

**Homero Castaneda-Lopez**  
Materials Science and Engineering  
Texas A&M University, College Station, TX  
Email: hcastaneda@tamu.edu

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**Education**

1997-2001	Ph.D.	Materials Science and Eng.	Penn State University, University Park, PA
1995-1996	M.S.	Materials Science (Honors)	National Autonomous University of Mexico, UNAM
1990-1994	B.S.	Chemical Metallurgical Engineering/Corrosion (Honors)	National Autonomous University of Mexico, UNAM

**Professional Appointments**

Sept 2021-Date	Professor, Director Texas A&M National Corrosion and Materials Reliability Laboratory	Materials Science and Engineering, <b>Texas A&amp;M University, College Station</b>
Jan 2020-Date	Adjunct Professor Mechanics, Surface and Processing Laboratory	<b>ENSAM, Aux in Province, France</b>
Mar 2016- Date	Cathodic Protection Instructor	AMPP (former NACE) certification for CPI
Mar 2015-Aug 2021	Associate Professor, Director Texas A&M National Corrosion and Materials Reliability Laboratory	Materials Science and Engineering, <b>Texas A&amp;M University, College Station</b>
Jan 2011-Mar 2015	Assistant Professor	National Corrosion Laboratory, <b>the University of Akron, Akron OH</b>
Jul 2010-Dec 2010	Senior Corrosion Specialist	<b>ATI Allegheny Ludlum</b> , Technical Center, Natrona Heights, PA.
Nov 2006-June 2010	Principal Research Scientist	Pipeline Technology Center- <b>Battelle Memorial Institute</b> , Columbus OH.
Oct 2002-Nov 2006	Research Leader	Pipelines, Corrosion and Materials Division- <b>PEMEX/Mexican Petroleum Institute</b> , Mexico City.
Oct 2002-Nov 2006	Adjunct Associate Professor (Lecturer)	College of Chemistry- <b>National Autonomous University of Mexico (UNAM)</b> , Mexico City.
Mar 2001-Oct 2002	Electrochemist Researcher	Research and Development - <b>Siemens Lowell, MA.</b>

## Honors and Awards

1994	Honorable mention for academic achievement - undergraduate studies from the National Autonomous University of Mexico
1997-2000	Fellowship from the National University of Mexico DGAPA.
1997	Graduate studies award (Antonio Caso) for best student in Postgraduate studies
1996	Research Award, 1996 by the National University Autonomous of Mexico Foundation for Best Research In Graduate Studies
2014-2020	National Research Council in Mexico, SNI Level II
2011- 2014	Who is Who in America (electrochemistry, corrosion, and energy), Editions
2016	Outstanding reviewer Elsevier for Corrosion Science
2016	Best Scientific Paper Latin-Corr NACE 2016, Mexico City
2017-2018	Committee Member for the National Academies of Science, Engineering and Medicine's study on Connector Reliability for Offshore Oil and Natural Gas Operations
2018	H.H. Uhlig NACE Award- Best Educator in Corrosion Science and Engineering
2018	AZZ Faculty Fellowship
2019	Fellow of the National Association of Corrosion Engineers (NACE)
2019-	Editor of the Journal of Materials Science (Materials in Electronics) (Springer)
2019	Chairman of the Industrial Corrosion Consortia at NACE
2020-2022	Adjunct Professor (Professeur Affiliate) with Mechanics, Surface and Processing Laboratory at ENSAM, Aux in Province, France
2020-2022	Committee Member for the National Academies of Science, Engineering, and Medicine's study on Corrosion of Buried Steel at New and In-Service Infrastructure
2021	Dean of Engineering Excellence Award, TAMU
2021	AMPP Innovation Award

## Peer-reviewed Papers

***Current and previous post-doctoral fellows and graduate students\*. (Total number: 135 publications, H index-34 and total Citations: 4000)***

### 2024

1. Reece Goldsberry\*, Ulises Martin\*, Brook Bond\*, Evelyn Callaway, Homero Castaneda<sup>1</sup>, Arul Jayaraman, Applicability of Microcapillary Electrochemical Droplet Cell for Monitoring Microbiologically Induced Corrosion, *Electrochemistry Communications* <https://doi.org/10.1016/j.elecom.2024.107822>, 107822
2. R Goldsberry\*, D Narayanan\*, R Case, B Mansoor, H Castaneda, Effect of Temperature on Passive Film Characteristics of LPBF (Laser Powder-Bed Fusion) Processing on UNS-S31603, *Materials* 17 (14), 3420
3. Tiffany E. Sill, Victor Ponce\*, Carlos Larriuz, Ron Chertakovsky, Caroline G. Valdes, Torrick Fletcher, Jakob Nielsen, Kerry Fuller, Homero Castaneda, Rachel D. Davidson, Peter M. Johnson, Sarbajit Banerjee, Mechanistic elucidation of the molecular weight dependence of corrosion inhibition afforded by polyetherimide coatings, *npj materials degradation*, 8, Article number: 100 (2024).

4. S Malik, AB Radwan, N Al-Qahtani, A Abdullah, ME Haddad, R Case, Jo, Focused review on factors affecting martensitic stainless steels and super martensitic stainless steel passive film in the oil and gas field, *Journal of Solid State Electrochemistry* (2024) 28:3533–3557.
5. Brisa Martínez-Aparicio, Citlalli Gaona-Tiburcio, Facundo Almeraya-Calderon, Reece Goldsberry\* and Homero Castaneda, Evaluation of Passive Films on 17-7PH and 410 Stainless Steel Exposed to NaCl Solution, *Materials* **2024**, 17(16), 4060; <https://doi.org/10.3390/ma17164060>
6. A Martinez\*, D Narayanan\*, R Case, H Castaneda, AB Radwan, J Bhadra, Pit initiation mechanism of modified martensitic 13Cr stainless steel exposed to CO<sub>2</sub>-saturated acidic environments at elevated temperatures induced by Ti (C, N) inclusions *Electrochimica Acta* 475, 143655
7. R Case, H Castaneda, Y Ding, *D Narayanan*, A Khan, M Cedeño, G Peña Characterization Using Point Defect Theory of the Microstructure Effect on Passivity Stability in Austenitic Stainless Steel, *Corrosion* 80 (3), 300-315.
8. Deeparekha Narayanan\*, Olivia Esmacher, Lufeng Xue, Marcelo Paredes and Homero Castaneda, Effect of Temperature on the Corrosion Behavior of an Al<sub>2</sub>Cr<sub>5</sub>Cu<sub>5</sub>Fe<sub>53</sub>Ni<sub>35</sub> Multi-Principal Element Alloy (MPEA) in Simulated Soil Environments, 2024 *J. Electrochem. Soc.* **171** 071503.
9. Changkyu Kim\*, Wonseog Yang, Homero Castaneda, Delaying hydrogen permeation by Mg and Sr added Al-Si coating during hot-press-forming of boron steels, *Materials Letters*, Volume 371, 15 September 2024, 136924
10. *D Narayanan\**, A Martinez, U Martin, B Mansoor, R Case, H Castaneda Localized corrosion in selective laser-melted SS316L in CO<sub>2</sub> and H<sub>2</sub>S brines at elevated temperatures, *npj Materials Degradation* 8 (1), 50.
11. J Son, SG Cho\*, *C Kim\**, DH Cho, H Castaneda, JK Oh, M Akbulut, W Teizer Dual-functional superhydrophobic coatings on biodegradable Mg alloys via nano-SiO<sub>2</sub> particles assisted surface modification, *Surface and Coatings Technology* 481, 130643.

## 2023

12. Deeparekha Narayanan\*, Michael Liu, Alan Martinez, *Ryan Brooks*, Mathew Kuttolamadoma, Homero Castaneda, Effect of Mo content on the passivation and localized corrosion behavior of laser engineered net-shaped (LENS) Co-Cr-Mo alloys in a simulated physiological solution, *Additive Manufacturing* 77 (2023) 103812.
13. *Seongkoo Cho\**, *Changkyu Kim* and Homero Castaneda' Impedance Response Influenced by Variability in the Random Distribution of Physical Properties of Coated Materials in Two-Dimensional Space, *Journal of The Electrochemical Society*, Volume 170, Number 8, 2023.
14. *Yi Lu\**, *Deeparekha Narayanan\**, *Changkyu Kim\**, Digby D. Macdonald, Homero Castaneda Determination of the Chloride Threshold of Cr-Based Steel Rebars in a Synthetic Concrete Pore Solution Based on Electrochemical Method, *CORROSION* (2023) 79 (7): 696–708.
15. Bethany Palen, Ethan T. Iverson, Matthew G. Rabaey, *Shaik Merkatur Hakim Marjuban*, Carolyn T. Long, Thomas J. Kolibaba, Annie Benson, Homero Castaneda, and Jaime C. Grunlan High Dielectric Breakdown Strength Nanoplatelet-Based Multilayer Thin Films, *Macromol. Mater. Eng.* 2023, 308, 2200561.

- 16 A. Bahgat Radwan, A. M. Moussa, Noora H. Al-Qahtani, Raymundo Case, Homero Castaneda, Aboubakr M. Abdullah, Muhsen A. M. El-Haddad, Jolly Bhadra, Noora Al-Thani & Yuan Ding Effect of the temperature on the passivity of the modified martensitic stainless steels, *Corrosion Eng. Science and Technology*, <https://doi.org/10.1080/1478422X.2022.2153197>
- 17 Deeparekha Narayanan\*, Lin Chen\*, Bilal Mansoor, Homero Castaneda, A new insight into pitting initiation in selective laser melted 316L stainless steel, *Materials Letters*, 333, (2023), 133562.
- 18 Alan Martinez, Deeparekha Narayanan, Raymundo Case, Homero Castaneda, Ahmed Bahgat Radwan, Jolly Bhadra, Noora H. Al-Qahtani, Aboubakr M. Abdullah, Noora Al-Thani, Muhsen A.M. El-Haddad, Pit initiation mechanism of modified martensitic 13Cr stainless steel exposed to CO<sub>2</sub> saturated acidic environments at elevated temperatures induced by Ti(C,N) inclusions, *Electrochimica Acta* 475 (2024) 143655.
- 19 Loreto J.P. Dacio, Oladis Troconis de Rincon, Leonardo X. Alvarez, Homero Castaneda, Leonardo Quesada Román and Brendy C. Rincon Troconis, Evaluating 1-Benzyl-4-Phenyl-1H-1,2,3-Triazole as a Green Corrosion Inhibitor in a Synthetic Pore Solution to Protect Steel Rebars, *Corrosion Journal*, April 2023, Vol.79, Issue 4.

## 2022

- 20 L. Xuea, Y. Ding , K.G. Pradeep , R. Case , H. Castaneda , M. Paredes, Development of a non-equimolar AlCrCuFeNi high-entropy alloy and its corrosive response to marine environment under different temperatures and chloride concentrations, *Journal of Alloys and Compounds* 928 (2022) 167112.
- 21 L. Xuea, Y. Ding , K.G. Pradeep , R. Case , H. Castaneda , M. Paredes, The grain size effect on corrosion property of Al<sub>2</sub>Cr<sub>5</sub>Cu<sub>5</sub>Fe<sub>53</sub>Ni<sub>35</sub> high-entropy alloy in marine environment, *Corrosion Science* 208, 110625
- 22 D Narayanan\*, M Liu, M Kuttolamadom, H Castaneda, Identification and development of a new local corrosion mechanism in a Laser Engineered Net Shaped (LENS) biomedical Co-Cr-Mo alloy in Hank's solution, *Corrosion Science* 207, 110599
- 23 Y Lu\*, D Narayanan, R Brooks, H Castaneda, Electrochemical Evolution of Carbon Steel and Fe-9% Cr Steel Rebar in Simulated Concrete Pore Solution (SCPS) in the Presence of 3.5 wt% NaCl, *Corrosion and Materials Degradation* 3 (3), 454-469
- 24 Mohammad Yazdi, Faisal Khan, Rouzbeh Abbassi, Noor Quddus, Homero Castaneda-Lopez A review of risk-based decision-making models for microbiologically influenced corrosion (MIC) in offshore pipelines, *Journal of Reliability Engineering & System Safety*, 223, 108474, 2022.
- 25 Minh Lee\*, Song-I Han, Changkyu Kim, Subramaniam Velumani, Arum Han, Abdel Hadi Kassiba, Homero Castaneda, *ACS Applied Materials & Interfaces*, 2022/3/9, 14, 11.
- 26 Lin Chen, Changkyu Kim, Nikolaos Michailidis, Homero Castaneda, Corrosion Assessment for aging treatment of rolled and selective laser melting 18Ni 300 maraging steel, *CORROSION*, 2022/5/7
- 27 Atzin Ferrel-Alvarez\*, Brenda B. Galicia\*, Adhikari Ashok, Ganesh Regmil, Subramaniam Velumani, and Homero Castaneda, Synthesis and Characterization of Epoxy-Rich TMOs Deposited on Stainless Steel for Corrosion Applications, *Coatings*, 2022/3/15

- 28 A. M. Moussa, Noora H. Al-Qahtani, Ahmed Bahgat Radwan, Jolly Bhadra, Noora Al-Thani, Homero Castaneda, Raymundo Case, Study of passivity and pitting resistance of modified martensitic stainless steel in brine solution at different temperatures, *Corrosion Science and Technology*, Accepted (2022)
- 29 Lin Chen\*, Raymundo Case, Lianlian Liu, Sisi Xiang, **Homero Castaneda**, Assessment of sulfide corrosion cracking and hydrogen permeation behavior of ultra-fine grain high strength steel, *Corrosion Science* 198, 110142
- 30 Bahgat Radwan, A.M. Moussa, Noora H. Al-Qahtani, Raymundo Case, **Homero Castaneda**, Aboubakr M. Abdullah, Muhsen A.M. El-Haddad, Jolly Bhadra, Noora Al-Thani, Pitting corrosion evaluation of modified martensitic stainless steel using variable concentrations of NaCl at elevated temperatures, *Metals* **2022**,12(2), 233; <https://doi.org/10.3390/met12020233>
- 31 Carolyn T. Long, Lin Chen\*, Ethan T. Iverson, **Homero Castaneda**, Jaime C. Grunlan, Cross-linking and silanization of clay-based multilayer films for improved corrosion protection of steel *Journal of Materials Science* Volume 57, pages 2988–2998 (2022).

## 2021

- 32 Xiangrong Wang, Hui Wang, Fujian Tang, Homero Castaneda & Robert Liang (2020): Statistical analysis of spatial distribution of external corrosion defects in buried pipelines using a multivariate Poisson-lognormal model, *Journal of Structure and Infrastructure Engineering*,
- 33 K. T. Drisya, M. Edely, M. Solís-López, A. Jantrania, S. Auguste, A. Rousseau, **H. Castaneda**, S. Velumani and , Structural features and morphology of titanium dioxide–bismuth vanadate heterojunctions, *CrystEngComm*, 2021,**23**, 7679-7690
- 34 Lin Chen\*, A. Srivastava, **Homero Castaneda**, The interfacial response of X52 steel to slow strain rate at high pH in a carbonate-bicarbonate solution, *Corrosion Engineering, Science and Technology Journal*, Volume 56, 2021, Issue 7.
- 35 Olivia Esmacher\*, Michael Hurst, G. Regm, S. Velumani, **H. Castaneda** Mathew Kuttolamadom, Selective laser sintering of metallic oxide powder mixtures for bi/tri-metallic-oxide formation, *Materials Letters* Volume 286, 1 March 2021, 129215
- 36 Changkyu Kim, Seongkoo Cho, Wonseog Yang, Ahmad Ivan Karayan, Homero Castaneda Corrosion behavior of Al-Si-Mg coated hot-press-forming steel, *Corrosion Science* 183, (2021) 109, 339.
- 37 Babudurai, M., Nwakanma, O., Romero-Nuñez, A. *et al.* Mechanical activation of TiO<sub>2</sub>/Fe<sub>2</sub>O<sub>3</sub> nanocomposite for arsenic adsorption: effect of ball-to-powder ratio and milling time. *J Nanostruct Chem* (2021). <https://doi.org/10.1007/s40097-021-00388-8>
- 38 Chang kyu Kim\*, Lin Chen\*, Hui Wang, **Homero Castaneda**, Global and local parameters for characterizing and modeling external corrosion in underground coated steel pipelines: A review of critical factors, Volume 1, Issue 1, March 2021, Pages 17-35
- 39 Thomas Ch-T, Ravichandran Manisekaran, Jaime Santoyo-Salazar, Schoefs S. Velumani, **H. Castaneda**, A. Jantrania, Graphene oxide decorated TiO<sub>2</sub> and BiVO<sub>4</sub> nanocatalysts for enhanced visible-light-driven photocatalytic bacterial inactivation *Journal of Photochemistry and Photobiology A: Chemistry*, Volume 418, 1 September 2021, 11337
- 40 Changkyu Kim\*, Reece Goldsberry\*, Ahmad Ivan Karayan\*, Jose Milla, Luke Goehring, Marwa Hassan, **Homero Castaneda**, Electrochemical evaluation of epoxy-coated-rebar containing pH-responsive nanocapsules in simulated carbonated concrete pore solution, *Progress in Organic Coating*, Volume 161, December 2021, 10654

- 41 S. Velumani, G. Regmi. Minhoo Lee\*. **H. Castaneda**. Mathew Kuttolamadom. Xiaofeng Qian. Kassiba, Engineered Zr/Zn/Ti oxide nanocomposite coatings for multifunctionality, *Applied Surface Science* 563, (2021) 150353.
- 42 Mercyrani Babudurai, Onyekachi Nwakanma, Araceli Romero-Nuñez, Ravichandran Manisekaran, Velumani Subramaniam, **Homero Castaneda** and Anish Jantrania, Mechanical activation of TiO<sub>2</sub>/Fe<sub>2</sub>O<sub>3</sub> nanocomposite for arsenic adsorption: effect of ball-to-powder ratio and milling time *Journal of Nanostructure in Chemistry*, volume 11, pages, 619–632 (2021).

## 2020

- 43 Tse-Ming Chiu\*, Chen Zhang, Dexin Zhao, Digvijay Yadav, Kelvin Y. Xie, Alaa Elwany, and **H. Castaneda**, “Interface stability of laser powder-bed-fused AlSi12 under simulated atmospheric conditions”, *Corrosion Science* Volume 175, October 2020, 108861, 2020
- 44 K. T. Drisya, M. Solís-López, J. J. Ríos-Ramírez, J. C. Durán-Álvarez, A. Rousseau, S. Velumani, R. Asomoza, A. Kassiba, A. Jantrania & **H. Castaneda**, Electronic and optical competence of TiO<sub>2</sub>/BiVO<sub>4</sub> nanocomposites in the photocatalytic processes *Scientific Reports* volume 10, Article number: 13507 (2020)
- 45 S Karthick, J J Ríos-Ramírez, S Velumani, K S Martirosyanand and H Castaneda Stability threshold of formamidinium lead iodide determined by strain amplitudes, *Journal of Physics D: Applied Physics*, Volume 53, Number 50.
- 46 Minhoo Lee\*, Donghyeon Kim, Jeongyup Kim, Jeong Ho Kim, **H. Castaneda**, Antimicrobial activities of thermoplastic polyurethane/clay nanocomposites against gram-negative and gram-positive bacteria, *ACS Appl. Bio Mater.* 2020, 3, 10, 6672–6679.
- 47 Changkyu Kim\*, Do-Eun-Choe, -P. Castro-Borgues, **H. Castaneda**, Probabilistic Corrosion Initiation Model for Coastal Concrete Structures, *Corros. Mater. Degrad.* 2020, 1(3), 328-344; <https://doi.org/10.3390/cmd1030016>
- 48 Yenny Cubides\*, Ahmad Ivan Karayan\*, M. W. Vaughan, Ibrahim Karaman, and **H. Castaneda**, Enhanced mechanical properties and corrosion resistance of a fine-grained Mg-9Al-1Zn alloy: the role of bimodal grain structure and fine β-Mg<sub>17</sub>Al<sub>12</sub> precipitates, *Materials*, Volume 13, September 2020, 100840.
- 49 Yenny Cubides\*, Dexin Zhao, Lucas Nash\*, Digvijay Yadav, Kelvin Xie, Ibrahim Karaman, and **H. Castaneda**, Effects of dynamic recrystallization and strain-induced dynamic precipitation on the corrosion behavior of partially recrystallized Mg-9Al-1Zn alloys, *Journal of Magnesium and Alloys*, Volume 8, Issue 4, December 2020, Pages 1016-1037.
- 50 M.W. Vaughan, A.I. Karayan, A. Srivastava, B. Mansoor, J.M. Seitz, R. Eifler, I. Karaman, **H. Castaneda**, H.J. Maier, The Effects of Severe Plastic Deformation on the Mechanical and Corrosion Characteristics of a Bioresorbable Mg-ZKQX6000 Alloy, *Materials Science and Engineering: C*, Volume 115, October 2020, 111130
- 51 Yenny Cubides\*, Ahmad Ivan Karayan\*, Dexin Zhao, Kelvin Xie, and **H. Castaneda**, A New Insights of Microgalvanic Corrosion Initiation Mechanism in Peak-Aged AZ91 Mg Alloy, *Journal of Alloys and Compounds* Alloys, Volume 840, 5 November 2020, 155786.
- 52 G.Ganesh\*, A. Ashok, Parul Chawla, Pooja Semalti, S. Velumani\*, Shailesh Narain Sharma, **H. Castaneda**, Perspectives of chalcopyrite-based CIGSe thin-film solar cell: a review, *Journal of Materials Science; Materials in Electronics*, Accepted available online DOI:10.1007/s10854-020-03338-2.

- 53 Hui-Wang\*, Wang, Xiangrong; Wang, Hui; **Castaneda, Homero**; Liang, Robert, Statistical Analysis of Spatial Distribution of External Corrosion Defects in Buried Pipelines Using a Multivariate Poisson-lognormal Model, *Journal of Structure and Infrastructure Engineering*, <https://doi.org/10.1080/15732479.2020.1766516>
- 54 A. Morán, O. Nwakanma, S. Velumani\*, **Homero Castaneda** Comparative study of optimized molybdenum back contact deposition with different barriers (Ti, ZnO) on stainless steel substrate for flexible solar cell application, *J Mater Sci: Mater Electron* (2020). <https://doi.org/10.1007/s10854-020-03058-7>
- 55 A. Ashok, G. Regmi, A. Romero Nunez, M. Solís-López, S. Velumani, Homero Castaneda Comparative studies of CdS thin films by chemical bath deposition techniques as a buffer layer for solar cell applications, *J Mater Sci: Mater Electron* (2020). <https://doi.org/10.1007/s10854-020-03024-3>
- 56 Changkyu Kim\*, Ahmad Ivan Karayan\*, Jose Milla, Marwa Hassan, Homero Castaneda A Smart Coating Embedded with pH-Responsive Microcapsules Containing a Corrosion Inhibiting Agent, *ACS Applied Materials & Interfaces*, <https://doi.org/10.1021/acsami.9b20238>.
- 57 Mahdi Mohajeri\*, Raymundo Case, Behrouz Haghgouyan, Dimitris C Lagoudas and H. Castaneda, Loading influence on the corrosion assessment during stress-induced martensite reorientation in nickel-titanium SMA, *Journal of Smart Materials and Structures*, Accepted Manuscript online 6 January 2020.

## 2019

- 58 **H. Castaneda** and M. Galicia Corrosion assessment of Zn-rich epoxy primers with carbon nanotube additions in an electrolyte with a bacteria consortium, *Frontiers in Materials*, Accepted 2019, DOI: 10.3389/formats.2019.00307.
- 59 Wonseog Yang, Eunhye Hwang, Hyejin Kim, Seungho Ahn, Sungjin Kim, **Homero Castaneda**, A study of annealing time to surface characteristics and hydrogen embrittlement on AlSi coated 22MnB5 during hot stamping process, *Journal of Surface & Coatings Technology*, Volume 378, 25 November 2019, 124911.
- 60 Zhouying He, Ximing Li\*, Mark D. Soucek, Tse-Ming Chu\*, **Homero Castaneda**, Inhibition of Acid Undercutting of Inorganic/Organic Hybrid Polyurethane Coatings, *Progress in Organic Coatings*, Volume 134, September 2019, Pages 169-176.
- 61 Minjung Joo, Tse-Ming Chiu\*, **Homero Castaneda**, Mark D. Soucek, Corrosion resistance of alkoxysilane modified bisphenol A-epoxide coatings, *Progress in Organic Coatings*, Volume 134, September 2019, Pages 209-218.
- 62 Seongkoo Cho\*, Tse-Ming Chiu\*, and **Homero Castaneda**, Electrical and Electrochemical Behavior of a Zinc Rich Epoxy Coating System with Carbon Nanotubes as a Diode-Like Material, *Electrochimica Acta*, Volume 316, 1, September 2019, Pages 189-201
- 63 Jesus Israel Barraza-Fierro\*, Tse-Ming Chiu\*, and **Homero Castaneda**, Electrochemical Impedance Characterization of LiMnPO<sub>4</sub> Electrodes with Different Additions of MWCNTs in an Aqueous Electrolyte, *J. Mex. Chem. Soc.* **2019**, 63(3)
- 64 Ramatou Ly\*, Ahmad Ivan Karayan\*, Karl T. Hartwig, **Homero Castaneda**, Insights into the electrochemical response of an ultra-fine grained AlMg-Si alloys and its relationship to corrosion events, *Electrochimica Acta*, Volume 308, 10 June 2019, Pages 35-44

- 65 Davidson, Rachel; Gonzalez, Yenny\*; Fincher, Coleman; McLain, Chelsea; Pharr, Matt; **Castaneda, H.**; Banerjee, Sarbajit, Tortuosity but not Percolation: Design of Graphene Nanocomposite Coatings for the Extended Corrosion Protection of Aluminum Alloys, *ACS Appl. Nano Mater.* 2019, 2, 5, 3100-3116
- 66 Nikolaos Michailidis, Fani Stergioudi, Antonios Ragousis, **H. Castaneda**, A study on corrosion-fatigue behavior of AA7075-T651 subjected to different surface modification treatments, *Fatigue & Fracture of Engineering Materials & Structures*, 42:1467–1477, 2019.
- 67 Hui-Wang, Ayako Yajima, **H. Castaneda**, A Stochastic defect growth model for reliability assessment of corroded underground pipelines, *Process Safety and Environmental Protection*, Volume 123, March 2019, Pages 179-189.
- 68 Davidson, Rachel; Gonzalez, Yenny\*; Fincher, Coleman, **H. Castaneda**, Magnesium Nanocomposite Coatings for Protection of a Lightweight Al Alloy: Modes of Corrosion Protection and Mechanisms of Failure, *Physica Status Solidi A: Applications and Materials Science*, 2 February 2019, <https://doi.org/10.1002/pssa.201800817>.
- 69 M. Liu, P. Rivera, I Barraza\*, **H. Castaneda**, A. Srivastava, Microstructural Influence on Hydrogen Permeation and Trapping in Steels, *Materials and Design* 167 (2019) 107605 2019
- 70 Xinzhu Zheng, **H. Castaneda**, Huajian Gao, Ankit Srivastava, Synergistic effects of corrosion and slow strain rate loading on the mechanical behavior of an aluminum alloy, *Corrosion Science* Volume 153, June 2019, Pages 53-61
- 71 E. Sosa, Espinosa, M.A., J Alamilla\*, **H. Castaneda**, Proposed methodology for coating defect and location in buried pipelines from frequency signal data applied in field conditions, *Anti-Corrosion Methods and Materials*, Vol. 66 Issue: 1, pp.115-120, 2019.

## 2018

- 72 R. Ly\*, K.T. Hartwig, **H. Castaneda**, Influence of dynamic recrystallization and shear banding on the localized corrosion of severely deformed Al-Mg-Si alloy, *Materials*, Volume 4, December 2018, Pages 457-465
- 73 Hanna Hlushko, Yenny Cubides\*, Raman Hlushko, Taylor M. Kelly, **H. Castaneda**, and Svetlana A. Sukhishvili, Hydrophobic Antioxidant Polymers for Corrosion Protection of an Aluminum Alloy, *Sustainable Chemistry and Engineering*, *CS Sustainable Chem. Eng.* 2018, 6, 11, 14302-14313
- 74 Ximing Li\*, Yenny Cubides\*, Zhouying He, Mark D. Soucek, and **H. Castaneda**, Corrosion assessment of zinc-rich primers containing polyaniline and the effect of acid as a dopant, *Corrosion* 74 (10), 1141-1157, 2018
- 75 Pranav Kannan, M.Sam Mannan, Sreeram Vaddiraju, She Sia Su\* and **H. Castaneda**, A critical overview of characterization techniques used for anaerobic Microbiologically Influenced Corrosion (MIC) in oil environments, *Industrial and Engineering Chemistry Research*, 57(42), September 2018
- 76 R. Ly\*, K.T. Hartwig, **H. Castaneda**, Influence of adiabatic Shear Bands in the Intergranular corrosion of Al 6061 after Equal Channel Angular Pressing, *Corrosion Science*, *Corrosion Science* 139, 47-57, 2018.
- 77 Shuang Qin, Yenny Cubides\*, Simone Lazar, Ramatou Ly\*, Yixuan Song, Joseph Gerringer, H. Castaneda, Jaime C. Grunlan, Ultrathin Transparent Nanobrick Wall Anticorrosion Coatings, *ACS Appl. Nano Mater.* 2018, 1, 10, 5516-5523.



- 78 Tse-Ming Chiu\*, Mohamad Mahmoudi, Wei Dai, Alaa Elwany, Hong Liang, and **H. Castaneda\***, On the corrosion assessment of a selective laser-based Ti6Al4V Alloy, In review *Electrochimica Acta*, Volume 279, 20 July 2018, Pages 143-151
- 79 X. Li\*, **H. Castaneda**, Application of Electrochemical Techniques on Study of Effect of nano-ZnO in Conductive Polyaniline Containing Zinc-rich Primer, *International Journal of Spectroscopy*, Volume 2018, Article ID 7160381, 15 pages.
- 80 Mahdi Mohajeri\*, Behrouz Haghgouyan, Homero Castaneda, Dimitris C Lagoudas, Nickel-Titanium Alloy failure analysis under thermal cycling and mechanical Loading: A Preliminary Study, arXiv preprint arXiv:1803.01110

## 2017

- 81 Ahmad Ivan Karayan\*, Kumar Jata, Michael Velez, **H. Castaneda**, The Role of EXCO, Modified EXCO, and MASTMAASIS Environmental Exposures on Predicting Exfoliation Corrosion of the 2060-T8E30 Alloy, *Corrosion* 73 (7), 853-867.
- 82 Seongkoo Cho\*, Yenny Cubides\* and **H. Castaneda**, Probing the degradation mechanism of Cr (VI) coating /Aluminum 2024 T3 system based on 2D deterministic-probabilistic approach, *Electrochimica Acta*, Volume 236, 10 May 2017, Pages 82–96
- 83 Li, X.\*; **Castaneda, H.** Damage evolution of coated steel pipe under cathodic-protection in soil. *Anti-Corrosion Methods and Materials*, 2017, 64, 118-126.
- 84 Barraza-Fierro\*, J. I.; Serna-Barquera, S. A.; Campillo-Illanes, B. F.; **Castaneda, H.** EIS Behavior of Experimental High-Strength Steel in Near-Neutral pH and Load Conditions. *Metallurgical and Materials Transactions A*, 1-15, 2017.
- 85 Barraza-Fierro, J.I.\*; Espinosa-Medina, M.A.; **H. Castaneda**. Oxidation behavior of Fe-40at.% Al intermetallics with Li or Cu additions at high temperature. *Corrosion Engineering, Science and Technology*, 52:5, 365-372, 2017.
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- 51 Yenny Cubides\*, Enrique Maya\*, **Homero Castaneda**, Effect of Titanium Dioxide (TiO<sub>2</sub>) Content in the Damage Quantification for a Polyurethane/Polysiloxane Hybrid Coating/Aluminum Substrate in Sodium Chloride Solutions, Research in Progress (RIP) Symposium Session, "Corrosion in Energy Systems", Paper No. C2015-6854, Corrosion NACE 2015.
- 52 Ximing Li\* and **H. Castaneda**, Investigation of Corrosion Protection Performance of Zinc-Rich Epoxy Primer Modified by Polyaniline "Corrosion in Energy Systems", Paper No. C2015-6853, Corrosion NACE 2015.
- 53 Enrique Maya\*, **H. Castaneda**, Corrosion Protection Mechanisms Characterization on a Zinc Rich Epoxy Nano Coating, Corrosion in Energy Systems", Paper No. C2015-6593, Corrosion NACE 2015.

## 2014

- 54 **H. Castaneda**, Health monitoring tools for buried pipelines –New concepts and trends to manage time dependent treats (corrosion process), 2014 American Gas Association Operations Conference – May 20-23, Pittsburgh, PA
- 55 Ximing Li\* and **H. Castaneda**, Influence of soil parameters on coating damage evolution of X52 pipeline steel under cathodic protection conditions, Corrosion NACE 2014 San Antonio, TX, Paper 4087, pp. 1-13.
- 56 Dongrui Yang\*, O. Rosas and **H. Castaneda**, Characterization of the inhibition effect in pipeline grade steel for ionic liquids in CO<sub>2</sub>-saturated NaCl brine solutions, Corrosion NACE 2014 San Antonio, TX, Paper 4357, pp. 1-14
- 57 A. Yajima, R. Liang, H. Rivera, L.Martinez, A. I. Karayan, **H. Castaneda**, Macro modeling concept for the soil/coating external corrosion for ECDA process by using statistical tools- A case of study, Corrosion NACE 2014 San Antonio, TX, Paper 4412, pp. 1-11
- 58 Yenny Cubides\*and **H. Castaneda**, Electrochemical characterization in alkaline solutions of zinc-rich epoxy nano coating primer (ZREP) coated steel in presence of chloride ions, Corrosion NACE 2014 San Antonio, TX. C2014-5296
- 59 J. Esquivel\* and **H. Castaneda**, Electrochemical Characterization of 2003 Lean Duplex Stainless Steel in Chloride-Containing Solution, Corrosion NACE 2014 San Antonio, TX. C2014-5308.
- 60 V. Valencia\* and **H. Castaneda**, Electrochemical Study of UNS G10080 steel substrate/ polypyrrol interface by damage evolution via LEIS, and EIS Approach Corrosion NACE 2014 San Antonio, TX., C2014-5307
- 61 Ayako Yajima, **H. Castaneda**, Hui Wang, and Robert Liang, Application of cluster analysis for soil corrosivity assessment, Transportation Research Board (TRB) 93rd Annual Meeting Washington, D.C., 2014.

- 62 Austin Smith\* and **H. Castaneda**, Early stage analysis by time domain approach for non-hex chrome coatings and AA2024/AA7075 substrate, Research in Progress, NACE 2014, San Antonio TX.
- 63 Jiani Niu\* and **H. Castaneda**, Proposed model and experimental verification for the electroactive species mechanisms in Hex-Chrome free coating/2024 T3 system by 2D-transmission line model, Research in Progress, NACE 2014, San Antonio TX.
- 64 Enrique Maya-Visuet\*, Todd Hawkins and **H. Castaneda**, Electrochemical characterization of a zinc rich epoxy nano-coating primer in NaCl solutions, Research in Progress, NACE 2014, San Antonio TX.
- 65 Ahmad Ivan Karayan\* and **H. Castaneda**, Proposal of crevice corrosion assembly for the characterization of UNS2003 in NaCl solutions, Research in Progress, NACE 2014, San Antonio TX.

## 2013

- 66 H. Castaneda, Invited Lecture “Materials selection for oil and gas applications Aalen University, Germany, Dec 2013.
- 67 Ximing Li\*, Q.Huang and **H. Castaneda**, Corrosion assessment of underground coated pipelines based on coating/steel damage evolution and system reliability analysis, Western NACE Conference in Honolulu, HI, November 2013.
- 68 A Yajima, R, Liang, X.M. Li, **H. Castaneda**, Dynamic characterization for soil/environmental conditions in coating/substrate metal interface systems by data mining (probability) modeling, Oral presentation Electrochemical Society Meeting, San Francisco, CA October 2013.
- 69 **H. Castaneda**, R. Hernandez\*, J. Saunders, O. Rosas, Characterizing Lithium ion dendrites growth with dynamic impedance and transmission line modeling- initial stage and grow stage, Oral presentation ISE, Qro, Mexico, September 2013.
- 70 O. Rosas\*, J. Saunders, **H. Castaneda** and R. Hernandez\*, Time evolution quantification of the interfacial parameters for lithium ion interfaces using liquid ions, Oral presentation ISE, Qro, Mexico, September 2013.
- 71 M. Galicia, **H. Castaneda**, Glassy carbon electrode scaffold modification with chitosan-SWCNT and chitosan-MWCNT and their electrochemical characterization under flow regime influence, Oral presentation ISE, Qro, Mexico, September 2013.
- 72 F. Arya, L. Zhang, A. Rahimi, H. Rivera, L. Martinez, **H. Castaneda**, Dynamic macro modeling for the soil characteristics as complement for Pre-evaluation step in the ECDA Method, NACE Paper No 2574, Orlando Florida 2013.
- 73 Yajie Chen, Rebecca Howdyshell, Bi-Min Zhang Newby, **H. Castaneda**, John M. Senko, Severe pitting corrosion caused by a starving sulfate-reducing bacterium surviving on carbon steel and effect of surface roughness, NACE paper No. 356, Orlando Florida 2013.
- 74 Ivan Karajan\* and **H. Castaneda**, Electrochemical characterization of steel in active interface due to heterogeneous layer in CO<sub>2</sub> environment for two NaCl concentrations NACE paper No. 2586, Orlando Florida 2013.
- 75 Ana Bacco\*, Britt Minch, Ben Faber, **H. Castaneda**, Rust preventive film characterization by electrochemical impedance spectroscopy and the ASTM B117 method, NACE paper No 2569, Orlando Florida Accepted 2013.

- 76 Enrique Maya-Visuet\*, Ahmad Ivan Karayan\*, **H. Castaneda**, Electrochemical characterization of UNS S31603, S32205, S32760, N08367, and S3210, RIP Corrosion NACE, Orlando Florida 2013.
- 77 Dongrui Yang\* and **H. Castaneda**, Layering evolution for the steel/CO<sub>2</sub> electrochemical interface with imidazolium compounds by EIS, RIP Corrosion NACE, Orlando Florida 2013.

## 2012

- 78 H. Castaneda, Invited Course, National University of Mexico (UNAM), “Electrochemical impedance spectroscopy applied to electrochemical cells for energy conversion and storage Mexico City, MX Feb 2012
- 79 H. Castaneda, Invited Lecture, “New perspectives on characterizing corrosion science and engineering Las Vegas, NV Oct 2012
- 80 Enrique Maya-Visuet\*, Ahmad Ivan Karayan\*, **H. Castaneda**, Electrochemical characterization of UNS N08367 and UNS S31603 alloys in presence of chloride and bromide solutions, ECS Transactions 2012, ECS Honolulu, Hawaii.
- 81 I. Barraza\*, B. Campillo, **H. Castaneda**, Tempering effect on corrosion behavior for micro-alloyed steels in NS4 solution, MRS Annual meeting 2012, Cancun Mexico
- 82 Derek Coy\* and **H. Castaneda**, Monitoring Coating-Substrate System for Development of Functional expressions for Reliability analysis Corrosion NACE, Utah 2012.

## 2011

- 83 **H. Castaneda**, R. Mora, M. Vergara and M. Galicia, Proposal of DC basis technologies with macro tool approach to asses active-corrosion sites in buried pipelines, NACE Corrosion 2011, Houston TX. Paper No. 11313
- 84 S. Ball\*, **H. Castaneda**, Demonstration of Unification of real time monitoring techniques for coating performance, DoD-Conference La Quinta, CA July 2011.
- 85 D. Coy\*, **H. Castaneda**, Experimental demonstration set up for multispecies and different Stainless steel evolution in crevice corrosion, DoD-Conference La Quinta, CA July 2011

### Presentations and Invited Lectures

- Keynote Speaker, Damage evolution model under different conditions, 2019 ICEC International Corrosion Engineering Conference, Incheon Korea, October 2019.
- Keynote Speaker, Colombia Bucaramanga, Colombian Corrosion Society, October 17, 2019.
- Keynote Plenary Lecture, CorCon 2019, Mumbai India September 2019
- Keynote speaker, Galvanized materials and performance under atmospheric environment, Galvaforum 2019, Torreon Mexico, March 2019.
- Invited Speaker, 1<sup>st</sup> corrosion workshop Doha Qatar, March 1<sup>st</sup>, 2018.
- Keynote Plenary speaker, *An overview of Nano-engineered materials for electrochemical systems applied to continuous water purification*, Conference of Sustainable Water Treatment CIVESTAV, Mexico City 2018

- Invited Speaker, Workshop in Marine Corrosion Sun Yat Sen University, China October 2018.
- Keynote speaker, Coating damage evolution modeling by using electrochemical methods, Korean Corrosion Society, Seoul, October 2017.
- Keynote Speaker, International Symposium of Biotechnology, Morelia Michoacán, Mexico September 2017.
- Keynote speaker, Comprehensive development of External Corrosion Direct Assessment methodology to enhance reliability and integrity of pipelines Latin Corr November 2016, Mexico City.
- Keynote speaker, New trends in multiscale hybrid nano-coating characterization and design based on damage evolution concept and corrosion mechanisms Mexican Society of electrochemistry SMEQ Conference, May 30th, 2016, Monterrey Mexico
- Invited Lecturer for Summer School at Thessaloniki, Greece, July 2017, 2018 and 2019.
- Keynote Speaker, Current Research, Education and Resources of the NCMRL at Texas A&M University, Colombian Corrosion Section, ASCORR, August 22nd to 26th, 2016, Bucaramanga, Colombia.
- Invited Lecture Note, Comprehensive Multiscale Computational & Lab Tools to Characterize, Design & Select Coating/ Substrate Technologies in Corrosive Environments Texas A&M Qatar, Doha Qatar, September 2016.
- Keynote speaker, Electrochemical Characterization of stainless steel alloys in corrosive environment – Perspectives for two corrosion resistance alloys (UNS S32003 and UNS N08367). Ferrous and Base Metals Development Network Conference 2016, 19–21 October 2016, Southern Sun Elangeni Maharani Hotel, KwaZulu-Natal, South Africa.
- Invited Lecture, Materials selection for Oil and Gas applications Germany, Aalen University, December 16, 2013
- Invited Lecture, American Gas Association Pittsburgh, PA March 2014
- Invited Lecture, CRGI Technical Directors Meeting Oct 25-27 Las Vegas, New perspectives on Characterizing Corrosion Science and Engineering
- Invited Lecture, National University of Mexico (UNAM) Mexico City February 2012, Electrochemical Impedance Spectroscopy Applied to Electrochemical Cells for Energy Conversion and Storage.
- Invited Lecture, DNV-Columbus Ohio, “Electrochemical techniques to survey steel buried structures“, June 2009
- Invited Lecture, Material selection for CO<sub>2</sub> corrosion for transportation in supercritical conditions. TMS 2009 ASM/TMS Spring symposium, Materials Challenges for Alternative Energy, GE Global Research Center, May 2009
- Invited Lecture, 3<sup>rd</sup> Mexican workshop on Nanostructure Materials, CINVESTAV Mexico. “Design and selection of Nano-engineered materials for Storage Energy Biofuels applications”, June 2008
- Invited Lecture, XVI INTERNATIONAL MATERIALS RESEARCH CONGRESS 2007, Electrochemical “Characterization and modeling applied to sub-micron scales in materials exposed to heterogeneous reactions for energy storage”, Symposium 19, Advances in Semiconducting Materials, June 2007

Graduate students (current and past, U Akron and Texas A&M)

<b>Name</b>	<b>Degree, Graduation Year</b>	<b>Current Activity</b>
Enrique Maya Visuet	Ph.D. in Engineering (2015), Akron	Research Scientist at Final Coat, Canton OH
Ahmad Ivan Karayan	Ph.D. in Engineering (2015) Akron	Research Engineer at Boeing, Alabama
Ximing Li	Ph.D. in Engineering (2015) Akron	Research Scientist at Lubrizol, Cleveland, OH
Dongrui Yang	Ph.D. in Engineering (2016) Akron	Research Scientist at Sherwin Williams, Minneapolis, MN
Jiani Niu	M.S. Chemical and Biomolecular Engineering (2014), Akron	Research Engineer at Lawrence Berkeley National Laboratory, Researcher, CA
Ximing Li	MS in Chemical Engineering (2014), Akron	Research Scientist at Lubrizol, Cleveland, OH
Austin Smith	M.S. Chemical and Biomolecular Engineering (2014), Akron	Application Scientist at Lubrizol Co., Cleveland, OH
Prajakatta Mulay	M.S. Chemical and Biomolecular Engineering (2015), Akron	Post-doctoral Fellow at Cleveland Clinic, OH
Rafael Figueiredo de Oliveira	M.S. Chemical and Biomolecular Engineering (2015), Akron	Ph.D. Student with Fundacion Copetec, Brazil
Javier Esquivel Guerrero	M.S. Chemical and Biomolecular Engineering (2015), Akron	Corrosion Engineer at Ford Motor Company, MI
<b>AT TAMU</b>		
Yenny Cubides	M.S. Materials Science and Engineering (2016), TAMU	Research Chemist, Dow Chemical, MI
Ian Coleman	M.S. Materials Science and Engineering (2017), TAMU	Tinnea and Associates Corrosion Engineer, Seattle, WA
Seongkoo Cho	Ph.D. Materials Science and Engineering (2020), TAMU	Post-doctoral Fellow at Lawrence Livermore National Laboratory
Tse-Ming Chiu	Ph.D. Materials Science and Engineering (2019), TAMU	Research Scientist- Virgin Hyperloop One, CA
Yenny Cubides	Ph.D. Materials Science and Engineering (2020), TAMU	Research Chemist at Dow Chemical, MI
Mahdi Mohajeri	Ph.D. Materials Science and Engineering (2020), TAMU	Research Scientist at Honeywell, NJ
Ly Ramatou	Ph.D. Materials Science and Engineering (2019), TAMU	Graduation December 2019 Google Mechanical Eng. Scientist, CA
Tristan Petit De Servis	M.S. Materials Science and Engineering (2017), TAMU	Graduation 2018 CEO Heuristech Co., France
Reece Goldsberry	M.S. Materials Science and Engineering (2019), TAMU	Halliburton Corrosion Engineer, Houston Tx
Chankyu Kim	Ph.D. Materials Science and Engineering (2021), TAMU	Graduation December 2021 Korea Research Center

Minho Lee	M.S. Materials Science and Engineering (2022), TAMU	Graduation August 2021
Brenda Galicia	Ph.D. Materials Science and Engineering (2021), TAMU	Graduation December 2021
Olivia Esmacher	Ph.D. Materials Science and Engineering (2023), TAMU	Current Student
Deeparekha Narayanan	Ph.D. Materials Science and Engineering (2023), TAMU	Graduation August 2024
Yu Liu	Ph.D. Materials Science and Engineering (2023), TAMU	Graduation January 2023
Daniela Fonseca	Ph.D. Materials Science and Engineering (2024), TAMU	Graduation January 2023
Reece Goldsberry	Ph.D. Materials Science and Engineering (2023), TAMU	Current Student
Lin Chen	Ph.D. Materials Science and Engineering (2021), TAMU	Graduation December 2023
Ayush Raj	M.S. Materials Science and Engineering (2023), TAMU	Current Student
Shaik Merkatur Hakim Marjuban	Ph.D. Materials Science and Engineering (2021), TAMU	Current Student
Assel Kalybayeva	M.S. Materials Science and Engineering (2023), TAMU	Graduation January 2023
Myunghwan Jeong	Ph.D. Materials Science and Engineering (2023), TAMU	Current Student
Dongin Lim	M.S. Materials Science and Engineering (2023), TAMU	Current Student
Taratorn Sattaraphan	M.S. Materials Science and Engineering (2023), TAMU	Current Student
Raghav Goyal	M.E. Materials Science and Engineering (2023), TAMU	Graduation August 2024
Ahmadyar Qureshi	Ph.D. Materials Science and Engineering (2023), TAMU	Current Student
Victor Ponce Valderrama	Ph.D. Materials Science and Engineering (2023), TAMU	Current Student

### **Post-doctoral Fellows/Exchange Research Fellows**

- Dr. Rodrigo Montoya, Sabbatical Professor, currently at TAMU.
- Dr. Ulises Diaz, Postdoctoral Scientist 2023, currently at TAMU.
- Dr. Atzin Ferrel, Postdoctoral Scientist 2021, currently at TAMU.
- Prof. Velumani Subramanian, Postdoctoral Scientist 2020- 2021, currently Professor at CINVESTAV- Mexico.
- Dr. Ahmad Ivan Karayan, Research Postdoctoral Fellow (2016-2020), currently Staff Scientist at Boeing, Alabama.
- Dr. Shei Sia Su, Postdoctoral Fellow 2016-2017, currently Laboratory Staff Scientist, Texas A&M University
- Mr. Kim Byungsu, Postdoctoral Fellow 2017-2018, currently Corrosion Engineering at Hyundai Motors, Seoul Korea



- Dr. Omar Rosas, Postdoctoral Fellow 2012-2015 currently Senior Corrosion Engineer at Deepwater Co, Houston Tx.
- Dr. Roberto Hernandez, Postdoctoral Fellow 2013-2015, currently a Research Scientist at SIEMENS.
- Prof. Roman Cabrera, Postdoctoral Fellow 2014-2015, currently a Professor at the Mexican National Polytechnic Institute
- Prof. Rosa Luna, Postdoctoral Fellow 2014-2015, currently a Professor at the Mexican National Polytechnic Institute
- Prof. Israel Barraza Fierro, Postdoctoral Fellow 2014-2015, currently Professor at Polytechnic University in Mexico (2016-2018)

### **Research undergraduate students**

- Camden Coss, Characterization of rebars, now senior in Materials Science and Engineering at TAMU
- Lauren Jenkins, Characterization of rebars, now senior in Materials Science and Engineering at TAMU
- Rebeca Crow, Characterization of rebars, now senior in Materials Science and Engineering at TAMU
- Seo Bae, Characterization of rebars, now senior in Materials Science and Engineering at TAMU
- Ben Little, Characterization of rebars, now senior in Materials Science and Engineering at TAMU
- James Asthon Conner, Characterization of Zn and elements in a simulated Galvanizing process, now senior in Industrial Engineering at TAMU
- Ryan Brooks, Characterization of Stainless-steel alloys in corrosive environments, now senior in Chemistry at TAMU
- Avery Barlow, Characterization of High Entropy Alloys in a corrosive environment, now senior in Industrial Engineering at TAMU
- Kazzandra Alaniz, Characterization of Zn and elements in a simulated Galvanizing process, now senior in Industrial Engineering at TAMU
- Luke Goehring, Characterization of Zn and elements in a simulated Galvanizing process, now senior in Industrial Engineering at TAMU.
- Nguyen Khang, Evaluation and characterization of steel pipeline in copper solution, now senior in Chemical Engineering at TAMU,
- Atkinson Zach Evaluation and characterization of steel pipeline in copper solution, now senior in Chemical Engineering at TAMU,
- Alan Martinez Evaluation and characterization of steel pipeline in copper solution, now senior in Chemical Engineering at TAMU,
- Lucas Nash, Evaluation and localized corrosion characterization of different alloys, now senior in Industrial Engineering at TAMU
- Antony Chavez, Associate of Science, Engineering; Corrosion characterization of high strength automotive steels, Undergraduate Summer Research Grant Program (USRG), now senior in Mechanical Engineering
- Bianca Avila, Corrosion assessment for Galvanized rebar in Reinforced Concrete Structures, now Junior in Materials Science and Engineering at TAMU,

- Hunter Harris, Corrosion study of different rebar materials and coating Systems, Undergraduate Summer Research Grant Program (USRG), now senior in Mechanical Engineering at TAMU.
- Reece Goldsberry, Physics- Coatings, Internal corrosion in pipelines, now in Halliburton.

### Service

- Editor for Journal of pipeline science and Engineering, Elsevier 2021-
- Editor for the Materials Science in Electronics Journal, Springer June 2019-
- Editorial Board Journal of Corrosion degradation, (2021-)
- Journal Guest editor of Coatings Journal (2018-2019)
- NAE, Member for the National Academies of Science, Engineering and Medicine's study on Corrosion in Buried Structures (2020)
- Chairman Symposium EUROMAT 2019 Area B: Structural Materials SYMPOSIUM: B7, Stockholm, Sweden. September 2019.
- Chairman for NACE Publications Activities Committee (PAC), January 2021-
- Chairman of the Industrial Consortium at National Association of Corrosion Engineers, June 2019-now
- Tenure and Promotion committee Materials Science and Engineering, June 2019-now
- College of Engineering Research Council Committee, July 2017- now
- EFAC committee member for the College of Engineering, May 2017 - now
- Design and construction committee for the Center for Infrastructure Renewal (CIR), Sept 2015 –now
- Search committee for the Center for Infrastructure Renewal building director, Sept 2015
- Director of the National Corrosion and Materials Reliability Laboratory, April 2015 – now
- NAE, Member for the National Academies of Science, Engineering and Medicine's study on Connector Reliability for Offshore Oil and Natural Gas Operations (2016)
- SMEQ, Directive Board for the Electrochemical Society –Elected National office (2013-2015)
- CONACYT, RCEA proposal reviewer and SENER-CONACyT (2011-2017)
- NACE, Panel for the Cathodic Protection Certification Reviewer in Cathodic Protection, (July 2016)
- NACE, National Association of Corrosion Engineers, Research Committee Member, (2014-2018)
- Co-Chairman of the International Society of Electrochemistry, Baltimore, USA, 2017
- Chairman for the Risk Assessment Conference in Houston, NACE 2017.
- Co-Chairman of the Symposium, Coatings and Wear, Salt Lake City, UT, ES&T c2016-ASM Conference.
- Co-Chairman of the Symposium, Emerging Materials, TMS Conference, San Diego, CA, February 2017
- Professional Exams Committee for BS and MS degree at the Autonomous Metropolitan University (UAM), January 2003 to date
- Professional Exams Committee for Postgraduate Exams at the National University of Mexico (UNAM), January 2003 to date
- Permanent Committee member for Energy and Reliability Engineering Projects at the

National University of Mexico, July 2003 to date

- Chairman of the Research in Progress Symposium, Coatings and Inhibitors, NACE 2016, 2017
- Chairman of the Symposium STG 30 NACE (2007, 2009, 2011)
- Chairman of the Symposium Electrochemical Society (D3-2006), D2-2014
- Research Committee at NACE (2015-date)
- Reinforced concrete committee NACE STG01 (2010-)
- Corrosion committee TMS (2015-)
- Oil and Gas production committee NACE STG30 (2018-)
- Electrochemical Measurements Committee NACE TEG 097 (2015-)