J. V. Gomez, Ezequiel Vidal, Graciela Zanini, Claudia E. Domini, Maria F. Silva, and Carlos D. Garcia*
Journal of Molecular Liquids 383 (2023) 122040
- **Rapid Detection of *Staphylococcus aureus* Using Paper-Derived Electrochemical Biosensors**
 Lucas B. Ayres, Jordan Brooks, Kristi Whitehead, and Carlos D. Garcia*
Analytical Chemistry 94 (2022) 16847–16854, [Cover article](#)
- **Electrochemical Determination of Progesterone in Calf Serum Samples Using a Molecularly Imprinted Polymer Sensor**
 Anabel Laza, Ana Godoy, Sirley Pereira, Pedro R. Aranda, Germán A. Messina, Carlos D. Garcia, Julio Raba, and Franco A. Bertolino*
Microchemical Journal 183 (2022) 108113
- **An electrostatic model to quantify the effect of electric fields over protein adsorption on polarized surfaces**
 Sergio Urzúa, Perla Y. Saucedo-Oloño, Carlos D. García, and Christopher D. Cooper*
The Journal of Physical Chemistry B 126 (2022) 5231–5240, [invited contribution to the special issue "Biomolecular Electrostatic Phenomena"](#)
- **From Glow-Sticks to Sensors: Single-Electrode Electrochemical Detection for Paper-Based Devices**
 Ezequiel Vidal, Claudia Domini, Dan Whitehead, and Carlos D Garcia*
Sensors and Diagnostics 1 (2022) 496 – 503, [Cover article](#)
- **On-Site Preparation of Natural Deep Eutectic Solvents Using Solar Energy**
 Ricardo E. Dazat, Ezequiel Vidal, Anabela S. Lorenzetti, Carlos D. García, Claudia Domini, María F. Silva and Federico J.V. Gomez*
ChemistrySelect 7 (2022) e202104362
- **Dielectric Spectroscopy can Predict the Effect of External AC Fields on the Dynamic Adsorption of Lysozyme**
 Tomás E. Benavidez, José D.S. Guerra, and Carlos D. Garcia*
ChemPhysChem 23 (2022) e202100914
- **Taking the Leap between Analytical Chemistry and Artificial Intelligence: A Tutorial Review**
 Lucas Ayres, Federico J. V. Gomez, Jeb R. Linton, Maria F. Silva, and Carlos D. Garcia*
Analytica Chimica Acta 1161 (2021) 338403, [Cover article](#)
- **Monitoring the Advanced Oxidation of Paracetamol using ZnO films via Capillary Electrophoresis**

Luz A. Hernández-Carabalí, Rakesh Sachdeva, Jose B. Rojas-Trigos, Ernesto Marín, and Carlos D. Garcia*
Journal of Water Process Engineering 41 (2021) 102051

- **Use of Universal 3D-Printed Smartphone Spectrophotometer to Develop a Time-Based Analysis for Hypochlorite**
Ezequiel Vidal,* Anabela S. Lorenzetti, Carlos D. Garcia, and Claudia E. Domini
Analytica Chimica Acta 1151 (2021) 338249, [Invited contribution to 3D Printing in Analytical Chemistry](#)
- **Fast Degradation of Hydrogen Peroxide by Immobilized Catalase to Enable the Use of Biosensors in Extraterrestrial Bodies**
Paige A. Reed, Bryan A Lagasse, and Carlos D. Garcia*
Astrobiology 21 (2021) 191-198
- **A Multi-pump Magnetohydrodynamics Lab on a Chip Device for Automated Flow Control and Analyte Delivery**
Rafael M. Cardoso, Lucas Blanes, Robson O. Dos Santos, Rodrigo A. A. Munoz, Carlos D. Garcia
Sensors 20 (2020) 4909
- **Integrated Instrumental Analysis Teaching Platform with Smartphone-Operated Fluorometer**
Lucas B. Ayres, Fernando S. Lopes, Carlos D. Garcia* and Ivano GR Gutz*
Analytical Methods 12 (2020) 4109 - 4115, [Cover article](#)
- **Fluorescent Patterning of Paper Through the Thermal Formation of Furfural Derivatives**
Kaylee M. Clark, Lauren Skrajewski, Tomás E. Benavidez, Erick Leite Bastos, Felipe Augusto Dörr, Rakesh Sachdeva, Amod Ogale, Thiago Regis Longo Cesar Paixão, and Carlos D. Garcia*
Soft Matter 16 (2020) 7659 – 7666, [Cover article](#)
- **Thermal Decomposition of Chemical Warfare Agents Utilizing Pyrolyzed Cotton Balls**
Bryan A Lagasse, Laura McCann, Matthew S Blais, and Carlos D. Garcia*
ACS Omega 5 (2020) 20051–20061, [Cover article](#)
- **Laser-Engraved Ammonia Sensor Integrating Natural Deep Eutectic Solvents**
Makenzie Reynolds, Lucas M. Duarte, Wendell Karlos Tomazelli Coltro, Maria Fernanda Silva, Federico J. V. Gomez, and Carlos D Garcia
Microchemical Journal 157 (2020) 105067
- **Fabrication of Microwell Plates and Microfluidic Devices in Polyester Films Using a Cutting Printer**
Nikaele S Moreira, Cyro Lucas S Chagas, Karoliny Oliveira, Gerson Francisco Duarte-Junior, Fabricio R de Souza, Murilo Santhiago, Carlos D Garcia, Lauro T Kubota, and Wendell Coltro*
Analytica Chimica Acta 1119 (2020) 1-10
- **Pyrolyzed Cotton Balls for Protein Removal: Analysis of Pharmaceuticals in Serum by CE**
Paige Reed, Rafael Cardozo, Rodrigo Munoz, and Carlos D. Garcia*
Analytica Chimica Acta 1110 (2020) 90 - 97
- **Partial Oxidation of 5-Hydroxymethylfurfural to 2,5-furancarboxylic acid Using O₂ and a Photocatalyst of a composite of ZnO/PPy under visible-light: Electrochemical characterization and kinetic analysis**
Diego A. Gonzalez-Casamachin, Javier Rivera De la Rosa, Carlos J. Lucio–Ortiz, Ladislao Sandoval Rangel, and Carlos D. Garcia*
Chemical Engineering Journal 393 (2020) 124699
- **CO₂ Reduction Using Paper-Derived Carbon Electrodes Modified with Copper Nanoparticles**
Federico J. V. Gomez, George Chumanov, Maria Fernanda Silva and Carlos D. Garcia
RSC Advances 9 (2019) 33657-33663
- **Photochemical and Photocatalytic Degradation of 1-Propanol Investigated by Capillary Electrophoresis and Contactless Conductivity Detection**
Mauro S. Ferreira-Santos, Thiago G. Cordeiro, Zuzana Cieslarová, Ivano Gutz, and Carlos D. Garcia*
Electrophoresis 40 (2019) 2256-2262, [Cover article](#)
- **Patterning and Modelling Three-Dimensional Microfluidic Devices Fabricated on a Single Sheet of Paper**
Maria F. Mora, Carlos D. Garcia, Federico Schaumburg, Pablo Kler, Claudio Berli, Michinao Hashimoto, and Emanuel Carrilho*
Analytical Chemistry 91 (2019) 8298-8303, [Cover article](#)
- **Photochemical Oxidation of Alcohols: Simple Derivatization Strategy for their Analysis by Capillary Electrophoresis**
Thiago Gomes-Cordeiro, Mauro Sergio Ferreira-Santos, Ivano Gebhardt Rolf Gutz, and Carlos D. Garcia*
Food Chemistry 292 (2019) 114-1260

- **Dehydration of fructose over thiol- and sulfonic- modified alumina in a continuous reactor for 5-HMF production: Study of catalyst stability by NMR**
 Francisco Jose Morales-Leal, Javier Rivera de la Rosa,* Carlos J. Lucio-Ortiz, David A. De Haro-Del Rio, Carolina Solis Maldonado, Sungsool Wid, Leah B. Casabianca, and Carlos D. Garcia
 Applied Catalysis B: Environmental 244 (2019) 250-261
- **Analysis of Inorganic Cations and Amino Acids in High Salinity Samples by Capillary Electrophoresis and Conductivity Detection: Implications for In-Situ Exploration of Ocean Worlds**
 Mauro S. Ferreira-Santos, Thiago G. Cordeiro, Aaron Noell, Carlos D. Garcia, and Maria F. Mora*
 Electrophoresis 39 (2018) 2890–2897, [Cover article](#)
- **Determination of Topiramate in Human Plasma by Capillary Electrophoresis with C⁴D: A Powerful Tool for Therapeutic Monitoring in Epileptic Patients**
 Aline A. Ishikawa, Rodrigo Moreira da Silva, Mauro Sérgio Ferreira Santos, Eric Tavares da Costa, Americo Ceiki Sakamoto, Emanuel Carrilho, Cristiane Masetto Gaitani and Carlos D. Garcia*
 Electrophoresis 39 (2018) 2598–2604, [Cover article](#)
- **Carbon Tape as a Convenient Electrode Material for Electrochemical Paper-Based Microfluidic Devices (ePADs)**
 Federico Gomez, Paige Reed, Diego A. Gonzalez, Javier Rivera de la Rosa, George Chumanov, Maria F. Silva, and Carlos D. Garcia*
 Anal. Methods 10 (2018) 4020 – 4027, [Cover article](#)
- **Comparison between the catalytic and photocatalytic activities of Cu/Al₂O₃ and TiO₂ in the liquid-phase oxidation of methanol-ethanol mixtures: Development of a kinetic model for the preparation of catalyst**
 Javier Rivera De la Rosa, Francisco J Morales Leal, Carlos J Lucio Ortiz, Diana Bustos Martinez, David A De Haro Del Rio, Marco A Garza Navarro, Daniela X Martinez Vargas, and Carlos D Garcia*
 Applied Catalysis A – General 562 (2018) 184 - 197
- **Addressing the Distribution of Proteins Spotted on μPADs**
 Laura McCann, Tomas Benavidez, and Carlos D. Garcia*
 Analyst 142 (2017) 3899 - 3905
- **Functionalization-Free Microfluidic Electronic Tongue Based on Single Response**
 Flavio M. Shimizu, Carlos A. Teixeira, Fagner R. Todão, Angelo L. Gobbi, Osvaldo N. Oliveira Jr., Carlos D. Garcia, and Renato S. Lima*
 ACS Sensors 2 (2017) 1027 - 1034
- **Analysis of Penicillamine Using Cu-Modified Graphene Quantum Dots Synthetized from Uric Acid as Single Precursor**
 Gema Lizcano, Tomas Benavidez, Ana M. Contento, Angel Rios-Castro and Carlos D. Garcia*
 J. Pharmaceutical Analysis 7 (2017) 324 – 33, [Silver Award for Top Cited Papers in 2020](#)
- **Analysis of Methanol in the Presence of Ethanol Using a Hybrid Microchip Capillary Electrophoresis with Electrochemical Derivatization and Conductivity Detection**
 Mauro Santos, Eric Da Costa, Ivano Gutz, and Carlos D. Garcia*
 Analytical Chemistry 89 (2017) 1362–1368
- **Use of pyrolyzed paper as disposable substrates for the determination of trace metals**
 Luiz A. J. Silva, Weberson P. Silva, Jason G. Giuliani, Sheilla C Canobre, Carlos D. Garcia, Rodrigo A. Munoz and Eduardo M. Richter*
 Talanta 165 (2017) 33 - 38
- **Determination of Inorganic Ion Profiles of Illicit Drugs by Capillary Electrophoresis**
 E. Evans, C. Costrino, C. L. do Lago, C. D. Garcia, C. Roux and L. Blanes*
 Journal of Forensic Sciences 61 (2016) 1610 - 1614
- **Spectroscopic Ellipsometry as a Complementary Tool to Characterize Coatings on PDMS for CE Applications**
 Tomas E. Benavidez and Carlos D. Garcia*
 Electrophoresis 37 (2016) 2509–2516
- **Fast Production of Microfluidic Devices by CO₂ Laser Engraving of Wax-Coated Glass Slides**
 Eric T. da Costa, Mauro F. S. Santos, Hong Jiao, Claudimir L. do Lago, Ivano G. R. Gutz, Carlos D. Garcia*
 Electrophoresis 37 (2016) 1691–1695.
- **Analytical Methodologies Using Carbon Substrates Developed by Pyrolysis**
 Tomás E. Benavidez, Rodrigo Martinez-Duarte, and Carlos D. Garcia*
 Anal. Methods 8 (2016) 4163 – 4176, [Invited review](#), [featured article](#), [cover article](#)

- **An electrochemical immunosensor for anti-*T. cruzi* IgM antibodies, a biomarker for congenital Chagas disease, using a screen-printed electrode modified with gold nanoparticles and functionalized with shed acute phase antigen**
 M. Regiart, S. V. Pereira, F. A. Bertolino, C. D. Garcia, J. Raba, P. R. Aranda*
 Microchimica Acta 183 (2016) 1203-1210
- **Self-Assembled Nanospheres for Encapsulation and Aerosolization of Rifampicin**
 A. A. Ishikawa, J. J. Velasquez-Salazar, M. Salinas, C. M. Gaitani, T. Nurkiewicz, G. R. Negrete and C. D. Garcia
 RSC Advances, 6 (2016) 12959 - 12963
- **Synthesis of Cu-Modified Paper-Based Carbon Electrodes Obtained by Pyrolysis of Paper**
 Gema Lizcano, Jason Giuliani, Tomas Benavidez, Angel Rios-Castro and Carlos D. Garcia*
 Sensors and Actuators: B Chemical 227 (2016) 626 – 633.
- **Development and Characterization of Carbon-Based Electrodes from Pyrolyzed Paper for Biosensing Applications**
 Jason Giuliani, Tomas Benavidez, Gema Lizcano, Angel Rios-Castro and Carlos D. Garcia*
 Journal of Electroanalytical Chemistry 765 (2016) 8 – 15, [Invited contribution to Special Issue](#)
- **Quantum Dot-modified Paper-Based Assay for Glucose Screening**
 Gema M. Durán, Tomás E. Benavidez, Ángel Ríos and Carlos D. García*
 Microchimica Acta 183 (2016) 611 - 616
- **Improving the Biocompatibility of OTCE by Adsorbing Proteins Under Electrical Stimulation**
 Tomás E. Benavidez, Madeleine Farrer, Marissa Wechsler, Rena Bizios and Carlos D. Garcia*
 Tissue Engineering, Part C: Methods 22 (2016) 69 - 75
- **Phenol oxidation by air using a Co (II) Salen complex catalyst supported on nanoporous materials: synthesis, characterization and kinetic analysis**
 Daniela X Martínez Vargas, Saba Arif Iyooob, Carlos J Lucio Ortiz, Felipe J. Cerino-Córdova, Carlos D Garcia, and Javier Rivera De La Rosa
 Applied Catalysis A: General 506 (2015) 44-56
- **Photocatalytic degradation of trichloroethylene in a continuous annular reactor using Cu-doped TiO₂ catalysts by sol-gel synthesis**
 Daniela Xulú Martínez-Vargas, Javier Rivera De la Rosa, Carlos J. Lucio-Ortiz, Aracely Hernández Ramirez, Gerardo A. Flores-Escamilla, and Carlos D. Garcia*
 Applied Catalysis B: Environmental 179 (2015) 249-261
- **Adsorption of Soft and Hard Proteins onto OTCEs under the influence of an External Electric Field**
 Tomás E. Benavidez, Daniel Torrente, Marcelo Marucho and Carlos D. Garcia*
 Langmuir 31 (2015) 2455 – 2462
- **Protein Adsorption onto Nanomaterials for the Development of Biosensors and Analytical Devices: A Review**
 Elizabeth Evans, Samir Bhakta, Tomas Benavidez and Carlos D Garcia*
 Analytica Chimica Acta 872 (2015) 7-25, [Invited contribution – Most Downloaded \(#11\) Articles in 2015](#)
- **pH-Responsive Nanocarriers from an Asparagine-Derived Single-Chain Lipid**
 Adelphe M. Mfuh, Mathew P. D. Mahindaratne, Juan R. Ramos Dominguez, Jefferson T. Bedell II, Carlos D. Garcia and George R. Negrete*
 RSC Advances 5 (2015) 8585-8590
- **Modification of Microfluidic Paper-Based Devices with Silica Nanoparticles**
 Elizabeth Evans, Ellen Flavia-Moreira, Tomas E. Benavidez, Wendell Karlos Coltro, and Carlos D Garcia*
 Analyst 139 (2014) 5560 - 5567.
- **Adsorption and Activity of Glucose Oxidase Accumulated on OTCE upon the Application of External Potential**
 Tomás E. Benavidez Daniel Torrente, Marcelo Marucho, and Carlos D. Garcia*
 Journal of Colloids and Interface Science 435 (2014) 164–170.
- **A handheld stamping process to fabricate microfluidic paper-based analytical devices with chemically modified surface for clinical assays**
 Paulo Garcia, Thiago Miguel Cardoso, Carlos D Garcia, Emanuel Carrilho, and Wendell Karlos Coltro
 RSC Advances 4 (2014) 37637-37644
- **Getting started with Open-Hardware: Development and Control of Microfluidic Devices**
 Eric Tavares da Costa, Maria F. Mora, Peter A. Willis, Claudimir L. do Lago, and Carlos D. Garcia*
 Electrophoresis 35 (2014) 2370-2377.

- **Fast and Versatile Fabrication of PMMA Microchip Electrophoretic Devices Using Laser Engraving**
Ellen Flávia Moreira Gabriel, Wendell Karlos Tomazelli Coltro and Carlos D. Garcia*
Electrophoresis 35 (2014) 2325-2332, [Cover article](#)
- **Immobilization of Glucose Oxidase to Nanostructured Films of Polystyrene-block-poly(2-vinylpyridine)**
Samir A. Bhakta, Tomás E. Benavidez, and Carlos D. Garcia
Journal of Colloids and Interface Science 430 (2014) 351–356.
- **Rational Selection of Substrates to Improve Color Intensity and Uniformity on Microfluidic Paper-Based Analytical Devices**
Elizabeth Evans, Ellen Flavia Moreira, Wendell Karlos Tomazelli Coltro and Carlos D. Garcia
Analyst 139 (2014) 2127-2132.
- **Determination of Nitrite in Saliva using Microfluidic Paper-Based Analytical Devices**
Samir A. Bhakta, Rubiane Borba, Mario Taba Jr, Carlos D. Garcia, and Emanuel Carrilho
Analytica Chimica Acta 809 (2014) 117-122.
- **Potential-Assisted Adsorption of Bovine Serum Albumin onto Optically-Transparent Carbon Electrodes**
Tomás E. Benavidez and Carlos D. Garcia*
Langmuir 29 (2013) 14154 – 14162.
- **Preconcentration, Derivatization, and Capillary Electrophoresis Separation of Biogenic Amines**
Jessica L. Felhofer, Karen Scida, Mark Penick, Peter Willis, and Carlos D Garcia
Talanta 115 (2013) 688-693.
- **Spectroscopic and Electrochemical Characterization of Nanostructured Optically-Transparent Carbon Electrodes**
Tomas E. Benavidez and Carlos D. Garcia
Electrophoresis 34 (2013) 1998-2006, [Invited contribution to the “2013 Electrochemistry” Special Issue](#)
- **Ultra-Thin Optically Transparent Carbon Electrodes Produced from Layers of Adsorbed Proteins**
Sarah A. Alharthi, Tomas Benavidez and Carlos D. Garcia
Langmuir 29 (2013) 3320-3327.
- **Microfab-less Microfluidic Capillary Electrophoresis Devices**
Thiago Segato, Samir Bhakta, Matthew Gordon, Emanuel Carrilho, Peter Willis, Hong Jiao, and Carlos D. Garcia
Analytical Methods 5 (2013) 1652-1657, [Cover article - #2 out of the 25 most read articles of 2013 in Analyst and Analytical Methods](#)
- **Computational, Electrochemical, and Spectroscopic, Studies of Acetylcholinesterase Covalently Attached to Carbon Nanotubes**
Murilo F. Cabral, Joseph D. Barrios, Erica K. Megumi, Sergio A. S. Machado, Emanuel Carrilho, Carlos D. Garcia, and Arturo A. Ayon
Colloids and Surfaces 103 (2013) 624-629.
- **Unmanned Platform for Long-Range Remote Analysis of Volatile Compounds in Air Samples**
Eric T. da Costa, Carlos A. Neves, Guilherme M. Hotta, Denis T. R. Vidal, Marcelo F. Barros, Arturo A. Ayon, Carlos D. Garcia, and Claudimir L. do Lago
Electrophoresis 33 (2012) 2650-2659, [Cover article](#)
- **Implementation of a Field Programmable Gate Array for Wireless Control of a Lab-on-a-Robot**
David Valdez, Carlos D. Garcia and Arturo A. Ayon
Analog Integrated Circuits and Signal Processing 71 (2012) 29 – 38, [Article Featured in “Advances in Engineering”](#)
- **Nanomolar Detection of Glutamate at a Biosensor Based on Screen-Printed Electrodes Modified with Carbon Nanotubes**
Raju Khan, Waldemar Gorski, and Carlos D. Garcia
Electroanalysis 23 (2011) 2357 – 2363.
- **Adsorption of Proteins to Thin-Films of PDMS and Its Effect on the Adhesion of Human Endothelial Cells**
Karin Y. Chumbimuni-Torres, Ramon E. Coronado, Adelpe M. Mfuh, Carlos Castro-Guerrero, Maria Fernanda Silva, George R. Negrete, Rena Bizios and Carlos D. Garcia
RSC Advances 4 (2011) 706 - 714
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M. Reza Nejadnik, Leonard D. Francis and Carlos D. Garcia
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- **Recent Applications of Carbon-Based Nanomaterials to Analytical Chemistry: A Critical Review**

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- **Lab-on-a-Robot: Integration of a Wirelessly Controlled MEMS Capillary Electrophoresis Microchip on a Robotic Platform**
Christopher Berg, David C. Valdez, Phillip Bergeron, Maria F. Mora, Carlos D. Garcia, and Arturo Ayon
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Editorials

- **Special Focus on Sample Preparation in Electrophoresis**
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- **Analytical Methodologies for Space Exploration**
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- **Nanostructured materials as separation media**
C.D. Garcia and K. Chambliss
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- **Liquid-Phase Separation Techniques for Environmental Analysis**
Carlos D. Garcia
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- **Focus on Nano-Structured Materials as Separation Media**
Carlos D. Garcia and Ziad El Rassi
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- **Instrumentation for Capillary Electrophoresis and Microchip Electrophoresis**
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- **Instrumentation for Capillary Electrophoresis and Microchip Electrophoresis**
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- **Instrumentation for CE and Microchip-CE**
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Book chapters

- **Recent Advancements in detection and amplification techniques**
Mylene Cunha, Lucas Ayres, Carlos D. Garcia and Lucas Blanes
Chapter 7 in Biosensors in precision medicine. From fundamentals to future trends (2024) – in press
- **Chemistry of paper - properties, modification strategies and uses in bioanalytical chemistry**
Thiago R.L.C. Paixão and Carlos D. Garcia
Chapter 2 in *Paper-based Analytical Devices for Chemical Analysis and Diagnostics (2021)*, Araujo and Paixão (Eds).
- **Carbon Nanomaterials in Analytical Chemistry**
Agustin G. Crevillen, Alberto Escarpa, and Carlos D. Garcia
Chapter 1 in *Carbon Nanomaterials in Analytical Chemistry (2018)*, C. D. Garcia, A. G. Crevillen, and A. Escarpa (Eds.)
- **Enhanced performance of colorimetric biosensing on paper microfluidic platforms through chemical modification and incorporation of nanoparticles**
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Chapter 20 in *Biosensors and Biodetection - Methods in Molecular Biology (2017)*
ISBN: 978-1-4939-6846-6
Avi Rasooly and Ben Prickril (Ed)
- **Instrumental Aspects of Food Analysis by Electrochemical Methods**
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ISBN: 978-1119961864
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- **Critical Evaluation of the Use of Surfactants in Capillary Electrophoresis**
Jessica Felhofer, Gabrielle Guy, Karin Chumbimuni-Torres, Maria F Mora and Carlos D. García
Chapter 1 in *"Capillary Electrophoresis and Microchip Capillary Electrophoresis: Principles, Applications, and Limitations" (2013)*
ISBN: 978-0-470-57217-7
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- **Driving Forces and Consequences of the Adsorption of Proteins to Carbon Nanotubes**
Maria F. Mora, Carlos D. Garcia, and Carla Giacomelli

Chapter 6 in "Advanced Bioceramics for Medical Applications" Section 1: Carbon nanotubes composites - Key Engineering Materials Vol. 441 (2010)
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- **Optimization of Micellar Electrokinetic Chromatography Separation Conditions by Chemometric Methods**
Jessica Felhofer and Carlos D. Garcia
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ISBN: 978-0-470-39329-1
Grady Hanrahan and Frank A. Gomez (Eds.)
- **Investigating the Adsorption of Proteins Via Spectroscopic Ellipsometry**
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- **Analytical Strategies Towards the Analysis of Phenolic Compounds by Capillary Electrophoresis and Microchip Capillary Electrophoresis**
Maria F. Mora and Carlos D. Garcia
Chapter 12, in "Biological Applications of Microfluidics" (2008)
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- **Coupling Electrochemical Detection with Microchip Electrophoresis**
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- **Micromolding for PDMS Microchips**
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- **Amperometric Detection in Flow Injection Analysis**
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- **Optical Characterization of Ferroelectric PZT Thin Films by Variable Angle Spectroscopic Ellipsometry**
Md. Shafiqur Rahman, Carlos D. Garcia, Amar Bhalla and Ruyan Guo
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- **Wireless Control of Microchip Capillary Electrophoresis with a Mobile Platform**
D. C. Valdez, C. Berg, P. Bergeron, M. F. Mora, C. D. Garcia and A. A. Ayon
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- **Rapid Determination of Metabolic Markers by Microchip CE-ECD**
Henry, C.S.*, Garcia, C.D., Liu, Y., Vickers, J.J.

Proc. of the American Institute of Chemical Engineers Annual Meeting (2004)

- **New Techniques for the Measurement of Wood Smoke Marker Compounds**

J. L. Collett Jr., G. Engling, P. Herckes, C. Garcia, C. Henry*, W. Malm

Proc. of the Symposium on Air Quality Measurement Methods and Technology (2004)

PhD Thesis

- **Conductive Polymer Modified Electrodes. Applications in Electroanalytical Chemistry**

Facultad de Ciencias Químicas, Universidad Nacional of Córdoba – Argentina (2001)

Evaluation: Outstanding

Edited Books

- **Carbon-based Nanomaterials in Analytical Chemistry**

Carlos D. Garcia, Agustin Gonzalez-Crevillen and Miguel Jesús Alberto Escarpa (Eds)

Royal Society of Chemistry (2018)

- **Capillary Electrophoresis and Microchip Capillary Electrophoresis: Principles, Applications, and Limitations**

Carlos D. Garcia, K. Chumbimuni-Torres and Emanuel Carrilho (Eds)

John Wiley & Sons, Hoboken, NJ. (02/2013)

Supervised Graduate Theses and Dissertations

- **Analytical Applications of Pyrolyzed Cellulose Materials: Protein Adsorption and Electrochemical Detection (Masters)**

Paige A. Reed - Department of Chemistry, Clemson University (12/2020)

- **Paper-Derived Ammonia Sensors Integrating Natural Deep Eutectic Solvents (Masters)**

Makenzie Reynolds - Department of Chemistry, Clemson University (05/2020)

- **Decomposition of Chemical Warfare Agent Simulants Utilizing Pyrolyzed Cotton Balls as Wicks (Masters)**

Bryan Lagasse - Department of Chemistry, Clemson University (05/2020)

- **Development and Characterization of Novel Substrates for Biosensing Applications (Doctoral)**

Elizabeth Evans - Department of Chemistry, The University of Texas at San Antonio (2016)

- **Development, Characterization, and Analytical Applications of Microfluidic Devices and Nanostructured Materials (Doctoral)**

Samir A. Bhakta - Department of Chemistry, The University of Texas at San Antonio (2015)

- **Probing Catalysis Using Microanalytical Techniques (Non-Thesis Masters)**

Saba Arif Iyob - Department of Chemistry, The University of Texas at San Antonio (2012)

- **Development of Biofunctional Surfaces for the Detection of D- Amino Acids (Doctoral)**

Elisa G. Herrera – Facultad de Ciencias Químicas, Universidad Nacional of Córdoba – Argentina (2013)

- **Advancing Sample Preparation, Separation, and Detection Methods in Capillary Electrophoresis for the Analysis of Biologically Active Compounds (Doctoral)**

Jessica L. Felhofer - Department of Chemistry, The University of Texas at San Antonio (2012)

- **Nanostructured Materials as Substrates for the Development of Biosensors (Masters)**

Sarah Alharthi - Department of Chemistry, The University of Texas at San Antonio (2012)

- **Advancing Analytical Chemistry Through Research and Education (Masters)**

Gabrielle G. Haby - Department of Chemistry, The University of Texas at San Antonio (2011)

- **Strategies for the Analysis of Biologically Active Compounds by Capillary Electrophoresis and Microchip-Capillary Electrophoresis (Doctoral)**

Maria Fernanda Mora - Department of Chemistry, The University of Texas at San Antonio (2009)

Non-Peer-Reviewed Articles

- **Lab-on-a-Chip Application: Microfab-less Microfluidics for a Portable Hybrid Microchip-CE Device**

Mathew Gordon and Carlos D Garcia

LabSmith Application note (2013)

- **The Next Big Thing is Actually Small**

Carlos D. Garcia

Bioanalysis 4 (2012) 1717-1722 - [Research Spotlight](#)

- **La Química del 1600, según el Tesoro de Covarrubias**

Carlos D Garcia and Francisco Marcos-Marin

Academica 6 (2011) 329-362.

- **Microfluidic Devices for Studying Biomolecular Interactions**
Wilbur W. Wilson*, Carlos D. Garcia and Charles S. Henry
NASA Tech Briefs 30 (2006) 57-59. (MFS-31978-1)

Media Interviews and Articles in Newspapers

- **How three Clemson scientists are weaving chemistry research into real-world solutions**
ClemsonNews (10/2022)
- **El futuro de los análisis de laboratorio**
La Voz del Interior, Cordoba, Argentina (01/2017)
- **Plastic Scorecard**
KSAT News, San Antonio, TX (07/2014)
- **New questions raised about BPA, plastics**
KSAT News, San Antonio, TX (05/2014)
- **IRES Facilitates Student Research in Sao Paulo**
UTSA Discovery 6 (2014) 18-19
- **UTSA and Oak Ridge National Laboratory nurture research partnerships**
UTSA Today (09/2011)
- **Big world connections, small-scale research: Carlos Garcia's team crosses cultures**
UTSA Today (03/2011)
- **Big World Connections, Small-scale work**
UTSA International Program's website (04/2011)
- **UTSA faculty research project slated to receive NIH funding**
San Antonio Business Journal, San Antonio, TX (03/2011)
- **Chemistry in the Peruvian Tropics**
Vector, San Antonio, TX (11/2008)
- **Tras el Tesoro de Tambopata**
El Comercio, Lima, Peru (06/2008)

Contributions to the Section "Experimentos con Carlitos" in Rumbo (local newspaper)

- Do you know how plants drink water?
- Let's learn how to make flubber!
- Experiments with red cabbage
- How the antacids work
- Let's make a solar cell with copper!
- Analyzing colored candies
- Let's get prepared to watch the solar eclipse
- Seeing the inside of a lemon (without opening it)
- Diamonds for kids
- Helping the environment: waste recycle in San Antonio, TX
- Let's make an electro-magnet
- A self-inflating balloon?
- Which one stays on top?
- Can you pick up an ice cube with only a cotton string?

Scholarly Presentations

Invited Presentations as Seminar Speaker

- **(Not only) size matters: Development of simple approaches to facilitate the application of microfluidic devices, nanomaterials, and electrochemical processes**
TU Dresden, Institute of Materials Science (Dresden, Germany – 06/2022)
- **From cellulose to functional materials for sensors and CE separations**
University of California, San Diego (San Diego, CA – 05/2021)
- **A practical approach to write a scientific paper**

- University of Puerto Rico – Mayaguez (Mayaguez, PR – 10/2020)
- **It's just oxygen: Taking advantage of chemical reactivity for analytical purposes**
University of Puerto Rico – Mayaguez (Mayaguez, PR – 09/2020)
 - **A practical approach to write a scientific paper**
National University of the South (Buenos Aires, Argentina – 03/2020)
 - **It's just oxygen: taking advantage of chemical reactivity in analytical processes**
National University of the South (Buenos Aires, Argentina – 03/2020)
 - **Chemical back and forth of simple organic compounds**
Anderson University (Anderson, SC – 11/2019)
 - **Idas y vueltas (analíticas) de compuestos orgánicos simples**
Engineering Week at University of Sonora (Hermosillo, Mexico – 10/2019)
 - **Science, on a budget**
SPARK* Cordoba (Cordoba, Argentina – 09/2019)
 - **Desde Cordoba hasta Marte**
SPARK* Cordoba (Cordoba, Argentina – 09/2019)
 - **Simplicity, as the key to new analytical methodologies**
Department of Chemistry – UNICAMP (Campinas, SP, Brazil – 06/2019)
 - **It's only oxygen**
Department of Chemistry – US Military Academy (West Point, NY – 04/2019)
 - **It's only oxygen**
Department of Chemistry – University of Central Florida (Orlando, FL – 09/2018)
 - **Micro/Nano... Does it make a difference?**
Department of Chemistry and Biochemistry – Clarkson University (Potsdam, NY – 04/2017)
 - **The pocket laboratory that can change the world**
TEDx Cordoba (Cordoba, Argentina – 12/2016)
 - **Paper, Carbon, and Paper-Derived Carbon**
11th PTA School of Electrochemistry (Sao Paulo, Brazil – 12/2016)
 - **Paper or Plastic?**
Department of Chemistry and Biochemistry – Auburn University (Auburn, AL – 04/2016)
 - **Micro/Nano... Does it make a difference?**
College of Arts and Sciences – Winthrop University (Rock Hill, SC – 03/2016)
 - **Micro/Nano... Does it make a difference?**
Department of Chemistry – Arizona State University (Phoenix, AZ – 01/2016)
 - **Analytical Systems Integrating Microfluidics and Nanomaterials**
Department of Chemistry – Furman University (Greenville, SC – 01/2016)
 - **Novel Analytical Platforms Integrating Microfluidics and Nanomaterials**
Department of Chemistry – West Virginia University (Morgantown, WV – 01/2015)
 - **Novel Analytical Platforms Integrating Microfluidics and Nanomaterials**
Department of Chemistry – Clemson University (Clemson, SC – 01/2015)
 - **Little things that can make a big difference**
ACS South Texas Local Section - Del Mar College (Corpus Christi, TX – 11/2013)
 - **Novel Analytical Platforms Integrating Microfluidics and Nanomaterials**
Department of Chemistry - University of Puerto Rico (San Juan, PR – 09/2013)
 - **Research and Educational Opportunities at the Micro/Nano Interface**
Institute of Chemistry - Universidade Federal de Goiás (Goiânia, Brazil – 07/2013)
 - **Love and Death: The Tragic Story of Most Proteins and Most Surfaces**
Department of Chemistry – NanoScience Technology Center at Univ. Central Florida (Orlando, FL – 12/2012)
 - **Proteínas, Nanomateriales y Microchips**
Department of Pharmacy and Biochemistry – University of Buenos Aires (Buenos Aires, Argentina – 11/2012)
 - **Analytical Applications of Nanomaterials**
Department of Chemistry – George Washington University (Washington, DC – 11/2012)
 - **Proteins Adsorbed to Nanomaterials**
Department of Chemistry – Graduate University of the Chinese Academy of Sciences (Beijing, China – 06/2012)

- **Ethical Issues in Academic Settings**
2012 Provost's Academy – UT San Antonio San Antonio, TX – 06/2012)
- **Proteins Adsorbed to Nanomaterials: The End of the Affair?**
Department of Chemistry – Florida International University (Miami, FL – 10/2011)
- **Microfluidics Meet Interfaces**
Jet Propulsion Laboratory – NASA/California Institute of Technology (Pasadena, CA – 06/2011)
- **Materials, Instrumentation, and Educational Opportunities Towards the Analysis of Biologically Active Molecules**
Universidade Estadual do Campinas (Campinas, Sao Paulo – 06/2011)
- **Working at the μ/n Interface: Combining Electrodes, Microchips, Robots, and Nanomaterials**
Hach Company (Loveland, CO – 11/2010)
- **Biosensors and Biomedical Research**
MBRS-MARC Programs – The University of Texas at San Antonio (San Antonio, TX – 11/2010)
- **Microchips, Robots, and Nanomaterials: Novel Strategies for the Analysis of Biologically Active Compounds**
Department of Chemistry, University of Cincinnati (Cincinnati, OH – 01/2010)
- **Microchips, Robots, and Nanomaterials: Novel Strategies for the Analysis of Biologically Active Compounds**
Department of Chemistry, Baylor University (Waco, TX – 11/2009)
- **μ/n , Does It Really Matter?**
MBRS-MARC Programs – The University of Texas at San Antonio (San Antonio, TX – 10/2009)
- **Analytical Chemistry at the Nano/Micrometer Scale**
Workshop: Nanociencia: Avances y Aplicaciones (CABNN/SeCyT – San Luis, Argentina – 11/2009)
- **Big Advantages of Small Things: Combining Microfluidics, Electrodes, and Nanomaterials**
Graduate Program in Chemistry - Federal University of Ceará (Fortaleza, Brazil – 04/2009)
- **Big Advantages of Small Things: Combining Microfluidics, Electrodes, and Nanomaterials**
Department of Chemistry, University of Sao Paulo (Sao Paulo, Brazil – 04/2009)
- **Big Advantages of Small Things**
Southwest Research Institute (San Antonio, TX – 03/2009)
- **Big Advantages of Small Things: Combining Microfluidics, Electrodes, and Nanomaterials**
Department of Chemistry, University of Kansas (Lawrence, KS – 03/2009)
- **Smaller is Better: A Tale About Surfaces and Microfluidics**
Universidad Autonoma de Nuevo Leon (Monterrey, Mexico – 11/2008)
- **Smaller is Better: A Tale About Surfaces and Microfluidics**
Instituto Politécnico de Monterrey (Monterrey, Mexico – 11/2008)
- **Biomedical Applications of Surface Chemistry and Microfluidic Devices**
MBRS-MARC Programs – The University of Texas at San Antonio (San Antonio, TX – 07/2008)
- **Smaller is Better: A Tale About Surfaces and Microfluidics**
Southwest Foundation for Biomedical Research (San Antonio, TX – 07/2008)
- **Portable Sensors and Biosensors**
Pan American Advanced Studies Institute (Tambopata, Peru – 06/2008)
- **What Can We Do to Improve the Analysis of Phenolic Compounds by Capillary Electrophoresis?**
Department of Chemistry, Trinity University (San Antonio, TX – 01/2008)
- **From Comet Cleanser to Carbon Nanotubes: a 16-year Journey to Get to the Starting Point**
Department of Physical Chemistry – National University of Cordoba (Cordoba, Argentina – 12/2007)
- **Analysis of Environmentally Important Phenolic Compounds using Microchip-CE and Electrochemical Detection**
Department of Chemistry & Biochemistry, Baylor University (Waco, TX – 11/2007)
- **Strategies Toward the Analysis of Phenolic Compounds by Capillary Electrophoresis and Microchip-CE with Electrochemical Detection**
School of Medicine, Autonomous University of Nuevo Leon (Monterrey, Mexico – 08/2007)
- **Strategies Toward the Analysis of Phenolic Compounds by Microchip-CE and Electrochemical Detection**
MBRS-MARC Programs – The University of Texas at San Antonio (San Antonio, TX – 06/2007)
- **Analysis of Environmentally Important Phenolic Compounds using Microchip-CE and Electrochemical Detection**
Department of Chemistry, Oregon State University (Corvallis, OR – 06/2007)

- **Controlling the Separation of Phenolic Compounds by Microchip – CE**
Department of Chemistry & Biochemistry, Cal. State University, Los Angeles (Los Angeles, CA – 05/2007)
- **Analytical Strategies Towards the Analysis of Phenolic Compounds by Capillary Electrophoresis**
Center for Rhizosphere Biology – Colorado State University (Fort Collins, CO – 02/2007)
- **Analytical Strategies Towards the Analysis of Phenolic Compounds by Capillary Electrophoresis**
MBRS-MARC Programs – The University of Texas at San Antonio (San Antonio, TX – 01/2007)
- **Application of Microchip-CE to the Analysis of Biologically Important Phenolic Compounds**
School of Chemistry and Pharmacy, University of Chile – Chile (Santiago de Chile, Chile – 12/2005)
- **Application of Microchip-CE to the Analysis of Biologically Important Phenolic Compounds**
Department of Chemistry, Catholic University of Cordoba (Cordoba, Argentina – 12/2005)
- **Application of Microchip-CE to the Analysis of Biologically Important Phenolic Compounds**
Department of Clinical Biochemistry, National University of Cordoba (Cordoba, Argentina – 12/2005)
- **Application of Microchip-CE to the Analysis of Biologically Important Phenolic Compounds**
Institute of Chemistry, University of Sao Paulo (Sao Carlos, Brazil – 12/2005)
- **Application of Microchip-CE to the Analysis of Biologically Important Phenolic Compounds**
Department of Chemistry, University of Sao Paulo (Sao Paulo, Brazil – 11/2005)
- **Analysis Using Electrophoretic Microchips and Electrochemical Detection**
Department of Physical Chemistry, National University of Cordoba (Cordoba, Argentina – 05/2005)
- **Applications of Microchip CE and Pulsed Electrochemical Detection**
Department of Applied Physics, CINVESTAV (Merida, Mexico – 02/2005)
- **Analysis of Biologically Active Compounds by Microchip-CE and PED**
Southwest Research Institute (San Antonio, TX – 12/2004)
- **Applications of microchip CE and Pulsed Electrochemical Detection**
Department of Chemistry, University of Memphis (Memphis, TN – 02/2004)
- **Analysis of Biologically Active Compounds by Microchip-CE and PED**
Department of Chemistry, University of Texas at San Antonio (San Antonio, TX – 01/2004)
- **Miniaturization in Analytical Chemistry**
Department of Chemistry, University of Puerto Rico (San Juan, Puerto Rico – 10/2003)
- **Conductive Polymer Modified Electrodes. Applications in Electroanalytical Chemistry**
School of Agronomy, National University of Santiago del Estero (Sgo. del Estero, Argentina – 10/2001)

Invited Presentations in Scientific Meetings (* denotes presenting author)

- **Paper-Derived Carbon Electrodes, a Versatile Option to Develop Electrochemical Sensors**
N. E. Elashkar, L. B. Ayres, E. Vidal, N. Arroyo and C. D. Garcia
243rd 243rd Electrochemical Society Meeting (Boston, MA - 06/2023)
- **Rapid Detection of *Staphylococcus aureus* Using Paper-Derived Electrochemical Biosensors**
Lucas B. Ayres, Jordan Brooks, Kristi Whitehead, and Carlos D. Garcia
LACE 2022 (Panama City, Panama – 11/2022)
- **From cellulose (and other biopolymers) to functional sensors**
Carlos D. Garcia
APCE-CECE-ITP-IUPAC Meeting (Angkor Wat, Cambodia – 11/2022)
- **From Glow-Sticks to Sensors: Single-Electrode Electrochemical Detection for Paper-Based Devices**
Ezequiel Vidal, Claudia Domini, Daniel C. Whitehead, and Carlos D. Garcia
SERMACS 2022, Interdisciplinary Science for Arid Lands Energy and Water Sustainability II Section (San Juan, PR – 10/2022)
- **From cellulose (and other biopolymers) to functional sensors**
Carlos D. Garcia
20th National Meeting of Analytical Chemistry (Rio Grande do Sul, Brazil – 09/2022)
- **Rock, Paper, Scissors: Combining materials and processes to improve the surface properties and develop analytical systems**
Carlos D. Garcia
XXII Congreso Argentino de Fisicoquímica y Química Inorgánica – XXII CAFQI,
(La Plata, Argentina – 04/2021) - [Keynote speaker](#)
- **It's just oxygen: Taking advantage of chemical reactivity for analytical purposes**

Carlos D. Garcia

Fourth International Symposium on "Analytical Chemistry for a Sustainable Development" - ACSD 2021 (Mohammedia, Morocco – 03/2021) - [Keynote speaker](#)

▪ **Pack and play: Protein removal using pyrolyzed cotton balls**

Carlos D Garcia

ITP2020 (Nanjing, China | on-line – 11/2020) - [Keynote speaker](#)

▪ **Out of the Furnace: Synthesis and Application of cellulose-derived carbon materials containing metallic nanoparticles**

Carlos D Garcia

SERMACS 2019 (Savannah, GA – 10/2019)

▪ **Simplicity: as the key for analytical methodologies**

Carlos D Garcia

ITP2019 (Toulouse, France – 09/2019) - [Keynote speaker](#)

▪ **Paper-Derived Carbon Electrodes**

Carlos D. Garcia

Pittcon 2019 (Philadelphia, PA – 03/2019)

▪ **Paper of Plastic**

Carlos D. Garcia

Axis Symposium (Sonora, Mexico – 03/2019) - [Keynote speaker](#)

▪ **Cracking the Photo-oxidation of Alcohols along the CE**

Carlos D. Garcia

LACE 2018 - 24th Latin-American Symposium on Biotechnology, Biomedical, Biopharmaceutical, and Industrial Applications of Capillary Electrophoresis and Microchip Technology (Mendoza, Argentina – 12/2018) - [Keynote speaker](#)

▪ **Taking advantage of chemical reactivity in analytical processes**

Carlos D. Garcia

19^o Encontro Nacional de Quimica Analitica and 7^o Congresso Iberoamericano de Quimica Analitica (Caldas Novas, Brazil – 9/2018) - [Plenary Speaker](#)

▪ **Controlled Oxidation as Sample Pretreatment**

Carlos D. Garcia

SCIX 2018 (Atlanta, GA – 10/2018)

▪ **Enabling the Analysis of Primary Alcohols by CE-C4D by Controlling Sample Pretreatment**

Carlos D. Garcia

IFT18 Annual Meeting & Food Expo (Chicago, IL – 07/2018)

▪ **Analytical Opportunities of Paper-Based Microfluidic Devices**

Paige Reed, Tomas Benavidez, Gema Duran, Angel Rios, Laura McCann, Sarah Holtsclaw, and Carlos D Garcia
SERMACS 2017 (Charlotte, SC – 11/2017)

▪ **Moonshiners and Microfluidic Devices**

Mauro Santos, Eric Da Costa, Ivano Gutz, and Carlos D. Garcia

LACE 2016 – 22nd Latin-American Symposium on Biotechnology, Biomedical, Biopharmaceutical, and Industrial Applications of Capillary Electrophoresis and Microchip Technology (Santiago de Chile, Chile – 12/2016)

▪ **Fabrication, Characterization, Modification, and Application of Carbon Electrodes Derived from Paper**

Carlos D. Garcia,* Tomas Benavidez, Gema Duran, Angel Rios, Jason Giuliani, Fausto Comba, Elizabeth Evans
229th ECS Meeting (San Diego, CA – 05/2016).

▪ **Paper or Plastic? Paper!**

Carlos D. Garcia, Elizabeth Evans, Eric Costa, Ellen Moreira, Wendell Coltro, Claudimir Do Lago
PacifiChem 2016 (Honolulu, HI – 12/2015)

▪ **Using Pyrolyzed Paper for Electrochemical Detection in Microfluidic Paper-Based Analytical Devices**

Carlos D. Garcia, Elizabeth Evans, Jason Giuliani, Gema Duran, Angel Rios, Tomas Benavidez
SciX2015 (Providence, RI – 09/2015)

▪ **Production of carbon-based electrodes from pyrolyzed paper and its applications for metals determination**

L. A. J. Silva, W. P. Silva, R. A. A. Munoz, Jason Giuliani, C. D. Garcia, E. M. Richter
XX SIBAAE - Simpósio Brasileiro de Eletroquímica e Eletroanalítica (Uberlândia, Brazil – 08/2015)

▪ **Instrumentation for Remote Capillary Electrophoresis**

Eric Tavares da Costa, Maria F. Mora, Peter A. Willis, Claudimir L. do Lago, Hong Jiao, and Carlos D. Garcia
2015 ISCC & GCxGC 2015 (Ft. Worth, TX – 05/2015)

- **Playing Frankenstein: Populating the Interface with Electric Potential**
C. D. Garcia and T. E. Benavidez
2014 SACNAS (Los Angeles, CA – 10/2014)
- **How low can we get? Versatile Fabrication and Control of Microfluidic Devices**
Ellen Flávia Moreira Gabriel, Eric Tavares da Costa, Wendell Karlos Tomazelli Coltro, Maria F. Mora, Peter A. Willis, Claudimir L. do Lago, Hong Jiao, and Carlos D. Garcia
LACE 2014 - 20th Latin-American Symposium on Biotechnology, Biomedical, Biopharmaceutical, and Industrial Applications of Capillary Electrophoresis and Microchip Technology (Natal, Brazil – 10/2014)
- **Potential-assisted adsorption of bovine serum albumin onto optically-transparent carbon electrodes**
C. D. Garcia and T. E. Benavidez
69th Southwest Regional Meeting of the American Chemical Society (Waco, TX – 11/2013)
- **Size matters!**
T. E. Benavidez, J. Felhofer, S. A. Bhakta, M. T. Gordon, E. F. Moreira, E. Evans, and C. D. Garcia*
7th Argentinean Congress of Analytical Chemistry (Mendoza, Argentina – 10/2013) - [Plenary Speaker](#)
- **Size matters!**
Carlos D. Garcia
Symposium to commemorate the 30th Anniversary of the National Institute for Research in Physical Chemistry of Cordoba, National University of Córdoba (Cordoba, Argentina – 05/2013)
- **New tricks of old Instruments**
Thiago P. Segato, Samir A. Bhakta, Matthew Gordon, Emanuel Carrilho, Peter A. Willis, Hong Jiao, and Carlos D. Garcia
29th International Symposium on MicroScale Bioseparations (Charlottesville, VA – 03/2013) - [Keynote speaker](#)
- **Analysis of Metallic Cations Using Microfab-Less Microchips with Conductimetric Detection**
Thiago Pinotti Segato, Samir A. Bhakta, Matthew Gordon, Emanuel Carrilho, Peter A. Willis, Hong Jiao, and Carlos D. Garcia
LACE 2012 - 18th Latin-American Symposium on Biotechnology, Biomedical, Biopharmaceutical, and Industrial Applications of Capillary Electrophoresis and Microchip Technology (Buenos Aires, Argentina – 12/2012)
- **Love and Death, the Story of Most Proteins and Most Surfaces as Told by Spectroscopic Ellipsometry**
Tomas Benavidez, Karin Y. Chumbimuni-Torres, Jessica L. Felhofer, and Carlos D. Garcia*
59th Symposium of the American Vacuum Society Symposium (Tampa, FL – 11/2012).
- **Determination of Nitrite in Saliva Using Microfluidic Paper-Based Analytical Devices**
Rubiane Borba, Samir Bhakta*, Mario Junior, Carlos D Garcia and Emanuel Carrilho
ITP 2012 – 19th International Symposium, Exhibit & Workshops on Electro- and Liquid Phase-separation Techniques (Baltimore, MD – 10/2012)
- **Unmanned Platform for Long-Range Remote Analysis of Volatile Compounds in Air Samples**
Eric Tavares da Costa, Carlos A Neves, Guilherme Minoru Hotta, Denis Tadeu Rajh Vidal, Marcelo Fagundes Barros, Arturo A. Ayon, Carlos D. Garcia and Claudimir Lucio do Lago*
ITP 2012 – 19th International Symposium, Exhibit & Workshops on Electro- and Liquid Phase-separation Techniques (Baltimore, MD – 10/2012)
- **Integration of nanomaterials into microfluidics: advantages and methodologies**
III Escola de inverno de Separações (Instituto de Química da Universidade Estadual de Campinas, UNICAMP (Campinas, Brazil – 07/2012).
- **New carbon-based nanomaterials for improved detection in microfluidic devices**
II Workshop in Microfluidics (Laboratório Nacional de Luz Síncrotron, Centro Nacional de Pesquisa em Energia e Materiais (CNPEM – UNICAMP) (Campinas, Brazil – 07/2012).
- **Microchips, Robots, and Nanomaterials: Novel strategies for the analysis of biologically active compounds**
III International Workshop on Analytical Miniaturization and NANOTEchnologies, WAM-NANO2012 (Barcelona, Spain – 06/ 2012)
- **Rational development of biosensors based on enzymes adsorbed onto carbon nanotubes**
Jessica L. Felhofer*, M. Reza Nejadnik, Karin Y. Chumbimuni-Torres, and Carlos D. Garcia
243rd ACS National Meeting (San Diego, CA – 03/2012)
- **Microfab-Less Microchips with Integrated Optical and C⁴D**
Carlos D Garcia*, Matthew Gordon, Samir Batkha, Claudimir do Lago, Eric Tavares da Costa

Pittcon 2012 (Orlando, FL – 03/2012)

- **Remote Chemical Analysis of Volatile Compounds Using Microchip - Capillary Electrophoresis and Electrochemical Detection**
Carlos D. Garcia*, Claudimir L. do Lago, Carlos A. Neves, Eric Tavares da Costa, Guilherme Minoru Otta, Marcelo Fagundes Barros, Thiago Garcia, and Arturo A. Ayon
LabAutomation 2011 (Palm Springs, CA – 01/2012)
- **Love and Death: What Happens When Proteins Fall in Love With a Surface**
Carlos D Garcia*, Karin Y. Chumbimuni-Torres, Raju Khan, Adelphé M. Mfuh, Maria F. Silva, Waldemar Gorski, and George R. Negrete
LACE 2011 - 17th Latin-American Symposium on Biotechnology, Biomedical, Biopharmaceutical, and Industrial Applications of Capillary Electrophoresis and Microchip Technology (Hollywood Beach, FL – 12/2011)
- **Nanomaterials, Proteins, and the solution in Between Them**
Carlos Garcia, Karin Chumbimuni-Torres, Jessica Felhofer, Maria F. Silva, Rena Bizios, Adelphé Mfuh, George Negrete
1st Meeting of the Society for Laboratory Automation and Screening (SLAS 2012; San Diego, CA – 02/2011)
- **Combining Nanomaterials with Microfluidic Structures**
Jessica L. Felhofer, Gabrielle Haby, Gisela de la Garza, and Carlos D Garcia*
16th Latin-American Symposium on Biotechnology, Biomedical, Biopharmaceutical, and Industrial Applications of Capillary Electrophoresis and Microchip Technology (SC, Brazil – 12/2010)
- **Integration of Microchips, Capillary Electrophoresis, and Electrochemical Detection with Robotic Platforms to Perform Remote Chemical Analysis**
Claudimir L. do Lago, Carlos A. Neves, Eric Tavares da Costa, Guilherme Minoru Otta, Marcelo Fagundes Barros, Thiago Garcia, Arturo A. Ayon, Carlos D. Garcia
17th International Symposium on Electro- and Liquid Phase-separation Techniques (Baltimore, MD – 08/2010)
- **Analytical Applications of Enzymes Adsorbed to Nanomaterials**
Carlos D. Garcia
V Encuentro Internacional de Nanotecnologia (Leon, Mexico – 08/2010)
- **Combining Microchips, Nanomaterials, and Enzymes**
Carlos D. Garcia*
LabAutomation 2010 (Palm Springs, CA – 01/2010)
- **LOAR²: Integration of Microchip-CE-PED with Free Web Platforms**
Carlos Neves, Arturo Ayon, and Carlos Garcia*
LACE 2009 (Seville, Spain – 11/2009)
- **Smaller is Better: A Tale About Surfaces and Microfluidics**
Carlos D. Garcia*, Maria F. Mora, Jessica Felhofer, Gabrielle Guy, Carla Giacomelli, Jennifer Wehmeyer, Rena Bizios, and Arturo Ayon
Keynote Speaker – XVII Simpósio Brasileiro de Eletroquímica e Eletroanalítica (Fortaleza, Brazil – 04/2009)
- **LOAR¹: Integrated Microchip – Capillary Electrophoresis, Power Supply, Electrochemical Detector, Wireless Unit, and Mobile Platform**
Carlos A. Neves, Christopher Berg, Maria F. Mora, Emanuel Carrilho, Arturo Ayon, and Carlos D. Garcia*
LACE 2008 (Puerto Vallarta, Mexico – 11/2008)
- **Chemometrics Applied to Micellar Electrokinetic Chromatography**
Jessica Felhofer, Grady S. Hanrahan, and Carlos D. Garcia*
FACSS 2008 (Reno, NV – 10/2008)
- **Microfluidics Meet Surfaces: Analysis of Biologically Relevant Compounds Using Microchips, Capillary Electrophoresis, and Biosensors**
M. F. Mora, J. Felhofer, G. Guy, J. Wehmeyer, R. Bizios, A. Ayon, and C. D. Garcia*
Analytical Chemistry Symposium at the 50th Rocky Mountain Conference (Breckenridge, CO – 07/2008)
- **What Can We Do to Improve the Analysis of Phenolic Compounds by Capillary Electrophoresis?**
Maria F. Mora, Jessica Felhofer, Karen Scida, Arturo Ayon, Carla Giacomelli, and Carlos D. Garcia*
LACE 2007 (Santiago de Chile, Chile – 11/2007)
- **Electrophoretic Effects of the Adsorption of Anionic Surfactants to Poly(dimethylsiloxane)-Coated Capillaries**
Maria F. Mora, Carla Giacomelli, and Carlos D. Garcia*
34th FACSS Meeting (Memphis, TN – 10/2007)

- **Strategies Towards the Analysis of Biologically Relevant Phenolic Compounds Using Capillary Electrophoresis**
Maria F. Mora, Yongsheng Ding, and Carlos D. Garcia*
LACE 2006 (Santiago de Queretaro, Mexico – 11/2006)
- **Detection of Biologically Relevant Phenolic Compounds Using CE and Microchip-CE**
Carlos D. Garcia*, Yongsheng Ding, Eric Mejia, and Maria F. Mora
33rd FACSS Meeting (Orlando, FL – 09/2006)

Presentations in Scientific Meetings (* denotes presenting author)

- **Electrochemical Analysis of Probiotics using Laser-Engraved Electrodes**
Juliana L. M. Gongoni,* George Chumanov, Carlos D. Garcia and Thiago R. L. C. Paixão
74th Meeting of the International Society of Electrochemistry (Lyon, France – 07/2023)
- **Teaching Chemistry to Computers: Exploring the Chemical Space through text**
Armelle Varillas, Lucas Ayres, and Carlos D Garcia
National Consortium of Secondary STEM Schools (Chicago, IL – 06/2023)
- **Using Artificial Intelligence to formulate New Deep Eutectic Solvents**
Armelle Varillas, Lucas Ayres, and Carlos D Garcia
South Carolina Junior Academy of Science (Charleston, SC – 03/2023) - [Presentation selected for Best Oral Presentation, Computer Science \(1st Place\)](#)
- **A Wearable Biosensor to Diagnose *Staphylococcus aureus* Skin Infections**
Lucas Ayres, Jordan Brooks, Kristi Whitehead and Carlos D Garcia
SERMACS 2022 (San Juan, PR – 10/2022)
- **On-Site Preparation of Natural Deep Eutectic Solvents Using Solar Energy**
Ricardo Elia Dazat, Ezequiel Vidal, Anabela S. Lorenzetti, Carlos D. García, Claudia Domini, María F. Silva, Federico J. V. Gomez
SERMACS 2022 (San Juan, PR – 10/2022)
- **Teaching Chemistry to Computers: Exploring the Chemical Space through text**
Armelle Varillas, Lucas Ayres, and Carlos D Garcia
SERMACS 2022 (San Juan, PR – 10/2022)
- **Teaching Chemistry to Computers: Exploring the Chemical Space through text**
Lucas Ayres, Armelle Varillas, and Carlos D Garcia
20th National Meeting of Analytical Chemistry (Rio Grande do Sul, Brazil – 09/2022)
- **Monitoring the Advanced Oxidation of Paracetamol using ZnO film by Capillary Electrophoresis**
Luz A. Hernández-Carabalí, Rakesh Sachdeva, E. Marín, J. B. Rojas-Trigos and Carlos D. García
International-Mexican Congress on Chemical Reaction Engineering (06/2020 - Zacatecas, México)
- **Kinetic Analysis of 5-Hydroxymethylfurfural to 2,5-Furandicarboxylic Acid Using ZnO/PPy As Catalyst Under Visible Light Irradiation**
Diego Alexander Gonzalez Casamachin Javier Rivera De la Rosa, Carlos J Lucio Ortiz, Ladislao Sandoval Rangel, Carlos D García, David A de Haro del Rio, Diana Bustos Martínez
17th International Congress on Catalysis, 2020 Vision (06/2020 – San Diego, CA)
- **Oxidación fotocatalítica de 5 hidroximetilfurfural a productos de biorrefinerías usando un compuesto de ZnO PPy como fotocatalizador bajo irradiación de luz visible**
Diego Alexander Gonzalez Casamachin Javier Rivera De la Rosa, Carlos J Lucio Ortiz, Ladislao Sandoval Rangel, Carlos D García, David A de Haro del Rio, Diana Bustos Martínez
VII International Meeting / XVI Mexican Meeting on Catalysis (11/2019 - Tabasco, Mexico)
- **Pyrolyzed Cotton Balls for Protein Removal: Analysis of Pharmaceuticals in Serum by CE**
Paige Reed, Rafael Cardozo, Rodrigo Munoz, and Carlos D. Garcia
ITP2019 (09/2019 – Toulouse, France)
- **Carbon Tape as a Convenient Electrode Material for Electrochemical Paper-Based Microfluidic Devices (ePADs)**
Paige Reed, Federico Gomez, George Chumanov, Maria F. Silva, and Carlos D. Garcia
SCIX2018 (10/2018 – Atlanta, GA)
[Presentation selected for Best Poster Award \(3rd Place\)](#)
- **Increasing Color Intensity via Adsorption Using Paper-Based Microfluidic Devices**
Laura McCann, Thiago Segato, Carlos D. Garcia, and Emanuel Carrilho

WoPhys 2018 (10/2018 – Lincoln, NE)

- **Simultaneous Analysis of Inorganic Salts and Amino Acids by Capillary Electrophoresis and Contactless Conductivity Detection for Astrobiology Studies**
M. F. Mora, M. S. F. Santos, T. G. Cordeiro, A. Noell, C. D. Garcia, and P. A. Willis
42nd COSPAR Scientific Assembly (Pasadena, CA – 07/2018)
- **Photochemical and Photocatalytic Degradation of 1-Propanol Investigated by CE-C4D**
Thiago Gomes Cordeiro, Carlos D. Garcia, and Ivano G. R. Gutz
Pittcon 2018 (Orlando, FL – 03/2018)
- **Addressing the Distribution of Proteins Spotted on μ PADs**
Laura McCann, Tomás E. Benavidez, Sarah Holtsclaw, and Carlos D. Garcia
 μ TAS 2017 (10/2017 – Savannah, GA)
- **Catalizadores de alúmina modificado con grupos orgánicos para el proceso de deshidratación de fructosa en un reactor continuo para la obtención de 5-hidroximetilfurfural**
D. X. Martínez-Vargas, J. Rivera DelaRosa, C. J. Lucio-Ortiz, A. Hernández-Ramireza, G. A. Flores-Escamilla, and C. D. Garcia
XV Congreso Mexicano y VI Congreso Internacional de Catálisis (Monterrey, Mexico – 10/2017)
- **Preparation, characterization and comparison of Cu/Al₂O₃ catalyst and TiO₂ photocatalyst in the oxidation of methanol and ethanol**
Francisco Morales, Carlos D Garcia, and Javier Rivera de la Rosa
XV Congreso Mexicano y VI Congreso Internacional de Catálisis (Monterrey, Mexico – 10/2017)
- **Functionalization-free Microfluidic Electronic Tongue Based on Single Response**
F. M. Shimizu, F. Todao, A. L. Gobbi, O. Novais-Oliveira Jr, Carlos D Garcia, Renato Souza Lima
XVI Brazil Materials Research Society (09/2017 – Gramado, RS – Brazil)
- **Surface Characterization by DNP-Surface Enhanced Spectroscopy on an Alumina Catalyst System Designed for the Synthesis of 5-Hydroxymethylfurfural**
Sungsool Wi, Carlos D. Garcia, Leah B. Casabianca, and Javier Rivera de la Rosa
ISMAR 2017 (07/2017 – Quebec, Canada)
- **Functionalization-free Microfluidic Electronic Tongue Based on Single Response**
F. M. Shimizu, F. Todao, A. L. Gobbi, O. Novais-Oliveira Jr, Carlos D Garcia, Renato Souza Lima
VII Workshop on Microfluidics (08/2017 – Sao Paulo, SP – Brazil)
- **Inclusion of Metallic Nanoparticles in Paper-Derived Carbon Electrodes for Bio-sensing Applications**
Fausto Comba, Tomás E. Benavidez, Ana M. Baruzzi, and Carlos D. Garcia
1st Argentine-German Workshop on Nanotechnology and Nanobiosensors (07/2017 - Buenos Aires, Argentina)
- **Catalizadores de alúmina modificado con grupos orgánicos para el proceso de deshidratación de fructosa en un reactor continuo para la obtención de 5-hidroximetilfurfural**
Francisco José Morales Leal, Aldo Alejandro Vázquez Mata, Victor Ermilo Coello Sánchez, Carlos Javier Lucio Ortiz, Ivan Alonso Santos López, David Alejandro De Haro Del Río, Gerardo Antonio Flores Escamilla, Carlos D. Garcia, Wi Sungsool and Javier Rivera de La Rosa
25th North American Meeting (NAM) of the Catalysis Society (06/2017 - Denver, CO)
- **Simple Method to Cut and Engrave in Glass by CO₂ laser assisted by wax for microfluidics applications**
Eric T. da Costa, Mauro S. Ferreira Santos, Hong Jiao, Ivano G. Rolf-Gutz, Carlos D. Garcia^a
Pittcon 2016 (03/2016 – Atlanta, GA)
- **Development and Characterization of Carbon Based Electrodes from Pyrolyzed Paper for Biosensing Applications**
Jason Giuliani, Gema M. Durán, Tomás E. Benavidez, Ángel Ríos and Carlos D Garcia*
2015 Annual Biomedical Research Conference for Minority Students (ABRCMS) (11/2015 – Seattle, WA)
- **Development Of Quantum Dots-Modified Paper-Based Analytical Devices For Simple And Rapid Analysis Of Glucose**
Ángel Ríos*, Carlos D. García, Gema M. Durán, and Tomás E. Benavidez
Euroanalysis 2015 (09/2015 - Bordeaux, France)
- **Produção de eletrodos à base de carbono a partir de papel pirolisado e sua aplicação na determinação de metais**
Luiz André Juvêncio-Silva, Weberson Pereira Da Silva, Rodrigo Alejandro Abarza-Muñoz, Jason G. Giuliani, Carlos D. Garcia, Eduardo Mathias Richter

XX Simposio Brasileiro de Electroquimica and Eletroanalitica (08/2015 – Uberlandia, Brazil)

- **Electrochemically-Pre-adsorbed Collagen Promotes Adult Human Mesenchymal Stem Cell Adhesion on Optically Transparent Nanostructured Carbon Substrates**
M. E. Wechsler, T. E. Benavidez, M. M. F. Farrer, R. Bizios, and C. D. Garcia
Society of Biomaterials Day @ Rice University (06/2015 – Houston, TX)
- **Catalizador complejo tipo salen de Co (II) empleado en la oxidación de fenol en presencia de aire**
D. X. Martínez-Vargas, J. Rivera de la Rosa, C. J. Lucio Ortiz, F. de J. Cerino Cordoba and Carlos D. Garcia
V Congreso Internacional y XIV Congreso Nacional de Catálisis (04/2015 – Valle del Bravo, Mexico)
- **Selective Oxidation of Phenol to Catechol By Air Using Co(II) Salen Catalyst Supported on SBA-15 and Kinetic Determination**
Daniela Xulú Martínez Vargas, Carlos D. Garcia, Javier Rivera de la Rosa, Saba Arif Iyooob, Fernando Sánchez de la Torre, Carlos J. Lucio Ortiz and Felipe de J. Cerino Cordoba
24th North American Catalysis Society Meeting, Industrial and Fine Chemicals (06/2015 – Pittsburg, PA)
- **UTSA Nanotechnology and Human Health Core**
Josefina Arellano-Jimenez, Arturo Ponce-Pedraza, Carlos D. Garcia, and Miguel Jose-Yacaman
International Symposium on Minority health and Health Disparities (12/2014 – Washington, DC)
- **Detection of Biomarkers using Nanoparticles and Nanostructured Materials**
Elizabeth Evans, Samir Bhakta, Tomas Benavidez, and Carlos D. Garcia
International Symposium on Minority health and Health Disparities (12/2014 – Washington, DC)
- **Adult Human Mesenchymal Stem Cell Adhesion on Optically Transparent Carbon Substrate Surfaces Modified with Electrochemically-Adsorbed Proteins**
M. M. Farrer, T. E. Benavidez, M. E. Wechsler, C. D. Garcia, and R. Bizios
2014 Annual Biomedical Research Conference for Minority Students (ABRCMS) (11/2014 – San Antonio, TX)
- **Development and Characterization of Carbon Based Electrodes from Pyrolyzed Paper for Biosensing Applications**
Jason Giuliani, Gema M. Durán, Tomás E. Benavidez, Ángel Ríos and Carlos D Garcia*
2014 Annual Biomedical Research Conference for Minority Students (ABRCMS) (11/2014 – San Antonio, TX)
- **US-Brazil IRES, Great Chemistry and Outstanding Results**
Frank Gomez, Emanuel Carrilho, and Carlos D. Garcia
LACE 2014 - 20th Latin-American Symposium on Biotechnology, Biomedical, Biopharmaceutical, and Industrial Applications of Capillary Electrophoresis and Microchip Technology (Natal, Brazil – 10/2014)
- **Simple and rapid process to modify microfluidic paper-based analytical devices with SiO₂ nanoparticles**
Ellen Flavia Moreira-Gabriel, Elizabeth Evans, Wendell K. Coltro, and Carlos D. Garcia
LACE 2014 - 20th Latin-American Symposium on Biotechnology, Biomedical, Biopharmaceutical, and Industrial Applications of Capillary Electrophoresis and Microchip Technology (Natal, Brazil – 10/2014)
- **Fabrication of sub-nL arrays using CO₂ laser engraving**
Valerie M Cano, Jeremy B Goldstein, Samir A Bhakta, Saba A Iyooob, and Carlos D. Garcia
LACE 2014 - 20th Latin-American Symposium on Biotechnology, Biomedical, Biopharmaceutical, and Industrial Applications of Capillary Electrophoresis and Microchip Technology (Natal, Brazil – 10/2014)
- **Fast and versatile fabrication of PMMA microchip electrophoretic devices by laser engraving**
Carlos D. Garcia, Ellen Flavia Moreira-Gabriel, and Wendell K. Coltro
μTAS 2014 (San Antonio, TX – 10/2014)
- **Getting started with open – hardware: development and control of microfluidic devices**
Eric T. Da Costa, Maria F Mora, Hong Jiao, Peter Willis, and Carlos D Garcia
μTAS 2014 (San Antonio, TX – 10/2014)
- **Stamping of Microfluidic Paper-Based Analytical Devices with Modified Chemically Surface for Clinical Diagnostics**
Paulo de T. Garcia, Thiago M. G. Cardoso, Carlos D. Garcia, Emanuel Carrilho and Wendell K. T. Coltro
μTAS 2014 (San Antonio, TX – 10/2014)
- **Optical Characterization of Ferroelectric PZT Thin Films by Variable Angle Spectroscopic Ellipsometry**
Md. Shafiqur Rahman, Carlos D. Garcia, Amar Bhalla, and Ruyan Guo
SPIE Meeting - Photonic Fibers and Crystal Devices Conference (San Diego, CA – 08/2014)
- **Potential-Assisted Adsorption of BSA onto OTCE**
Tomas E. Benavidez, Rihanna Velazquez and Carlos D. Garcia
SACNAS 2013 (San Antonio, TX – 10/2013)

- **Detection of Nitrite in Saliva using Paper-Based Microfluidic Devices**
 Samir Bhakta, Rubianne Borba, Mario Taba Junior, Emanuel Carrilho, Carlos D. Garcia
 SACNAS 2013 (San Antonio, TX – 10/2013)
- **Electrochemical Detection of Superoxide Using SOR Immobilized on Carbon Nanotubes**
 Fabiane Galdino* and Carlos D Garcia
 Bioelectrochemistry 2013 (Bochum, Germany – 03/2013)
- **CNT-Enhanced Electrochemical Detection in Capillary Electrophoresis and Microchip - Capillary Electrophoresis**
 Fabiane Caxico de Abreu and Carlos D. Garcia
 ITP 2012 – 19th International Symposium, Exhibit & Workshops on Electro- and Liquid Phase-separation Techniques (Baltimore, MD – 10/2012)
- **Capillary Electrophoresis Used to Follow the Kinetics of the Oxidation of Phenolic Compounds by a Co(II) Salen Complex**
 Fernando Sanchez de La Torre, Javier Rivera de La Rosa, Ghezai Musie, and Carlos D. Garcia
 LACE 2011 - 17th Latin-American Symposium on Biotechnology, Biomedical, Biopharmaceutical, and Industrial Applications of Capillary Electrophoresis and Microchip Technology (Hollywood Beach, FL – 12/2011)
- **Amperometric Lactate Biosensor Based on Nanostructured Carbon Electrodes**
 Sarah A. Alharthi, Waldemar Gorski, and Carlos D. Garcia
 LACE 2011 - 17th Latin-American Symposium on Biotechnology, Biomedical, Biopharmaceutical, and Industrial Applications of Capillary Electrophoresis and Microchip Technology (Hollywood Beach, FL – 12/2011)
- **Lab-on-a-robot: Plataforma robótica para detecção de agentes de guerra química**
 Carlos A. Neves, Claudimir L. do Lago, Carlos D. Garcia, Arturo Ayon
 Semana da Quimica – University of Sao Paulo (Sao Paulo, Brazil - 09/2011)
- **Adsorption of Proteins onto PDMS-Like Nanofilms to Promote Mammalian Cell Adhesion**
 Ramon E. Coronado, Karin Y. Chumbimuni-Torres, Adelphe M. Mfuh, Maria Fernanda Silva, George R. Negrete, Rena Bizios and Carlos D. Garcia
 2011 Annual Meeting of the Biomedical Engineering Society (Hartford, CT – 10/2011)
- **Fabrication of PDMS-Like Nanofilms That Promote Protein Adsorption and Mammalian Cell Adhesion**
 Ramon E. Coronado, Karin Y. Chumbimuni-Torres, Adelphe M. Mfuh, Maria Fernanda Silva, George R. Negrete, Rena Bizios and Carlos D. Garcia
 3rd International Conference from Nanoparticles and Nanomaterials to Nanodevices and Nanosystems (Halkidiki, Greece – 06/2011)
- **On-line Preconcentration, Derivatization, and Capillary Electrophoresis Separation of Biogenic Amines**
 Jessica Felhofer*, Karen Scida, and Carlos D. Garcia
 Pittcon 2011 (Atlanta, GA – 03/2011)
- **US-Brazil IRES: Development and Applications of Microfluidic Devices**
 Emanuel Carrilho, Frank Gomez and Carlos D Garcia*
 LACE 2010 (Jurere, Brazil – 12/2010)
- **The Investigation of Binding Interactions Between Analytes and Amphiphilic Compounds**
 Gabrielle Haby*, Gisela de la Garza and Carlos D Garcia
 LACE 2010 (Jurere, Brazil – 12/2010)
- **On-line Preconcentration, Derivatization, and Capillary Electrophoresis Separation of Biogenic Amines**
 Jessica Felhofer*, Karen Scida, and Carlos D. Garcia
 LACE 2010 (Jurere, Brazil – 12/2010)
- **Application of Carbon Nanotubes as Working Electrodes for Cyclic Voltammetry & Impedance Spectroscopy**
 Joseph Barrios*, Murilo Cabral, Emanuel Carrilho, Carlos D Garcia, and Arturo Ayon
 2010 Fall Meeting - Texas Section of the American Physical Society (San Antonio, TX – 10/2010)
- **Adsorption of Catalase onto Carbon Nanotubes for Biosensor Applications**
 Jessica L. Felhofer* and Carlos D. Garcia
 5th International Conference on Spectroscopic Ellipsometry (Albany, NY – 05/2010)
- **Determination of a Setup Correction Function to Obtain Adsorption Kinetic Data at Stagnation Point Flow Conditions**
 M. Reza Nejadnik*, Maria F. Mora, Javier Baylon, Carla E. Giacomelli and Carlos D. Garcia
 5th International Conference on Spectroscopic Ellipsometry (Albany, NY – 05/2010)
- **On-line Preconcentration, Tagging, and Capillary Electrophoresis Separation of Biogenic Amines**

Karen Scida, Jessica Felhofer*, and Carlos D. García
LACE 2009 (Seville, Spain – 11/2009)

- **Improving Heat Transfer Capacity in PDMS Microchips**
Gabrielle Guy, Claudimir L. do Lago, and Carlos D. Garcia*
LACE 2009 (Seville, Spain – 11/2009)
- **Characterization of Atomic Layer Deposited Al₂O₃ and ZnO films for Nano and Micro-applications**
Ramakrishna Kotha, Carlos D. Garcia and Arturo Ayon*
2009 Nanotech Conference (Houston, TX – 05/2009)
- **Wireless Control of Microchip Capillary Electrophoresis With a Mobile Platform**
David C. Valdez, Christopher Berg, Phillip Bergeron, Maria F. Mora, Carlos D. Garcia, and Arturo A. Ayon*
Symposium on Design, Test, Integration, and Packaging of MEMS (Rome, Italy – 04/2009)
- **Wireless Control of Microchip Capillary Electrophoresis with Electrochemical Detection**
D. C. Valdez, C. Berg, P. Bergeron, M. F. Mora, C. D. Garcia, and A. A. Ayon
Third International Workshop on Multianalyte Biosensing Devices (Athens, Greece – 09/2008)
- **Combining Surfaces, Enzymes and Microfluidic Structures**
M. F. Mora, R. Hackworth, R. Kotha, C. E. Giacomelli, C. D. Garcia and A. Ayon
Third International Workshop on Multianalyte Biosensing Devices (Athens, Greece – 09/2008)
- **Enhanced Electrochemical Responses of Glassy Carbon and Gold Electrodes Modified with Gold Nanoparticles**
Ross Hackworth, Ramakrishna Kotha, Carlos D. Garcia and Arturo A. Ayon,
34th International Conference on Micro and Nano Engineering (Athens, Greece – 09/2008)
- **Microfluidics and Nanostructured Surfaces**
Carlos D. Garcia*, Maria F. Mora, Jessica Felhofer, Gabrielle Guy, Carlos A. Neves, and Arturo Ayon
LACE 2008 (Puerto Vallarta, Mexico – 11/2008)
- **Synthesis, Characterization, and Electroanalytical Application of Gold Nanorods**
Ross Hackworth, Ramakrishna Kotha, Carlos D. Garcia, and Arturo A. Ayon*
2008 National Nano Engineering Conference (Boston, MA – 11/2008)
- **Smaller is better: Microfluidics Meet Surfaces**
Carlos D. Garcia*, Maria F. Mora, Carla Giacomelli, Jennifer Wehmeyer, Rena Bizios, and Arturo Ayon
FACSS 2008 (Reno, NV – 10/2008)
- **Wireless Control of Microchip Capillary Electrophoresis with Electrochemical Detection**
David C. Valdez, Christopher Berg, Phillip Bergeron, Maria F. Mora, Carlos D. Garcia*, and Arturo A. Ayon
Third International Workshop on Multianalyte Biosensing Devices (Athens, Greece – 09/2008)
- **Combining Surfaces, Enzymes and Microfluidic Structures**
Maria F. Mora, Ross Hackworth, Ramakrishna Kotha, Carla E. Giacomelli, Carlos D. Garcia, and Arturo Ayon*
Third International Workshop on Multianalyte Biosensing Devices (Athens, Greece – 09/2008)
- **Enhanced Electrochemical Responses of Glassy Carbon and Gold Electrodes Modified with Gold Nanoparticles**
Ross Hackworth, Ramakrishna Kotha, Carlos D. Garcia, and Arturo A. Ayon*
34th International Conference on Micro and Nano Engineering (Athens, Greece – 09/2008)
- **Multi vs Univariate Optimization of Separation Conditions by Micellar Electrokinetic Chromatography: Analysis of Five Bisphenols**
Jessica Felhofer*, Grady S. Hanrahan, and Carlos D. García
Pittcon 2008 (New Orleans, LA – 02/2008)
- **Lab-on-a-Chip Biosensor for Glucose Based on a Packed Immobilized Enzyme Reactor**
Lucas Blanes, Maria F. Mora, Claudimir L. do Lago, Arturo Ayon, and Carlos D. Garcia*
Pittcon 2008 (New Orleans, LA – 02/2008)
- **What Can We Do to Improve the Analysis of Phenolic Compounds by Capillary Electrophoresis?**
Maria F. Mora, Jessica Felhofer, Arturo Ayon, and Carlos D. Garcia*
Microfluidics and Nanofluidics Conference (Cancun, Mexico – 02/2008)
- **Lab-on-a-Robot: Integration of a Wirelessly Controlled MEMS Capillary Electrophoresis Microchip on a Robotic Platform**
Christopher Berg, David C. Valdez, Phillip Bergeron, Maria F. Mora, Arturo Ayon, and Carlos D. Garcia*
Microfluidics and Nanofluidics conference (Cancun, Mexico – 02/2008)
- **Development of Lab-on-a-Chip Biosensor for Glucose Based on a Packed Immobilized Enzyme Reactor**

Lucas Blanes, Maria F. Mora, Claudimir L. DoLago, Arturo Ayon, and Carlos D. García*
34th FACSS Meeting (Memphis, TN – 10/2007)

- **Bifunctional surfaces: poly-cytosine over carbon nanotubes**
M. Lucrecia Carot*, Pablo A. Fiorito, Roberto M. Torresi, Carlos D. García, and Carla E. Giacomelli*
XIV Congreso Argentino de Físicoquímica y Química Inorgánica (Buenos Aires, Argentina – 04/2007)
- **Adsorption of D-Amino Acid Oxidase on solid surfaces**
Bregje de Kort, Anuka Minassian, Laura E. Valenti, Carlos D. Garcia, Carla E. Giacomelli*
XIV Congreso Argentino de Físicoquímica y Química Inorgánica (Buenos Aires, Argentina – 04/2007)
- **Effect of the Surfactant Structure in the Analysis of Phenolic Compounds Using Microchips and Electrochemical Detection**
Yongsheng Ding, Maria F. Mora*, and Carlos D. Garcia
Pittcon 2007 (Chicago, IL – 02/2007)
- **Electrophoretic Effects of the Adsorption of Alkyl Surfactants to PDMS**
Maria F. Mora, Yongsheng Ding, Carla Giacomelli, and Carlos D. Garcia*
Pittcon 2007 (Chicago, IL – 02/2007)
- **Analysis of Environmentally Important Phenolic Compounds by Capillary Electrophoresis Using Fused Silica Capillaries Coated with Montmorillonite**
Maria F. Mora*, and Carlos D. Garcia
33rd FACSS Meeting (Orlando, FL – 09/2006)
Presentation Selected for the FACSS Student Award 2006 - Honorable Mention
- **Analysis of Phenolic Contaminants Using Microchip-Capillary Electrophoresis and Electrochemical Detection**
Carlos D. Garcia*, Yongsheng Ding, Eric Mejia, and Maria F. Mora
33rd FACSS Meeting (Orlando, FL – 09/2006)
- **Analysis of alkyl gallates and nordihydroguaiaretic acid using plastic capillary electrophoresis – microchips**
Y. Ding, M. F. Mora, and C. D. Garcia*
Pittcon 2006 (Orlando, FL – 03/2006)
- **Detection of Phenolic Compounds by Microchip-CE**
C. D. Garcia, Y. Ding*, M., F. Mora, and E. Mejia
Pittcon 2006 (Orlando, FL – 03/2006)
- **Application of Microchip-CE to the Analysis of Biologically Important Phenolic Compounds**
Yongsheng Ding, Maria F. Mora, Eric Mejia, Francisco X. Ruiz, and Carlos D. Garcia*
LACE 2005 (Guaruja, Brazil – 11/2005)
- **Analysis of Non-steroidal Anti-inflammatory Drugs (NSAIDs) by Microchip-CE with Pulsed Electrochemical Detection**
E. Mejia*, C. D. Garcia, M. F. Mora, and Y. Ding
2005 Annual Biomedical Research Conference for Minority Students (Atlanta, GA – 11/2005)
- **Analysis of Phenolic Antioxidants by Microchip-CE with Electrochemical Detection**
F. X. Ruiz*, C. D. Garcia, Y. Ding, and M. F. Mora
2005 Annual Biomedical Research Conference for Minority Students (Atlanta, GA – 11/2005)
- **Coupling Electrochemistry with Microchip Electrophoresis: Analysis of Aerosol Particles**
C. S. Henry*, C. D. Garcia, Y. Liu, J. Vickers, G. Engling, X-Y. Yu, and J. Collett
206th Meeting of The Electrochemical Society (Honolulu, HI – 10/2004)
- **Bioanalytical applications of microchip-CE with pulsed electrochemical detection**
C. D. Garcia* and C. S. Henry
32nd FACSS Meeting (Portland, OR – 10/2004)
- **Direct detection of biologically relevant carbohydrates and thiols using microchip CE-PED**
C. D. Garcia and C. S. Henry*
LabFusion 2004 (Boston, MA – 06/2004)
- **New Techniques for the Measurement of Wood Smoke Marker Compounds**
J. L. Collett*, Jr., G. Engling, P. Herckes, C. Garcia, C. Henry, and W. Malm
Symposium on Air Quality Measurement Methods and Technology (Cary, NC – 04/2004)
- **Analysis of biologically active compounds by Microchip-CE and Pulsed Electrochemical Detection**
C. D. Garcia* and C. S. Henry
Pittcon 2004 (Chicago, IL – 03/2004)

- **Comparison of solution and plasma deposited coatings for flow control in microfluidic devices**
 M. Boggs, A. Hendersen, I. Martin, Y. Liu*, C. D. Garcia and C. S. Henry
 Pittcon 2004 (Chicago, IL – 03/2004)
- **Measurement of Protein-protein Interactions by Self Interaction Chromatography. From standard to microchip scale**
 C. S. Henry*, C. D. Garcia, and J. Valente
 Pittcon 2004 (Chicago, IL – 03/2004)
- **Application of Pulsed Amperometric Detection – Microchip CE to clinical analysis**
 C. D. García* and C. S. Henry
 31st FACSS Meeting (Portland, OR – 10/2004)
- **Enhancing Electrochemical Detection for Microchip Electrophoresis**
 C. S. Henry*, C. D. Garcia, Y. Liu, and J. Vickers
 30th FACSS Meeting (Fort Lauderdale, FL – 07/2003)
- **A Simplified Electrode Configuration for Microchip Electrophoresis/Electrochemistry**
 C. S. Henry and C. D. García*

30th FACSS Meeting (Fort Lauderdale, FL – 07/2003)
- **Microchip CE – Pulsed Amperometric Detection of Biologically Relevant Compounds**
 C. D. García and C. S. Henry*

SmallTalk 2003 (San Jose, CA – 07/2003)
- **Advances in Lab-on-a-Chip Devices**
 C. D. García and C. S. Henry*

Denver Conference (Denver, CO – 12/2002)
- **The Potential of Microchip Separations in Drug Development and Analysis**
 C. D. García*, W. W. Wilson, C. S. Henry
 29th FACSS Meeting (Fort Lauderdale, FL – 07/2003)
- **GCE modified with Humic Acids for the determination of Cations in FIA**
 C. D. García* and P. I. Ortiz
 2nd Argentinean Analytical Chemists Meeting (Santa Fé, Argentine – 12/2001)
- **GCE Modified with Humic Acids for Cations Stripping Determination**
 C. D. García and P. I. Ortiz*

7th International Symposium on Kinetics in Analytical Chemistry (Bucarest, Rumania – 09/2001)
- **Propyl Gallate Determination in Soap Samples**
 V. Andreoli, C. D. García*, and P. I. Ortiz
 XII Argentinean Meeting of Physical Chemistry (San Martín de Los Andes, Argentine – 04/2001)
- **Study of Phenol Adsorption on Glassy Carbon by Reflectometry**
 G. García, C. D. García*, and P. I. Ortiz
 XII Argentinean Meeting of Physical Chemistry (San Martín de Los Andes, Argentine – 04/2001)
- **BHT Quantification by HPLC with a Polymer Modified Electrode**
 C. D. García and P. I. Ortiz*

8th International Conference on Flow Analysis (Warsaw, Poland – 10/2000)
- **Amperometric Quantification of Phenolic Antioxidants Using a Carbon electrode**
 C. D. García and P. I. Ortiz*

8th International Conference on Electroanalysis (Bonn, Germany – 10/2000)
- **Electron Transfer Kinetics at Polymer Modified Electrodes**
 C. D. García, J. M. De Paoli, and P. I. Ortiz*

46th International Society of Electrochemistry Meeting (Pavía, Italia – 09/1999)
- **BHT Quantification in Different Vegetable Oil Samples**
 C. D. García*, E. Haggi, and P. I. Ortiz
 XI Argentinean Meeting of Physical Chemistry (Santa Fe, Argentine – 04/1999)
- **Electrochemical Study of Different Antioxidants Mixtures**
 C. D. García*, P. I. Ortiz, and C. P. De Pauli
 XI Argentinean Meeting of Physical Chemistry (Santa Fe, Argentine – 04/1999)
- **Electrochemical Determination of BHA and TBHQ in Cosmetic Products**
 C. D. García, P. I. Ortiz*, and C. P. De Pauli
 XI Brazilian Symposium of Electrochemistry and Electroanalysis (Maragogi, Brazil – 04/1999)

- **BHT Determination in Eatable Oil Samples**
C. D. García* and P.I. Ortiz
XIII Meeting of the Iberoamerican Society of Electrochemistry (Viña del Mar, Chile – 03/1998)
- **Electrochemical Characterization of Polymer Films: Charge Transfer Reactions**
Monzón, C. D. García*, and P. I. Ortiz.
XIII Meeting of the Iberoamerican Society of Electrochemistry (Viña del Mar, Chile – 03/1998)
- **Electrochemical Determination of BHT in Industrial Oil Samples**
C. D. García* and P. I. Ortiz
X Argentinean meeting of Physical Chemistry (San Miguel de Tucumán, Argentina – 04/1997)
- **CME for the Amperometric Determination of Phenolic Compounds in FIA**
C. D. García and P. I. Ortiz*
X Brazilian Symposium of Electrochemistry and Electroanalysis (São Carlos, Brazil – 10/1996)
- **Dissolution of Chromium Hydroxides Monitored by Turbidimetry**
M. J. Avena*, C. E. Giacomelli, C. D. García, and C. P. De Pauli
XIV European Chemistry and Interfaces Conference (Antwerp, Belgium – 10/1996)
- **Flow Amperometric Determination with Chemically Modified Electrodes**
C. D. García* and P. I. Ortiz
XXI Argentinean Meeting of Chemistry (Bahía Blanca, Argentine – 09/1996)
- **Quantification of Phenol and Substituted Phenols in Continuous Flow with Amperometric Detection**
C. D. García and P. I. Ortiz*
XII Iberoamerican Meeting of Electrochemistry (Mérida, Venezuela – 03/1996)
- **Cholesterol Quantification with Carbon Electrodes**
C. D. García* and P. I. Ortiz
XX Argentinean Meeting of Chemistry (Cordoba, Argentine – 11/1994)
- **Nickel Determination with Humic Acid Modified Carbon Electrodes**
C. D. García* and P. I. Ortiz
IX Argentinean Meeting of Physical Chemistry (San Luis, Argentina – 11/1994)
- **Cations Determination on a Carbon Paste Electrode Modified with Humic Acids**
C. D. García, P. I. Ortiz*, and C. P. De Pauli
45th International Society of Electrochemistry Meeting (Porto, Portugal – 09/1994)

Presentations in Local Scientific Events

- **Taking the Leap between Chemistry and Artificial Intelligence**
Carlos D. Garcia
Spring 2023 Clemson Joint AI Symposium (Clemson, SC – 04/2023)
- **Using Artificial Intelligence to Formulate New Deep Eutectic Solvents**
Armelle Varillas, Lucas Ayres, and Carlos D Garcia
Clemson Undergraduate Research Poster Symposium (Clemson, SC – 07/2022)
- **A wearable biosensor to diagnose Staphylococcus aureus skin infections**
Jordan Brooks, Lucas Ayres, Kristi Whitehead, and Carlos D. Garcia
Clemson Undergraduate Research Poster Symposium (Clemson, SC – 07/2022)
- **Using Artificial Intelligence to Formulate New Deep Eutectic Solvents**
Armelle Varillas, Lucas Ayres, and Carlos D Garcia
SPRI Poster Forum (Clemson, SC – 07/2022)
- **Development and application of carbon-based nanomaterials via hydrothermal synthesis**
Nadia Cheng, Tatiana Estrada-Mendoza, M. Liyanage, D. Edirisinghe, Thomas Burgess, Carlos D. Garcia and George Chumanov
8th Annual Summer Undergraduate Research Symposium (Clemson, SC – 07/2021)
- **CO₂ reduction using CuNPs on paper-derived carbon electrodes**
Ethan Espinoza, Madushi Bandara, and Carlos D Garcia
8th Annual Summer Undergraduate Research Symposium (Clemson, SC – 07/2021)
- **Nanobiohybrids: combining the catalytic activity of metallic nanoparticles and alkaline phosphatase**
Elise Lanahan, Perla Saucedo-Olono, and Carlos D Garcia
8th Annual Summer Undergraduate Research Symposium (Clemson, SC – 07/2021)
- **Turning Paper into Chemical Sensors**

Carlos D. Garcia
TigerTalks (Clemson, SC – 05/2021)

- **Integrated Instrumental Analysis Teaching Platform with Smartphone-Operated Fluorometer**
Lucas B. Ayres, Fernando S. Lopes, Ivano G.R. Gutz, Carlos D. Garcia
5th Annual Chemistry Symposium (Clemson, SC – 03/2021)
- **Monitoring the Advanced Oxidation of Paracetamol using ZnO films via Capillary Electrophoresis**
Luz A. Hernandez-Carabali, Rakesh Sachdeva, Jose B. Rojas-Trigos, Ernesto Marin, and Carlos D. Garcia
5th Annual Chemistry Symposium (Clemson, SC – 03/2021)
- **Use of universal 3D-Printed smartphone spectrophotometer to develop a time-based analysis for hypochlorite**
Ezequiel Vidal, Anabela S. Lorenzetti, Carlos D. Garcia, Claudia E. Domini
5th Annual Chemistry Symposium (Clemson, SC – 03/2021)
- **Electrochemical Paper-Based Microfluidic Device with Prussian Blue Modified Pyrolyzed Electrodes to Detect Amino Acid Chirality in the Search for Extraterrestrial Life**
Paige Reed, M. Fernanda Mora, Carlos D. Garcia
2019 Clemson GRADS (Clemson, SC – 04/2019)
- **Thermal Degradation of Chemical Warfare Agents Utilizing Pyrolyzed Cotton Balls**
Bryan Lagasse, Matthew S. Blais, and Carlos D. Garcia
2019 Clemson GRADS (Clemson, SC – 04/2019)
- **Electrochemical Paper-Based Microfluidic Device with Prussian Blue Modified Pyrolyzed Electrodes to Detect Amino Acid Chirality in the Search for Extraterrestrial Life**
Paige Reed, M. Fernanda Mora, Carlos D. Garcia
4th Annual Chemistry Symposium (Clemson, SC – 03/2019)
- **Development of a Paper-Based Electronic Nose Sensor**
Makenzie Reynolds and Dr. Carlos D. Garcia
4th Annual Chemistry Symposium (Clemson, SC – 03/2019)
- **Hydrothermal Carbonization Method to Develop Carbon Films on Silicon Wafers for Ellipsometry**
Lauren A. Skrajewski*, Tatiana Estrada-Mendoza, George Chumanov, and Carlos D. Garcia
4th Annual Chemistry Symposium (Clemson, SC – 03/2019)
- **Measuring Protein Adsorption Using Spectroscopic Ellipsometry**
Kathleen Mowery and Carlos D. Garcia
4th Annual Chemistry Symposium (Clemson, SC – 03/2019)
- **Thermal Degradation of Chemical Warfare Agents Utilizing Pyrolyzed Cotton Balls**
Bryan Lagasse, Matthew S. Blais, and Carlos D. Garcia
4th Annual Chemistry Symposium (Clemson, SC – 03/2019)
- **Don't drink in the Sun**
Carlos D. Garcia
Hispanic/Latinx Voices in Academia 2018 (Clemson, SC – 10/2018)
- **Analyzing the Adsorption Properties of Organic Molecules to Montmorillonite K10 using Capillary Electrophoresis**
Daniel Gibson, Paige Reed, Laura McCann, Carlos D. Garcia
6th Annual Summer Undergraduate Research Symposium (Clemson, SC – 07/2018)
- **Carbon Tape as an Alternative and Versatile Material for Biosensors**
Paige Reed, W. Jeff Edenfield, and Carlos D. Garcia
3rd Annual Chemistry Research Symposium (Clemson, SC - 03/2018)
- **Carbon Tape as an Alternative and Versatile Material for Biosensors**
Paige Reed, W. Jeff Edenfield, and Carlos D. Garcia
GHS Health Sciences Research Showcase (Greenville, SC - 04/2018)
- **Addressing Non-Specific Protein Adsorption in Paper-Based Microfluidic Devices**
Sarah Holtsclaw, Laura McCann, and Carlos D. Garcia
Clemson 2017 Undergraduate Research Symposium (Clemson, SC – 07/2017)
- **Moonshiners in Hunter**
Carlos D Garcia
Cooper Library (Clemson, SC – 03/2017)
- **Moonshine: A discussion about the impact of separation science on one of the more popular local products**

Carlos D Garcia

Science on Tap (Clemson, SC – 01/2017)

- **Electrochemically-Preadsorbed Collagen Promotes Adult Human Mesenchymal Stem Cell Adhesion**
Tomás E. Benavides, Marissa E. Wechsler, Madeleine M. Fahrer, Rena Bizios, and Carlos D. Garcia
Clemson University Research Symposium (Clemson, SC – 05/2016)
- **Development and Application of Cu-Modified Carbon Electrodes from Pyrolyzed Paper Strips**
Gema M. Durán, Tomás E. Benavidez, Jason Giuliani, Ángel Ríos, and Carlos D. Garcia
First Annual Chemistry Research Symposium, Clemson University (Clemson, SC – 03/2016)
- **Electrochemically-Preadsorbed Collagen Promotes Adult Human Mesenchymal Stem Cell Adhesion**
Tomás E. Benavides, Marissa E. Wechsler, Madeleine M. Fahrer, Rena Bizios, and Carlos D. Garcia
First Annual Chemistry Research Symposium, Clemson University (Clemson, SC – 03/2016)
- **Fast Production of Microfluidic Devices by CO₂ Laser Engraving of Wax-Coated Glass Slides**
Eric T. da Costa, Mauro F. S. Santos, Hong Jiao, Claudimir L. do Lago, Ivano G. R. Gutz, Carlos D. Garcia
First Annual Chemistry Research Symposium, Clemson University (Clemson, SC – 03/2016)
- **Development and Application of Cu-Modified Carbon Electrodes from Pyrolyzed Paper Strips**
Gema M. Durán, Tomás E. Benavidez, Jason Giuliani, Ángel Ríos and Carlos D Garcia*
IV Jornadas Doctorales de la Universidad de Castilla – La Mancha (Cuenca, Spain - 10/2014)
- **Collagen Electrochemically-Adsorbed on Optically Transparent Carbon Surfaces Promotes Adhesion of Mesenchymal Stem Cells**
M. M. Farrer, T. E. Benavidez, M. E. Wechsler, C. D. Garcia, and R. Bizios
UTSA – College of Sciences Research Conference (San Antonio, TX – 10/2014)
- **Development and Application of Cu-Modified Carbon Electrodes from Pyrolyzed Paper Strips**
Gema M. Durán, Tomás E. Benavidez, Jason Giuliani, Ángel Ríos and Carlos D Garcia*
UTSA – College of Sciences Research Conference (San Antonio, TX – 10/2014)
- **Development and Characterization of Carbon Based Electrodes from Pyrolyzed Paper for Biosensing Applications**
Jason Giuliani, Gema M. Durán, Tomás E. Benavidez, Ángel Ríos and Carlos D Garcia*
UTSA – College of Sciences Research Conference (San Antonio, TX – 10/2014)
- **Protein Adsorption onto Optically-Transparent Carbon Electrodes and Its Impact on Biomedical Applications**
Tomas E. Benavidez and Carlos D. Garcia
UTSA – College of Sciences Research Conference (San Antonio, TX – 10/2014)
- **Simple and rapid process to modify microfluidic paper-based analytical devices with SiO₂ nanoparticles**
Elizabeth Evans, Ellen Flavia Moreira-Gabriel, Wendell K. Coltro, and Carlos D. Garcia
UTSA – College of Sciences Research Conference (San Antonio, TX – 10/2014)
[Presentation selected for Best Poster Award – Chemistry and Biochemistry](#)
- **Development of Open Hardware For Mobile Capillary Electrophoresis**
Eric Tavares da Costa, Claudimir L. do Lago, and Carlos D Garcia
UTSA – College of Sciences Research Conference (San Antonio, TX – 10/2014)
- **Protein Adsorption onto Optically-Transparent Carbon Electrodes and Its Impact on Biomedical Applications**
Tomas E. Benavidez and Carlos D. Garcia
2nd Annual San Antonio Research Forum & Distinguished Lecture (San Antonio, TX – 09/2014)
- **Development of Open Hardware for Mobile Capillary Electrophoresis**
Eric Tavares da Costa, Claudimir L. do Lago, and Carlos D Garcia
2nd Annual San Antonio Research Forum & Distinguished Lecture (San Antonio, TX – 09/2014)
- **Adult Human Mesenchymal Stem Cell Adhesion on Optically Transparent Carbon Electrode Surfaces Modified with Electrochemically-Adsorbed Type I Collagen**
M. M. Farrer, T. Benavidez, M. E. Wechsler, K. N. Lorine, C. Garcia, and R. Bizios
UTSA RISE Summer Research Trainee Summer Presentations (San Antonio, TX – 07/2014)
- **Paving the Way: Protein Adsorption on Nanoporous Substrates**
Samir A Bhakta, Tomas E Benavidez, and Carlos D Garcia
UTSA – College of Sciences Research Conference (San Antonio, TX – 10/2013)
- **Paper-based Microfluidic Devices Enclosed in a Thin Film of PDMS**
Elizabeth Evans, Ellen Flavia Moreira Gabriel, Wendell Karlos Tomazelli Coltro, and Carlos D Garcia
UTSA – College of Sciences Research Conference (San Antonio, TX – 10/2013)
- **PMMA-based electrophoresis devices fabricated by using CO₂ laser engraving**

Ellen Flávia Moreira Gabriel, Wendell Karlos Tomazelli Coltro and Carlos D. Garcia
UTSA – College of Sciences Research Conference (San Antonio, TX – 10/2013)

- **Sputtered metal oxide nanostructures as SERS substrates for dye analysis**
Grazielle O. Setti, Carlos D. Garcia, Ednan Joanni, and Dosil P. de Jesus
UTSA – College of Sciences Research Conference (San Antonio, TX – 10/2013)
- **Turning microscope slides into microarrays**
Saba A. Iyob, Grazielle O. Setti, Anand Srinivasan, Dosil P. de Jesus, Ednan Joanni, Anand K. Ramasubramanian, Carlos D. Garcia
UTSA – College of Sciences Research Conference (San Antonio, TX – 10/2013)
- **Spectroscopic and electrochemical characterization of nanostructured optically transparent carbon electrodes**
Tomas E. Benavidez and Carlos D. Garcia
UTSA – College of Sciences Research Conference (San Antonio, TX – 10/2013)
- **External electric field mediated adsorption of glucose oxidase**
Tomas E. Benavidez, Rhianna R. Velazquez and Carlos D. Garcia
UTSA – College of Sciences Research Conference (San Antonio, TX – 10/2013)
- **Potential-Assisted Adsorption of BSA onto OTCE**
Tomas E. Benavidez and Carlos D. Garcia
UTSA – College of Sciences Research Conference (San Antonio, TX – 10/2013)
- **Potential-Assisted Adsorption of BSA onto OTCE**
Tomas E. Benavidez, Rihanna Velazquez and Carlos D. Garcia
UTSA-MBRS Symposium (San Antonio, TX – 08/2013)
- **Love and Death: What Happens When a Protein Falls for a Surface?**
Carlos D Garcia
UTSA – College of Sciences Research Conference (San Antonio, TX – 10/2012)
- **Colorimetric Reactions in Paper Microfluidic Devices for the Detection of Nitrite in Saliva**
Samir Bhakta, Rubianne Borba, Mario Taba Junior, Emanuel Carrilho, Carlos D. Garcia
UTSA – COS Research Conference (San Antonio, TX – 10/2012)
[Presentation selected for Best Poster Award – Chemistry and Biochemistry](#)
- **CNT-Enhanced Electrochemical Detection in Capillary Electrophoresis and Microchip - Capillary Electrophoresis**
Fabiane Caxico de Abreu and Carlos D. Garcia
UTSA – COS Research Conference (San Antonio, TX – 10/2012)
- **Rapid Microchip Fabrication Through Engraving for Use in Capillary Electrophoresis**
Matthew Gordon / Dr. Carlos D Garcia
Provost's Summer Academy (San Antonio, TX – 08/2011)
- **Separations by Capillary Electrophoresis**
Karen Scida,* Jessica Felhofer, George Negrete, and Carlos D. Garcia
UTSA - Department of Chemistry, Welch Summer Symposium (San Antonio, TX – 08/2009)
[Presentation selected for Best Presentation Award](#)
- **Adsorption of Catalase onto Carbon Nanotubes for Biosensor Applications**
Jessica Felhofer,* Hariyadi Soetedjo, and Carlos Garcia
UTSA – COS Research Conference (San Antonio, TX – 10/2009)
- **Improving Heat Transfer Capacity in PDMS Microchips**
Gabrielle G. Guy,* Claudmir L. do Lago, Carlos D. Garcia
UTSA – COS Research Conference (San Antonio, TX – 10/2009)
- **Big Advantages of Small Things: Nanomaterials and Analytical Chemistry**
Jessica Felhofer, Fernanda Mora, Jennifer Wehmeyer, Ross Hackworth, Ramakrishna Kotha, Rena Bizios, Arturo Ayon, and Carlos D. Garcia*
UTSA – COS Research Conference (San Antonio, TX – 10/2009)
- **From Microchips to Surfaces**
Jessica Felhofer* and Carlos D. Garcia
UTSA - Department of Chemistry Second Open House (San Antonio, TX – 2008)
- **Multi vs Univariate Optimization of Separation Conditions by Micellar Electrokinetic Chromatography: Analysis of Five Bisphenols**

Jessica Felhofer*, Grady S. Hanrahan, and Carlos D. García
UTSA – Department of Chemistry, Welch Summer Symposium (San Antonio, TX – 08/2008)
[Presentation selected for Best Presentation Award](#)

- **Inspired by Leonardo: Lab-on-a-Robot for Chemical Sensing**
David C. Valdez, Christopher Berg, Phillip Bergeron, Maria F. Mora, Arturo A. Ayon, and Carlos D. Garcia*
Hands on Inventions – Witte Museum (San Antonio, TX – 10/2008)
- **Separation of Biological Molecules Using Capillary Electrophoresis and Chiral Surfactants at Sub-micellar Concentrations**
Karen Scida*, George Negrete, and Carlos D. Garcia
UTSA - Department of Chemistry, Welch Summer Symposium (San Antonio, TX – 08/2007)
[Presentation selected for Best Presentation Award](#)
- **Analysis of Biologically Relevant Phenolic Compounds Using Lab-on-a-Chip Devices**
Maria F. Mora*, Yongsheng Ding, Eric Mejia, and Carlos D. Garcia
UTSA - Engineering, Science, and Biotechnology Student Conference (San Antonio, TX – 2006)
- **Determination of Banned Sudan Dyes (I, II, III, and IV) in Chilli Samples by Capillary Electrophoresis**
Eric Mejia*, Yongsheng Ding, Maria F. Mora, and Carlos D. Garcia
UTSA - Department of Chemistry First Open House (San Antonio, TX – 2006)
[Presentation selected for Best Presentation Award](#)
- **Effect of Anionic Surfactants in the Electrochemical Detection of Phenolic Compounds**
Jennifer Walker* and Carlos D. Garcia
UTSA - Department of Chemistry, Welch Summer Symposium (San Antonio, TX – 08/2006)
- **Interaction of Surfactants with PDMS**
Jessica Felhofer* and Carlos D. Garcia
UTSA - Department of Chemistry, Welch Summer Symposium (San Antonio, TX – 08/2006)
[Presentation selected for Best Presentation Award](#)
- **Determination of Banned Sudan Dyes (I, II, III, and IV) in Chili Samples by Capillary Electrophoresis**
Eric Mejia*, Yongsheng Ding, Maria F. Mora, and Carlos D. Garcia
UTSA MBRS-RISE & MARC-U*STAR - Spring 2006 Research Symposium (San Antonio, TX – 03/2006)
- **Detection of Chemical Warfare Agents by Capillary Electrophoresis**
Maria F. Mora*, and Carlos D. Garcia
UTSA - Department of Chemistry, Welch Summer Symposium (San Antonio, TX – 08/2005)

Other Presentations

- **Meet the Editors (RSC Session)**
Elizabeth Magalhães, Philippa Ross, Wendell K. T. Coltro, Heidi Goenaga-Infante, Márcia F. Mesko, and Carlos D. Garcia
20th National Meeting of Analytical Chemistry (Rio Grande do Sul, Brazil – 09/2022)
- **Get Published**
Blanca Lapizco-Encinas and Carlos D. Garcia
Wiley-Electrophoresis (Zoom – 06/2022)
- **Meet the Editors (RSC Session)**
Elizabeth Magalhães, Susan Lunte, and Carlos D. Garcia
19º Encontro Nacional de Quimica Analitica and 7º Congresso Iberoamericano de Quimica Analitica (Caldas Novas, Brazil – 9/2018)

Research Funding

Current Support

- **Pilot Scale Synthesis and Production Cost Estimate of Polyamine-modified Cellulose Nanocrystals for the Purification of Rendered Fat**
CURF Technology Maturation Fund (2023 – 2026) \$35,000
Role: co-PI (PI: Whitehead)
- **Advanced Prediction of Antioxidant Synergism via Multidimensional Deep Vector Models**
SC ACRE (2023 – 2023) \$95,000
Role: PI

- **Further Study of Renewable Materials for Removal of Metals from Rendered Fat**
Animal Co-Products Research & Education Center (ACREC) (2022 - 2023) \$65,000
Role: co-PI (PI: Dan Whitehead)
- **REU Site: Summer Undergraduate Research Program at Clemson University**
National Science Foundation (2021 – 2024) \$365,000
Role: PI

Concluded Projects

- **Minimizing Antioxidant Use in Rendered Products via Artificial Intelligence**
SC ACRE (2022 – 2023) \$95,000
Role: PI
- **MPS-High: REU Site at Clemson University**
National Science Foundation (2022) \$12,000
Role: PI
- **Materials for Removal of Metal and Inorganic Contaminants from Rendered Fat**
Animal Co-Products Research & Education Center (ACREC) (2021 – 2022) \$66,000
Role: co-PI (PI: Dan Whitehead)
- **Multi-Analyte Microfluidic Colorimetric Sensor for Inorganic Ions**
NASA STTR – Phase I (2021) \$ 48,497
Role: Project Director at the Research Institution
- **Development of Microbicidal Materials from Cotton**
SC Department of Agriculture’s Agribusiness Center for Research & Entrepreneurship (2019) \$65,000
Role: co-PI (PI: Dan Whitehead)
- **Hydrothermal and Ultraviolet Degradation of Chemical Warfare Agents**
Defense Threat Reduction Agency (2020) \$10,000
Role: co-PI (PI: Nguyen/Lagasse, West Point)
- **Lead in Drinking Water: Addressing needs in SC Schools**
Environmental protection Agency (2019) \$25,000
Role: PI (grant reassigned to different PI after multiple changes in the scope of the project)
- **Development of Food Biosensors Based on Paper-Derived Electrodes**
CONICET – Argentina (2017 – 2018) AR\$50,000
Role: Co-PI (PI: Silva)
- **Electronic Noses for the Detection of Kissing Bugs (Chagas Disease)**
CONICET – Argentina (2017 – 2018) AR\$50,000
Role: Co-PI (PI: Rinaldi)
- **Assessing the Relevance of Protein Immobilization for the Rational Design of Paper-Based Analytical Devices**
GHS Transformative Seed Grant (2016 – 2017) \$20,000
Role: PI
- **REU Site: Summer Undergraduate Research Program at Clemson University**
National Science Foundation (2016 – 2020) \$374,368
Role: Co-PI
- **Microfluidic Ion Analyzer for Astrobiological Studies**
NASA – PICASSO, Research Opportunities in Space and Earth Science (2016 – 2019) \$909,730
Role: Co-investigator
- **Basic Research Combating Weapons of Mass Destruction**
Defense Threat Reduction Agency (DTRA GRANT11912537) (2015 – 2019) \$ 250,000
Role: Collaborator at Research Institution
- **IRES-Brazil: Analytical Application of Microfluidics and Nanotechnology**
National Science Foundation (2015 – 2019) \$ 133,771
Role: PI
- **Research Centers in Minority Institutions: Center for Interdisciplinary Health Research (Bridge Funding)**
National Institutes of Health / National Center for Research Resources – \$ 1,752,911 (2015-2016)
Grant number: G12MD007591
Role: Co-PI / Assistant Core Director

- **Development of a Conductivity Detector**
 NASA STTR – Phase I (2015) \$ 24,700
 Role: Project Director at the Research Institution (project reassigned to Dr. Vincent Remcho, OSU)
- **Dual-Beam System (SEM/FIB) Equipment for the Kleberg Advanced Microscopy Center**
 DoD - Technology Integration & Outreach Division (2014)
 Role: Collaborator
- **Improving Infrastructure of the RCMI's Nanotechnology and Human Health Core (Adm. Supplement)**
 National Health Institutes (2013) \$ 191,146
 Grant number: 5G12MD007591
 Role: Co-PI
- **Lab-on-a-Robot Platform for in-situ Planetary Compositional Analysis**
 NASA STTR Phase II - \$ 299,632 (2013-2015)
 Role: Project Director at the Research Institution
- **Lab-on-a-Robot Platform for in-situ Planetary Compositional Analysis**
 NASA STTR Phase I - \$65,000 (2012)
 Role: Project Director at the Research Institution
- **Desarrollo de métodos bioanalíticos para la determinación de analitos de interés en salud pública y agro-industria**
 Agencia Nacional de Promoción Científica y Tecnológica, Argentina – ARG\$ 291,200 (2012-2014)
 Grant Number: PICT 2011-0459
 Role: External collaborator
- **Ankyrins at Electrode Surfaces**
 National Institutes of Health / SCORE Program - \$485,300 (2011-2015)
 Grant number: 5SC3GM081085
 Role: PI
- **Research Centers in Minority Institutions: Nanotechnology and Human Health Core**
 National Institutes of Health / National Center for Research Resources – \$ 2,263,832 (2010-2015)
 Grant number: 5G12MD007591
 Role: Co-PI / Assistant Core Director
- **Collaborative Research: US-Brazil International Research Experience for Students: Development and Applications of Microfluidic Devices**
 National Science Foundation - \$67,500 (2010 – 2013)
 Grant number: 0965814
 Role: PI
- **International Collaboration Toward the Development of an Integrated Device for Wirelessly-Controlled Chemical Sensing**
 Office of Naval Research - Global - \$99,000 (2010)
 Role: Co-PI
- **Lab-on-a-Robot: Building a Second Prototype and Demonstration of In-Field Capabilities**
 South Texas Technology Management / POCsparc Program - \$25,000 (2008-2009)
 Role: PI
- **Interaction of Coagulation Proteins with Nanomaterials**
 Morrison Trust - \$33,000 (2007 – 2008)
 Role: PI
- **Enzymes adsorbed on Carbon Nanotubes: Adsorption Kinetics, Activity, and Analytical Applications**
 National Institutes of Health/SCORE Program - \$412,048 (2007 – 2011)
 Grant number: 1SC3GM081085
 Role: PI
- **Analysis of Synthetic Antioxidants Using Microchips**
 San Antonio Area Foundation - \$20,000 (2005 – 2006)
 Role: PI
- **Analysis of Phenolic Antioxidants Using Microchip-Pulsed Electrochemical Detection**
 UTSA Faculty Research Award – \$5,000 (2004 – 2005)
 Role: PI
- **Environmental Applications of Microchip Capillary Electrophoresis**

UTSA/Seeding funds – \$186,000 (2004 – 2007)

Role: PI

Other Funded Initiatives

- **Doctoral Visit at Clemson University**
CAPES, Brazil - \$25,000 (2022), Fellowship awarded to Juliana Melo-Gongoni (Dr. Garcia: Mentor)
- **Doctoral Visit at Clemson University**
Fullbright Foundation - \$35,000 (2022-2023), Fellowship awarded to Norhan Elashkar (Dr. Garcia: Mentor)
- **Postdoctoral Visit at Clemson University**
CONICET, Argentina - \$7,000 (2022), Fellowship awarded to Dr. Federico Gomez (Dr. Garcia: Mentor)
- **Doctoral Studies at Clemson University**
Unison, Mexico - \$2,000 (2021), Scholarship awarded to Lizbeth Alcantara-Bastida (Dr. Garcia: Mentor)
- **Doctoral Studies at Clemson University**
CONACYT, Mexico - \$10,000 (2021), Scholarship awarded to J. David Quintero (Dr. Garcia: Mentor)
- **Doctoral Studies at Clemson University**
CONACYT, Mexico - \$ 15,000 (2019), Scholarship awarded to Luz Amparo Hernandez (Dr. Garcia: Mentor)
- **Doctoral Studies at Clemson University**
CAPES, Brazil - \$ 12,800 (2019), Scholarship awarded to Rafael Melo Cardozo (Dr. Garcia: Mentor)
- **Doctoral Studies at Clemson University**
CAPES, Brazil - \$ 11,244 (2017), Scholarship awarded to Thiago Gomez-Cordeiro (Dr. Garcia: Mentor)
- **Postdoctoral Visit at Clemson University**
Fullbright Foundation - \$5,000 (2017), Fellowship awarded to Dr. Federico Gomez (Dr. Garcia: Mentor)
- **Doctoral Studies at Clemson University**
CONACYT, Mexico - \$ 5,000 (2016), Fellowship awarded to Francisco Morales (Dr. Garcia: Mentor)
- **Postdoctoral Studies at Clemson University**
CONICET - Argentina - \$ 5,000 (2015), Fellowship awarded to Fausto Comba (Dr. Garcia: Mentor)
- **Split Fellowship Program – University of Sao Paulo / UT San Antonio / Clemson University**
Conselho Nacional de Desenvolvimento Cientifico e Tecnologico - \$ 25,000 (05/2015 – 04/2016), Fellowship awarded to Mauro Santos (Dr. Garcia: Mentor)
- **Doctoral Studies at UT San Antonio**
Ministerio de Economia y Competitividad, Castilla La Mancha - \$ 15,000 (2015), Fellowship awarded to Gema M. Duran Lizcano (Dr. Garcia: Mentor)
- **Split Fellowship Program – University of Sao Paulo / UT San Antonio / Clemson University**
Conselho Nacional de Desenvolvimento Cientifico e Tecnologico - \$ 25,000 (2015), Fellowship awarded to Aline Akemi Ishikawa (Dr. Garcia: Mentor)
- **Doctoral Studies at UT San Antonio**
CONACYT, Mexico - \$ 17,000 (2014), Fellowship awarded to Daniela Martinez-Vargas (Dr. Garcia: Mentor)
- **Postdoctoral Studies at UT San Antonio**
Ministerio de Economia y Competitividad, Castilla La Mancha - \$ 15,024 (2014), Fellowship awarded to Gema M. Duran Lizcano (Dr. Garcia: Mentor)
- **Split Fellowship Program – University of Sao Paulo / UT San Antonio**
Conselho Nacional de Desenvolvimento Cientifico e Tecnologico - \$ 7,210 (2013), Fellowship awarded to Eric Tavares da Costa (Dr. Garcia: Mentor)
- **Split Fellowship Program – State University of Campinas / UT San Antonio**, Conselho Nacional de Desenvolvimento Cientifico e Tecnologico - \$ 16,310 (2013)
Fellowship awarded to Grazielle Setti (Dr. Garcia: Mentor)
- **Split Fellowship Program – Federal University of Goiania / UT San Antonio**
Conselho Nacional de Desenvolvimento Cientifico e Tecnologico - \$ 19,180 (2013), Fellowship awarded to Ellen Flavia Moreira Gabriel (Dr. Garcia: Mentor)
- **Postdoctoral Studies at UT San Antonio**
Conselho Nacional de Desenvolvimento Cientifico e Tecnologico - \$ 29,580 (2012), Fellowship awarded to Fabiane Caxico de Abreu Galdino (Dr. Garcia: Mentor)
- **Postdoctoral Studies at UT San Antonio**
Government of India, Ministry of Science & Technology - \$ 33,000 (2010), BOYSCAST Fellowship awarded to

Dr. Raju Khan (Dr. Garcia: Mentor)

- **Analysis of Oleander Extracts by Capillary Electrophoresis**
Service contract with Nerium Biotechnology (San Antonio, TX) – \$20,000 (2007 – date)
- **Determination of Cyanide in Water Samples**
Weatherford Inc. (Houston, TX) \$1,000 (2007)
- **Greater Research Opportunities – Undergraduate Fellowship**
Environmental Protection Agency (2006 – 2007), Fellowship received by Cristal Lindell (Dr. Garcia, mentor)
- **Fabrication of PDMS Microchips for Environmental Monitoring**
Environmental Protection Agency (Las Vegas, NV) - \$2,600 (2006 – 2007)
- **Development of a Scientific Section for Kids (Experimentos con Carlitos)**
Diarios Rumbo (San Antonio, TX) - \$700 (2005 – 2006)

Internally Funded Proposals

- **Recruitment of Minority Students in the Department of Chemistry**
Award provided by the Clemson University Graduate School – \$ 1,500 (2016)
Role: Chair of the Recruitment Committee
- **Recruitment Activities in the Department of Chemistry**
Travel award provided by the Sloan Program, UTSA – \$ 1,300 (2015)
Role: Chair of the Recruitment Committee
- **Time-Course Investigation of the Efficiency of Nanoparticles Towards Odor-Capturing in Cat Litter**
UTSA Office of Commercialization and Innovation - \$ 4,500 (2013)
Role: PI
- **Control of Human Scent by Lipid Nanoparticles**
UTSA Office of Commercialization and Innovation - \$4,500 (2011)
Role: PI
- **Grant Coordination and Recruitment in Campinas, SP (Brazil)**
Travel award provided by the UTSA College of Sciences - \$ 500 (05/2011)
Role: PI
- **Recruitment Activities in the Department of Chemistry**
Travel award provided by the Provost's Office, UTSA – \$ 5,000 (2007 – 2008)
Role: Chair of the Recruitment Committee
- **Recruiting trip to South America**
Travel award provided by the College of Sciences, UTSA – \$ 1,600 (2005)
Role: Member of the Recruitment Committee
- **Short visit to the Department of Plant Science and Agriculture of Colorado State University**
Travel Award from the UTSA / Office of Research and Development - \$3,000 (2005)

Intellectual Property

- **Predicting Antioxidant Synergism via Artificial Intelligence**
Carlos D. Garcia, Lucas Ayres, and Daniel Whitehead
CURF technology 2023-046 (Filed, 04/13/2023)
- **NADES Formulations containing Tamoxifen**
Carlos D. Garcia and Lucas Ayres
CURF technology 2023-026, Provisional Application # 63/453,939 (03/2023)
- **NADES Formulations containing Ubiquinone**
Carlos D. Garcia and Lucas Ayres
CURF technology 2023-026, Provisional Application #63/450,275 (03/2023)
- **NADES Formulations containing Sildenafil**
Carlos D. Garcia and Lucas Ayres
CURF technology 2023-025, Provisional Application #63/443,481 (02/2023)
- **NADES Formulations containing Ibrutinib**
Carlos D. Garcia and Lucas Ayres
CURF technology 2023-024, Provisional Application #63/447,772 (02/2023)
- **Polyamine-cellulose nanocrystals for the removal of dissolved metals in rendered fats**
Daniel Whitehead, Carlos D. Garcia, and Ezequiel Vidal

CURF tech#2022-036 (02/2023), Provisional Application # 63/506,395 (06/2023)

- **NADES Formulations containing Cannabidiol (CBD)**
Carlos D. Garcia and Lucas Ayres
CURF technology 2023-023, Provisional Application #63/441,929 (01/2023)
- **System Adapted for the Prediction of NADES Formations**
Carlos D. Garcia and Lucas Ayres
CURF technology 2022-047, Provisional Application #63/409,549 (09/2022)
- **Adsorption of Proteins on Conducting Surfaces upon Application of External Potential**
Tomas E. Benavidez, Rena Bizios, and Carlos D. Garcia
U.S. Application N°. US20150110848A1 (Filed, 04/2015)
- **Modification of a flow cell to measure adsorption kinetics under stagnation point flow and development of a setup correction procedure for obtaining adsorption kinetics at the stagnation point**
Carlos Garcia, Maria Fernanda Mora, Mohammad Reza Nejadnik
U.S. Application N°. 13/634,208
- **Non-fluidic Microdetection Device and Uses Thereof**
Carlos D. Garcia and Charles S. Henry
U.S. Application N°. 11/932,977
- **Direct Determination of Carbohydrates, Amino Acids, and Antibiotics by Microchip Electrophoresis with Pulsed Amperometric Detection**
Carlos D. Garcia and Charles S. Henry
U.S. Application N°. 60/496,673
- **Micro-fluidic device for measuring osmotic second virial coefficients**
Carlos D. García, W. William Wilson, and Charles S. Henry
US Application N°. 10/265,715

Professional Development

- STRIDE Workshop (Strategies and Tactics for Recruiting to Improve Diversity and Excellence) + Train the trainer (04/2024 – Clemson University, College of Science)
- Faculty Mentoring Workshop, National Research Mentoring Network (NRMN) (09/2022 – Clemson University Graduate School)
- 2022 ACC Academic Leaders Network (03/2022 – 10/2022)
- 2021 38th Academic Chairpersons Conference (02/2021 – virtual)
- Reframing Institutional Transformation to Include Non-Tenure Track STEM Faculty. A Digital Institute Experience (09/2021, Association of American Colleges & Universities Institute)
- President's Leadership Institute (2018-2019 – Clemson University)
- Civil Treatment[®] for Leaders (07/2018 – Office of Access and Equity, Clemson University)
- Trailblazers: Provost's Mentoring Initiative for Faculty (09/2017 – 05/2018 – Clemson University)

Teaching and Mentoring Activities

List of Formal Courses Taught

- Bioanalytical Chemistry (Spring 2023 – Department of Chemistry, Clemson University)
- Introduction to Chemical Research (Fall 2022 – Department of Chemistry, Clemson University)
- Bioanalytical Chemistry (Spring 2022 – Department of Chemistry, Clemson University)
- Introduction to Chemical Research (Fall 2021 – Department of Chemistry, Clemson University)
- Bioanalytical Chemistry (Spring 2020 – Department of Chemistry, Clemson University)
- Introduction to Chemical Research (Fall 2020 – Department of Chemistry, Clemson University)
- Bioanalytical Chemistry (Spring 2019 – Department of Chemistry, Clemson University)
- Quantitative Chemistry Laboratory (Fall 2019 – Department of Chemistry, Clemson University)
- Bioanalytical Chemistry (Spring 2018 – Department of Chemistry, Clemson University)
- Quantitative Chemistry Laboratory (Fall 2018 – Department of Chemistry, Clemson University)
- Bioanalytical Chemistry (Spring 2017 – Department of Chemistry, Clemson University)
- Quantitative Chemistry Laboratory (Fall 2017 – Department of Chemistry, Clemson University)

- Bioanalytical Chemistry (Spring 2016 – Department of Chemistry, Clemson University)
- Quantitative Chemistry Laboratory (Fall 2016 – Department of Chemistry, Clemson University)

PhD-Level Workshops Taught

- Surfaces, Adsorption, and Analytical Applications (03/2020 – Department of Chemistry, Universidad Nacional del Sur, Bahia Blanca, Argentina)
- Analytical Applications of Surface Chemistry (06/2012 – Department of Chemistry – Graduate University of the Chinese Academy of Sciences; Beijing, China)

Attendance to Teaching Development Workshops

- Learn 9.1: Newly adopted on-line teaching platform (09/2012; UTSA)
- Building a content map for the undergraduate curriculum - ACS Exams Institute (03/2011, Atlanta, GA)
- Creating a Professional Portfolio by Barbara Millis (10/2010; UTSA-TLC).
- Process Oriented Guided Inquiry Learning (POGIL) Workshop (06/2009; Grand Rapids, MI).

Mentoring of Postdoctoral Fellows and PhD-level Research Scientists

- Dr. Tomas E. Benavidez – Research Scientist (9/2022 – 12/2022)
- Dr. Ezequiel Vidal – Research Scientist (8/2022 – 01/2023)
- Dr. Federico J. V. Gomez – Research Scientist (06/2022 – 09/2022)
- Dr. Ezequiel Vidal – Research Scientist (10/2021 – 05/2022)
- Dr. Paul Zavala-Rivera – Visiting professor from University of Sonora, Mexico (06/2021 – 08/2021)
- Dr. Norberto Boggio – Visiting Scholar (09/2019)
- Dr. Federico J. V. Gomez – Fulbright Scholar (08/2017 – 01/2018)
- Dr. Tomas E. Benavidez – Research Scientist (10/2012 – 03/2017)
- Dr. Fausto Comba – Visiting Scholar (10/2015 – 12/2015)
- Dr. Eric Costa – Postdoctoral Fellow (11/2013 – 10/2015)
- Dr. Jessica Felhofer – Postdoctoral fellow (01/2013 – 07/2013)
- Dr. Fabiane Caxico – FAPESP Fellow (01/2012 – 01/2013)
- Dr. Karin Chumbimuni-Torres – Research Scientist (10/2010 – 07/2012)
- Dr. Raju Khan – BOYCAST Fellow (08/2010 – 09/2011)
- Dr. Reza Nejadnik – Research Scientist (08/2009 – 09/2010)
- Dr. Maria Fernanda Silva – Visiting professor from the University of Mendoza, Argentina (08/2010)
- Dr. Maria Fernanda Mora – Research Scientist (08/2009 – 03/2010)
- Dr. Hariyadi Soetedjo – Research Scientist (02/2009 – 07/2009)
- Dr. Carlos Neves – Postdoctoral fellow (07/2008 – 02/2009)
- Dr. Carla E. Giacomelli – Visiting professor from the University of Cordoba, Argentina (06/2008)

Graduate Students Advised (Advisor of Record)

- Barbara Giuniatti – PhD program (Department of Chemistry, Clemson University)
- Lucas Ayres – PhD program (Department of Chemistry, Clemson University)
- Paige Reed – MS awarded Dec 2020 (Department of Chemistry, Clemson University)
- Kathleen Mowery – Student switched to non-thesis MS program (Dep. of Chemistry, Clemson University)
- Bryan Lagasse – MS awarded May 2020 (Department of Chemistry, Clemson University)
- Mackenzie Reynolds – MS awarded May 2020 (Department of Chemistry, Clemson University)
- Elizabeth Evans – PhD awarded Jan 2016 (Department of Chemistry, UTSA)
- Samir Bhakta – PhD awarded in July 2015 (Department of Chemistry, UTSA)
- Saba Arif Iyob – MS awarded May 2014 (Department of Chemistry, UTSA)
- Elisa G. Herrera – PhD awarded March 2013 (UNC, Argentina; co-advisor)
- Sarah Alharthi – MS awarded October 2012 (Department of Chemistry, UTSA)
- Jessica Felhofer – PhD awarded December 2012 (Department of Chemistry, UTSA)
- Gabrielle Guy – MS awarded in December 2011 (Department of Chemistry, UTSA)

- Maria Fernanda Mora – PhD awarded in May 2009 (Department of Chemistry, UTSA)

Mentoring of Visiting Scholars

- Nourhan Elaskar – Fulbright Scholar (09/2022 – 07/2023)
- Juliana Luz Melo Gongoni – Visiting Scholar (09/2022 – 03/2023)
- Lizbeth Alcantara-Bastida – Visiting Scholar (05/2021 – 06/2021)
- Jesus David Quintero – Visiting Scholar (05/2021 – 09/2021)
- Luz Amparo Hernandez – Visiting Scholar (08/2019 – 12/2019)
- Rafael Melo-Cardozo – Visiting Scholar (10/2018 – 04/2019)
- Diego González Casamachin – CONACYT Fellow (03/2018 – 06/2018)
- Thiago Gomes Cordeiro – Visiting Scholar (09/2017 – 01/2018)
- Francisco Morales – CONACYT Fellow (04/2016 – 07/2016)
- Mauro F. Santos – Visiting Scholar (05/2015 – 04/2016)
- Aline Akemi Ishikawa – Visiting Scholar (02/2015 – 11/2015)
- Gema Duran Lizcano – Visiting Scholar (06/2014 – 10/2014)
- Daniela Martinez-Vera – CONACYT Fellow (01/2014 – 09/2014)
- Eric Costa – Visiting Scholar (06/2013 – 09/2014)
- Grazielle de Oliveira Setti – Visiting Scholar (03/2013 – 09/2014)
- Ellen Flavia-Moreira – Visiting Scholar (01/2013 – 12/2013)
- Daniela Martinez-Vera – CONACYT Fellow (07/2012 – 12/2012)
- Jonathan Roman Valdez Camacho – CONACYT Fellow (06/2012 – 07/2012)
- Matthew Gordon – Provost Fellow (06/2011 – 05/2012)
- Fernando Sanchez de la Torre – CONACYT Fellow (07/2011 – 12/2011)
- Gisela de la Garza – PhD program (Department of Chemistry, 07/2010 – 01/2011)
- Jennifer Wehmeyer – BME Graduate student (11/2007 – 11/2008)
- Lucas Blanes – Visiting Scholar from the University of Sao Paulo, Brazil (11/2006 – 3/2007)

High School and Undergraduate Students Mentored

- Miguel Jose-Bueno (07/2023)
- Armelle Varillas (South Carolina Governor's School for Math and Science, 05/2022 – 08/2022)
- Jordan Brooks – REU Student (Clemson University; 06/2022 – 07/2022)
- Elise Lanahan – SPRI Student (South Carolina Governor's School for Math and Science, 06/2021 – 07/2021)
- Nadia Cheng – REU Student (Clemson University; 06/2021 – 07/2021)
- Ethan Espinosa – REU Student (Clemson University; 06/2021 – 07/2021)
- Luke Page (Clemson University; 01/2019 – date)
- Dakota Cook (Clemson University; 09/2020 – 05/2021)
- Lauren Skrajewski (Clemson University; 01/2018 – 07/2019)
- Isabella Trevino – REU Student (Clemson University; 06/2019 – 07/2019)
- Matthew Hurtt (Clemson University, 06/2018 – 08/2018)
- Laura McCann – EUREKA Fellow (Clemson University; 06/2016 – date)
- Daniel Gibson – REU Student (Clemson University; 05/2018 – 07/2018)
- Bailey Gibson – EUREKA Fellow (Clemson University; 06/2018 – date)
- Sarah Holtsclaw – REU Student (Clemson University; 05/2017 – 07/2017)
- Roshan Mathi (Clemson University; 01/2018 – date)
- Savannah Chaney (Clemson University; 03/2016 – 04/2017)
- Kaylee Clark (Clemson University; 01/2016 – 08/2017)
- Jeremy Goldstein (UT San Antonio; 05/2014 – 08/2015)
- Valerie Cano – LSAMP Scholar (UT San Antonio; 06/2014 – 09/2014)
- Tyler Freeman (UT San Antonio; 11/2013 – 05/2014)
- Karina Gonzalez (UT San Antonio; 05/2013 – 05/2014)
- Rihanna Velazquez (UT San Antonio; 05/2013 – 01/2014)

- Karen Scida (UT San Antonio; 06/2006 – 08/2010)
- Melissa Silva (UT San Antonio; 08/2007 – 5/2008)
- Cristal Lindell (UT San Antonio; 11/2006 – 05/2008)
- Jennifer Walker (UT San Antonio; Summer 2006)
- Donaciano Cantu (UT San Antonio; Spring 2006)
- Linda Su (UT San Antonio; Spring 2006)
- Nick Magee (UT San Antonio; Spring 2006)
- Greg Ytuarte (UT San Antonio; Summer 2005)
- Francisco Ruiz (UT San Antonio; 07/2004 – 2006)
- Eric Mejia (UT San Antonio; 07/2004 – 07/2006)
- Jessica Tibbits (Trinity University; 2005 – 2006)
- Nine students advised in collaboration with the respective PIs (NSF-REU, FOMEC, Intercampus) (99 – 04)

Service as Member of Graduate Committees

- Khalid Islam – PhD Program (Department of Chemistry, Clemson University)
- Dimuthu Ediringhe – PhD Program (Department of Chemistry, Clemson University)
- Ruben Figueroa-Acedo – PhD program (Department of Engineering, Universidad de Sonora, Mexico)

- Sergio Urzua – MS awarded Nov 2022 (Dept of Mechanical Engineering, Federico Santa Maria Technical University, Chile)
- Kaylan Kelsey – PhD awarded 05/2022 (Department of Chemistry, Clemson University)
- Lacey Biloto – PhD awarded 05/2022 (Department of Chemistry, Clemson University)
- Jacob Bills – MS awarded 05/2021 (Department of Chemistry, Clemson University)
- Sisi Huang – PhD awarded 05/2021 (Department of Chemistry, Clemson University)
- Tatiana Estrada – PhD awarded 05/2021 (Department of Chemistry, Clemson University)
- Muskendol Novoa-Delgado – MS awarded 05/2021 (Department of Chemistry, Clemson University)
- Kerrick Rees – PhD awarded 05/2021 (Department of Chemistry, Clemson University)
- Katja Hall – PhD awarded in 05/2021 (Department of Chemistry, Clemson University)
- Tyler Williams – PhD awarded in 05/2021 (Department of Chemistry, Clemson University)
- Unaiza Uzair – PhD awarded in 2020 (Department of Chemistry, Clemson University)
- Ashey Perkins – MS awarded in 05/2020 (Department of Chemistry, Clemson University)
- Lei Wang – PhD Awarded May 2020 (Department of Chemistry, Clemson University)
- Hung Trang – PhD Awarded December 2019 (Department of Chemistry, Clemson University)
- Sahhed Bukola – PhD awarded in 2019 (Department of Chemistry, Clemson University)
- Dallas Roe Estep – MS awarded in 07/2017 (Department of Chemistry, Clemson University)
- Paul Haupt-Renaud – MS awarded in 2016 (Department of Chemistry, Clemson University)
- Dulce Romero-Urbina – MS program (UTSA Department of Physics and Astronomy)
- Mirunalini Thirugnanasambandam – PhD Program (Department of Biomedical Engineering, UTSA)
- Sushma Karra – PhD awarded in 2015 (Department of Chemistry, UTSA)
- Zaven Ovanesyan – PhD awarded in 2014 (Department of Physics and Astronomy, UTSA)
- Linda Nagore – PhD awarded in 2014 (Department of Chemistry, UTSA)
- Shafiqur Rahman – MS awarded in 2014 (Department of Electrical Engineering, UTSA)
- Jorge Garcia – MS awarded in 2014 (Department of Chemistry, UTSA)
- Pooja Joshy – MS awarded in 2014 (Department of Chemistry, UTSA)
- Sara Agudelo – MS awarded in 2013 (Department of Chemistry, UTSA)
- Jason Herrera – MS awarded in 2012 (Department of Chemistry, UTSA)
- Jennifer Whemeyer – MS awarded in 2010 (Department of Biomedical Engineering, UTSA)
- Ramon Coronado – MS awarded in 2011 (Department of Biomedical Engineering, UTSA)
- Courtney Creecy – PhD awarded in 2011 (Department of Biomedical Engineering, UTSA)
- Marilyn Wooten – PhD awarded in 2010 (Department of Chemistry, UTSA)
- Udo Kranz – MS awarded in 2008 (Department of Chemistry, UTSA)

- Ross Hackworth – MS awarded in 2008 (Department of Electrical Engineering, UTSA)
- Christopher Berg – MS awarded in 2008 (Department of Electrical Engineering, UTSA)
- David Valdez – MS awarded in 2008 (Department of Electrical Engineering, UTSA)

Service Activities

Service Activities at the Departmental Level

- Chair and Member of the Web Committee (Department of Chemistry, Clemson University; 2022 – 2023)
- Member of the Graduate Programs Committee (Department of Chemistry, Clemson University; 2022-2023)
- Chair of the Selection Committee – Interdisciplinary Fellowships (Department of Chemistry, Clemson University; 2022 - date)
- Chair and Member of the Web Committee (Department of Chemistry, Clemson University; 2021 – 2022)
- Chair and Member of the Graduate Programs Committee (Department of Chemistry, Clemson University; 2021-2022)
- Chair and Member of the Selection Committee – Mandel Fellowships (Department of Chemistry, Clemson University; 2020 - date)
- Member of the Search Committee for Analytical Faculty (Department of Chemistry, Clemson University; 2021)
- Chair and Member of the Search Committee for Lab Specialist I (Department of Chemistry, Clemson University; 2021)
- Chair and Member of the Search Committee for Lab Specialist II (Department of Chemistry, Clemson University; 2021)
- Chair and Member of the Search Committee for Lab Specialist I (Department of Chemistry, Clemson University; 2020)
- Chair and Member of the Web Committee (Department of Chemistry, Clemson University; 2020 – 2021)
- Chair and Member of the Graduate Program's Committee (Department of Chemistry, Clemson University; 2020 – 2021)
- Chair and Member of the Search Committee for Building Manager (Department of Chemistry, Clemson University; 2019)
- Associate Department Chair (Department of Chemistry, Clemson University; 01/2018 – date)
- Chair and Member of the Recruitment Committee (Department of Chemistry, Clemson University; 2017 – 2020)
- Member of the Search Committee: Tobey-Beaudrot Professorship (Department of Chemistry, Clemson 04/2017)
- Faculty Advisor – Second Chemistry Research Conference (Clemson University; 04/2017)
- Chair and Member of the Recruitment Committee (Department of Chemistry, Clemson University; 2016 – 2017)
- Faculty Advisor – First Chemistry Research Conference (Clemson University; 03/2016)
- Member of the Recruitment Committee (Department of Chemistry, Clemson University; 2015 – 2016)
- Member of the DFRAC (Department of Chemistry, UTSA; 2014 – 2015)
- Chair of the Recruitment Committee (Department of Chemistry, UTSA; 2014 – 2015)
- Member of the Search Committee: Physical/Biochemistry (Department of Chemistry, UTSA; 2013 – 2014)
- Member of the Chair's Advisory Committee (Department of Chemistry, UTSA; 2013 – 2014)
- Member of the DFRAC (Department of Chemistry, UTSA; 2013 – 2014)
- Member of the Recruitment Committee (Department of Chemistry, UTSA; 2013 – 2014)
- Member of the Chair's Advisory Committee (Department of Chemistry, UTSA; 2012 – 2013)
- Member of the DFRAC (Department of Chemistry, UTSA; 2012 – 2013)
- Chair and member of the Undergraduate Program Com. (Department of Chemistry, UTSA; 2012 – 2013)
- Member of the Search Committee: Analytical/Biochemistry (Department of Chemistry, UTSA; 2012 – 2013)
- Member of the DFRAC (Department of Chemistry, UTSA; 2011 – 2012)
- Chair and Member of the Undergraduate Program Com. (Department of Chemistry, UTSA; 2011 – 2012)
- Member of the Recruitment Committee (Department of Chemistry, UTSA; 2011 – 2012)
- Represented the Department at the TX BRIDGE (AGEP) Summit (UT Arlington; 09/2011)

- Chair and Member of the Chair's Advisory Committee (Department of Chemistry, UTSA; 2010 – 2011)
- Member of the DFRAC (Department of Chemistry, UTSA; 2010 – 2011)
- Web Site Liaison (Department of Chemistry, UTSA; 2009 – 2010)
- Member of the PhD Program Admissions Committee (Department of Chemistry, UTSA; 2009 – 2010)
- Member of the Chair's Advisory Committee (Department of Chemistry, UTSA; 2009 – 2010)
- Member of the Recruitment Committee (Department of Chemistry, UTSA; 2009 – 2010)
- Member of the Search Committee: Analytical Biochemistry (Department of Chemistry, UTSA; 2009 – 2010)
- Member of the Search Committee: Sr. Grants & Contracts Coord. (Department of Chemistry, UTSA; 2009)
- Member of the Search Committee: Professor/Nanomaterials (Department of Chemistry, UTSA; 2008 – 2009)
- Member of the Chair's Advisory Committee (Department of Chemistry, UTSA; 2008 – 2009)
- Member of the Recruitment Committee (Department of Chemistry, UTSA; 2008 – 2009)
- Member of the Search Committee: Grants & Contracts Assistant (Department of Chemistry, UTSA; 2008)
- Represented the Department of Chemistry at the 2008 Welch Conference (Houston, TX; 10/2008)
- Chemistry Representative at the 2008 Exxon-Mobil Texas Science & Eng. Fair (San Antonio, TX; 2008)
- Chair and Member of the PhD Program Admissions Committee (Department of Chemistry, UTSA; 2008)
- Chair and Member of the Recruiting Committee (Department of Chemistry, UTSA; 2007 – 2008)
- Member of the Chair's Advisory Committee (Department of Chemistry, UTSA; 2007 – 2008)
- Member of the Recruitment Committee (Department of Chemistry, UTSA; 2006 – 2007)
- Member of the Search Committee: Teaching Lab Coordinator (Department of Chemistry, UTSA; 2006)
- Member of the Recruitment Committee (Department of Chemistry, UTSA; 2005 – 2006)
- Library Liaison (Department of Chemistry, UTSA; 2005 – 2006)
- Member of the Recruitment Committee (Department of Chemistry, UTSA; 2004 – 2005)
- Library Liaison (Department of Chemistry, UTSA; 2004 – 2005)

Service Activities at the College Level

- Member of the Inclusion Excellence Committee (2022 - date)
- Member of the Strategic Plan Committee (Science Forward, 2016)
- Chair for the Nanochemistry Program at the 2015 UTSA NanoDay (Sept 2015)
- Chair for the Chemistry Program at the 2014 College of Sciences Conference
- Member of the Search Committee Special Research Associate - Microscopy (KAMC) Candidates (2013)
- Judge for the 2010 College of Sciences Conference
- Initiated the purchase of the institutional license of EndNote
- Member of the COS Strategic Planning - Enrollment Management Committee (UTSA; 2006 – 2007)
- Reviewer for the UTSA / College of Sciences – Dean's Scholarships (2004)

Service Activities at the University Level

- Chair, Men of Color Summit – Proposal Review Panel (Clemson University, 06/2023 – 04/2024)
- Panel Member, Breakthrough Scholars Program (Honors College, Clemson University; 04/2023)
- Member of the Search Committee for Associate Provost & Dean for Undergraduate Learning (Science Rep., Clemson University; 2023)
- Panel Chair, National Scholars Program (Honors College, Clemson University; 03/2023)
- Member of the Review committee for the Pearce Center Director (Faculty Rep., Clemson University; 2022)
- Member of the Men of Color Proposal Review Panel (Clemson University; 2022)
- Member of Interview Panel, National Scholar's Program (Honors College, Clemson University; 02/2022)
- Member of the Clemson University Veterans Commission (2020 - date)
- Member of the Clemson University Commission on Latino Affairs (2019 – date)
- Member of the search committee for the Associate Provost for Faculty Affairs (Clemson University; 2018)
- Member of the "Grand Challenges" Committee (Clemson University; 2016)
- Chair and Member of the President's Distinguished Achievement Award-Advancing Globalization Selection Committee (UTSA; 2014 – 2015)
- Member of the Search Committee: Biomaterials (Department of Biomedical Engineering, UTSA; 2014 – 2015)

- Member of the Search Committee: Tissue Regeneration (Department of Biomedical Engineering, UTSA; 2014 – 2015)
- Chair and Member of the President's Distinguished Achievement Award-Advancing Globalization Selection Committee (UTSA; 2013 – 2014)
- Member of the Limited Submission Review/Selection Panel (Office of Research Support, UTSA; 2013 – date)
- Member of the International Advisory Council Meeting (UTSA; 2012 – 2013)
- Member of the RISE/MARC Student Selection and Retention Committee (UTSA; 2012 – 2013)
- Member of the RISE/MARC Student Selection and Retention Committee (UTSA; 2011 – 2012)
- Member (appointed by the President) of the University Scholarship Committee (UTSA; 2011 – 2013)
- Member (appointed by the President) of the Faculty Grievance Committee (UTSA; 2010 – 2012)
- Member of the RISE/MARC Student Selection and Retention Committee (UTSA; 2010 – 2011)
- Represented UTSA at the NSF/HIS – STEM Forum (Albuquerque, NM; 2009)
- Member of the RISE/MARC Student Selection and Retention Committee (UTSA; 2008 – 2009)
- Invited Speaker at the 2008 Orientation for International Students (Office of Int. Programs, UTSA; 2008)
- Member of the RISE/MARC Student Selection and Retention Committee (UTSA; 2007 – 2008)
- Member of the RISE/MARC Student Selection and Retention Committee (UTSA; 2006 – 2007)
- Member of the UTSA Career Services Faculty Advisory Board (UTSA; 2006 – 2007)
- Member of the UTSA Career Services Faculty Advisory Board (UTSA; 2005 – 2006)

Professional Service Activities

- Permanent Member of the Scientific Committee for the Latin-American Meeting for Capillary Electrophoresis and Microanalysis (2016 - date)
- Member of the Editorial Board of the journal *RSC Sensors and Diagnostics* (2021 – date)
- Member of the Permanent Scientific Committee of ITP (2016 - date)
- Elected Councilor of the American Electrophoresis Society (2016 – 2020)
- Guest Editor, Carbonaceous Materials for Electrochemical Applications (CMEAP) - International Journal of Electrochemistry (2016)
- Member of the Editorial Board of the journal *Electrophoresis* (2014 – date)
- Member of the External Advisory Board Chemistry – PREM Program at Texas State University (San Marcos, TX; 2014 – 2015)
- Member of the Nanotechnology Advisory Board at Northwest Vista College (San Antonio, TX; 2010 – 2015)
- Member of the ACS Exam's Committee, 2012 Analytical Chemistry Exam (ACS; 2010 – 2013)

Ad-Hoc Reviewer

- Performed reviews for multiple peer-reviewed publications and received recognitions as “Top reviewer” in Chemistry (09/2019), in Cross-Field (09/2019), in for RSC Advances (09/2018), in Chemistry (09/2018), for Clemson (Chemistry, 09/2017), for RSC Advances (09/2017), for Clemson (Chemical Engineering, 09/2017), for Chemical Engineering (09/2017), for Chemistry (09/2017), for USA (09/2017), for Biochemistry, Genetics and Molecular Biology (09/2017). Recent records available via Web of Science (<https://www.webofscience.com/wos/author/record/286875>)
- Served as reviewer for the following books: Exploring Chemical Analysis (D. C. Harris, Elsevier, 2009), Quantitative Chemical Analysis (7th Ed, Daniel Harris, W.H. Freeman and Co., 2008), Chemistry (1st Ed, Julia Burdge, McGraw Hill, 2007), Analytical Chemistry (7th Ed, Christian/Dasgupta/Schug, Wiley, 2012)

Participation in Proposal Review Panels

Permanent member

- NIH – Instrumentation and Systems Development Study Section (2015 – 2021)

Invited member

- NSF – REU Panel (10/2022 – online)
- NSF – REU Panel (11/2021 – online)
- Beckman Foundation, Young Investigator Program (11/2021 – 03/2022, online)
- NSF – Biosensors (11/2020 – on-line)

- NASA – Early Investigator Program (05/2017 – online)
- NASA – PICASSO program (02/2017 – Atlanta, GA)
- NRC National Academies of Sciences - Research Associates Programs (03/2015; San Antonio, TX)
- NIH – Instrumentation and Systems Development Study Section (02/2015; San Antonio, TX)
- NIH – Small Business: Biological Chemistry, Biophysics, and Drug Discovery (11/2014; San Francisco, CA)
- NRC National Academies of Sciences - Research Associates Programs (10/2014; Irvine, CA)
- NIH – Instrumentation and Systems Development Study Section (06/2014; Alexandria, VA)
- NRC National Academies of Sciences - Research Associates Programs (03/2013; Irvine, CA)
- NIH – Instrumentation and Systems Development Study Section (02/2014; Bethesda, MD)
- NSF – Graduate Research Fellowship Panel, Biochemistry, Biophysics & Structural Biology (01/2014; on-line)
- NIH – Small Business: Biological Chemistry, Biophysics, and Drug Discovery Review Panel (12/2013; on-line)
- NIH – Instrumentation and Systems Development (ISD) Study Section (05/2013; Washington, DC)
- NIH – Instrumentation and Systems Development (ISD) Study Section (02/2013; Los Angeles, CA)
- NIH – Enabling Bioanalytical and Imaging Technologies Study Section (EBIT) (10/2012; San Antonio, TX)
- NSF – GRF, Biochemistry, Biophysics & Structural Biology (02/2009, Washington, DC)
- NSF – Division of Chemistry REU Panel (2008, Washington, DC)
- NSF – Division of Chemistry REU Panel (2007, Washington, DC)

Participation in the Organization of Scientific Meetings

- Member of the Scientific Committee of the 2012 Latin American Capillary Electrophoresis Meeting (Panama City, Panama; 12/2012)
- Vice Chair of the Exhibit and Sponsorship Committee of the 20th International Conference on Miniaturized Systems for Chemistry and Life Sciences (μ TAS 2017, Savannah, GA; 10/2017)
- Session Chair at SciX 2015 – Miniaturization (Providence, RI; 10/2015)
- Vice Chair of the Exhibit and Sponsorship Committee of the 18th International Conference on Miniaturized Systems for Chemistry and Life Sciences (μ TAS 2014, San Antonio, TX; 10/2014)
- Member of the Scientific Committee of the 2014 Int. Symposium on Minority Health and Health Disparities
- Chair of the Electroanalytical Session of the 59th ACS Regional Meeting (Waco, TX; 10/2013)
- Member of the Scientific Committee of the 2012 Latin American Capillary Electrophoresis Meeting (Buenos Aires, Argentina; 12/2012)
- Session Chair (Detection and Separation) SLAS 2012
- Program Co-Chair, Member of the Organizing Committee, and Member of the Scientific Committee of the 2011 Latin American Capillary Electrophoresis Meeting
- Presider (ACS Subdivision of Separation Science: Chip Based Separations) Pittcon 2011
- Associate Track Chair (Separation and Detection) LabAutomation 2011
- Member of the Organizing and Scientific Committee of the 2009 Latin American Capillary Electrophoresis Meeting
- Session Chair (Miniaturized Detectors) LabAutomation 2010
- Member of the Scientific Committee of the 2008 Latin American Capillary Electrophoresis Meeting
- Sub-section Chair (Separations in Microchips) of FACSS 2008 Meeting
- Member of the Scientific Committee of the 2007 Latin American Capillary Electrophoresis Meeting
- Section Chair (Technical section: Microanalytical Techniques) of FACSS 2007 Meeting
- Section Chair (Technical section: Microanalytical Techniques) of FACSS 2006 Meeting
- Chair of the Bioanalytical Program (Six sessions) of FACSS 2006 Meeting

Participation in Scientific Societies

- Royal Society of Chemistry (2018 – date)
- American Chemical Society (2005 – 2021)
- American Electrophoresis Society (2014 – 2021)

Service to the community

- PAC Sub Committee Chair, Governor's School for Science and Mathematics (2023 – 2024)

- Chair of Concessions, Clemson Aquatic Team (2016 – 2019)
- Mentor for the program Odyssey of the Mind at Clemson Elementary School (2016), No cycle recycle, 4th grade – First Place State Championship
- Webmaster for Archer's Haven Field Archery Club (2013 – 2015)

Other related information

Awards and Honors Received by Supervised Students

- 2023 Department of Chemistry Graduate Faculty Award – Award received by Lucas Ayres
- 2022 Catalyst Competition – 2nd Place received by Luke Page
- 2021 Mandel Fellowship – Award received by Perla Saucedo-Olono
- 2020 Mandel Fellowship – Award received by Lucas Ayres
- 2020 Graduate Faculty Award, Clemson Department of Chemistry – received by Bryan Lagasse
- 2020 Senior Researcher Award, Clemson Department of Chemistry – received by Laura McCann
- 2019 Goldwater Scholarship – received by Laura McCann
- 2019 Senior Researcher Award – received by Lauren Skrajewski
- 2019 Warwick Chemical Foundation Award in Chemistry - received by Laura McCann
- 2017 Clemson Dep. of Chemistry Undergraduate Award in Analytical Chemistry – received by Kaylee Clark
- 2017 Mandel Fellowship – Award received by Paige Reed
- 2017 Clemson Dep. of Chemistry Undergraduate Award in Analytical Chemistry – received by Laura McCann
- 2016 EUREKA Program - Received by Laura McCann
- 2016 Clemson Dep. of Chemistry Undergraduate Award in Analytical Chemistry – received by Kaylee Clark
- 2014 UTSA Chemistry Undergraduate Research Award – received by Jason Giuliani
- 2014 Judith Walmsley Award for Research in Chemistry – received by Elizabeth Evans
- 2014 Best Graduate Research Award, UTSA Department of Chemistry – received by Samir Bhakta
- 2014 UTSA College of Sciences Best Poster Award – received by Elizabeth Evans
- 2014 UT System Research Conference Poster Award (2nd Place) – received by Valerie Campo
- USAA Foundation Scholarship 2014-2015 – received by Samir Bhakta
- USAA Foundation Scholarship 2014-2015 – received by Beth Evans
- 2013 Best Graduate Teaching Award, UTSA Department of Chemistry – received by Elizabeth Evans
- Scholarship to assist to the 2013 São Paulo School of Advanced Sciences on Electrochemistry, Energy Conversion and Storage (SPASECS) – received by Elizabeth Evans
- 2013-2014 Alumni Association Scholarship – received by Elizabeth Evans
- 2012 Judith Walmsley Award for Research in Chemistry – received by Jessica Felhofer
- 2012 UTSA College of Sciences Best Poster Award – received by Samir Bhatka
- 2011 Best Graduate Teaching Award, UTSA Department of Chemistry – received by Gabrielle Guy
- 2011 Best Graduate Teaching Award, UTSA Department of Chemistry – received by Samir Bhatka
- 2011 Best Graduate Research Award, UTSA Department of Chemistry – received by Jessica Felhofer
- University Teaching Fellowship 2010-2011 – received by Gabrielle Guy
- UTSA College of Sciences Presidential Scholarship 2010-2011 – received by Jessica Felhofer
- USAA Foundation Scholarship 2010-2011 – received by Jessica Felhofer
- 2010 UTSA Distinguished Teaching Award – received by Gabrielle Guy
- Best Presentation Award, Welch Symposium, UTSA Dep. of Chemistry – received by Karen Scida (2009)
- UTSA College of Sciences Presidential Scholarship 2009-2010 – received by Jessica Felhofer
- USAA Foundation Scholarship 2009-2010 – received by Jessica Felhofer
- UTSA MBRS-RISE PhD Fellowship – received by Jessica Felhofer (2008 – 2012)
- Best Presentation Award, Welch Symposium, UTSA Dep. of Chemistry – received by Jessica Felhofer (2008)
- Welch Foundation Fellowship, UTSA Department of Chemistry – received by Jessica Felhofer (2008)
- UTSA's Presidential Dissertation Fellowship – received by Maria F. Mora (2008)
- Best Presentation Award, Welch Symposium, UTSA Dep. of Chemistry – received by Karen Scida (2007)
- Welch Foundation Fellowship, UTSA Department of Chemistry – received by Karen Scida (2007)
- Welch Foundation Fellowship, UTSA Department of Chemistry – received by Jessica Felhofer (2007)

- US Environmental Protection Agency Fellowship – received by Cristal Lindell (2006-2007)
- FACSS Honorable Student Mention – received by M. Fernanda Mora (2006)
- Best Presentation Award, UTSA Department of Chemistry First Open House – received by Eric Mejia (2006)
- Welch Foundation Fellowship, UTSA Department of Chemistry – received by Jennifer Walker (2006)
- UTSA MARC-U*-STAR Fellowship – received by Jennifer Walker (2006)
- Best Presentation Award, Welch Symposium, UTSA Dep. of Chemistry – received by Jessica Felhofer (2006)
- Welch Foundation Fellowship, UTSA Department of Chemistry – received by Jessica Felhofer (2006)
- Welch Foundation Fellowship, UTSA Department of Chemistry – received by M. Fernanda Mora (2005)
- UTSA RISE Fellowship – received by Francisco Ruiz (2005-2006)
- UTSA RISE Fellowship – received by Eric Mejia (2005-2006)