JOSE M. CERRATO

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EDUCATION

Washington University in St. Louis — **Saint Louis, Missouri**
Postdoctoral Research Associate — 2010-2013
Department of Energy, Environmental & Chemical Engineering

Virginia Tech — **Blacksburg, Virginia**
Doctor of Philosophy, Civil Engineering — 2005-2010
Dissertation: Biogeochemical Cycling of Manganese in Drinking Water Systems

Virginia Tech — **Blacksburg, Virginia**
Master of Science, Environmental Engineering — 2003-2005
Thesis: Impact of Piping Materials on Water Quality in Tegucigalpa, Honduras

Universidad Nacional Autónoma de Honduras (UNAH) — **Tegucigalpa, Honduras**
Bachelor of Science in Civil Engineering — 1996-2002

APPOINTMENTS

University of New Mexico — **Albuquerque, New Mexico**
Gerald May Department of Civil, Construction,
& Environmental Engineering

Professor — 2023-Present
Associate Chair for Undergraduate Studies (through ABET accreditation) — 2022-2024
Associate Professor — 2018-2023
Assistant Professor — 2013-2018

Department of Chemical & Biological Engineering — 2022-Present
Secondary Appointment

Director, UNM UNM Climate and Health Allied Network for Geospatial and Environmental Science (CHANGES) Center — 2024-Present

Director, UNM METALS Superfund Research Center — 2023-Present

Deputy Director, UNM METALS Superfund Research Center — 2022-2023

Associate Director, UNM Center for Water and the Environment — 2022-2023

Washington University in St. Louis — **Saint Louis, Missouri**
Postdoctoral Research Associate — 2010-2013
Department of Energy, Environmental & Chemical Engineering

Virginia Tech — **Blacksburg, Virginia**
Graduate Research Assistant — 2004-2010
Department of Civil & Environmental Engineering

Center Affiliations
UNM Center for Water and the Environment
UNM Center for Micro-Engineered Materials
UNM Center for Native Environmental Health Equity Research
UNM Superfund Research Center

AWARDS AND HONORS

- Co-author (in collaboration with the research group of Jorge Gonzalez-Estrella), Association of Environmental Engineering and Science Professors (AEESP) Mary Ann Liebert Award for Publication Excellence in Environmental Engineering Science 2024.
- Research and Creative Works Leader Award by the UNM Provost/Executive Vice President for Academic Affairs, 2023.
- UNM School of Engineering Regents' Lecturer, 2022-2025.
- Stamm Outstanding Research Faculty Award (UNM Department of Civil, Constr. Env. Eng.) 2022.
- UNM School of Engineering Dean's Excellence Lectureship 2022.
- Fulbright U.S. Scholar Senior Research Award to Spain, 2020-2021.
- Co-author (in collaboration with the research group of Brian P. Chaplin), Best Paper in the Category of Environmental Technology for the journal Environmental Science & Technology, 2018.
- Excellence in Review Award for the journal Environmental Science: Processes & Impacts, 2018.
- Excellence in Review Award for the journal Environmental Science & Technology, 2017.
- New Mexico EPSCoR Mentor Award 2017.
- Stamm Outstanding Research Faculty Award (UNM Department of Civil Eng.) 2017.
- UNM School of Engineering Junior Faculty Research Award 2017.
- National Science Foundation (NSF) CAREER Award, 2017-2022.
- University of New Mexico Faculty of Color Research Award, 2016.
- Oak Ridge Associated University (ORAU) Program Ralph E. Powe Junior Faculty Enhancement Award, 2015-2016.
- American Society of Civil Engineers (ASCE) ExCEEd Teaching Fellowship, 2015.
- Selected as Oral Presenter and Recipient of an Early Career Travel Award for Synchrotron Environmental Science VI, Argonne National Laboratory, September 11-12, 2014.
- Selected as a Poster Presenter for the Paul E. Torgersen Graduate Student Research Excellence Award, College of Engineering, Virginia Tech, 2010.
- NSF, Exploring Interfaces through Graduate Education and Research (EIGER) – Integrative Graduate Education and Research Traineeship (IGERT) Program, Associate Fellow, 2007 - 2010.
- Best Student Poster Presentation - Third Place Award in the Natural and Earth Sciences Category, Virginia Tech Graduate Student Assembly (GSA) Research Symposium, 2007.
- Best Student Paper Presentation, Virginia Water, Science and Technology Symposium, 2006.
- Edna Bailey Sussman Fellowship, 2006.
- Waste Policy Institute Fellowship, 2006.
- Organization of American States (OAS), Full Masters Degree Scholarship, 2003 - 2005.
- Universidad Nacional Autónoma de Honduras (UNAH), Diploma of Academic Excellence, 2000 - 2001.

PUBLICATIONS (Citations: 3,160 h-index: 25, updated on May 7, 2025)

Published 63 peer-reviewed articles, 3 peer-reviewed book chapters, and various conference proceedings listed below.

Peer-reviewed journal articles

63. Jemison, N., Benavidez, A., Gagnon, K., Emeanuwa, S., Latta, D., Garzon, F., Cabaniss, S., Lichtner, P., and Cerrato, J.M., (**2025**). Cr(VI) reduction on Fe(III) solid surfaces at vacuum pressures. *Surface and Interface Analysis*, 57, (6), 430-438.
62. Velasco, C.A., Jarvis, J.M., Tfaily, M.M., Brearley, A.J., Holguin, F.O., Lee, C.O., Benavidez, A., Ali, A.S., Lezama-Pacheco, J., Cabaniss, S.E., Artyushkova, K., and Cerrato, J.M. (**2025**). Changes in Dissolved Natural Organic Matter Composition Induced by Reaction with U(VI) at Acidic and Neutral pH. *ACS ES&T Water*, 5, (4), 1652-1662.
61. Hess, K., Forsythe, K., Wang, X, Tipling, G., Jones, J., Mata, M., Hughes, V., Martin, C, Doyle, J., Scott, J., Minghetti, M., Jilling, A., Cerrato, J.M., El Hayek, E., and Gonzalez-Estrella, J. (**2025**). Open dumping and burning: an overlooked source of terrestrial microplastics in underserved communities. *Environmental Science: Processes & Impacts*, *27*, 52-62.
60. Rodriguez, V., Majumdar A., Meza M.I., Corcoran, L., Pierson, A., Gagnon, K., Cano, C., Ali, A.S., Shuey, C., Jojola, G., Tan, W., Aprahamian. A., Cerrato, J.M, and Burns, P.C. (**2024**). Radiological Analyses of ^{226}Ra and ^{238}U in Surface Water and Sediments from the Jackpile Member of the Morrison Formation, Pueblo of Laguna, New Mexico. *Environmental Science & Technology*, 58, (34), 15138-15146.
59. Casuse, T.Q., Benavidez, A., Jemison, N., Cerrato, J.M., Feliu, J.M., and Garzon, F., (**2024**). Electrochemical redox of As(III) and Cu(II) mixtures with ultraflat Au(111) thin films in water. *Electrochimica Acta*, 489, 144220, *DOI: 10.1016/j.electacta.2024.144220*.
58. Miller, C., Neidhart, A., Hess, K., Ali, A.S., Benavidez, A., Spilde, M., Peterson, E., Brearley, A., Wang, X, Dhanapala, B.D., Cerrato, J.M., Gonzalez-Estrella, J., and El Hayek, E. (**2024**), Uranium accumulation in environmentally relevant microplastics and agricultural soil at acidic and circumneutral pH. *Science of the Total Environment*, 926, 171834, *DOI: 10.1016/j.scitotenv.2024.171834.*
57. Janot, N., Dunham-Cheatham, S., Lezama-Pacheco, J.S., Cerrato, J.M., Alessi, D.S., Noel, V., Lee, E., Pham, D.Q., Suvorova, E., Bernier-Latmani, R., Williams, K.H., Long, P.E., and Bargar, J.R. (**2024**) Reducing conditions influence U(IV) accumulation in sediments during in-situ bioremediation, *ACS Earth and Space Chemistry,* 8, (2), 148-158.
56. Meza M.I., Hua, H., Gagnon, K., Mulchandani, A., Gonzalez-Estrella, J., Burns, P.C., Ali, A.S., Spilde, M., Peterson, E., Lichtner, P., and Cerrato, J.M (**2023**). Removal of Aqueous Uranyl and Arsenate Mixtures after Reaction with Limestone, PO_4^{3-}, and Ca^{2+}. *Environmental Science & Technology*, 57, (49), 20881-20892.
55. Meza M.I., Jemison, N., Gonzalez-Estrella, J., Burns, P.C., Rodriguez, V., Sigmon, G., Szymanowski, J., Ali, A.S., Gagnon, K., Cerrato, J.M, and Lichtner, P. (**2023**). Kinetics of Na- and K- uranyl arsenate dissolution. *Chemical Geology*, 636, 121642.
54. Quiambao, J., Hess, K., Johnston, S., El Hayek, E., Noureddine, A., Ali, A.S., Brearley, A.J., Spilde, M., Lichtner, P., Cerrato, J.M., Howe, K.J., and Gonzalez-Estrella, J. (**2023**) Interfacial interactions of uranium and arsenic with microplastics: from field detection to controlled laboratory tests. *Environmental Engineering Science*, 40 (11), 562-573.
53. El Hayek, E., Castillo, E., In, J.E., Garcia, M., Cerrato, J.M., Brearley, A., Gonzalez-Estrella, J., Herbert, G., Bleske, B., Benavidez, A., Hsiao, H., Yin, L., Campen, M.J., and Yu, X. (**2023**) Photoaging of polystyrene microspheres causes oxidative alterations to surface physicochemistry and enhances airway epithelial toxicity. *Toxicological Sciences*, 193, (1) 90-102.
52. Portman, T., Granath, A., Mann, M.A., El Hayek, E., Herzer, K., Cerrato, J.M., and Rudgers, J.A. (**2023**). Characterization of root-associated fungi and reduced plant growth in soils from a New Mexico uranium mine. *Mycologia*, *1-13*.
51. Meza M.I., Gonzalez-Estrella, J., Burns, P.C., Rodriguez, V., Velasco, C.A., Sigmon, G., Szymanowski, J., Forbes, T.Z., Applegate, L.M., Ali, A.S., Lichtner, P., and Cerrato, J.M. (**2023**). Solubility and thermodynamic investigation of meta-autunite group uranyl arsenate solids with monovalent cations Na and K. *Environmental Science & Technology*, 57, (1), 255-265.
50. Casuse, T.Q., Rizo, R., Benavidez, A., Brearley, A.J., Cerrato, J.M., Garzon, F., Herrero, E., and Feliu, J.M. (**2022**). Increased sensitivity and selectivity for As(III) detection at Au(111) surface :

single crystal and ultraflat thin films comparison. *Journal of Physical Chemistry C*, 126, (48), 20343-20353.

49. Jemison, N., Garzon, F., Cabaniss, S., Lichtner, P., Benavidez, A.D., Jessop, E., and Cerrato, J.M., (**2022**). Effect of organic compounds and copper on chromium (VI) reduction: electrochemical investigation of electron transfer rates. *ACS ES&T Water*, 2, 2471-2480.
48. Shaikh, N., Qian, J., Kim, S., Phan, H., Lezama-Pacheco, J.S., Ali, A.S., Forbes, T.Z., Cwiertny, D.M., Haes, A.J., and Cerrato, J.M. (**2022**). Functionalized electrospun polymer nanofibers for treatment of water contaminated with uranium. *Journal of Environmental Chemical Engineering*, 10, (5), 108448.
47. DeVore, C.L., Rodriguez-Freire, L., Villa, N., Soleimanifar, M., Gonzalez-Estrella, J., Ali, A.S., Lezama-Pacheco, J.S., Ducheneaux, C., and Cerrato, J.M. (**2022**). Mobilization of As, Fe, and Mn from Contaminated Sediment in Aerobic and Anaerobic Conditions: Chemical or Microbiological Triggers? *ACS Earth and Space Chemistry,* 6 (7), 1644-1654.
46. Casuse, T.Q., Benavidez, A., Plumley, J.B., Lok-kun, T., Ali, A.S., Cerrato, J.M., Garzon, F. (**2022**). DC Sputtered Ultralow Loading Gold Nanofilm Electrodes for Detection of As(III) in Water. *ECS Sensor Plus*, 1, 014602.
45. Velasco, C.A., Brearley, A.J., Gonzalez-Estrella, J., Ali, A.S., Meza M.I., Cabaniss, S.E., Thomson, B.M., Forbes, T.Z., Lezama-Pacheco, J., and Cerrato, J.M. (**2021**). From Adsorption to Precipitation of U(VI): What is the Role of pH and Natural Organic Matter? *Environmental Science & Technology*, 55, (23), 16246-16256.
44. El Hayek, E., Medina, S., Guo, J., Noureddine, A., Zychowski K.E., Hunter, R., Velasco, C.A., Wiesse, M., Maestas-Olguin, A., Brinker, J., Brearley, A.J., Spilde, M., Howard, T., Lauer, F.T., Hernert, G., Ali, A.S., Burchiel, S., Campen, M.J., and Cerrato, J.M. (**2021**). Uptake and Toxicity of Respirable Carbon-Rich Uranium-Bearing Particles: Insights into the Role of Particulates in Uranium Toxicity. *Environmental Science & Technology*, 55 (14), 9949-9957.
43. Seip, A., Safari, S., Pickup, D.M.,1287Cadwick, A.V., Ramos, S., Velasco, C.A., Cerrato, J.M., and Alessi, D.S. (**2021**). Lithium Recovery from Hydraulic Fracturing Flowback and Produced Water Using a Selective Ion Exchange Sorbent. *Chemical Engineering Journal,* 426, 130713.
42. DeVore, C.L., El Hayek, E., Busch, T., Long, B., Mann, M., Rudgers, J.A., Ali, A.S., Howard, T., Spilde, M.N., Brearley, A.J., Ducheneaux, C., and Cerrato, J.M. (**2021**). Arsenic Accumulation in Hydroponically Grown Schizachyrium scoparium (Little Bluestem) Amended with Root-Colonizing Endophytes. *ACS Earth and Space Chemistry,* 5 (6), 1278-1287.
41. Gonzalez-Estrella, J., Ellison, J., Shaikh, N., Stormont, J, Peterson, E., Lichtner, P., and Cerrato, J.M. (**2021**). Saline brine reaction with fractured wellbore cement and changes in hardness and hydraulic properties. *Environmental Engineering Science,* 38 (3), 143-153.
40. Wilson, A., Velasco, C.A., Herbert, G.W., Lucas, S.N., Sanchez, B.N., Cerrato, J.M., Spilde, M., Li, Q.Z., Campen, M.J., and Zychowski K.E. (**2021**). Mine-site derived particulate matter exposure exacerbates neurological and pulmonary inflammatory outcomes in an autoimmune mouse model. *Journal of Toxicology and Environmental Health, Part A,* 84 (12), 503-517.
39. Rodriguez-Freire, L., DeVore, C.L., El Hayek, E., Berti, D., Ali, A.S.., Lezama Pacheco, J.S., Blake, J.M., Spilde, M.N., Brearley, A.J., Artyushkova, K., and Cerrato, J.M. (**2021**). Entrapment of uranium-phosphorous nanocrystals inside root cells of Tamarix plants from a mine waste site. *Environmental Science: Processes and Impacts, 23*, 73-85.
38. Miera, R., Shaikh, N., Artyushkova, K., Ali, A.S., Santoro, C., Thomson, B.M., Howe, K.J., and Cerrato, J.M. (**2021**). Acetaminophen and Caffeine Removal by MnO_x(s) and GAC Media in Column Experiments. *Environmental Science: Water Research & Technology,* 7, 134-143.
37. Avasarala, S., Brearley, A.J., Spilde, M., Peterson, E.J., Jiang, Y.B., Benavidez, A. and Cerrato, J.M. (**2020**). Crystal Chemistry of Carnotite in Abandoned Mine Wastes. *Minerals*, 10 (10), 883.
36. Gonzalez-Estrella, J., Meza, I., Burns, A.J., Ali, A.S., Lezama-Pacheco, J.S., Lichtner, P., Shaikh, N., Fendorf, S., and Cerrato, J.M. (**2020**). Effect of Bicarbonate, Calcium, and pH on the Reactivity of As(V) and U(VI) Mixtures. *Environmental Science & Technology*, 54 (7), 3979-3987.
35. Johns, A., Carolan, M.E., Shaikh, N., Peroutka, A., Seeger, A., Cerrato, J.M., Tori Z. Forbes, and Cwiertny, David M. (**2020**). Functionalized electrospun polymer nanofibers for treatment of

water contaminated with uranium, *Environmental Science: Water Research & Technology*, 6, 622-634.

34. El Hayek, E., Brearley, A.J., Howard, T., Hudson, P., Torres, C., Spilde, M.N., Cabaniss, S., Ali, A.S., and Cerrato, J.M. (**2019**). Calcium in Carbonate Water Facilitates the Transport of U(VI) in *Brassica juncea* Roots and Enables Root-to-Shoot Translocation. *ACS Earth and Space Chemistry*, 3 (10), 2190-2196.
33. Ruiz, O., Thomson, B.M., Cerrato, J.M. , Rodriguez-Freire, L. (**2019**). Groundwater restoration following in-situ recovery (ISR) mining of uranium. *Applied Geochemistry*, 109, 104418.
32. Avasarala, S., Torres, C., Ali, A.S., Thomson B.M., Spilde, M.N., Peterson, E.J., Artyushkova, K., Dobrica, E., Lezama-Pacheco, J.S., and Cerrato, J.M. , (**2019**). Effect of bicarbonate and oxidizing conditions on U(IV) and U(VI) reactivity in mineralized deposits of New Mexico. *Chemical Geology*, 524, 345-355.
31. Blake, J.M., Avasarala, S., Ali, A.S., Spilde, M., Lezama-Pacheco, J.S., Latta, D., Artyushkova, K., Ilgen, A., Shuey, C., Nez, C., and Cerrato, J.M. , (**2019**). Reactivity of As and U co-occurring in Mine Wastes in Northeastern Arizona. *Chemical Geology*, 522, 26-37.
30. Velasco, C.A.; Artyushkova, K.; Ali, A.S.; Osburn, C.L.; Gonzalez-Estrella, J.; Lezama-Pacheco, J.S.; Cabaniss, S.E.; Cerrato, J.M. (**2019**) Organic functional group chemistry in mineralized deposits containing U(IV) and U(VI) from the Jackpile Mine in New Mexico. *Environmental Science & Technology,* 53 (10), 5758-5767.
29. Zychowski K.E., Wheeler A., Sanchez B., Harmon M., Steadman-Tyler C.R., Herbert G., Lucas S.N., Ali A.S., Avasarala S., Kunda N., Robinson P., Muttil P., Cerrato, J.M. , Bleske B., Smirnova O., Campen M.J. (**2019**) Toxic effects of particulate matter derived from dust samples near the Dzhidinski ore processing mill, eastern Siberia, Russia. *Cardiovascular Toxicology, 19 (5), 401-411.*
28. DeVore, C.L., Rodriguez-Freire, L., Ali, A.S., Ducheneaux, C., Artyushkova, K., Zhou, Z., Latta, D., Lueth, V.W., Gonzales, M., Lewis, J., and Cerrato, J.M. (**2019**) "Effect of bicarbonate and phosphate on arsenic release from mining-impacted sediments in the Cheyenne River Watershed, South Dakota, USA", *Environmental Science: Processes & Impacts*, 20, 1046-1055.
27. El Hayek, E., Torres, C., Rodriguez-Freire, L., Blake, J.M., DeVore, C.L., Brearley, A.J., Spilde, M., Cabaniss, S., Ali, A.S., and Cerrato, J.M. (**2018**) Effect of Calcium on the Bioavailability of Dissolved U(VI) in Plant Roots under Circumneutral pH. *Environmental Science & Technology*, 52 (22), 13089-13098.
26. Gayen, P., Spataro, J., Avasarala, S., Ali, A.S., Cerrato, J.M., and Chaplin, B.P. (**2018**). Electrocatalytic Reduction of Nitrate using Magnéli Phases TiO_2 Reactive Electrochemical Membranes Doped with Pd-based Catalysts. *Environmental Science & Technology*, 52 (16), 9370-9379. *Best Paper in the Category of Environmental Technology, 2018.*
25. Rahman, A., El Hayek, E., Blake, J.M., Bixby, R., Ali, A.S., Spilde, M., Otieno, A.A., Miltenberger, K., Ridgeway, C., Artyushkova, K., Atudorei, V., and Cerrato, J.M., (**2018**). Metal Reactivity in Laboratory Burned Wood from a Watershed Affected by Wildfires. *Environmental Science & Technology,52 (15), 8115-8123*.
24. Shaikh, N., Zhang, H., Rasamani, K.D., Artyushkova, K., Ali, A.S., Cerrato, J.M, (**2018**) Reaction of Bisphenol A with Synthetic and Commercial MnOx(s): Spectroscopic and Kinetic Study. *Environmental Science: Processes & Impacts*, 20, 1046-1055.
23. Zychowski, K.E., Kodali, V., Harmon, M., Tyler, C., Sanchez, B., Ordonez Suarez, Y., Herbert, G., Wheeler, A., Avasarala, S., Cerrato, J.M., Kunda, N.K., Muttil, P., Shuey, C., Brearley, A., Ali, A.S., Lin, Y., Shoeb, M., Erdely, A., and Campen, M.J. (**2018**) Respirable Uranyl-Vanadate Containing Particulate Matter Derived from a Legacy Uranium Mine Site Exhibits Potentiated Cardiopulmonary Toxicity. *Toxicological Sciences*, 164, 101-114.
22. Lopez Moruno, F., Rubio, J.E., Atanassov, P., Cerrato, J.M., Arges, C.G., and Santoro, C. (**2018**) . Microbial desalination cell with sulfonated sodium poly(ether ether ketone) as cation exchange membranes for enhancing power generation and salt reduction**.** *Bioelectrochemistry*, 121, 176-184.

21. Lopez, F., Rubio, J.E., Santoro, C., Atanassov, P., Cerrato, J.M., and Arges, C., (**2018**) Investigation of patterned and non-patterned poly(2,6-dimethyl 1,4-pheneylene) oxide based anion exchange membranes for enhanced desalination and power generation in microbial desalination cell. *Solid State Ionics,* 314, 141-148.
20. Avasarala, S., Lichtner, P., Ali, A.S., González-Pinzón, R., Blake, J.M., and Cerrato, J.M., (**2017**) Reactive transport of U and V from abandoned mine wastes. *Environmental Science & Technology,* 51 (21), 12385-12393.
19. Ilgen A.G., Kukkadapu R.K., Dunphy D.R., Artyushkova K., Cerrato, J.M., Kruichak J.N., Janish M.T., Sun C. J., Argo J. M., and Washington R. E. (**2017**). Synthesis and characterization of redox-active ferric nontronite. *Chemical Geology*, 470, 1-12.
18. Blake, J., DeVore, C., Avasarala, S., Ali, A.S., Roldan, C., Bowers, F., Spilde, M., Artyushkova, K., Kirk, M.F., Peterson, E., Rodríguez-Freire, L., and Cerrato, J.M., (**2017**). Uranium mobility and accumulation along the Rio Paguate, Jackpile Mine in Laguna Pueblo, New Mexico. *Environmental Science: Processes & Impacts*, 19, 605-621.
17. Saup, C., Williams, K., Rodríguez-Freire, L., Cerrato, J.M., Johnston, M.D., and Wilkins, M.J., (**2017**). Anoxia stimulates microbially catalyzed metal release from Animas River sediments. *Environmental Science: Processes & Impacts*, 19, 578-585.
16. Rodriguez-Freire, L., Avasarala, S., Ali, A.S., Agnew, D., Hoover, J., Artyushkova, K., Latta, D., Peterson, E., Lewis, J., Brearley, A.J., and Cerrato, J.M., (**2016**) Post Gold King Mine spill investigation of metal stability in water and sediments of the Animas River watershed. *Environmental Science & Technology,* 50 (21), 11539–11548.
15. Ruiz, O., Thomson, B., and Cerrato, J.M., (**2016**) Investigation of in-situ leach (ISL) mining of uranium in New Mexico and post-mining reclamation. *New Mexico Geology,* 38, 77-89.
14. Shaikh, N., Taujale, S., Zhang, H., Artyushkova, K., Ali, A.S., and Cerrato, J.M., (**2016**) Spectroscopic investigation of interfacial interaction of manganese oxide with Triclosan aniline, and phenol. *Environmental Science & Technology,* 50 (20),10978-10987.
13. Asadi, M., Kim, K., Liu, C., Addepalli, A.V., Abbasi, P., Yasaei, P., Phillips, P., Behranginia, A., Cerrato, J.M., Haasch, R., Zapol, P., Kumar, B., Klie, R.F., Abiade, J., Curtiss, L.A., Salehi-Kojin, A., (**2016**). Nanostructured transition metal dichalcogenide electrocatalysts for CO_2 reduction in ionic liquid. *Science,* 353 (6298), 467-470.
12. Cerrato, J.M., Blake, J.M., Hirani, C., Clark, A.L., Ali, A.S., Artyushkova, K., Peterson, E., and Bixby, R. (**2016**). Wildfires and Water Chemistry: Effect of Metals Associated with Wood Ash. *Environmental Science: Processes & Impacts,* 18, 1078-1089.
11. Blake, J.M., Avasarala, S., Artyushkova, K., Ali, A.S., Brearly, A.J., Shuey, C., Robinson, Wm. P., Nez, C., Bill, S., Lewis, J., Hirani, C., Lezama-Pacheco, J.S., and Cerrato, J.M., (**2015**) Elevated concentrations of U and co-occurring metals in abandoned mine wastes in a Northeastern Arizona Native American community. *Environmental Science & Technology,* 49 (14), 8506-8514.
10. Lezama-Pacheco, J.S., Cerrato, J.M., Alessi, D.S., Veeramani, H., Suvorova, E.I., Bernier-Latmani, R., Giammar, D.E., Long, P.E., Williams, K.H., and Bargar, J.R., (**2015**) Long-term in-situ oxidation of biogenic uraninite in an alluvial aquifer: impact of dissolved oxygen and calcium, *Environmental Science & Technology,* 49 (12), 7340-7347.
9. Alessi, D.S., Lezama-Pacheco, J.S., Janot, N., Suvorova, E.I., Cerrato, J.M., Giammar, D/E., Davis, J.A., Fox, P.M., Williams, K.H., Long, P.E., Handley, K.M., Bernier-Latmani, R., and Bargar, J.R. (**2014**) Speciation and reactivity of uranium products formed during *in situ* bioremediation in an alluvial aquifer, *Environmental Science & Technology,* 48 (21), 12842-12850.
8. Massey, M.S., Lezama-Pacheco, J.S., Jones, M.E., Ilton, E.S., Cerrato, J.M., Bargar, J.R., and Fendorf, S., (**2014**) Competing retention pathways of uranium upon reaction with Fe(II), *Geochimica et Cosmochimica Acta*, 142, 166 - 185.
7. Cerrato, J.M., Ashner, M.N., Alessi, D.S., Bernier-Latmani, R., Lezama-Pacheco, J.S., Bargar, J.R., and Giammar, D.E., (**2013**) Relative Reactivity of Biogenic and Chemogenic Uraninite and Biogenic Non-crystalline U(IV), *Environmental Science & Technology,* 47 (17), 9756 - 9763.

6. Giammar, D.E., Cerrato, J.M., Mehta, V., Wang, Z., Wang, Y., Pepping, T.J., Ulrich, K., Lezama-Pacheco, J.S., and Bargar, J.R., (**2012**) Effect of diffusive transport limitations on UO_2 dissolution, *Water Research*, 46, 6023 - 6032.
5. Cerrato, J.M., Barrows, C.J., Blue, L.Y., Lezama-Pacheco, J.S., Bargar, J.R., and Giammar, D.E., (**2012**) Effect of Ca^{2+} and Zn^{2+} on UO_2 dissolution rates, *Environmental Science & Technology,* 46 (5), 2731 - 2737.
4. Cerrato, J.M., Knocke, W.R., Hochella, Jr., M.F., Dietrich, A.M., Jones, A., and Cromer, T.F., (**2011**) Application of XPS and solution chemistry analyses to investigate soluble manganese removal by MnO_x(s)-coated media, *Environmental Science & Technology*, 45 (23), 10068 - 10074.
3. Cerrato, J.M., Hochella, Jr., M.F., Knocke, W.R., Dietrich, A.M., and Cromer, T.F. (**2010**) Use of XPS to identify the oxidation state of Mn in solid surfaces of filtration media oxide samples from drinking water treatment plants. *Environmental Science & Technology*, 44 (15), 5881 - 5886.
2. Cerrato, J.M., Falkinham III, J.O., Dietrich, A.M., Knocke, W.R., McKinney, C.W., and Pruden, A. (**2010**) Manganese-oxidizing and -reducing microorganisms isolated from biofilms in chlorinated drinking water systems. *Water Research*, 44, 3935 - 3945.
1. Cerrato, J.M., Reyes, L.P., Alvarado, C.N., and Dietrich, A.M. (**2006**) Effect of PVC and iron materials in drinking water distribution systems on Mn(II) deposition. *Water Research*, 40 2720 - 2726.

Book Chapters

3. Wasserman, N.L., Jemison, N.E., Jin, Q., Kirk M.F., Cerrato, J.M. (**2023**) Redox processes in groundwater. In Treatise on Geochemistry, Ariel D. Anbar, Dominique Weiss, Adina Paytan, Catherine Chauvel (Eds.), 3rd Edition, Elsevier. https://doi.org/10.1016/B978-0-323-99762-1.00025-5
2. Hoover J.H., Bolt A.M., Burchiel S.W., Cerrato J.M., Dashner-Titus E.J., Erdei E., Gonzalez Estrella J., El Hayek E., Hudson L.G., Luo L., MacKenzie D., Medina S., Schilz J.R., Velasco C.A., Zychowski K., Lewis J.L. (**2021**) A transdisciplinary approach for studying uranium mobility, exposure, and human health impacts on tribal land sin the southwest, United States. In Malcolm Siegel, Olle Selinus and Robert Finkelman (Eds.), Practical Applications of Medical Geology, Springer, ISBN: 978-3-030-53892-7
1. Cerrato, J.M., DeVore, C.L., Velasco, C.A. (**2019**) "Mine Waste Effects on Water and Soil in Native American Land in Western USA", In Wiley Encyclopedia of Water: Science, Technology, and Society 2019. DOI: 10.1002/9781119300762.wsts0051

SELECTED RECENT INVITED ORAL PRESENTATIONS

Cerrato, J.M. Environmental Engineering and Erath Sciences Department Seminar, Clemson University, April 14, 2025, Clemson, SC.

Cerrato, J.M. Environmental Health Sciences Department Seminar, Columbia University, March 31, 2025, New York City, NY.

Cerrato, J.M., Seminar for the Environmental and Water Resources Program, University of Nebraska-Lincoln, March 7, 2025, Lincoln, NE.

Cerrato, J.M., Metals and Climate Health: Lessons Learned as a Center Director and Researcher. Seminar for the UNM College of Pharmacy, March 3, 2025, Albuquerque, NM.

Cerrato, J.M., Seminar for the Environmental Engineering Program, University of Texas El Paso, February 12, 2025, El Paso, TX.

Cerrato JM. Uranium Mine Wastes in Native American Communities: Challenges and Opportunities in Understanding the Reactivity of Complex Metal Mixtures, Gordon Research Conference for Environmental Science: Water, June 25, 2024, Holderness, NH.

Cerrato JM. Implications of Uranium Mining in Tribal Lands in the Southwestern US, American Chemical Society Spring Meeting, March 2024, New Orleans, LA.

Cerrato, JM. Transport and remediation of metal mixtures in uranium mine wastes in tribal land. Graduate Seminar for the Environmental Engineering Program, Arizona State University, March 12, 2024, Tempe, AZ.

Cerrato JM. Uranium mine wastes in tribal land, Frontiers in Geosciences Seminar, Division of Earth and Environmental Science, Los Alamos National Laboratory, January 2024, Los Alamos, NM.

Cerrato, J.M., Seminar for the Department of Chemical Engineering, University of Illinois-Chicago, November, 2023.

Cerrato, J.M., Critical Minerals Workshop, Missouri University of Science & Technology, August, 2023.

Cerrato, J.M., Seminar for the Department of Chemical and Environmental Engineering, University of Arizona, April, 2023.

Cerrato, J.M., Seminar for the Geosciences-Lundin-Snider Seminar Series, University of Arizona, April 2023.

Cerrato, J.M. Seminar for the Universidad San Francisco de Quito, Ecuador, December 2022.

Cerrato, J.M., Seminar for the NSF Center for Sustainable Nanotechnology, University of Minnesota, January 2022.

Cerrato, J.M., UNM Faculty Lightning Lounge, November 2021.

Cerrato, J.M., Conferencia presentada al Instituto Universitario de Electroquímica, Universidad de Alicante, July, 2021.

Cerrato, J.M., Civil, Architectural & Environmental Engineering Seminar, Drexel University, April, 2021.

Cerrato, J.M., Earth Sciences Seminar Series, Northwestern University, April, 2021.

Cerrato, J.M., Environmental and Ecological Engineering Seminar Series, Auburn University, January, 2021.

Cerrato, J.M., UNM Comprehensive Cancer Center (UNMCCC)-Cancer Control & Population Science (CCPS) Program Seminar, University of New Mexico, December, 2020.

Cerrato, J.M., Levandowski Fellowship Lecture, Department of Earth and Planetary Sciences, Purdue University, October, 2020.

Cerrato, J.M., Environmental Engineering/Environmental Chemistry Seminar, University of Wisconsin-Madison, September, 2020.

Cerrato, J.M., Civil and Environmental Engineering Seminar, Virginia Tech, January, 2020.

Cerrato, J.M., Civil and Environmental Engineering Seminar, University of California Irvine, October, 2019.

Cerrato, J.M., Chemistry Seminar, New Mexico Tech, September, 2019.

Cerrato, J.M., Solubility Considerations of Uranium and Organic Matter in Mineralized Deposits, Geological Society of America, Phoenix, AZ, September, 2019.

Cerrato, J.M., Integration of Laboratory Experiments. Spectroscopy, and Microscopy to Investigate the Reactivity of Metals in Mine National Conference American Vacuum Society Symposium, Long Beach, CA USA, October 24, 2018.

Cerrato, J.M., Transport of Uranium and Co-occurring Constituents in Abandoned Mines in Native American Communities, 255th National Conference and Exposition of the American Chemical Society, New Orleans, LA, April, 2018.

Cerrato, J.M., Interfacial Processes Affecting the Transport of Uranium and Co-occurring Metals in Abandoned Mines in Native American Communities, Department of Geology and Geological Engineering, Colorado School of Mines, Golden, CO, February 2018.

Cerrato, J.M., Spectroscopy and Microscopy Investigation of Interfacial Processes Affecting Uranium in Abandoned Mines, SCiX 2017, Reno, NV, October, 2017.

Cerrato J.M., Blake, J.M., Hirani, C., Clark, A., Ali, A.S., Artyushkova, K., Peterson, E., and Bixby, R., Reactivity of Metals from Wildfire Ash, 251st National Conference and Exposition of the American Chemical Society, San Diego, CA, April, 2016.

Cerrato, J.M., Metal Occurrence in Abandoned Uranium Mine Wastes. Society of Hispanic Professional Engineers (SHPE), Baltimore, MD, November, 2015.

Cerrato, J.M., Aplicación de Microscopía y Espectroscopia Avanzada para la Investigacion de Procesos Biogeoquimicos de Metales que Afectan la Calidad del Agua, Congreso de la Conferderacion Panoamericana de Ingenieria Mecanica, Electrica, Industrial y Ramas Afines (COPIMERA) October, 2016, Tegucigalpa, Honduras.

Cerrato, J.M., Avasarala, S., Blake, J., Ali, A.S., Brearly, A., Artyushkova, K/, Lezama-Pacheco, J.S., Metal Reactivity in Abandoned Uranium Mine Wastes. 250th National Conference and Exposition of the American Chemical Society, Boston, MA, August, 2015.

Cerrato, J.M. Reactivity of Metals in Abandoned Uranium Mine Wastes, Department of Earth and Planetary Sciences, UNM, Albuquerque, NM, September, 2015.

Cerrato, J.M. Spectroscopy and Microscopy Study of Abandoned Uranium Mine Wastes in Northeastern Arizona, Stanford Synchrotron Radiaton Lightsource (SSRL) Annual User Meeting, Menlo Park, CA, October, 2014.

Cerrato, J.M. Integrated Spectroscopy, Microscopy, and Aqueous Chemistry Investigation of Heavy Metals in Abandoned Mine Wastes in the Southwest, Argonne National Laboratory, IL, September, 2014.

FUNDED PROPOSALS

During my time at UNM, I have secured more than $30,561,876 in funding as a Principal Investigator (PI) or Co-PI through state and federal agencies such as NSF, National Institute of Health (NIH), Environmental Protection Agency (EPA), Army Research Office (ARO), and the New Mexico Water Resources Institute. This includes more than $7,000,000 in direct funding for my own research. Selected funded proposals are outlined below:

1) Project Title: Impact of Metals Associated to Wildfire Ash on Water Quality.
   Source of Support: Oak Ridge Associated Universities (ORAU) Program
   Total Award Amount: $10,000
   Jose Cerrato (PI)
   Duration: June 1, 2015-May 31, 2016

2) Project Title: UNM Center for Native Environmental Health Equity (Native EH Equity)
   Source of Support: National Institute of Environmental Health Sciences (NIEHS) and Environmental Protection Agency (EPA).
   Total Award Amount: $5,000,000 (Cerrato: $1,000,000)
   Johnnye Lewis from Health Sciences Center (PIs), Jose Cerrato (Co-PI)
   Duration: June 1, 2015-May 31, 2020
   Phase II Renewal for $6,000,000:

3) Project Title: Understanding Reactivity in American Native Impacted Uranium Mines (URANIUM): Research, Education and Outreach
   Source of Support: National Science Foundation (NSF).
   Total Award Amount: $500,000
   Jose Cerrato (PI)
   Duration: February 1, 2017-January 31, 2023

4) Project Title: Rapid Uranium Sensors to Minimize Health Impacts in the Navajo Nation
   Source of Support: National Institute of Environmental Health Sciences (NIEHS).
   Total Award Amount: $163,591
   Jose Cerrato (UNM PI) subcontract to collaborate with Amanda Haes, Tori Forbes, and David Cwiertny from University of Iowa.
   Duration: February 1, 2017-January 31, 2020

5) Project Title: Effect of Wildfire Ash on Water Quality
   Source of Support: New Mexico Water Resources Institute (WRI).
   Total Award Amount: $17,000
   Jose Cerrato (PI)
   Duration: August 1, 2017-May 31, 2018

6) Project Title: Phase 2 UNM METALS Superfund Research Center

Source of Support: National Institute of Environmental Health Sciences (NIEHS)
Total Award Amount: $9,200,000
Jose Cerrato (PI)
Duration: June 1, 2022-May 31, 2027 (Renewal, Phase 1, from 2017-2022)

7) Project Title: Acquisition of a High-Resolution Analytical Scanning Electron Microscope for Materials and Engineering Research
Source of Support: National Science Foundation (NSF)
Total Award Amount: $1,750,000
Abhaya Datye (PI), Jose Cerrato, Fernando Garzon, Adrian Brearley, Plamen Atanassov (Co-PIs)
Duration: October 1, 2018-September 30, 2021
8) Project Title: Center for Water and the Environment Phase II
Source of Support: National Science Foundation (NSF)
Total Award Amount: $5,000,000 (Cerrato: $500,000)
Schuler, Andrew (PI), Jose Cerrato, Anjali Mulchandani, Ricardo Gonzalez-Pinzon (Co-PIs)
Duration: January 1, 2020-December 31, 2025
9) Project Title: U.S. Scholar Senior Research Award
Source of Support: Fulbright Award
Total Award Amount: $20,000
Jose Cerrato (PI)
Duration: September 1, 2020-August 31, 2021
10) Project Title: NSF INCLUDES Planning Grant: An NSF CREST Centers Collaboration to Advance Minority Undergraduate Student Researchers in STEM
Source of Support: National Science Foundation (NSF)
Total Award Amount: $100,000 (Awarded to Cal State LA)
Gustavo Meneses (PI), Jose Cerrato, Maria Tamargo, Marcelo Suarez, Arturo Pacheco-Vega (Co-PIs)
Duration: September 1, 2020-August 31, 2021
11) Project Title: Redox Reactions of Chromium, Copper, and Iron Mixtures in Contaminated Waters: Integration of Laboratory Experiments, Reactive Transport Modeling, Spectroscopy, and Electrochemical Sensing
Source of Support: Army Research Office (ARO)
Total Award Amount: $370,318
Jose Cerrato (PI), Stephen Cabaniss, Fernando Garzon, Peter Lichtner (Co-PIs)
Duration: May 1, 2021-January 31, 2025
12) Project Title: Planning Grant: Engineering Research Center for Integrating Native Solutions to Promote and Inform Resilience and Engineering (INSPIRE)
Source of Support: National Science Foundation (NSF)
Total Award Amount: $99,999
Karl Linden (University of Colorado Boulder PI), Jose Cerrato (UNM Co-PI), Gwynn Johnson (Portland State University Co-PI), Erin Whitney (University Alaska-Fairbanks Co-PI), Alden Yellowhorse (Navajo Tech University Co-PI)
Duration: Sept 1, 2021-August 30, 2022
13) Project Title: Collaborative Research: Microbiome Interactions and Mechanisms (MIM): The impact of the fungal microbiome in metal tolerance and soil biogeochemical transformations
Source of Support: National Science Foundation (NSF)
Total Award Amount: $497,969
Debora Rodrigues (Houston PI), Gregory Bonito (Michigan State PI), Jose Cerrato (UNM PI)
Duration: Sept 1, 2021-August 30, 2026
14) Project Title: UROL ASC: Biosensors for Field Detections of Aqueous Heavy Metals: A Collaboration with Native American Communities.
Source of Support: National Science Foundation (NSF)
Total Award Amount: $3,000,000

Gabriel Lopez (PI), Jose Cerrato, Nick Carrol, Matthew Lanken (UNM Co-PIs), Abraham Melles (Navajo Tech Co-PI)
Duration: August 15, 2023-July 31, 2028

15) Project Title: Climate and Health Allied Network for Geospatial and Environmental Science (CHANGES) Center
Source of Support: National Institute of Nursing Research (NINR)
Total Award Amount: $3,833,000
Jose Cerrato (PI)
Duration: September 11, 2024-August 31, 2027

TEACHING INTERESTS

- Environmental Engineering
- Aquatic Chemistry in Environmental Engineering
- Physico-Chemical Principles of Environmental Engineering
- Water and Sanitation in Developing Countries
- Develop New Courses About Metal Biogeochemistry in Natural and Engineered Environments
- Environmental Analysis Laboratory

TEACHING RECORD

- CE-202 Statics (Fall 2013 [4.5 IDEA]; Spring 2016 [Effectiveness: 4.59 and Approachability: 4.78]; Spring 2018 [Effectiveness: 4.5 and Approachability: 4.87]).
- CE-335 Environmental and Water Resources Engineering (Spring 2014 [4.2 IDEA]; Spring 2015 [Effectiveness 3.86 and Approachability: 4.72]; Spring 2017 [Effectiveness: 4.52 and Approachability: 4.80]); Spring 2019 [Effectiveness: 4.30 and Approachability: 4.70]).
- CE-534 Environmental Engineering Chemistry (Fall 2014 [4.2 IDEA]; Fall 2015 [Effectiveness 4.57 and Approachability: 5.0]; Fall 2016 [Effectiveness 4.70 and Approachability: 4.70]; Fall 2017 [Effectiveness: 4.75 and Approachability: 4.92]; Fall 2018 [Effectiveness: 4.60 and Approachability: 4.70]; Fall 2019 [Effectiveness: 4.67 and Approachability: 5.00]; Fall 2020 [Effectiveness: 4.80 and Approachability: 5.00]; Fall 2021 [Effectiveness: 4.33 and Approachability: 4.89]; Fall 2022 [Effectiveness: 4.70 and Approachability: 4.90]; Fall 2024 [Effectiveness: 4.69 and Approachability: 5.00])
- CE-598 Environmental Analysis Laboratory (Spring 2020 [Effectiveness: 4.80 and Approachability: 5.00]; Spring 2022 [Effectiveness: 4.60 and Approachability: 4.60])
- CE 431/531 Physical Chemical Water and Waste Water , co-taught with Derek Belka (Spring 2023 [Effectiveness: 3.50 and Approachability: 4.40]).
- CE 160 Civil Engineering Design (Spring 2024 [Effectiveness: 4.54 and Approachability: 4.65]).

INSTRUMENTATION, ANALYTICAL, AND TECHNICAL SKILLS

Surface and solid characterization techniques: X-Ray Absorption Spectroscopy (XAS - XANES/EXAFS), X-Ray Photoelectron Spectroscopy (XPS), Scanning Electron Microscopy (SEM), and X-Ray Diffraction (XRD).

Aquatic Chemistry: Inductively Coupled Plasma - Mass Spectrometry (ICP-MS), Atomic Absorption (AA), Ion chromatography (IC), Total Organic Carbon (TOC), spectrophotometry, pH probes, and portable kits to perform in-situ measurements.

Microbiological methods: culturing methods (i.e., media specific for Mn and Fe oxidizers and reducers, total coliforms, heterotrophic plate counts, etc.) and 16S-rRNA gene sequencing.

Data processing, analysis and modeling software. Specifically interested in chemical speciation (i.e., MINEQL), reaction kinetics, and performing statistical analyses (i.e., SAS and R).

LANGUAGES

Bilingual (English and Spanish)

GROUP MEMBERS SUPERVISED

Research Professors: Dr. Eliane El Hayek (now Research Assistant Professor, UNM College of Pharmacy), Dr. Jorge Gonzalez-Estrella (now Assistant Professor at Oklahoma State University), Dr. Noah Jemison (now Research Professor at University of Pittsburgh).

Postdocs: Dr. Johanna Blake (now Research Scientist at USGS), Dr. Lucia Rodriguez-Freire (now Lecturer at Newcastle University), Dr. Han Hua [co-advised with Prof. Anjali Mulchandani, now at Southern University of Science and Technology (SUSTech)], Dr. Geisianny Moreira.

Ph.D. Students: Dr. Sumant Avasarala (now Postdoc at University of Tennessee), Dr. Nabil Shaikh (also former M.S. student, now Postdoc at University of Illinois, Chicago, NIEHS KC Donnelly Externship Award), Dr. Cherie L. DeVore (also former M.W.R. student, now Postdoc at Stanford University, NSF Postdoc Fellow), Dr. Carmen A. Velasco (now at Dow Chemicals), Dr. Isabel Meza (now at Dow Chemicals), Tybur Casuse (co-advised with Prof. Fernando Garzon, also former M.S. student, NSF GRFP), Raphael Oliveira, Paige Haley (co-advised with Prof. Eliane El Hayek).

M.S. Students: Asifur Raman (now PhD, Postdoc at University of Illinois, Urbana-Champaign), Omar Ruiz (now Engineer at DBS&Associates, co-advised with Prof. Bruce Thomson), Rachael Miera (now Engineer at Molzen Corbin), Joshua Ellison (now at U.S. Army Corps of Engineers), Mitchell Schatz (now Scientist at New Mexico Environment Department, co-advised with Prof. Bruce Thomson), Francisco Lopez Moruno (now in FCC, Spain), Casey Miller (co-advised with Prof. Eliane El Hayek now in CDM Smith Atlanta), Roxanne Awais, Ernesto Perea (co-advised with Prof. John Stormont), Taylor Busch (co-advised with Prof. Anjali Mulchandani), Maycee Hurd (co-advised with Prof. Eliane El Hayek, now Ph.D. student at Carnegie Mellon University), Paige Haley (co-advised with Prof. Eliane El Hayek, now PhD student at UNM), Travis Broadhurst (co-advised with Prof. John Stormont), Kaelin Gagnon, Ashley Apodaca (NSF GRFP), Eresay Alcantar-Velasquez (co-advised with Dr. Johanna Blake)

Selected Undergraduate and High school Students: Chris Torres (Ph.D., University of Illinois-Urbana Champaign, NSF GRFP, now Lecturer at Colorado State University), Ernesto Echeverria (M.S. student at Northeastern University), Fernando Echeverria (M.S. University of Florida), Andrea Gomez (B.S. in Chemical Engineering, Rice University), Taylor Busch (M.S., UNM, now at Souder, Miller & Associates), Benson Long (now at Wilson & Company, Inc., Engineers and Architects), Kelsie Herzer (now PhD. Student at Arizona State University, NSF GRFP), Elijah Jessop (UNM), Stephen Emeanuwa (UNM), Andrew Neidhart, Derek Capitan (UNM), Kaelin Gagnon (now M.S. student at UNM).

PROFESSIONAL SERVICE

Co-advisor of the UNM Engineers Without Borders (EWB) Chapter (2015-Present).

Mentor for the University of New Mexico Alliance for Minority Participation (AMP) Program and Co-Organizer (together with Drs. Laura Crossey and Johanna Blake) of the UNM AMP 2015 Summer Program. I have served as a mentor for this program since 2014. Also served as mentor for the NM EPSCoR STEMAP program in summer 2017.

Co-organizer for the Faculty Development Institute for the National Meetings 2016, 2017, and 2019 of the Society of Hispanic Professional Engineers (SHPE).

Member of the Undergraduate Studies Committee (2014-2015), Graduate Committee (2015-2016), and Strategic Planning Committee (2013-2014).

Member of the Advisory Board of the Southwest Polytechnic Institute (SIPI, 2017).

Panel participant and reviewer for the "Navigating the Academic Job Search" and "NSF CAREER" Workshops of the Association of Environmental Engineering and Science Professors (AEESP), and the UNM Office of the Vice-President for Research NSF CAREER Workshop 2017.

Research mentor for under-represented high school students.

Science Communication Fellow for "Meet the Scientist" events of the Explora Children's Museum since Fall 2016.

Member of Scientific Advisory Board for the Nanosystems Engineering Research Center for Nanotechnology Enabled Water Treatment (NEWT) sponsored by NSF (P.I. Pedro Alvarez), 2019-Present.

Member of Advisory Board for the University of Texas, Austin INFEWS NRT sponsored by NSF (P.I. Charles Werth), 2020-Present.

Affiliated Faculty, invited lecturer, and member of the UNM Latin American & Iberian Institute (LAII). Participated on the Executive Committee, 2019-2020.

Member of the School of Engineering Diversity and Inclusion Committee (2019-Present).

Member of the UNM Radiation Safety Committee, 2021-Present.

Chair of the Association of Environmental Engineering and Science Professors (AEESP) Community Engagement Research (CER) Taskforce, 2021-Present.

Vice President, Association of Environmental Engineering and Science Professors (AEESP), 2024-Present, and Member of the AEESP Board of Directors since 2023.

Member of the UNM Public Health Executive Council (ECPH) for the College of Population Health, 2022.

Member of the UNM School of Engineering Dean Search Advisory Committee, 2022.

Member of Faculty Search Committees for Civil Engineering (2014-2015, 2018-2019), Office of the Vice President for Research Faculty Development Office (2018), and Chemical Engineering (2022-2023), Earth and Planetary Sciences (2024-2025).

Reviewer for the Journals: Environmental Science & Technology, Environmental Science: Processes & Impacts, Environmental Science: Water Research & Technology, Environmental Engineering Science, Water Research, Chemical Geology, Geochimica et Cosmochimica Acta, Chemosphere, Applied Geochemistry, American Mineralogist, Mineralogy Magazine, Journal of Applied Microbiology, Journal of Electron Spectroscopy and Related Phenomena, Journal of Electroanalytical Chemistry, Water Environment Research, Water Science and Technology, Journal of Hazardous Materials, and Science of the Total Environment.

Proposal Reviewer for NSF Geobiology and Low Temperature Geochemistry and Environmental Engineering Programs, National Institute of Environmental Health Science (NIEHS), Department of Energy (DOE) Experimental Program to Stimulate Competitive Research (DOE EPSCoR) Implementation Grants, DOE CAREER, Army Research Office (ARO).

Water Protection Advisory Board, Water Authority, the City of Albuquerque and Bernalillo County, 2021-Present.

Associate Chair for Undergraduate Studies, and Chair of the Undergraduate Studies Committee, Department of Civil, Construction, & Environmental Engineering, 2022-Present.

Associate Director of the Center for Water and the Environment, 2022-Present.

Deputy Director of the UNM METALS Superfund Research Center, 2022-2023.

Director of the UNM METALS Superfund Research Center, 2023-Present.

SELECTED AFFILIATIONS

American Society of Civil Engineers, since 2014. American Chemical Society, since 2011. Association of Environmental Engineering and Science Professors, since 2011. American Water Works Association, since 2005. College of Civil Engineers of Honduras, since 2002; Licensed Engineer in Honduras.

HOBBIES

Professional Guitarist; member of the independent record label Costa Norte Records, Honduras.