KENNETH C. CARROLL
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EDUCATION

Ph.D. from University of Arizona (UA), 2007
Major: Hydrology and Water Resources
Minor: Soil, Water, and Environmental Science (SWES)
M.S. from Ohio University (OU), 1999
Major: Aqueous/Environmental Geochemistry
B.S. from OU, 1996
Major: Geological Sciences

PROFESSIONAL EXPERIENCE

2022 – Present	Professor: Plant & Environmental Sciences Department and Water Science & Management (WSM) Graduate Program NMSU
2017 – 2024	Expert Reviewer and Witness: DOE & Elephant Butte Irrigation District
2017 – 2022	Associate Professor: Plant & Environmental Sciences Department and WSM Graduate Program NMSU
2013 – 2017	Assistant Professor: Plant & Environmental Sciences Department and WSM Graduate Program NMSU
2010 – 2013	Research Scientist: Environmental Systems Group at Pacific Northwest National Laboratory (PNNL)
2007 – 2010	Postdoctoral Researcher/Laboratory Manager: UA SWES Department
2004 – 2007	Hydrogeologist and Geochemist: Water Management Consultants
2003 – 2004	Hydrogeologist and Geochemist: Hydro Geo Chem, Inc.
1999 – 2003	Research Assistant: SWES Department at UA
1997 – 1999	Teaching Assistant: Geological Sciences Department at OU

SELECTED TEACHING EXPERIENCE

NMSU **Geohydrology** (every fall since 2013): Undergraduate & Graduate Level (ES/WSAM/CE/GEOL 452) 4 credits (3 credits for lecture and 1 credit for lab)
NMSU **Arid Region Water Resources Issues Seminar** (every spring since 2014): Graduate Level (WSAM/ES 605) 3 credits
NMSU **Land Use Environmental Impact and Contaminant Remediation** (every spring since 2014): Undergraduate & Graduate Level (WSAM/ES 470) 3 credits

2001 – 2009	SWES Department UA (Guest Lecture): ***Environmental Monitoring and Remediation*** (undergraduate level), ***Environmental Pollution*** (undergraduate level; 2 times), ***Contaminant Transport*** (graduate level; 3 times).
1997 – 1999	Geological Sciences at OU (Teaching Assistant): ***Hydrogeology Field Camp*** (graduate level; 2 times), ***Water Geochemistry*** (undergraduate/graduate level; 2 times),

Geomorphology (undergraduate level; 2 times), ***Hydrogeology II (Groundwater Modeling)*** (graduate level), ***Hydrogeology III (Solute Transport)*** (graduate level), ***Physical Geology*** (undergraduate level).

HONORS AND AWARDS

2024 – Chair for Soils & Environmental Quality Division of Soil Science Society of America

2023 – Chair-Elect for Soils & Environmental Quality Division of Soil Science Society of America

2021 – Awarded the Mobley Family Endowed Distinguished Research Award through the College of Agricultural, Consumer, and Environmental Sciences (ACES) at NMSU

2021 – Awarded Mid-Career Award for Applied Research by Universities Council on Water Resources

2021 – Elected NMSU Chapter President of Sigma Xi - The Scientific Research Society

2019 – Awarded Herb Ward Family Endowed Interdisciplinary Chair in Environmental and Water Science (2019-2023)

2019 – Online video won (with Barbara Chamberlin, ACES Media Productions, and April Ulery) a national Gold Award for "motion graphics/augmented reality/virtual reality/animation" from the Association for Communications Excellence professional association.

2017 – Awarded *Early Career Award* for the 17th Annual University Research Council for Exceptional Achievements in Creative Scholarly Activity at NMSU

2016 – Awarded *Patricia Christmore Faculty Teaching Award* for Superb Junior Faculty Excellence in Teaching at NMSU

2015 – Awarded *Outstanding Reviewer Status* for *Journal of Contaminant Hydrology*.

2015 – Elected Chair for Groundwater Technical Committee of American Geophysical Union (AGU) Hydrology Section

2014 – Elected Deputy Chair for Groundwater Technical Committee of AGU Hydrology Section

2002 – Awarded Superfund Basic Research Prog. 2002 Annual Meeting: Best Student Poster

1998 – Awarded Graduate Alumni Research Grants OU *Geol. Sci. R.C. Johnson Grant Award*

1998 – Awarded American Assoc. of Petroleum Geologists Foundation *Grants-in-Aid Award*

1996 – Awarded Sigma Gamma Epsilon *Tarr Award*

REFEREED JOURNAL PUBLICATIONS (*DENOTES NMSU STUDENTS & POSTDOCS ADVISED BY CARROLL)

1. Yuan*, Y., M.K. Shukla, **K.C. Carroll**, L. Wang, H. Yang, and T. Du (2025) A Criterion to Reduce Chamber Method Uncertainty when Measuring Plant Transpired Vapor Isotopes. *Journal of Hydrology*, 656, 133014, ISSN 0022-1694. https://doi.org/10.1016/j.jhydrol.2025.133014.
2. Zhan, C., Z. Dai, J.J. Jiao, M.R. Soltanian, H. Yin, **K.C. Carroll** (2025) Towards Artificial General Intelligence in Hydrogeological Modeling with an Integrated Latent Diffusion Framework. *Geophysical Research Letters*, 52(3), e2024GL114298. https://doi.org/10.1029/2024GL114298.
3. Kaown, D., **K.C. Carroll**, J. Mahlknecht, Y.J. Kim, J.-Y. Shin, S.-S. Lee, K.-K. Lee (2025) Influence of saline water and heavy rain on the fate of chlorinated ethenes in groundwater characterized by compound-specific isotope and microbial data. *Journal of Hazardous Materials*, 487, 137238, ISSN 0304-3894, https://doi.org/10.1016/j.jhazmat.2025.137238.

4. Soltanian, M.R., F. Moeini, Z. Dai, A.H. Sawyer, J.H. Fleckenstein, J. Doherty, Z. Curtis, Abhijit Chaudhuri, G. Chiogna, M. Fahs, W.S. Han, Z.H. Mseli, F. Lotti, H.S. Moon, L. Zhu, D. Al-Masri, C. Zhan, H. Hoteit, M.A. Matin, A. Zarei, **K.C. Carroll**, S.G. Evans, K. Madani (2024) Sustainability Nexus AID: groundwater. *Sustainability Nexus Forum*, 32, 21. https://doi.org/10.1007/s00550-024-00557-7
5. Ikard, S.J., **K.C. Carroll**, S.C. Brooks, D.F. Rucker, G. Smith-Vega*, A. Elwes* (2024) Self-potential tomography preconditioned by particle swarm optimization—application to monitoring hyporheic exchange in a Bedrock River. *Water Resources Research*, 60(10), e2024WR037549. https://doi.org/10.1029/2024WR037549
6. Mohamed*, R.A.M., M.R. Soltanian, D. Wang, **K.C. Carroll** (2024) Sensitivity of Mass Flux Reduction and Mass Removal of Perfluoroalkyl Substances to Groundwater Flow and Transport Parameter Variability and Heterogeneity. *Journal of Hydrology*, 645, Part B, 132268, ISSN 0022-1694. https://doi.org/10.1016/j.jhydrol.2024.132268.
7. Jamil*, A., D.F. Rucker, D. Lu, S.C. Brooks, A.M. Tartakovsky, H. Cao, **K.C. Carroll** (2024) Comparison of Machine Learning and Electrical Resistivity Arrays to Inverse Modeling for Locating and Characterizing Subsurface Targets. *Journal of Applied Geophysics,* 229, 105493. https://doi.org/10.1016/j.jappgeo.2024.105493.
8. Song, Z., J. He, S.M.T. Kouzehkanan, T.-S. Oh, Y. Olshansky, E.C. Duin, **K.C. Carroll**, D. Wang (2024) Enhanced sorption and destruction of PFAS by biochar-enabled advanced reduction process. *Chemosphere*, 363, 142760, ISSN 0045-6535. https://doi.org/10.1016/j.chemosphere.2024.142760.
9. Wu, L., J. D. Gomez-Velez, L. Li, **K.C. Carroll** (2024) The Fragility of Bedform-Induced Hyporheic Zones: exploring impacts of dynamic groundwater table fluctuations. *Water Resources Research*, 60, e2023WR036706. https://doi.org/10.1029/2023WR036706.
10. Moeini, F., R. Ershadnia, R.L. Rubinstein, R.Versteeg, P. Li, J.T. McGarr, A. Meyal, C.D. Wallace, Z. Dai, **K.C. Carroll**, M.R. Soltanian (2024) Employing generative adversarial neural networks as surrogate model for reactive transport modeling in the hyporheic zone. *Journal of Hydrology*, 131485, ISSN 0022-1694. https://doi.org/10.1016/j.jhydrol.2024.131485.
11. Zhan, C., Z. Dai, S. Yin, **K.C. Carroll**, M.R. Soltanian (2024) Conceptualizing future groundwater models through a ternary framework of multisource data, human expertise, and machine intelligence. *Water Research*, 257, 121679, ISSN 0043-1354. https://doi.org/10.1016/j.watres.2024.121679.
12. **Carroll**, **K.C.**, M.L. Brusseau, G.R. Tick, and M.R. Soltanian (2024) Rethinking pump-and-treat remediation as maximizing contaminated groundwater. *Science of The Total Environment*, 918, 170600, ISSN 0048-9697. https://doi.org/10.1016/j.scitotenv.2024.170600.
13. Doughman, M.S., K.E. O'Shea, N.P. Qafoku, , H.P. Emerson, J.E. Szecsody, **K.C. Carroll**, and Y.P. Katsenovich (2024) Impact of chromium (VI) as a co-contaminant on the sorption and co-precipitation of uranium (VI) in sediments under mildly alkaline oxic conditions. *Journal of Environmental Management*, 349, 119463, ISSN 0301-4797. https://doi.org/10.1016/j.jenvman.2023.119463.
14. Hu, Y., Q. Xue, H. Chen, H. Guo, **K.C. Carroll**, and S. Wang (2024) Mechanistic insight into Cr(VI) retention by Si-containing ferrihydrite. *Journal of Environmental Sciences*, 139, Pages 217-225, ISSN 1001-0742. https://doi.org/10.1016/j.jes.2023.05.040.
15. Islam, K.I., E. Elias, **K.C. Carroll**, and C. Brown (2023) Exploring Random Forest Machine Learning and Remote Sensing Data for Streamflow Prediction: An Alternative Approach to a Process-Based Hydrologic Modeling in a Snowmelt-Driven Watershed. *Remote Sensing*, 15(16): 3999. https://doi.org/10.3390/rs15163999.

16. Akyol, N.H., **K.C. Carroll**, E.C. Cortuk, O.C. Gunduz, and N. Sahin (2023) Comparison of sorption and solute transport behaviour of several herbicides in an alkaline agricultural soil. *International Journal of Environmental Analytical Chemistry*, 103:19, 7357-7375, DOI: 10.1080/03067319.2021.1969384
17. Ikard S.J., **K.C. Carroll**, D.F. Rucker, A.P. Teeple, C.-H. Tsai*, J.D. Payne, E.H. Fuchs, and A. Jamil* (2023) Geoelectric Monitoring of the Electric Potential Field of the Lower Rio Grande before, during, and after Intermittent Streamflow, May–October, 2022. *Water*, 15(9):1652. https://doi.org/10.3390/w15091652
18. Ikard, S.J., **K.C. Carroll**, D.F. Rucker, R.F. Adams, and S.C. Brooks (2023) Geoelectric Characterization of Hyporheic Exchange Flow in the Bedrock-Lined Streambed of East Fork Poplar Creek, Oak Ridge, Tennessee. *Geophysical Research Letters*, 50, e2022GL102616. https://doi.org/10.1029/2022GL102616.
19. Hitzelberger*, M., N.A. Khan*, R.A.M. Mohamed*, M.L. Brusseau, and **K.C. Carroll** (2022) PFOS Mass Flux Reduction/Mass Removal: Impacts of a Lower-Permeability Sand Lens within Otherwise Homogeneous Systems. *Environmental Science & Technology*, 56(19), 13675-13685. DOI: 10.1021/acs.est.2c02193.
20. Pearson*, A.J., D.F. Rucker, C.-H. Tsai*, E.H. Fuchs, and **K.C. Carroll** (2022) Electrical resistivity monitoring of lower Rio Grande River-Groundwater intermittency. *Journal of Hydrology*, Volume 613, Part A, 128325, ISSN 0022-1694. https://doi.org/10.1016/j.jhydrol.2022.128325.
21. Tsai*, C.-H., D.F. Rucker, S.C. Brooks, T. Ginn, and **K.C. Carroll** (2022) Transient Storage Model Parameter Optimization Using the Simulated Annealing Method. *Water Resources Research*, 58, e2022WR032018. https://doi.org/10.1029/2022WR032018.
22. Farooq, U., F. Wang, S. Lyu, **K.C. Carroll**, and X. Wang (2022) Study the activation mechanism of peroxymonosulfate in iron copper systems for trichloroethane degradation. *Chemical Engineering Journal Advances*, Volume 11, 100343, ISSN 2666-8211. https://doi.org/10.1016/j.ceja.2022.100343.
23. Johnson, G.R., M.L. Brusseau, **K.C. Carroll**, G.R. Tick (2022) Global distributions, source-type dependencies, and concentration ranges of per- and polyfluoroalkyl substances in groundwater. *Science of The Total Environment*, Volume 841, 156602, ISSN 0048-9697. https://doi.org/10.1016/j.scitotenv.2022.156602.
24. Huang, X., L. Chen, Z. Ma, **K.C. Carroll**, X. Zhao, Z. Huo (2022) Cadmium removal mechanistic comparison of three Fe-based nanomaterials: Water-chemistry and roles of Fe dissolution. *Front. Environ. Sci. Eng.*, Volume 16(12), 151. https://doi.org/10.1007/s11783-022-1586-8.
25. Jiang, W., X. Xu, R. Hall, Y. Zhang, **K.C. Carroll**, F. Ramos, M.A. Engle, L. Lin, H. Wang, M. Sayer, and P. Xu (2022) Datasets associated with the characterization of produced water and Pecos River water in the Permian Basin, the United States. *Data In Brief*, Volume 43, 108443, ISSN 2352-3409. https://doi.org/10.1016/j.dib.2022.108443.
26. Jiang, W., X. Xu, R. Hall, Y. Zhang, **K.C. Carroll**, F. Ramos, M.A. Engle, L. Lin, H. Wang, M. Sayer, and P. Xu (2022) Characterization of produced water and surrounding surface water in the Permian Basin, the United States. *Journal of Hazardous Materials*, Volume 430, 128409, ISSN 0304-3894. https://doi.org/10.1016/j.jhazmat.2022.128409.
27. Hu, L., W. Jiang, X. Xu, H. Wang, **K.C. Carroll**, P. Xu, and Y. Zhang (2022) Toxicological characterization of produced water from the Permian Basin. *Science of the Total Environment*, 152943, ISSN 0048-9697. https://doi.org/10.1016/j.scitotenv.2022.152943.
28. Tang, T., Y. Wang, Q. Xue, F. Liu, **K.C. Carroll**, X. Lu, T. Zhou, and D. Wang (2022) A mechanistic study of ciprofloxacin adsorption by goethite in the presence of silver and titanium dioxide nanoparticles. *Journal of Environmental Sciences*, Volume 118, 46-56, ISSN 1001-0742. https://doi.org/10.1016/j.jes.2021.08.052.

29. Robertson, A.J., A.-M. Matherne, J.D. Pepin, A.B. Ritchie, D.S. Sweetkind, A. Teeple, A. Granados Olivas, A. Cristina García Vásquez, **K.C. Carroll**, E.H. Fuchs, and A. Galanter (2022) Mesilla/Conejos-Médanos Basin: U.S.-Mexico Transboundary Water Resources. *Water*, 14(2):134. https://doi.org/10.3390/w14020134.
30. Huang, D., N.A. Khan*, G. Wang, **K.C. Carroll**, and M.L. Brusseau (2022) The Co-Transport of PFAS and Cr(VI) in Porous Media. *Chemosphere*, Volume 286, Part 3, 131834, ISSN 0045-6535. https://doi.org/10.1016/j.chemosphere.2021.131834.
31. Mohamed*, R.A.M., C. Gabrielli, J.S. Selker, F. Selker, S.C. Brooks, T. Ahmed*, and **K.C. Carroll** (2021) Comparison of Fiber-Optic Distributed Temperature Sensing and High-Sensitivity Sensor Spatial Surveying of Stream Temperature. *Journal of Hydrology*. Volume 603, Part B, 127015. https://doi.org/10.1016/j.jhydrol.2021.127015.
32. Jiang, W., B. Pokharel, L. Lin, H. Cao, **K.C. Carroll**, Y. Zhang, C. Galdeano, D.A. Musale, G.L. Ghurye, and P. Xu (2021) Analysis and Prediction of Produced Water Quantity and Quality in the Permian Basin using Machine Learning Techniques. *Science of the Total Environment*, Volume 801, 149693, ISSN 0048-9697. https://doi.org/10.1016/j.scitotenv.2021.149693.
33. Mohamed*, R.A.M., S.C. Brooks, C.-H. Tsai*, T. Ahmed*, D.F. Rucker, A.L. Ulery, E.M. Pierce, and **K.C. Carroll** (2021) Geostatistical Interpolation of Streambed Hydrologic Attributes with Addition of Left Censored Data and Anisotropy. *Journal of Hydrology*, Volume 599, 126474, ISSN 0022-1694. https://doi.org/10.1016/j.jhydrol.2021.126474.
34. Wang, Y., N.A. Khan*, D. Huang, **K.C. Carroll**, and M.L. Brusseau (2021) Transport of PFOS in Aquifer Sediment: Transport Behavior and a Distributed-Sorption Model. *Science of the Total Environment*, Volume 779, 146444, ISSN 0048-9697. https://doi.org/10.1016/j.scitotenv.2021.146444.
35. Rucker, D., C.-H. Tsai*, **K.C. Carroll**, S.C. Brooks, E. Pierce, A. Ulery, and C. DeRolph (2021) Bedrock architecture, soil texture, and hyporheic zone characterization combining electrical resistivity and induced polarization imaging. *Applied Geophysics*, Volume 188,104306, ISSN 0926-9851. https://doi.org/10.1016/j.jappgeo.2021.104306.
36. Zhao, X., Y. Li, **K.C. Carroll**, F. Li, L. Qiu, Z. Huo (2021) Mesoporous goethite for rapid and high-capacity fluoride removal from drinking water. *Journal of Environmental Chemical Engineering*, Volume 9, Issue 4, 105278, ISSN 2213-3437. https://doi.org/10.1016/j.jece.2021.105278.
37. Markovich, K.H., L.E. Condon, **K.C. Carroll**, R. Purtschert, and J.C. McIntosh (2021) A mountain-front recharge component characterization approach combining groundwater age distributions, noble gas thermometry, and fluid and energy transport modeling. *Water Resources Research*, 57, e2020WR027743. https://doi.org/10.1029/2020WR027743.
38. Van Glubt, S., M.L. Brusseau, N. Yan, D. Huang, N. Khan*, and **K.C. Carroll** (2020) Column versus batch methods for measuring PFOS and PFOA sorption to geomedia. *Environmental Pollution*, Volume 268, Part B, 115917, ISSN 0269-7491. https://doi.org/10.1016/j.envpol.2020.115917.
39. Bridges*, L., R.A.M. Mohamed*, N.A. Khan*, M.L. Brusseau, and **K.C. Carroll** (2020) Comparison of Manganese Dioxide and Permanganate as Amendments with Persulfate for Aqueous 1,4-Dioxane Oxidation. *Water*, 12(11), 3061. https://doi.org/10.3390/w12113061.
40. Ulery, A., A. Smith Muise, **K.C. Carroll**, B. Chamberlin, L. White, P. Martinez, L. Spears, and J. Gleason (2020) Impact of multimedia learning tools in agricultural science classes. *Nat. Sci. Educ.*, 49(1), p.e20011. https://doi.org/10.1002/nse2.20011.
41. Khan*, N.A., and **K.C. Carroll** (2020) Natural Attenuation Method for Contaminant Remediation Reagent Delivery Assessment for In Situ Chemical Oxidation Using Aqueous Ozone. *Chemosphere*, Volume 247, 125848. https://doi.org/10.1016/j.chemosphere.2020.125848.

42. Brusseau, M.L., N.A. Khan*, Y. Wang, N. Yan, and **K.C. Carroll** (2019) Nonideal Transport and Low-Concentration Elution Tailing of PFOS in Soil. *Environmental Science & Technology*, 53(18): 10654-10664. https://doi.org/10.1021/acs.est.9b02343.
43. Chaudhary*, B.K., R. Sabie, M.A. Engle, P. Xu, S. Willman*, and **K.C. Carroll** (2019) Spatial variability of produced-water quality and alternative-source water analysis applied to the Permian Basin, USA. *Journal of Hydrogeology*, 27(8): 2889–2905. https://doi.org/10.1007/s10040-019-02054-4.
44. Fuchs*, E.H., J.P. King, and **K.C. Carroll** (2019) Quantifying Disconnection of Groundwater From Managed-Ephemeral Surface Water During Drought and Conjunctive Agricultural Use. *Water Resources Research*, 55, 5871-5890. https://doi.org/10.1029/2019WR024941.
45. Milavec*, J., G.R. Tick, M.L. Brusseau, and **K.C. Carroll** (2019) 1,4-Dioxane Cosolvency Impacts on Trichloroethene Dissolution and Sorption. *Environmental Pollution*, 252, Part A: 777-783. https://doi.org/10.1016/j.envpol.2019.05.156.
46. Khan*, N.A., M.D. Johnson, J.D. Kubicki, F.O. Holguin, B. Dungan, and **K.C. Carroll** (2019) Cyclodextrin-Enhanced 1,4-Dioxane Treatment Kinetics with TCE and 1,1,1-TCA Using Aqueous Ozone. *Chemosphere*, March, 219:335-344. https://doi.org/10.1016/j.chemosphere.2018.11.200.
47. Brusseau, M.L., N. Yan, S. Van Glubt, Y. Wang, W. Chen, Y. Lyu, B. Dungan, **K.C. Carroll**, and F.O. Holguin (2019) Comprehensive Retention Model for PFAS Transport in Subsurface Systems. *Water Research*, January, 148:41-50. https://doi.org/10.1016/j.watres.2018.10.035.
48. Brusseau, M.L., **K.C. Carroll**, Z. Guo, and J. Mainhagu (2018) Borehole Diffusive Flux Apparatus for Characterizing Diffusive Mass-transfer in Subsurface Systems. *Environmental Earth Sciences*, September, 77:648. https://doi.org/10.1007/s12665-018-7846-z.
49. Payne, J.L., N.N. Bhakta, S. Lyons, R.A.M. Mohamed*, **K.C. Carroll**, and C.E. Brewer (2018) Potential of Pyrolysis of Spacecraft Solid Waste for Water Recovery and Plant-Growth Media Production. *Journal of Analytical and Applied Pyrolysis*, 135: 184-188. https://doi.org/10.1016/j.jaap.2018.09.004.
50. Fuchs*, E.H., **K.C. Carroll**, and J.P. King (2018) Quantifying Groundwater Resilience Through Conjunctive Use for Irrigated Agriculture in a Constrained Aquifer System. *Journal of Hydrology*, 565: 747-759. https://doi.org/10.1016/j.jhydrol.2018.08.003.
51. Khan*, N.A., M.D. Johnson, and **K.C. Carroll** (2018) Spectroscopic methods for aqueous cyclodextrin inclusion complex binding measurement for 1,4-dioxane, chlorinated co-contaminants, and ozone. *Journal of Contaminant Hydrology*, 210(March): 31–41. https://doi.org/10.1016/j.jconhyd.2018.02.002.
52. Shao, H., S. Kabilan, S. Stephens, N. Suresh, A.N. Beck, T. Varga, P.F. Martin, A. Kuprat, H. B. Jung, W. Um, A. Bonneville, D.J. Heldebrant, **K.C. Carroll**, J. Moore, and C.A. Fernandez (2018) Corrigendum to "Environmentally friendly, rheoreversible, hydraulic fracturing fluids for enhanced geothermal systems"[Geothermics 58 (2015) 22–31]. Geothermics, 72: 323-325.
53. Mateas, D.J., G.R. Tick, and **K.C. Carroll** (2017) In Situ Stabilization of NAPL Contaminant Source-Zones as a Remediation Technique to Reduce Mass Discharge and Flux to Groundwater. *Journal of Contaminant Hydrology*, 204(September): 40-56. https://doi.org/10.1016/j.jconhyd.2017.07.007.
54. Padgett, M.C., G.R. Tick, **K.C. Carroll**, and W.R. Burke (2017) Chemical Structure Influence on NAPL Mixture Nonideality Evolution, Rate-Limited Dissolution, and Contaminant Mass Flux. *Journal of Contaminant Hydrology*, 198:11–23. https://doi.org/10.1016/j.jconhyd.2017.02.001.
55. Dettmer*, A., R. Ball, T.B. Boving, N. Khan*, T. Schaub, N. Sudasinghe, C.A. Fernandez, and **K.C. Carroll** (2017) Stabilization and Prolonged Reactivity of Aqueous-Phase Ozone with Cyclodextrin. *Journal of Contaminant Hydrology*, 196:1–9. https://doi.org/10.1016/j.jconhyd.2016.11.003.

56. Brusseau, M.L., J. Mainhagu, C. Morrison, and **K.C. Carroll** (2017) Corrigendum to "The vapor-phase multi-stage CMD test for characterizing contaminant mass discharge associated with VOC sources in the vadose zone: Application to three sites in different lifecycle stages of SVE operations" [J. Contam. Hydrol. 179 (2015) 55–64]. *Journal of Contaminant Hydrology*, 196: 62.
57. McDonald, K., **K.C. Carroll**, and M.L. Brusseau (2016) Comparison of fluid-fluid interfacial areas measured with X-ray microtomography and interfacial partitioning tracer tests for the same samples. *Water Resources Research*, 52 (7): 5393–5399. doi:10.1002/2016WR018775.
58. Chen*, H. and **K.C. Carroll** (2016) Metal-Free Catalysis of Persulfate by Nitrogen-Doped Graphene and Aminated Graphene. *Environmental Pollution*, 215: 96–102. doi:10.1016/j.envpol.2016.04.088.
59. Engle, M.A., F.R. Reyes, M.S. Varonka, W.H. Orem, L. Ma, A.J. Ianno, T.M. Schell, P. Xu, and **K.C. Carroll** (2016) Geochemistry of formation waters from the Wolfcamp and "Cline" shales: Insights into brine origin, reservoir connectivity, and fluid flow in the Permian Basin, USA. *Chemical Geology*, 425: 76–92. doi:10.1016/j.chemgeo.2016.01.025 (top downloaded paper).
60. Khan*, N.A., M.A. Engle, B. Dungan, F.O. Holguin, P. Xu, and **K.C. Carroll** (2016) Volatile-Organic Molecular Characterization of Shale-Oil Produced Water from the Permian Basin. *Chemosphere*, 148: 126–136. doi:10.1016/j.chemosphere.2015.12.116.
61. Shao, H., S. Kabilan, S. Stephens, N. Suresh, A.N. Beck, T. Varga, P.F. Martin, A. Kuprat, H. B. Jung, W. Um, A. Bonneville, D.J. Heldebrant, **K.C. Carroll**, J. Moore, and C.A. Fernandez (2015) Environmentally friendly, rheoreversible, hydraulic fracturing fluids for enhanced geothermal systems. *Geothermics*, 58: 22-31. https://doi.org/10.1016/j.geothermics.2015.07.010.
62. **Carroll, K.C.**, K. McDonald, J. Marble, A.E. Russo, and M.L. Brusseau (2015) The impact of transitions between two-fluid and three-fluid phases on fluid configuration and fluid-fluid interfacial area in porous media, *Water Resources Research*, 51, 7189–7201. doi:10.1002/2015WR017490.
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BOOKS, PATENTS, THESIS, AND DISSERTATION

1. Fernandez, C.A., D.J. Heldebrant, A. Bonneville, H.B. Jung, **K.C. Carroll** (2018) Electrophilic acid gas-reactive fluid, proppant, and process for enhanced fracturing and recovery of energy producing materials. US Patent 9,873,828.
2. Yeh, Tian-Chyi J., Raz Khaleel, and **K.C. Carroll** (2015) Flow Through Heterogeneous Geological Media, *Cambridge University Press*. ISBN: 9781107076136
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4. **Carroll, K.C.** (2007) Characterization, Dissolution, and Enhanced Solubilization of Multicomponent Nonaqueous Phase Liquid in Porous Media. *Ph.D. Dissertation, Hydrology and Water Resources Department, UA*.

5. **Carroll, K.C.** (1996) The Transport and Fate of Acid Mine Drainage Along the Snowfork Flowpath in the Monday Creek Watershed, Southeastern Ohio. *M.S. Thesis, Geological Sciences Department, OU.*

REFEREED CONFERENCE PROCEEDINGS PUBLICATIONS

1. Johnson, C., C. Stice*, **K.C. Carroll**, J. Szecsody, and C.-H. Tsai* (2022) Organic Gas Injection Delivery Behavior for Vadose Zone Remediation. *Waste Management Symposium (WM2022)*, March 6-10, Phoenix, AZ.
2. Jung, H.B., H. Shao, D.J. Heldebrant, S. Niraj, T. Varga, D. Hoyt, S. Kabilan, L. Zhong, A. Bonneville, W. Um, **K.C. Carroll**, J. Holladay, and C.A. Fernandez (2015) Stimuli-Responsive/Rheoreversible Hydraulic Fracturing Fluids for Enhanced Geothermal Systems. *Proceedings World Geothermal Congress 2015*, Melbourne, Australia, 19-25 April 2015.
3. Truex, M.J., M. Oostrom, **K.C. Carroll**, A.L. Bunn, D.M. Wellman (2013) Integrated Systems-Based Approach to Monitoring Environmental Remediation. *Proceedings of the 15th International Conference on Environmental Remediation and Radioactive Waste Management, ICEM15,* September 8-12, 2013, Brussels, Belgium.
4. Truex, M.J., M. Oostrom, **K.C. Carroll**, A.L. Bunn, D.M. Wellman (2013) Integrated Systems-Based Approach to Monitoring Environmental Remediation. *WM Symposia 2013, Conference Proceedings*, Phoenix, AZ, February, 24-28.
5. Truex, M., **K.C. Carroll**, M. Oostrom (2012) Assessing Soil Vapor Extraction Remediation Performance and Closure: A Review. *WM2012, Conference Proceedings*, Phoenix, AZ, March 1.
6. Waugh, J., D.E. Miller, E.P. Glenn, D. Moore, **K.C. Carroll**, and R.P. Bush (2010) Natural and Enhanced Attenuation of Soil and Groundwater at the Monument Valley, Arizona, DOE Legacy Waste Site. *WM2010, Conference Proceedings*, Phoenix, AZ, March 7-10.
7. Johnson, B., and **K.C. Carroll** (2007) Waste Rock Backfill of Open Pits: Design, Optimization, and Modeling Considerations. In *Mine Closure 2007, Conference Proceedings*, Santiago, Chile, October 16-19.
8. López, D.L., B. Overly, E.I. Robbins, and **K.C. Carroll** (1999) The Role of Flow Regime on the Chemical Evolution of Acidic Waters Discharged from an Abandoned Underground Coal Mine. In *Sudbury 99 Mining and the Environment II, Conference Proceedings*, Sudbury, Ontario, Canada, Sept. 12-16, 1, pp. 89-98.

SELECTED REFEREED TECHNICAL REPORTS

1. **Carroll, K.C.**, S.C. Brooks (2024) Hydro-EKG: In-Stream Streaming-potential (SP) Electrical Monitoring of the Lifeblood of Watersheds during Disturbance. Final Technical Report, DOE Biological and Environmental Research (BER) Research Development and Partnership Pilot (RDPP) Award: DE-SC0023132.
2. Pearson, A.J.*, C., **K.C. Carroll**, D.F. Rucker, C.-H. Tsai*, E.H. Fuchs (2023) Electrical Resistivity Mapping of Lower Rio Grande River-Groundwater Interactions. WRRI Technical Completion Report T-405.
3. Xu, P., Y. Zhang, W. Jiang, L. Hu, X. Xu, **K.C. Carroll**, and N. Khan* (2022) Characterization of Produced Water in the Permian Basin for Potential Beneficial Use. WRRI Technical Completion Report T-398.

4. Kubicki*, C., **K.C. Carroll**, J.C. Witcher, and A. Robertson (2020) An Integrated Geochemical Approach for Defining Sources of Groundwater Salinity in the Southern Rio Grande Valley of the Mesilla Basin, New Mexico and West Texas, USA. WRRI Technical Completion Report T-388.
5. **Carroll, K.C.**, M.L. Brusseau, T.B. Boving, and R. Ball (2018) Facilitated-Transport Enabled In-Situ Chemical Oxidation of 1,4-Dioxane-Contaminated Groundwater. Final Report SERDP Project Number: ER-2302.
6. **Carroll, K.C.**, S. Brooks, D. Rucker, and A. Ulery (2018) Coupling Direct and Indirect Characterization Methods for Mercury Transport and Surface Water-Hyporheic Zone Exchange. Project Report Prepared for DOE-EM.
7. **Carroll, K.C.**, J. Williams, and C. Kubicki* (2017) Isotopic and geochemical characterization data for deep and shallow groundwater in the Mesilla Basin, New Mexico. *New Mexico Water Resource Research Institute*, Prepared for New Mexico Statewide Water Assessment, Las Cruces, NM.
8. Chaudhary*, B.K., **K.C. Carroll**, and S.E. Willman* (2016) Spatial Variability and Geochemistry of Produced Water in Southeastern New Mexico, USA. *New Mexico Water Resource Research Institute*, Prepared for New Mexico Environment Division, Las Cruces, NM.
9. Rinehart, A., S. Timmons, B. Felix, C. Pokorny, M. Johnson, N. Myers, M. Ely, **K.C. Carroll** (2015) Groundwater Level and Storage Changes–Regions of New Mexico. Technical Completion Report, New Mexico Bureau of Geology and Mineral Resources.
10. **Carroll, K.C.**, and Spencer E. Willman* (2015) Assessment of Spatiotemporal Groundwater Level Changes Throughout New Mexico. *New Mexico Water Resource Research Institute*, Prepared for New Mexico Statewide Water Assessment, Las Cruces, NM.
11. Johnson, C.D., M.J. Truex, **K.C. Carroll**, M. Oostrom, and A.K. Rice (2014) Vapor Intrusion Estimation Tool For Unsaturated-Zone Contaminant Sources. PNNL-23381, *Pacific Northwest National Laboratory*, Richland, WA.
12. New Mexico First and Research Committee (2014) A Town Hall on Water Planning, Development, & Use: Background Report. Albuquerque, NM, nmfirst.org.
13. Truex, M.J., **K.C. Carroll** , and M. Oostrom (2013) Perched Water Evaluation for the Deep Vadose Zone Beneath the B, BX, and BY Tank Farms Area of the Hanford Site. *Pacific Northwest National Laboratory*, Prepared for the U.S. Department of Energy under Contract DE AC05 76RL01830, PNNL-22499.
14. Truex, M.J. and **K.C. Carroll** (2013) Remedy Evaluation Framework for Inorganic, Non-Volatile Contaminants in the Deep Vadose Zone. *Pacific Northwest National Laboratory*, Prepared for the U.S. Department of Energy under Contract DE AC05 76RL01830, PNNL-21815.
15. Truex, M.J., **K.C. Carroll,** V.J. Rohay, R. Mackley, and K. Parker (2012) Treatability Test Report: Characterization of Vadose Zone Carbon Tetrachloride Source Strength Using Tomographic Methods at the 216-Z-9 Site. *Pacific Northwest National Laboratory*, Prepared for the U.S. Department of Energy under Contract DE AC05 76RL01830, PNNL-21326.
16. Brusseau, M.L., **K.C. Carroll**, and M.J. Truex (2011) Demonstration Plan: Use of Mass-Flux Measurement and Vapor Phase Tomography to Quantify Vadose-Zone Source Strength and Distribution. *Prepared for ESTCP (60087)*, 11 EB-ER1-049.
17. Truex, M.J., M. Oostrom, Z.F. Zhang, **K.C. Carroll**, J.A. Schramke, T.W. Wietsma, G.D. Tartakovsky, and K.A. Gordon (2011) Evaluation of Soil Flushing for Application to the Deep Vadose Zone in the Hanford Central Plateau. *Pacific Northwest National Laboratory*, Prepared for the U.S. Department of Energy under Contract DE AC05 76RL01830, PNNL-19938.
18. Brusseau, M.L., Z. Miao, **K.C. Carroll**, and A. Borden (2010) Monitoring and Remediation of Sulfate in Groundwater. *University of Arizona School of Earth and Environmental Sciences*, Prepared for

Schlumberger Corp. and University of Arizona Water and Environmental Sustainability Program, Sept. 2010.

19. DOE (2010) Treatability Test Plan for Characterization of Vadose Zone Carbon Tetrachloride Source Strength Using Tomographic Methods at the 216-Z-9 Site. *Prepared for the U.S. Department of Energy Assistant Secretary for Environmental Management*, DOE/RL-201 0-79 Revision 0, Sept. 2010.
20. **Carroll, K.C.**, and M. L. Brusseau (2009) The Impact of DNAPL Source-Zone Architecture on Contaminant Mass Flux and Plume Evolution in Heterogeneous Porous Media. *SERDP Interim Progress Report,* Feb. 25, 2009.
21. **Carroll, K.C.**, F.L. Jordan, E.P. Glenn, J. Waugh, and M.L. Brusseau (2009) Conceptual Model of the Nitrate Plume at the Uranium Mill Tailing Site in Monument Valley, Arizona. *Final Report U.S. Department of Energy*, Grand Junction Office, Colorado, Jan. 20, 2009.
22. **Carroll, K.C.**, F.L. Jordan, E.P. Glenn, J. Waugh, and M.L. Brusseau (2008) Characterizing Natural Attenuation of the Nitrate Plume at the Uranium Mill Tailing Site in Monument Valley, Arizona. *Final Report U.S. Department of Energy*, Grand Junction Office, Colorado, Jan. 30, 2008.

INVITED PRESENTATIONS

1. **Carroll, K.C.** (2025) Comparison of Subsurface PFOS and PFOA Sorption with Implications for Global Per- and Poly-Fluoroalkyl Substance Distributions. *China Agricultural University College of Water Resource and Civil Engineering Colloquium*, March 7.
2. **Carroll, K.C.** (2024) Comparison of Subsurface Sorption of Per- and Polyfluoroalkyl Substance (PFAS) Organic Anions to Inorganic Oxyanions. *Second International Workshop on Organic-Water-Rock Interaction China University of Geosciences Beijing*, November 23.
3. **Carroll, K.C.** (2024) Comparison of Subsurface Sorption of PFOS and PFOA with Implications for Global PFAS Distributions. *NM Tech Earth and Environmental Science Colloquium Series*, Jan. 25.
4. **Carroll, K.C.** (2023) Comparison of Direct and Indirect Karst Hyporheic-Zone Exchange Characterization Methods. *The University of Cincinnati Geosciences Colloquium Series*, September 8.
5. **Carroll, K.C.** (2022) Development and Application of Multidisciplinary Hydrogeology Research. *The China University of Geosciences (Beijing) Seminar*, September 27.
6. **Carroll, K.C.** (2022) Application of a Multidisciplinary Approach for Engineering "Aqueous Solutions" to Environmental Problems. *New Mexico State University Civil Engineering Department Seminar*, July 27.
7. **Carroll, K.C.** (2022) Engineering Challenges and Hydrogeochem-Solutions for Contaminant Cleanup in the Subsurface. *New Mexico State University Chemical Engineering Department Seminar*, April 29.
8. **Carroll, K.C.** (2021) Multidisciplinary Hydrology: A Few Examples of Scientific Mixology. *The University of Arizona Hydrology and Atmospheric Sciences Department Seminar*, September 23.
9. **Carroll, K.C.** (2020) Multidisciplinary Groundwater Hydrology and Sustainability at the Nexus of Food, Energy, & Water. The Science Cafe, Las Cruces Museum of Nature and Science, March 3.
10. **Carroll, K.C.** (2019) Subsurface Contaminant Source Attribution and Remediation Evaluation. *Department of Water Resources & Civil Engineering Nanjing University*, May 17.
11. **Carroll, K.C.** (2019) Multidisciplinary Groundwater Hydrology and Sustainability at the Nexus of Food, Energy, & Water. *College of Water Resources & Civil Engineering China Agricultural University*, May 11.
12. **Carroll, K.C.** (2019) Understanding Water Quality Variability in the Mesilla Bolson Transboundary Aquifer. *Two Nations One Water, US-Mexico Border Water Summitt*, April 19.

13. **Carroll, K.C.** (2019) Multidisciplinary Groundwater Hydrology and Sustainability at the Nexus of Food, Energy & Water. *Arizona State University Environmental Engineering Department Seminar*, February 13.
14. **Carroll, K.C.** (2018) Flexible Fluids in Geology: Switchable Fluids for Hydraulic Fracturing in Geothermal Systems and Enhanced In-situ Contaminant Treatment. Department of Geoscience University of Nevada, Las Vegas, Seminar, April 18.
15. **Carroll, K.C.** (2018) Flexible Fluids in Geology: Switchable Fluids for Hydraulic Fracturing in Geothermal Systems and Enhanced In-situ Contaminant Treatment. UT San Antonio Department of Geological Sciences Seminar, April 16.
16. **Carroll, K.C.** (2017) Reactors in the Rocks: A Couple of Chemical Engineering Applications in the Subsurface. *New Mexico State University Chemical Engineering Department Seminar*, September 1.
17. **Carroll, K.C.** (2017) Brackish Water Panel Discussion and Presentation on Potential Impacts. *NM WRRI's 62nd Annual New Mexico Water Conference*, Hidden Realities of New Water Opportunities, Aug. 15-16, Socorro, NM.
18. **Carroll, K.C.** (2017) Water & Energy at the Nexus of Hydrology & Environmental Engineering. *Arizona State University Environmental Engineering Department Seminar*, March 1.
19. **Carroll, K.C.** (2017) Subsurface Contaminant In-Situ Chemical Oxidation: Coupling of Hydrogeology and Geochemistry. *San Diego State University Geology Department Seminar*, Jan. 19.
20. **Carroll, K.C.** (2016) Flexible Subsurface Science: Pore-Scale Imaging of Two & Three-Phase Immiscible-Fluid Transitions and Switchable Fluids for Hydraulic Fracturing in Geothermal Systems. Plant & Environmental Science Dept. Seminar at NMSU, May 6.
21. **Carroll, K.C.** (2016) Flexible Subsurface Science: Pore-Scale Imaging of Two & Three-Phase Immiscible-Fluid Transitions and Switchable Fluids for Hydraulic Fracturing in Geothermal Systems. Dept. of Geoscience Seminar at NMSU, March 30.
22. **Carroll, K.C.**, S.E. Willman*, A.G. Fernald, and S.J. Archambault (2015) Spatiotemporal Groundwater-Level Change for the Evaluation of Groundwater Use and Dynamics. *American Geophysical Union Fall Meeting*, Fall Meet. Suppl., Abstract H31O-04.
23. **Carroll, K.C.** (2015) What is in your water? Environmental Science and Engineering Grand Challenges. The New Mexico Alliance for Minority Participation (NM AMP) 2015 Student Research Conference, Las Cruces Convention Center, October 2.
24. **Carroll, K.C.** (2015) Flexible Subsurface Science: Pore-Scale Imaging of Two & Three-Phase Immiscible-Fluid Transitions and Switchable Fluids for Hydraulic Fracturing in Geothermal Systems. The EES/IGPP Frontiers of Geoscience Colloquium at Los Alamos National Laboratory, May 18.
25. **Carroll, K.C.** (2014) Restoring and Preserving Our Water Resources for Future Generations. The Science Cafe, Las Cruces Museum of Nature and Science, Dec. 4.
26. **Carroll, K.C.** (2014) Subsurface Contaminant Source Attribution and Remediation Evaluation. Geological Sciences Department Seminar, Univ. of Texas El Paso, Nov. 20.
27. **Carroll, K.C.** and P. Xu (2014) Quantifying Potential Environmental Impacts and Water Treatment Requirements for Wastewater Produced in Oil & Gas Operations. Congresswoman Michelle Lujan Grisham's Water Innovation Summit Tackling Our Water Resource Challenges by Utilizing Cutting-Edge Technologies and Innovation, Oct. 14, University of New Mexico, Albuquerque, NM.

28. Oostrom, M., M. Truex, **K.C. Carroll**, A.K. Rice, D. Becker, and M.A. Simon (2013) A Framework for Estimating Groundwater Concentrations of VOCs Emanating from a Vadose Zone Source. *American Geophysical Union Fall Meeting*, Fall Meet. Suppl., Abstract H34D-05.
29. Scheibe, T.D., E.M. Murphy, C. Xingyuan, A. Rice, **K.C. Carroll**, B.J. Palmer, A.M. Tartakovsky, I. Battiato, and B.D. Wood (2013) Multiscale Hydrogeologic Modeling with Emphasis on Hybrid Multiscale Methods. *American Geophysical Union Fall Meeting*, Fall Meet. Suppl., Abstract H24A-05.
30. **Carroll, K.C.** (2013) Mass-Flux Source Attribution and Application to Subsurface Contaminant Remediation Evaluation. *Earth and Environmental Science Department* Seminar, New Mexico Tech, March 3.
31. **Carroll, K.C.** (2013) Mass-Flux Source Attribution and Application to Subsurface Contaminant Remediation Evaluation. *Earth & Planetary Sciences Department* Seminar, University of New Mexico, Jan. 31.
32. **Carroll, K.C.** (2013) Mass-Flux Source Attribution and Application to Subsurface Contaminant Remediation Evaluation. *Plant & Environmental Sciences Department* Seminar, NMSU, Aug. 30.
33. **Carroll, K.C.** (2013) Mass-Flux Source Attribution and Application to Subsurface Contaminant Remediation Evaluation. *School of Mathematical and Natural Sciences* at Arizona State University, Phoenix, AZ, Aug. 29.
34. **Carroll, K.C.** (2012) Recent Developments for Groundwater Remediation Using In Situ Chemical Oxidation (ISCO). *Tucson International Airport Area Superfund Site Annual Technical Exchange Meeting*, Tucson, AZ, October, 15.
35. **Carroll, K.C.** (2012) Subsurface Mass-Flux Investigations of Coupled Flow and Transport, Source Attribution, and Contaminant-Remediation Evaluation. *Geological Sciences Department at University of Alabama*, Tuscaloosa, AL, Jan. 18.
36. **Carroll, K.C.**, M. Truex, M. Oostrom, M.L. Brusseau, and V.J. Rohay (2011) Remediation Quantification and Endpoint Analysis Framework for Soil Vapor Extraction. *PNNL Scientist and Engineer Development Program*: 2012 Poster Presentation Session, May 11, Richland, WA.
37. McCray, J.E., G.R. Tick, **K.C. Carroll**, T.B. Boving, G.R. Johnson, M.L. Brusseau (2011) Future directions for the remediation of sites contaminated by Nonaqueous Phase Liquids. Invited Presentation: *American Geophysical Union Fall Meeting*, Fall Meet. Suppl., Abstract H31H-01.
38. Matthieu, D.E., **K.C. Carroll**, M. Plaschke, and M.L. Brusseau (2010) Field-Scale Characterization of a Chlorinated Solvent Superfund Site in Tucson, Arizona. *WSP Water Forum 2010: Our Water Future*, November 22, Tucson, AZ.
39. **Carroll, K.C.** (2009) Multi-Scale Investigation Approaches with Relevance to Ehanced Oil Recovery and Hydrology Problems. *Exxon Mobil Upstream Research Corp.*, Houston, TX, Nov. 24.
40. **Carroll, K.C.** (2009) Multicomponent NAPL Dissolution, Source-Zone Architecture, and Mass Flux Impacts on Groundwater Remediation. *Geological Engineering Department at Montana Tech*, Butte, MT, April 29.
41. **Carroll, K.C.** (2009) The Multicomponent NAPL Problem: To Remediate or Not to Remediate? That is the Question. *Geological Sciences Department at California State University*, Los Angeles, CA, Feb. 26.
42. **Carroll, K.C.** (2009) The Multicomponent NAPL Problem: To Remediate or Not to Remediate? That is the Question. *Evergreen State College*, Olympia, WA, Jan. 27.
43. **Carroll, K.C.** (2008) Characterization and Remediation of Multicomponent Nonaqueous Phase Liquids in Porous Media. *U.S. Geological Survey*, Reston, VA, Dec. 5.
44. **Carroll, K.C.** (2005) Waste Rock Backfill of Open Pits: Design, Optimization, and Modeling

Considerations. *Proseminar/Graduate Seminar, Department of Mining and Geologic Engineering, UA*, Sept. 30.

PUBLISHED ABSTRACTS AND CONFERENCE PRESENTATIONS

1. Rajapakshe, D., M. Araujo*, L. Wang, Y. Ma, **K.C. Carroll**, and R. Li (2025) Investigating the Fate and Transport of Remaining Environmental Contaminants in New Mexico Treated Produced Water. *2025 AEESP Research and Education Conference,* May 20-22, https://aeesp2025.exordo.com.
2. **Carroll, K.C.**, R.A.M. Mohamed*, M.R. Soltanian, D. Wang (2024) Sensitivity of Mass Flux Reduction and Mass Removal of Perfluoroalkyl Substances to Groundwater Flow and Transport Parameter Variability and Heterogeneity. *ASA, CSSA, and SSSA International Annual Meeting*, Nov. 10-13, San Antonio, TX.
3. Jamil*, A., D.F. Rucker, and **K.C. Carroll** (2024) Comparison of Machine Learning and Electrical Resistivity Arrays to Inverse Modeling for Locating and Characterizing Subsurface Targets. *69th Annual New Mexico Water Conference,* Nov. 4-6, Santa Fe, NM.
4. Wu, L., J. Gomez-Velez, L. Li, and **K.C. Carroll** (2024) The study of the fragility of hyporheic zone exchange. *2024 International Forum on Groundwater,* Aug 9-11, Changchun, Jilin Province, China.
5. Doughman, M., Y. Katsenovich, R. Gudavalli, K. O'Shea, H. Emerson, J.E. Szecsody, **K.C. Carroll**, X. He, and N. Qafoku (2024) Impact of Cr(VI) as a Co-Contaminant on the Adsorption and Desorption of U(VI) in Hanford Sediments Under Mildly Alkaline Oxic Conditions. *Goldschmidt Conference*, Chicago, Aug. 18-23, 2024.
6. Moeini, F., C. Zhan, Z. Dai, **K.C. Carroll**, and M.R. Soltanian (2024) Characterizing Aquifer Structure Heterogeneity Through Integrated Stochastic-Deep Learning Inversion Framework. *HydroML 2024 Symposium*, Richland, WA, May 29-31, 2024.
7. Ikard, S., **K.C. Carroll**, D.F. Rucker, and S. Brooks (2024) Geoelectric characterization and monitoring of hyporheic exchange flow in the bedrock-lined streambed and flood plain of East Fork Poplar Creek, Oak Ridge, Tennessee. *SEG-AAPG*, Houston, TX, August 26-29, 2024.
8. Jamil*, A., D. Lu, D.F., Rucker, S. Brooks, and **K.C. Carroll** (2024) Integrating Machine Learning in Electrical Resistivity Inversion for Subsurface Characterization and Bedrock Mapping. *SAGEEP 2024*, Annual meeting of the Environmental and Engineering Geophysical Society, Tucson, AZ. March 24-28, 2024.
9. Rucker, D.F., **K.C. Carroll**, A.J. Pearson*, C.-H. Tsai*, and E.H. Fuchs (2024) Time-lapse Resistivity Monitoring of the Lower Rio Grande River. *SAGEEP 2024*, Annual meeting of the Environmental and Engineering Geophysical Society, Tucson, AZ. March 24-28, 2024.
10. Ikard, S., **K.C. Carroll**, Rucker, D.F., S. Brooks, G. Smith-Vega*, and A. Elwes* (2024) Self-potential tomography preconditioned by particle swarm optimization: Application to monitoring hyporheic exchange in a bedrock river. *SAGEEP 2024*, Annual meeting of the Environmental and Engineering Geophysical Society, Tucson, AZ. March 24-28, 2024.
11. Wu, L., J.D. Gomez-Velez, L. Li, and **K.C. Carroll** (2023) How persistent is bedform-driven hyporheic exchange to episodic river-aquifer disconnections? *American Geophysical Union Fall Meeting*, Fall Meeting Abstract.
12. Mohamed*, R.A.M., and **K.C. Carroll** (2023) Heterogeneous Material Parameter Variability Impacts on Flow and Transport of PFAS Contaminants through Saturated Aquifer Media. *American Geophysical Union Fall Meeting*, Fall Meeting Abstract.
13. **Carroll, K.C.**, R.C. Safely*, K.R. Beisner, R.A.M. Mohamed* , R. Young, and J. Khubchandani (2023) Comparison of Snow and Groundwater Per- and polyfluoroalkyl (PFAS) Contamination in a Small

Alpine Watershed Near Cloudcroft, NM. *American Geophysical Union Fall Meeting*, Fall Meeting Abstract.

14. Ikard, S.J., A.P. Teeple, **K.C. Carroll**, and D.F. Rucker (2023) Assessments of Hydraulic Connectivity between the Rio Grande and the Alluvial Aquifer Using Self-Potential Logging and Monitoring in the Mesilla Basin, Doña Ana County, New Mexico, and El Paso County, Texas. *American Geophysical Union Fall Meeting*, Fall Meeting Abstract.
15. **Carroll, K.C.**, R. Apodaca*, R.A.M. Mohamed* , and R. Young (2023) Aqueous Solution Composition Impacts on PFAS Sorption to the Hanford Soil. *ASA, CSSA, and SSSA International Annual Meeting*, Oct. 29- Nov. 1, St. Louis, Missouri.
16. **Carroll, K.C.**, R.C. Safely*, K.R. Beisner, R.A.M. Mohamed* , R. Young, and J. Khubchandani (2023) Per- and polyfluoroalkyl (PFAS) Contamination of Groundwater Associated with Snowmelt in a Small Alpine Watershed Near Cloudcroft, NM. *ASA, CSSA, and SSSA International Annual Meeting*, Oct. 29- Nov. 1, St. Louis, Missouri.
17. Ikard, S.J., A.P. Teeple, **K.C. Carroll**, and D.F. Rucker (2023) Assessments of Hydraulic Connectivity between the Rio Grande and the Alluvial Aquifer Using Self-Potential Logging and Monitoring in the Mesilla Basin, Doña Ana County, New Mexico, and El Paso County, Texas. *Geological Society of America Abstracts with Programs, Annual Meeting.*
18. **Carroll, K.C.**, W. Jiang, B. Pokharel, H. Cao, L. Lin, Y. Zhang, C. Galdeano, D.A. Musale, G.L. Ghurye, and P. Xu (2023) Analysis and Prediction of Produced Water Quantity and Quality in the Permian Basin using Machine Learning Techniques. *HydroML 2023 Symposium*, May 22, Berkeley, CA.
19. Rucker, D.F., C. Brungard, J. Triantafilis, **K.C. Carroll**, and A. Jamil* (2023) Geophysical Investigation of a Microplaya Landscape of the Desert Southwest, USA. *Symposium for the Application of Geophysics to Environmental and Engineering Problems (SAGEEP)*, New Orleans, LA, April 2-6, 2023.
20. Apodaca*, R., R.A.M. Mohamed*, and **K.C. Carroll** (2023) The Co-Transport of PFAS and Anionic Salts in Porous Media. *Waste Management Symposium* (WM2023), Feb 26-March 2, Phoenix, AZ.
21. Fuentes*, S., **K.C. Carroll**, S. Ikard, S.C. Brooks, and D.F. Rucker (2023) Streaming Potential Monitoring of Transient Mercury Transport and Surface-Water/Hyporheic-Zone Exchange within the East Fork Poplar Creek, Oak Ridge, TN. *Waste Management Symposium* (WM2023), Feb 26-March 2, Phoenix, AZ.
22. Brungard, C. W., **K.C. Carroll**, D.F. Rucker, J. Triantafilis (2022), Geophysical Investigation of a Microplaya Landscape of the Desert Southwest, USA. *SQU-NMSU* virtual workshop, Virtual.
23. Noyes, C., A. Seltzer, J. Ng, R. Tyne, G. Ferguson, **K.C. Carroll**, K. Markovich, R. Purtschert, M. Stute, J. Severinghaus, and J.C. McIntosh (2022) Variations in Groundwater Recharge during the mid-Holocene Revealed in the Tucson Basin (Arizona, USA) using Radioisotopes and Noble Gases. *American Geophysical Union Fall Meeting*, Fall Meeting Abstract.
24. Aghababaei, M., T. Ginn, J. McCallum, R. González-Pinzón, **K.C. Carroll**, and A. Tartakovsky (2022) Hyporheic zone exchange and solute transport including memory functions for the river, hyporheic zone, and a boundary layer. *American Geophysical Union Fall Meeting*, Fall Meeting Abstract.
25. Tunby, P., R. González-Pinzón, T.R. Ginn, M. Aghababaei, **K.C. Carroll**, and A. Tartakovsky (2022) Informing River Corridor Transport Modeling by Harnessing Community Data and Physics-Aware Machine Learning. *American Geophysical Union Fall Meeting*, Fall Meeting Abstract.

26. **Carroll, K.C.**, C.-H. Tsai*, D.F. Rucker, S.C. Brooks, and T. Ginn (2022) Transient Storage Model Parameter Optimization Using the Simulated Annealing Method. *American Geophysical Union Fall Meeting*, Fall Meeting Abstract.
27. Mohamed*, R.A.M., M. Hitzelberger*, N.A. Khan*, M.L. Brusseau, and **K.C. Carroll** (2022) Modeling of Perfluorooctanesulfonic Acid Contaminant Transport in Saturated Heterogeneous Media and Evaluation of Back-Diffusion Retention and Removal Effects. *67th Annual New Mexico Water Conference,* Our Interconnected Communities—and Interconnected Waters, October 26-27, Las Cruces.
28. **Carroll, K.C.**, C.-H. Tsai*, D.F. Rucker, S.C. Brooks, and T. Ginn (2022) Simulated Annealing Global-Optimal Parameter Estimation for Transient Storage Modeling of Stream-Groundwater Exchange. *67th Annual New Mexico Water Conference,* Our Interconnected Communities—and Interconnected Waters, October 26-27, Las Cruces.
29. Jamil*, A., D.F. Rucker, and **K.C. Carroll** (2022) Evaluation and Comparison of Machine Learning Algorithms for 2D Electrical Resistivity Inversion and Heterogeneous Subsurface Characterization. *67th Annual New Mexico Water Conference,* Our Interconnected Communities—and Interconnected Waters, October 26-27, Las Cruces.
30. **Carroll, K.C.**, M. Hitzelberger*, N.A. Khan*, R.A.M. Mohamed* , and M.L. Brusseau (2022) Perfluorooctane Sulfonic Acid (PFOS) Transport and Mass Flux Reduction / Mass Removal in Homogeneous versus Heterogeneous Systems. *ASA, CSSA, and SSSA International Annual Meeting*, Nov. 6-9, Baltimore, MD.
31. Ulery, A.L., R. Gioannini, F.O. Holguin, **K.C. Carroll**, N. Hanan, C. Steele, B. Stringam, S. Whitley (2022) Soil, Plant & Environmental Science Careers. *ACES 4H Camp*, NMSU 4H Extension, Las Cruces, NM, August 22, 2022.
32. Gonzalez-Pinzon, R., P. Tunby, T.R. Ginn, M. Aghababaei, **K.C. Carroll**, and A.M. Tartakovsky (2022) Informing River Corridor Transport Modeling by Harnessing Community Data and Physics-Aware Machine Learning. *AGU The Frontiers In Hydrology Meeting 2022*, 19-24 June 2022, San Juan, Puerto Rico.
33. **Carroll, K.C.**, R.A.M. Mohamed*, Chia-Hsing Tsai*, S.C. Brooks, D. Rucker, and A. Ulery (2022) Comparison of Multiple Direct and Indirect Characterization Methods for Hyporheic Zone Exchange. *Waste Management Symposium (WM2022)*, March 6-10, Phoenix, AZ.
34. Jamil*, A., D.F. Rucker, S.R. Dipon, C.-H. Tsai*, H. Cao, S. Brooks, and **K.C. Carroll** (2022) Evaluation of Machine Learning Algorithms for Subsurface Resistivity Predictions Based on Geophysical Electrical Resistivity Data and Characterization of Hydrogeological Conditions. *Waste Management Symposium* (WM2022), March 6-10, Phoenix, AZ.
35. Wu, L., J.D. Gomez-Velez, and **K.C. Carroll** (2021) Hyporheic exchange under seasonally connected groundwater surface-water systems. *American Geophysical Union Fall Meeting*, Fall Meeting Abstract.
36. Noyes, C., **K.C. Carroll**, R. Purtschert, G. Ferguson, J.C. McIntosh (2021) Using Argon-39, Noble Gases, and other Environmental Tracers to Infer Changes in Recharge to the Semi-Arid Tucson Basin over the Holocene. *American Geophysical Union Fall Meeting*, Fall Meeting Abstract.
37. Stice*, C., C.-H. Tsai*, C. Johnson, and **K.C. Carroll** (2021) Numerical Modeling of Gas Flow in the Hanford Vadose Zone. *American Geophysical Union Fall Meeting*, Fall Meeting Abstract.
38. Mohamed*, R.A.M. M. Hitzelberger*, **K.C. Carroll**, N.A. Khan*, M.L. Brusseau (2021) Modeling Back-Diffusion Impacts on Perfluorooctane Sulfonic Acid (PFOS) Contaminant Transport. *RemPlex Summit 2021 Global Summit on Environmental Remediation,* November 8-12, Virtual.

39. Tsai*, C.-H., **K.C. Carroll**, D.F. Rucker, S.C. Brooks, and T. Ginn (2021) Coupled Stream-Groundwater Flow and Transport Modeling of Streambed Heterogeneity Impacts on Hyporheic Exchange. *ASA, CSSA, and SSSA International Annual Meeting*, Nov. 7-10, Salt Lake City, UT.
40. Mohamed*, R.A.M., M. Hitzelberger*, **K.C. Carroll**, M.L. Brusseau (2021) Characterization of One and Two Dimensional Transport of Perfluorooctane Sulfonic Acid in Homogeneous and Heterogeneous Sands. *ASA, CSSA, and SSSA International Annual Meeting*, Nov. 7-10, Salt Lake City, UT.
41. Rucker, D.F., **K.C. Carroll**, C.-H. Tsai*, and A. Pearson* (2021) Observing Streambed Infiltration Heterogeneity of an Intermittent River at the Onset of Flow with Electrical Resistivity and Buried Sensors. *Annual Symposium – Arizona Hydrological Society*, Phoenix, September 15–17.
42. McIntosh, J.C., K. Markovich, C. Noyes, L. Condon, G. Ferguson, **K.C. Carroll**, R. Purtschert (2021) Application of ^{3}H, ^{85}Kr, ^{39}Ar, and ^{14}C, noble gas thermometry, and modeling to constrain mountain-front recharge to basin-fill aquifers. *Goldschmidt*, Lyon, July 4-9.
43. Ginn, T., M. Aghababaei, **K.C. Carroll**, R. Gonzalez-Pinzon, A. Tartakovsky (2021) The Remarkable Generality of the Transient Storage Model with Residence Time Dependence: Temporal Moments. *European Geophysical Union General Assembly*, April 19-30.
44. Mohamed*, R.A.M., S.C. Brooks, C-H Tsai*, T. Ahmed*, D.F. Rucker, A.L. Ulery, E.M. Pierce, and **K.C. Carroll** (2021) Use of Censored Data for Improving the Geostatistical Interpolation of Streambed Attributes. *Waste Management Symposium (WM2021)*, March 8-12.
45. Tsai*, C.-H., S.C. Brooks, and **K.C. Carroll** (2020) Method Comparison for Hyporheic Zone Transport Model Parameter Estimation using Tracer Tests Conducted in East Fork Poplar Creek, Tennessee, USA. *American Geophysical Union Fall Meeting*, Fall Meet. Abstract.
46. Polharel, B., H. Cao, W. Jiang, **K.C. Carroll**, Y. Zhang, P. Xu (2020) Quantitative analysis of produced water in Permian Basin-New Mexico using machine learning techniques. *American Geophysical Union Fall Meeting*, Fall Meet. Abstract.
47. Ahmed*, T., S.C. Brooks, D. VanLeeuwen, R.A.M. Mohamed*, C.-H. Tsai*, and **K.C. Carroll** (2020) Statistical Characterization of Hyporheic Zone Properties Over Three Years. *American Geophysical Union Fall Meeting*, Fall Meet. Abstract.
48. Khan*, N.A., P. Xu, J.M. Jarvis, and **K.C. Carroll** (2020) Comparison of organic and inorganic chemical analysis for characterization of produced water from oil production in the Permian Basin. *American Geophysical Union Fall Meeting*, Fall Meet. Abstract.
49. Condon, L.E., K.H. Markovich, G. Rapp, **K.C. Carroll**, R. Purtschert, and J.C. McIntosh (2020) Combining environmental tracers and numerical modeling to estimate mountain-front recharge components in the Tucson Basin. *American Geophysical Union Fall Meeting*, Fall Meet. Abstract.
50. Mohamed*, R.A.M., C. Gabrielli, T. Ahmed*, J. Selker, F. Selker, S.C. Brooks, and **K.C. Carroll** (2020) Comparison of Fiber-Optic Distributed Temperature Sensing and Mobile High-Sensitivity Temperature Probes for Stream and Hyporheic Zone Characterization. *American Geophysical Union Fall Meeting*, Fall Meet. Abstract.
51. Emin, A., A.E. Ouni, H. Zhong, **K.C. Carroll**, and M.L. Brusseau (2020) Uranium Biosequestration and Biosequestered Uranium Re-oxidation Multicomponent Transport Modeling. *American Geophysical Union Fall Meeting*, Fall Meet. Abstract.
52. Pearson*, A., D. Rucker, C.-H. Tsai*, E.H. Fuchs, and **K.C. Carroll** (2020) Electrical Resistivity Mapping of Rio Grande River-Groundwater Interactions. *American Geophysical Union Fall Meeting*, Fall Meet. Abstract.

53. Ahmed*, T., S.C. Brooks, D. VanLeeuwen, R.A.M. Mohamed*, C.-H. Tsai*, and **K.C. Carroll**, and (2020) Characterization of Streambed Geochemical and Hydraulic Properties in the Hyporheic Zone over Time. *ASA, CSSA, and SSSA International Annual Meeting*, Nov. 8-11, Phoenix, AZ.
54. Mohamed*, R.A.M., T. Ahmed*, C.-H. Tsai*, **K.C. Carroll**, and S.C. Brooks (2020) The Effect of Using Left Censored Data on Improving the Geostatistical Distribution of Streambed Attributes. *ASA, CSSA, and SSSA International Annual Meeting*, Nov. 8-11, Phoenix, AZ.
55. Pearson*, A., D. Rucker, C.-H. Tsai*, E.H. Fuchs, and **K.C. Carroll** (2020) Electrical Resistivity Mapping of Rio Grande River-Groundwater Interactions. *65th Annual New Mexico Water Conference*, October 27 - 29, 2020.
56. **Carroll, K.C.**, P. Xu, M. Hightower (2020) NM Produced Water Research Consortium. *Permian Basin Water Management Council*, Midland, TX, Feb. 26.
57. **Carroll, K.C.**, C. Kubicki*, J. Witcher, A. Robertson, and R. Purtschert, (2019) Integrating Mineral and Groundwater Isotopic and Geochemical Analysis for Attribution of Salinity Sources and Aquifer Flow-Path Architecture in the Mesilla Basin, USA. *American Geophysical Union Fall Meeting*, Fall Meet. Abstract.
58. Huang, D., N.A. Khan*, G. Wang, **K.C. Carroll**, and M.L. Brusseau (2019) The Co-transport of PFAS and Cr(VI) in Porous Media. *American Geophysical Union Fall Meeting*, Fall Meet. Abstract.
59. Wang, Y., N.A. Khan*, N. Yan, **K.C. Carroll**, and M.L. Brusseau (2019) Nonideal Transport and Extended Elution Tailing of PFOS in Soil and Aquifer Sediment. *American Geophysical Union Fall Meeting*, Fall Meet. Abstract.
60. Markovich, K.H., L.E. Condon, C. Kubicki*, **K.C. Carroll**, and J.C. McIntosh (2019) Disentangling age distributions of long-screened production wells for quantifying mountain-block recharge. *American Geophysical Union Fall Meeting*, Fall Meet. Abstract.
61. Khan*, N.A., C.-H. Tsai*, L. Zhong, J.E. Szecsody, V.L. Freedman, and **K.C. Carroll** (2019) Evaluating Tracer Estimation of Sorption for Characterization of Solute Attenuation of Subsurface Contaminant Mixtures Relevant to the Hanford Site. *American Geophysical Union Fall Meeting*, Fall Meet. Abstract.
62. Tsai*, C.-H., S. Brooks, and **K.C. Carroll** (2019) Modeling the Impacts of Hyporheic Zone Heterogeneity on Mass Exchange and Solute Transport in East Fork Poplar Creek, Tennessee, USA. *American Geophysical Union Fall Meeting,* Fall Meet. Abstract.
63. Fuchs*, E.H., **K.C. Carroll**, and J.P. King (2019) Quantifying Recharge impacted by In-Stream Sedimentation and Disconnection of Surface Water from Groundwater. *American Geophysical Union Fall Meeting*, Fall Meet. Abstract.
64. Markovich, K.H., L.E. Condon, C. Kubicki*, **K.C. Carroll**, and J.C. McIntosh (2019) A multi-tracer approach for characterizing mountain-block recharge: Case study of the Tucson basin in southeastern Arizona. *GSA Annual Meeting*, Phoenix, Arizona.
65. Ulery, A., A. Smith Muise, B. Chamberlin, J. Gleason, and **K.C. Carroll** (2019) Impact of Digital Teaching Tools in Science Classes. *SSSA International Soils Meeting*, San Diego, CA, Jan. 6-9.
66. Tick, G.R., Milavec*, J., F.O. Holguin, B. Dungan, and **K.C. Carroll** (2018) 1,4-Dioxane Cosolvency Impacts on Trichloroethylene Dissolution and Sorption. *American Geophysical Union Fall Meeting*, Fall Meet. Abstract.
67. Tsai*, C.-H., S. Brooks, D. Rucker, A. Ulery, and **K.C. Carroll** (2018) Tracer Characterization of Baseflow Hyporheic Zone Exchange, Solute Transport, and Rate-Limited Mass Transfer in East Fork Poplar Creek, Tennessee, USA. *American Geophysical Union Fall Meeting*, Fall Meet. Abstract.

68. Mohamed*, R.A.M., C.-H. Tsai*, S. Brooks, D. Rucker, A. Ulery, and **K.C. Carroll** (2018) Effect of Stream Channel Anisotropy on the Spatial Interpolation of Streambed Characterization Data. *American Geophysical Union Fall Meeting*, Fall Meet. Abstract.
69. Khan*, N.A., and **K.C. Carroll** (2018) Transport of Aqueous Ozone in Saturated Porous Media with Oxidant Attenuation and Demand Assessment for In Situ Contaminant Oxidation. *American Geophysical Union Fall Meeting*, Fall Meet. Abstract.
70. **Carroll, K.C.**, Bridges*, L., M.L. Brusseau, R.A.M. Mohamed*, and C. Papelis (2018) Persulfate Activation and Enhanced Degradation of 1,4-Dioxane in Water Using Manganese Amendment for In Situ Chemical Oxidation. *American Geophysical Union Fall Meeting*, Fall Meet. Abstract.
71. Kubicki*, C., J. Witcher, A. Robertson, R. Purtschert, and **K.C. Carroll** (2018) Spatial variability in the sources of groundwater salinity in the Rio Grande Valley of the Mesilla Basin, New Mexico and West Texas, USA. *American Geophysical Union Fall Meeting*, Fall Meet. Abstract.
72. Brusseau, M.L., N. Yan, W. Chen, Y. Lyu, S. Van Glubt, **K.C. Carroll**, and F.O. Holguin (2018) Comprehensive Retention Model for PFAS Transport in Subsurface Systems. *American Geophysical Union Fall Meeting*, Fall Meet. Abstract.
73. Fuchs*, E.H., **K.C. Carroll**, and J.P. King (2018) Quantifying Disconnection of Surface Water from Groundwater for Irrigated Agriculture in a Constrained Aquifer System. *American Geophysical Union Fall Meeting*, Fall Meet. Abstract.
74. Mohamed*, R.A.M., C.-H. Tsai*, S. Brooks, D. Rucker, A. Ulery, and **K.C. Carroll** (2018) Analysis of Various Geostatistical Methods to Interpolate Streambed Characterization Parameters of East Fork Poplar Creek in Oak Ridge, Tennessee. *63rd Annual New Mexico Water Conference*: At the Tipping Point: Water Scarcity, Science and Policy, October 17-18, Las Cruces, NM.
75. Ahmed*, T., S. Brooks, R.A.M. Mohamed*, C.-H. Tsai*, and **K.C. Carroll** (2018) Statistical Variability of Streambed Geochemical and Hydrologic Properties in the Hyporheic Zone of the East Fork Poplar Creek, Tennessee. *63rd Annual New Mexico Water Conference*: At the Tipping Point: Water Scarcity, Science and Policy, October 17-18, Las Cruces, NM.
76. Khan*, N.A., and **K.C. Carroll** (2018) Transport of Aqueous Ozone in Saturated Porous Media with Oxidant Attenuation and Demand Assessment for In Situ Contaminant Oxidation. *63rd Annual New Mexico Water Conference*: At the Tipping Point: Water Scarcity, Science and Policy, October 17-18, Las Cruces, NM.
77. Kubicki*, C., J. Witcher, A. Robertson, R. Purtschert, and **K.C. Carroll** (2018) Spatial variability in the sources of groundwater salinity in the Rio Grande Valley of the Mesilla Basin, New Mexico and West Texas, USA. *63rd Annual New Mexico Water Conference*: At the Tipping Point: Water Scarcity, Science and Policy, October 17-18, Las Cruces, NM.
78. Ulery, A., A. Smith Muise, B. Chamberlin, J. Gleason, and **K.C. Carroll** (2018) How to improve classroom evaluation of learning tools. *NACTA Journal* (#0202), Ames, IA, June 12-15.
79. Rucker, D., C.-H. Tsai*, and **K.C. Carroll** (2018) Electrical Resistivity and Induced Polarization Tomography Characterization of Hyporheic Zone Exchange Impacting Mercury Transport in East Fork Popular Creek, Tennessee. *Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP)*, March 25-29, Nashville, Tennessee.
80. Robertson, A., **K.C. Carroll**, C. Kubicki*, and R. Purtschert (2018) Geochemical and isotopic investigation of deep groundwater in the Mesilla Basin, New Mexico. *NGWA Conference*, Albuquerque, NM.
81. Mateas, D.J., G.R. Tick, and **K.C. Carroll** (2018) In Situ Stabilization of NAPL Contaminant Source-Zones as a Remediation Technique to Reduce Mass Flux to Groundwater. *Battelle Conference*,

Eleventh International Conference on Remediation of Chlorinated and Recalcitrant Compounds; Palm Springs, California.

82. Greenberg, R.R., G.R. Tick, J.B. Abbott, and **K.C. Carroll** (2017) Mass Transfer Behavior of Perfluorinated Chemicals in Saturated Clay-rich Sands: A Laboratory-based Study on Fate and Transport in Groundwater and Sediments. *American Geophysical Union Fall Meeting*, Fall Meet. Abstract.
83. Abbott, J.B., G.R. Tick, G.R. Greenberg, and **K.C. Carroll** (2017) Quantifying Mass Transfer Processes in Groundwater as a Function of Molecular Structure Variation for Multicomponent NAPL Sources. *American Geophysical Union Fall Meeting*, Fall Meet. Abstract.
84. Chen, W., N. Yan, X. Fu, **K.C. Carroll**, F.O. Holguin, and M.L. Brusseau (2017) Adsorption and Retardation of PFASs in Soil. *American Geophysical Union Fall Meeting*, Fall Meet. Abstract.
85. **Carroll, K.C.**, and H. Chen* (2017) Metal-Free Catalysis of Persulfate Activation and Organic-Pollutant Degradation by Nitrogen-Doped Graphene and Aminated Graphene. *SERDP and ESTCP Symposium 2017,* Nov. 28-30, Washington, DC.
86. Brusseau, M.L., Z. Guo, **K.C. Carroll** (2017) Methods for Characterizing Mass Transfer, Attenuation, and Mass Removal in Support of Remedial Action Design, Operation, and Performance Evaluation. *SERDP and ESTCP Symposium 2017,* Nov. 28-30, Washington, DC.
87. Khan*, N.A., M.D. Johnson, F.O. Holguin, B. Dungan, and **K.C. Carroll** (2017) Advanced oxidation of 1,4-dioxane and co-contaminants by aqueous ozone with and without a stabilization agent. *SERDP and ESTCP Symposium 2017,* Nov. 28-30, Washington, DC.
88. Ulery, A.L., L. White, **K.C. Carroll**, J. Gleason, and B. Chamberlin (2017) Interactive Computer Tools to Clarify the Role of Nitrogen in Agriculture and the Environment. *ASA-CSSA-SSSA Meeting*, Oct. 22-25, Tampa, FL.
89. **Carroll, K.C.**, and H. Chen* (2017) Nitrogen-Doped Graphene and Aminated Graphene Catalysis of Persulfate Activation and Emerging Contaminant Degradation in Wastewater. *NM WRRI's 62nd Annual New Mexico Water Conference,* Hidden Realities of New Water Opportunities, Aug. 15-16, Socorro, NM.
90. Kubicki*, C., J. Williams, R. Purtschert, **K.C. Carroll** (2017) Isotopic and geochemical groundwater characterization in the Mesilla Basin, New Mexico. *NM WRRI's 62nd Annual New Mexico Water Conference,* Hidden Realities of New Water Opportunities, Aug. 15-16, Socorro, NM.
91. Hennessey, J.R., and **K.C. Carroll** (2017) Using Contaminant Mass Discharge and Attenuation Rate Analysis to Develop Pump-and-Treat Remediation System Closure Criteria for Transition to Monitored Natural Attenuation. *NM WRRI's 62nd Annual New Mexico Water Conference,* Hidden Realities of New Water Opportunities, Aug. 15-16, Socorro, NM.
92. Milavec*, J., G.R. Tick, and **K.C. Carroll** (2017) Nonaqueous Phase Liquid Solubilization and Soil Adsorption Behavior of 1,4 Dioxane and Trichloroethylene Mixtures. *NM WRRI's 62nd Annual New Mexico Water Conference,* Hidden Realities of New Water Opportunities, Aug. 15-16, Socorro, NM.
93. Bridges*, L., M.L. Brusseau, and **K.C. Carroll** (2017) Manganese Dioxide Activation of Sodium Persulfate for Contaminant Oxidation. *NM WRRI's 62nd Annual New Mexico Water Conference,* Hidden Realities of New Water Opportunities, Aug. 15-16, Socorro, NM.
94. Khan*, N.A., M.D. Johnson, F.O. Holguin, B. Dungan, and **K.C. Carroll** (2017) Cyclodextrin Stabilization of Advanced Oxidation of 1,4-Dioxane and Co-Contaminants Using Aqueous Ozone for Contaminated Groundwater Treatment. *NM WRRI's 62nd Annual New Mexico Water Conference,* Hidden Realities of New Water Opportunities, Aug. 15-16, Socorro, NM.

95. Tsai*, C.H., and **K.C. Carroll** (2017) Numerical simulation of the potential for induced groundwater salinization and land subsidence upon extraction of brackish water. *NM WRRI's 62nd Annual New Mexico Water Conference,* Hidden Realities of New Water Opportunities, Aug. 15-16, Socorro, NM.
96. Ulery, A.L., L.M. White, **K.C. Carroll**, J.B. Gleason, and B.A. Chamberlin (2017) Facilitating Student Success in Gateway Courses with Animated Tools. *NACTA annual meeting*, Purdue, IN, June 29, 2017.
97. Gleason, J.B., B.A. Chamberlin, L.M. White, **K.C. Carroll**, R.P. Flynn, and A.L. Ulery (2017) Simulations and Interactive Tools for Agricultural Science Education. *NACTA annual meeting*, Purdue, IN, June 29, 2017.
98. Brusseau, M.L., J.A. Lewis, K. McDonald, and **K.C. Carroll** (2016) The Impact of Sample Size and Imaging Resolution on Measurement of Fluid-Fluid Interfacial Area via X-ray Microtomography. *American Geophysical Union Fall Meeting*, Fall Meet. Suppl., Abstract H51B-1468.
99. Mateas, D.J., G.R. Tick, and **K.C. Carroll** (2016) In Situ NAPL Modification for Contaminant Source-Zone Passivation, Mass Flux Reduction, and Remediation. *American Geophysical Union Fall Meeting*, Fall Meet. Suppl., Abstract H33A-1504.
100. Khan*, N., A. Dettmer*, M. Johnson, and **K.C. Carroll** (2016) Complexation of Contaminants and Aqueous-Phase Ozone with Cyclodextrin for Emerging Contaminant Oxidative Degradation. *American Geophysical Union Fall Meeting*, Fall Meet. Suppl., Abstract H33A-1506.
101. **Carroll, K.C.**, and H. Chen* (2016) Functionalized Graphene Metal-Free Carbocatalysis of Persulfate and Emerging Contaminant Oxidative Degradation. *American Geophysical Union Fall Meeting*, Fall Meet. Suppl., Abstract H33A-1507.
102. Graham, J.S., A. Fernald, R. Sabie, P. Xu, M. Cather, **K.C. Carroll**, K. Sarpong, G. Ma, and A. Telles, (2016) A comprehensive study supporting Beneficial uses of Produced Water in Southeastern New Mexico. *Geological Society of America Abstracts with Programs, Annual Meeting*.
103. Khan*, N., A. Dettmer*, R. Ball, T.B. Boving, and **K.C. Carroll** (2016) Stabilization and Prolonged Reactivity of Aqueous-Phase Ozone with Cyclodextrin. *ASA-CSSA-SSSA Meeting*, Phoenix, AZ, Nov. 6-9.
104. **Carroll, K.C.**, and H. Chen* (2016) Metal-Free Catalysis of Persulfate Activation and Organic-Pollutant Degradation by Nitrogen-Doped Graphene and Aminated Graphene. *ASA-CSSA-SSSA Meeting*, Phoenix, AZ, Nov. 6-9.
105. Ulery, A., B. Chamberlin, L. White, J. Gleason, and **K.C. Carroll** (2016) ScienceofAgriculture.org – Online Teaching Tools for Undergrads. *ASA-CSSA-SSSA Meeting*, Phoenix, AZ, Nov. 6-9.
106. Brewer, C.E., S. Lyons, N. Bhakta, J. Payne, and **K.C. Carroll** (2016) Drying and Pyrolysis of Solid Waste on Spacecraft for Water Recovery and Biochar. *2016 AIChE Annual Meeting*, San Francisco, CA, Nov. 13-16.
107. **Carroll, K.C.**, K. McDonald, and M.L. Brusseau (2015) Comparison of Interfacial Partitioning Tracer Test and X-ray Microtomography Measurements of Immiscible Fluid-Fluid Interfacial Areas within the Identical System. *American Geophysical Union Fall Meeting*, Fall Meet. Suppl., Abstract H41D-1357.
108. Lyons, S., M. Saberi, **K.C. Carroll**, and C.E. Brewer (2015) Waste Processing with Pyrolysis to Recover Water and Nutrients. *2015 AIChE Annual Meeting*, Salt Lake City, Nov. 8-13.
109. Ulery, A.L., **K.C. Carroll**, and B. Chamberlin (2015) Interactive Virtual Sorption Lab to Help Teach Soil Science. *ASA-CSSA-SSSA Meeting*, Minneapolis, MN, Nov. 16.
110. Willman*, S.E. and **K.C. Carroll** (2015) Assessment of Spatiotemporal Groundwater Level Changes Throughout New Mexico. *Water Smart Innovations 2015 Conference*, Las Vegas, Nevada, October 6-9.

111. Cruz*, S., **K.C. Carroll**, and M.D. Sosa (2015) Implementation of Drip Irrigation System Facilitates Collaboration Between Future Agricultural Leaders. *NM WRRI's 60th Annual New Mexico Water Conference*, Coloring Outside the Lines: Can Science Help Us Be Creative and Innovative in Managing Our Water, Taos, NM, October 7-9.
112. Chen*, H. and **K.C. Carroll** (2015) Sulfamethoxazole Treatment by Advanced Oxidation Process with Graphene Oxide. *The Association of Environmental Engineering & Science Professors (AEESP) 2015 Conference,* Yale University, June 13-16.
113. Fernandez, C.A., A. Bonneville, H. Shao, S. Kabilan, D.J. Heldebrant, D. Hoyt, T. Varga, L. Zhong, W. Um, and **K.C. Carroll** (2015) Stimuli-Responsive Rheoreversible Fracturing Fluids for Unconventional Oil and Gas Extraction. #399581, *2015 AIChe Spring Meeting*, April 26-30, Austin, TX.
114. Bonneville, A., H.B. Jung, H. Shao, S. Kabilan, W. Um, **K.C. Carroll**, T. Varga, N. Suresh, S. Stephens, and C.A. Fernandez (2014) Stimuli Responsive/Rheoreversible Hydraulic Fracturing Fluids for Enhanced Geothermal Energy Production. *American Geophysical Union Fall Meeting*, Fall Meet. Suppl., Abstract H43A-0934.
115. Brusseau, M.L., J. Mainhagu , C.N. Morrison, and **K.C. Carroll** (2014) Application of the Vapor-phase Multi-stage CMD Test to Characterize Contaminant Mass Discharge Associated with Volatile Organic Contaminant Sources in the Vadose Zone. *American Geophysical Union Fall Meeting*, Fall Meet. Suppl., Abstract H51A-0562.
116. **Carroll, K.C.**, A.L. Ulery, B. Chamberlin, and A. Dettmer* (2014) Interactive, Online, Adsorption Lab to Support Discovery of the Scientific Process. *American Geophysical Union Fall Meeting*, Fall Meet. Suppl., Abstract ED53B-3483.
117. Mateas, D. J. , G.R. Tick, and **K.C. Carroll** (2014) Novel, In-situ NAPL Modification Technique for Persistent Source Zone Control and Remediation. *American Geophysical Union Fall Meeting*, Fall Meet. Suppl., Abstract H51A-0566.
118. Khan*, N.A., F. O. Holguin, P. Xu, M.A. Engle, B. Dungan, B. Hunter, and **K.C. Carroll** (2014) Geochemical Variability and the Potential for Beneficial Use of Waste Water Coproduced with Oil from Permian Basin of the Southwest USA. *American Geophysical Union Fall Meeting*, Fall Meet. Suppl., Abstract H11D-0902.
119. Padgett, M., G.R. Tick, and **K.C. Carroll** (2014) Rate Limited Diffusion and Dissolution of Multicomponent Nonaqueous Phase Liquids (NAPLs) and Effects on Mass Discharge in Groundwater. *American Geophysical Union Fall Meeting*, Fall Meet. Suppl., Abstract H51A-0565.
120. Dettmer*, A., S. Cruz*, B. Dungan, F.O. Holguin, A.L. Ulery, B. Hunter, and **K.C. Carroll** (2014) Natural Oxidant Demand Variability, Potential Controls, and Implications for in Situ, Oxidation-Based Remediation of Contaminated Groundwater. *American Geophysical Union Fall Meeting*, Fall Meet. Suppl., Abstract H51A-0569.
121. Khan*, N.A. , F. O. Holguin , P. Xu , and **K.C. Carroll** (2014) Oil Production Waste Water Geochemical Variability from Permian Basin of the Southwest USA. *NM WRRI's 59th Annual New Mexico Water Conference,* New Mexico's Water Future: Connecting Stakeholder Needs to Water Information, Nov. 18-19, Santa Fe, NM.
122. **Carroll, K.C.**, S. Willman*, S. Timmons, M. Ely, N. Myers, and M. Johnson (2014) Assessment of spatiotemporal groundwater level changes throughout New Mexico. *NM WRRI's 59th Annual New Mexico Water Conference,* New Mexico's Water Future: Connecting Stakeholder Needs to Water Information, Nov. 18-19, Santa Fe, NM.
123. Dettmer*, A., S. Cruz*, B. Dungan, F.O. Holguin, A.L. Ulery, B. Hunter, and **K.C. Carroll** (2014)

Natural Oxidant Demand Variability, Potential Controls, and Implications for in Situ, Oxidation-Based Remediation of Contaminated Groundwater. *NM WRRI's 59th Annual New Mexico Water Conference,* New Mexico's Water Future: Connecting Stakeholder Needs to Water Information, Nov. 18-19, Santa Fe, NM.

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125. **Carroll, K.C.**, K. McDonald, M.L. Brusseau, and J. Marble (2013) The Impact of Immiscible Displacement and Fluid Configuration on Pore-Scale Two and Three-Phase Distribution in Porous Media Systems. *American Geophysical Union Fall Meeting*, Fall Meet. Suppl., Abstract H34E-06.
126. Jung, H., S. Kabilan, J. Carson, A. Kuprat, W. Um, A. Bonneville, C. Fernandez, and **K.C. Carroll** (2013) Coupled X-ray Microtomography Imaging and Computational Fluid Dynamics Modeling for Evaluation of Wellbore Cement Fracture Evolution. *American Geophysical Union Fall Meeting*, Fall Meet. Suppl., Abstract H12C-03.
127. Matthieu, D.E., M.L. Brusseau, **K.C. Carroll**, M. Plaschke, and F. Brinker (2013) Persistence of a Groundwater Contaminant Plume after Hydraulic Source Containment at a Chlorinated-Solvent Contaminated Site. *American Geophysical Union Fall Meeting*, Fall Meet. Suppl., Abstract H41H-1346.
128. Marble, J., **K.C. Carroll**, M.L. Brusseau, M. Plaschke, and F. Brinker (2013) Development of a Persistent Reactive Treatment Zone for Containment of Sources Located in Lower-Permeability Strata. *American Geophysical Union Fall Meeting*, Fall Meet. Suppl., Abstract H41H-1348.
129. Grover, K., S. Singla, S. Angadi, O. Holguin, and **K.C. Carroll** (2013) Evaluating Guar for its Adaptability in New Mexico. ASA-CSSA-SSSA Meeting, Tampa, FL, Nov. 3-7.
130. Truex, M.J., M. Oostrom, **K.C. Carroll**, A.L. Bunn, and D.M. Wellman (2013) Integrated Systems-Based Approach to Monitoring Environmental Remediation. *ASME INTERNATIONAL CONFERENCE ON ENVIRONMENTAL REMEDIATION AND RADIOACTIVE WASTE MANAGEMENT*, Brussels, September, 9.
131. Truex, M., **K.C. Carroll**, M. Oostrom, and D.M. Wellman (2013) Evaluating Monitored Natural Attenuation for Inorganic Contaminants in the Vadose Zone. *Bioremediation and Sustainable Environmental Technologies, Battelle Conference*, Jacksonville, FL, June 10.
132. Truex, M., **K.C. Carroll**, M. Oostrom, A. Rice, C. Johnson, and D. Becker (2013) Performance Evaluation and Selection of Shutdown Criteria for Soil Vapor Extraction. *REMTEC Conference*, CO, March 5.
133. **Carroll, K.C.**, M. Truex, M.L. Brusseau, K. Parker, R. Mackley, and V.J. Rohay (2012) Characterization of Persistent Volatile Contaminant Sources in the Vadose Zone. *American Geophysical Union Fall Meeting*, Fall Meet. Suppl., Abstract H43E-1413.
134. Brusseau, M.L., D.E. Matthieu III, **K.C. Carroll**, J. Mainhagu, C. Morrison, A. McMillan, A. Russo, M. Plaschke (2012) Contaminant Mass Discharge and Mass Removal Behavior for a DNAPL Field Site. *American Geophysical Union Fall Meeting*, Fall Meet. Suppl., Abstract H43E-1412.
135. Murray, C.J., **K.C. Carroll**, B.N. Nguyen, M.C. Richmond (2012) Comparison of Three Levels of Constitutive Coupling for Hydro-Geomechanical Evaluation of CO2 Leakage to Support Risk Assessment. *American Geophysical Union Fall Meeting*, Fall Meet. Suppl., Abstract H23D-1392.
136. Fang, Y., B.N., Nguyen, **K.C. Carroll**, Z. Xu, S.B. Yabusaki (2012) Coupled Multiphase Flow and Geomechanical Capability for Carbon Sequestration. *11th Annual Conference on Carbon Capture Utilization & Sequestration*, Pittsburgh, PA, April 30.

137. Nguyen, B.N., **K.C. Carroll**, C.J. Murray, M.I. McKinley, M.C. Richmond (2012) Effects of Fault Width and Inclination on Fault Reactivation Induced by Underground Injection of CO2. *11th Annual Conference on Carbon Capture Utilization & Sequestration*, Pittsburgh, PA, April 30.
138. Scheibe, T.D., E.M. Murphy, A.M. Tartakovsky, A.K. Rice, R. Ramanathan, X. Chen, **K.C. Carroll**, and I. Battiato (2012) MAP: An Analysis Platform for Multiscale Hydrogeologic Modeling with Emphasis on Hybrid Multiscale Methods. *XIX Computational Methods in Water Resources (CMWR2012) Conference*, Urbana, Illinois, June 17-21.
139. Miao, Z., **K.C. Carroll**, C. Carreon, M.L. Brusseau (2011) Application of Biostimulation for Remediation of Sulfate-Contaminated Groundwater at a Mining Site. *American Geophysical Union Fall Meeting*, Fall Meet. Suppl., Abstract H21A-1046.
140. Morrison, C., J. Mainhagu, M.L. Brusseau, M. Truex, M. Oostrom, **K.C. Carroll** (2011) Characterizing Vapor Fluxes for Organic-Liquid Sources in the Vadose Zone. *American Geophysical Union Fall Meeting*, Fall Meet. Suppl., Abstract H41A-1003.
141. McMillan, A.L., A.K. Borden, M.L. Brusseau, **K.C. Carroll**, N.H. Akyol, J.L. Berkompas, Z. Miao, F. Jordan, G.R. Tick, J. Waugh, E.P. Glenn (2011) Long-term Effects of Ethanol Addition on Denitrification At The Uranium Mill Tailing Site In Monument Valley, Arizona. *American Geophysical Union Fall Meeting*, Fall Meet. Suppl., Abstract H21A-1057.
142. Brusseau, M.L., **K.C. Carroll**, T. Allen, J. Baker, W. DiGuiseppi, J. Hatton, C. Morrison, A. Russo, and J. Berkompas (2011) Impact of In Situ Chemical Oxidation on Contaminant Mass Discharge: Linking Source-Zone and Plume-Scale Characterizations of Remediation Performance. *American Geophysical Union Fall Meeting*, Fall Meet. Suppl., Abstract H41A-1015.
143. **Carroll, K.C.**, B.N. Nguyen, M. Richmond, and C. Murray (2011) Coupling of STOMP and ABAQUS for Hydro-Geomechanical Modeling of Fluid Flow and Rock Deformation Associated with CO2 Injection. *American Geophysical Union Fall Meeting*, Fall Meet. Suppl., Abstract H51G-1271.
144. **Carroll, K.C.**, M. Oostrom, M. Truex, V.J. Rohay, and M.L. Brusseau (2011) Assessing Performance and Closure for Soil Vapor Extraction: Integrating Vapor Discharge and Impact to Groundwater Quality. *Partners in Environ. Technology Technical Symposium & Workshop*, November 29-December 1, Washington D.C.
145. Brusseau, M.L., **K.C. Carroll**, T. Allen, J. Baker, W. DiGuiseppi, J. Hatton, C. Morrison, A. Russo, and J. Berkompas (2011) Impact of In Situ Chemical Oxidation on Contaminant Mass Discharge: Linking Source-Zone and Plume-Scale Characterizations of Remediation Performance. *Partners in Environ. Technology Technical Symposium & Workshop*, November 29-December 1, Washington D.C.
146. Oostrom, M., M.J. Truex, **K.C. Carroll**, T.W. Wietsma (2011) Behavior of volatile organic mass flux emanating from persistent vadose zone sources. *American Chemical Society National Meeting*, 08/29/2011, Denver, C).
147. Miao, Z., C. Carreón-Diazconti, **K.C. Carroll**, A. McMillan, H. Akyol, and M.L. Brusseau (2011) Characterizing Sulfate Sources and Enhanced Reduction at a Mine Site. *El Dia Del Agua 21st Annual Symposium*, Hydrology and Water Resources Department, UA, March 30.
148. **Carroll, K.C.**, M. Truex, V.J. Rohay, M.L. Brusseau, and M. Oostrom (2010) Evaluating Soil Vapor Extraction Remediation Closure Criteria and Vadose Zone Source-Strength Distribution at the DOE Hanford 216-Z-9 Site. *American Geophysical Union Fall Meeting*, Fall Meet. Suppl., Abstract H41A-1070.
149. Brusseau, M.L., M. Truex, J. Mainhagu, C. Morrison, M. Oostrom, **K.C. Carroll**, and T.-C.J. Yeh (2010) Characterizing Organic-Liquid Sources in the Vadose Zone. *American Geophysical Union Fall Meeting*, Fall Meet. Suppl., Abstract H41A-1073.

150. Borden, A.K., **K.C. Carroll**, N. Hakan Akyol, J. Berkompas, Z. Miao, J. Waugh, E.P. Glenn, and M.L. Brusseau (2010) Pilot Tests of Enhanced Denitrification Using Ethanol. *American Geophysical Union Fall Meeting*, Fall Meet. Suppl., Abstract B51C-0380.
151. Brusseau, M.L., **K.C. Carroll**, and W. DiGuiseppi (2010) Assessing the Impact of In-situ Chemical Oxidation on Source-zone Mass Discharge for a Chlorinated-solvent Contaminated Field Site. *Partners in Environ. Technology Technical Symposium & Workshop*, November 30-December 2, Washington D.C.
152. Brusseau, M.L., M. Truex, J. Mainhagu, C. Morrison, M. Oostrom, **K.C. Carroll**, and T.-C.J. Yeh (2010) Characterizing Organic-Liquid Sources in the Vadose Zone. *Partners in Environ. Technology Technical Symposium & Workshop*, November 30-December 2, Washington D.C.
153. Marble, J.C., **K.C. Carroll**, H. Janousek, and M.L. Brusseau (2009) In Situ Oxidation and Associated Mass-Flux Reduction/Mass-Removal Behavior for Idealized Source Zones with Poorly-Accessible Organic Immiscible Liquid. *Geological Society of America Abstracts with Programs*, Annual Meeting, Portland, Oct. 18–21.
154. Borden, A.K., J. Berkompas, Z. Miao, **K.C. Carroll**, E.P. Glenn, J. Waugh, and M.L. Brusseau (2009) Pilot Tests of Enhanced Denitrification Using Ethanol. *Geological Society of America Abstracts with Programs*, Annual Meeting, Portland, Oct. 18–21.
155. **Carroll, K.C.**, A.E. Russo, and M.L. Brusseau (2009) The Impact of Immiscible Displacement and Trapped Air on Pore-Scale Fluid Configuration for Three-Phase Systems. *Geological Society of America Abstracts with Programs*, Annual Meeting, Portland, Oct. 18–21.
156. Marble, J.C., **K.C. Carroll**, H. Janousek, and M.L. Brusseau (2009) In Situ Oxidation and Associated Mass-Flux Reduction/Mass-Removal Behavior for Idealized Source Zones with Poorly-Accessible Organic Immiscible Liquid. *Partners in Environ. Technology Technical Symposium & Workshop*, Dec. 1-3, Washington D.C.
157. **Carroll, K.C.**, F.L. Jordan, E.P. Glenn, J. Waugh, and M.L. Brusseau (2009) Nitrate Attenuation Characterization Methods for Groundwater Remediation in Monument Valley, Arizona. *NGWA 2009 Ground Water Summit*, Tucson, Arizona, April 19-23.
158. DiFilippo, E.L., **K.C. Carroll**, and M.L. Brusseau (2008) Impact of Source-Zone Architecture and Flow Field Heterogeneity on Reductions in Mass Flux. *Eos Trans. American Geophysical Union Fall Meeting*, 89(53), Fall Meet. Suppl., Abstract H31D-0890.
159. **Carroll, K.C.**, F.L. Jordan, E.P. Glenn, J. Waugh, and M.L. Brusseau (2008) Comparison of Nitrate Attenuation Characterization Methods for Groundwater Remediation. *Eos Trans. American Geophysical Union Fall Meeting*, 89(53), Fall Meet. Suppl., Abstract H33G-1103.
160. DiFilippo, E.L., **K.C. Carroll**, and M.L. Brusseau (2008) Impact of Source-Zone Architecture and Flow Field Heterogeneity on Reductions in Mass Flux. *Partners in Environ. Technology Technical Symposium & Workshop*, Dec. 2-4, Washington D.C.
161. Jordan, F.L., J. Waugh, E.P. Glenn, M.L. Brusseau, and **K.C. Carroll** (2008) A Plant-Based Approach to Remediating a Nitrate-Contaminated Soil/aquifer System IN a Desert Environment. *2008 Joint Meeting of The Geological Society of America, ASA-CSSA-SSSA, Gulf Coast Association of Geological Societies with the Gulf Coast Section of SEPM*, Houston, Texas, Oct. 5-9.
162. Johnson, B., and **K.C. Carroll** (2005) Waste Rock Backfill of Open Pits in Nevada: Design, Optimization, and Modeling Considerations. *Heap Leach and Waste Rock Facility Closure Workshop*, Reno, Nevada, June 21 and 22.
163. **Carroll, K.C.**, M.L. Brusseau, Taylor, R., and Gray, E. (2003) Compositional Effects on the Physical Properties and Partitioning Behavior of a Diesel-PCE Nonaqueous Phase Liquid Mixture. *NGWA Southwest FOCUS Conference: Water Supply and Emerging Contaminants*, Phoenix, AZ.

164. **Carroll, K.C.**, and M.L. Brusseau (2001) Ideality and Dissolution Dynamics of Multicomponent NAPL in Groundwater Systems. *Eos Trans. American Geophysical Union Fall Meeting*, 82, Fall Meet. Suppl., Abstract H12B-0279.
165. **Carroll, K.C.**, and D.L. López (1998) Modeling solute transport in acid mine drainage: The Esco No. 40 Mine, Hocking County, Ohio. *Geological Society of America Abstracts with Programs, North-Central Meeting*, Columbus, Ohio, Vol. 82/11.
166. **Carroll, K.C.** (1998) Reactive Solute Transport Modeling of the Acid Mine Drainage Contamination in the Snow Fork of the Monday Creek Watershed. *American Association of Petroleum Geologists Bulletin*, Vol. 82(11).

RESEARCH PRESS RELEASES

1. Terri Cook (2021) Parsing Routes to Aquifer Recharge Along Mountain Fronts. 8 February 2021. https://eos.org/research-spotlights/parsing-routes-to-aquifer-recharge-along-mountain-fronts
2. Melissa Rutter (2019) NMSU researchers, EBID develop metrics for water-resource management, sustainability, 10/07/2019. https://newscenter.nmsu.edu//Articles/view/13893/nmsu-researchers-ebid-develop-metrics-for-water-resource-management-sustainability and http://pvwuo.blogspot.com/
3. Melissa Rutter (2019) NMSU receives two grants from DOE to work with national laboratories, June 2, 2019. https://www.lcsun-news.com/story/news/education/nmsu/2019/06/01/nmsu-receives-two-grants-doe-work-national-laboratories/1312634001/?cid=facebook_Las_Cruces_Sun-News&fbclid=IwAR2TCu-7wVjEMorsPVhKjr20DIpf6rzJMZT6adaEnrM0-SO4VmsQ4lP4Iwk
4. Melissa Rutter (2018) NMSU researcher, collaborators prolong water contaminant treatment using ozone, Nov. 20, 2018. https://www.lcsun-news.com/story/news/local/2018/11/17/research-transforming-ways-people-able-remove-contaminants-both-groundwater-and-waste-water-treatmen/2030360002/
5. Mallory Falk (2018) As The Rio Grande Dries Up, Experts Look For New Water Sources. KRGW (NPR), Nov. 12, 2018. https://www.krwg.org/post/rio-grande-dries-experts-look-new-water-sources
6. Pehr, D.J. (2017) NMSU researchers join others to address water scarcity issues. Las Cruces Sun News, Nov. 18, 2017. http://www.lcsun-news.com/story/news/education/nmsu/2017/11/18/nmsu-researchers-join-others-address-water-scarcity-issues/877593001/ and/or https://newscenter.nmsu.edu/articles/view/12837/nmsu-nm-wrri-researchers-join-others-to-help-address-water-scarcity-issues
7. Booth, DeJanay, (2016) Project sheds new light on produced water. Carlsbad Current-Argus. http://www.currentargus.com/story/news/local/new-mexico/2016/08/01/project-sheds-new-light-produced-water/87917204/
8. Pehr, D.J. (2015) Research on non-polluting geothermal systems. *Las Cruces Sun News*, October 27, 2015. http://www.lcsun-news.com/story/news/education/nmsu/2015/10/04/research-non-polluting-geothermal-systems/73339532/ http://www.sciencedaily.com/releases/2015/10/151007084534.htm http://phys.org/news/2015-10-explores-cost-effective-non-polluting-geothermal.html
9. Leitner, W. (2015) The subject of 'fracking' in Green Chemistry. *Green Chemistry*, online March 31, 2015. http://pubs.rsc.org/en/Content/ArticleLanding/2015/GC/C5GC90020D#!divAbstract
10. Truex, M.J. et al. (2012) New Approach to Assess Volatile Contamination in Vadose Zone Provides Path Forward for Site Closure. *EM Update*, http://energy.gov/em/articles/new-approach-assess-volatile-contamination-vadose-zone-provides-path.

11. Truex, M.J. et al. (2012) EM's $500,000 Investment in Contaminant Remediation Leads to Hanford Site Strategy Providing $6.35 Million in Cost Savings. *EM Update*, http://energy.gov/em/articles/ems-500000-investment-contaminant-remediation-leads-hanford-site.
12. Wellman, D.M. et al. (2012) New Approach to Assess Volatile Contamination in Vadose Zone Provides Path Forward for Site Closure. *Nuclear Decommissioning Report*, Vol. 4(2), May 2012, page 4, http://www.bluetoad.com/publication/?i=111528.

PROFESSIONAL SOCIETY MEMBERSHIP

- American Geophysical Union (Lifetime)
- Environmental and Engineering Geophysical Society
- Geochemical Society
- Geological Society of America (Lifetime)
- National Ground Water Association
- Sigma Xi - Scientific Research Society
- Soil Science Society of America
- Universities Council on Water Resources

SELECTED PROFESSIONAL SERVICE

American Geophysical Union (AGU):

- Convener Technical Session - Advancements in the Fate, Transport, Transformation and Remediation of Contaminants in the Environment (2025 Fall Meeting, New Orleans, Louisiana)
- Convener Technical Session - Development of Agrohydrology in relation to Critical Zone Science (2024 Fall Meeting, Washington DC)
- Member "Soil Systems & Critical Zone Processes" technical committee and member "Water Quality" technical committee of the Hydrology Section (2023-Present)
- Convener Technical Session - Advancements in the Occurrence, Fate, Transport, Transformation, and Remediation of Contaminants in the Subsurface (2023 Fall Meeting, San Francisco, CA, Dec.) and judge for student presentations
- Convener Technical Session - Advances in Isotopic, Trace Element and Noble Gas Tracers of Hydrologic Processes (2020 Fall Meeting, Virtual) and judge for student presentations
- Convener Technical Session - Groundwater-Surface Water Interactions: Integrating Physical, Biological, and Chemical Patterns and Processes Across Systems and Scales (2020 Fall Meeting, Virtual) and judge for student presentations
- Convener Technical Session - H010 - Advances in Isotopic, Trace Element and Noble Gas Tracers of Hydrologic Processes (2019 Fall Meeting, San Francisco, CA, Dec.) and judge for student presentations
- Convener Technical Session - H077 - Advances, Breakthroughs, and Challenges in Hydrogeologic Sciences (2019 Fall Meeting, San Francisco, CA, Dec.) and judge for student presentations
- Convener Technical Session - Advances in Characterizing NAPL Sources in Groundwater and Assessing Impacts on Plume-Scale Contamination: Theoretical,

Experimental, and Modeling Investigations (2018 Fall Meeting, Wash. DC, Dec.) and judge for student presentations
- Convener Technical Session - Advances, Breakthroughs, and Challenges in Hydrogeologic Sciences (2018 Fall Meeting, Wash. DC, Dec.) and judge for student presentations
- Convener Technical Session - Coupled Dynamics of Physical, Biological, Geomorphic, Hydrologic, and Chemical Processes in the Hyporheic Zone Over a Range of Spatial and Temporal Scales (2018 Fall Meeting, Wash. DC, Dec.) and judge for student presentations
- Convener Technical Session - Advances, Breakthroughs, and Challenges in Hydrogeologic Sciences (2016 Fall Meeting, San Francisco, CA, Dec.) and judge for student presentations
- Convener Technical Session - Advances and Breakthroughs in Hydrogeology (2015 Fall Meeting, San Francisco, CA, Dec.) and judge for student presentations
- Convener Technical Session - Recent Advances in Groundwater Hydrology (2014 Fall Meeting, San Francisco, CA, Dec.) and judge for student presentations
- Convener Technical Session - Overcoming Remediation Barriers and Improving the Understanding of Processes Controlling Contaminant Transport (2013 Fall Meeting, San Francisco, CA, Dec.) and judge for student presentations
- Convener Technical Session – Coupled Hydraulic, Geochemical, and Geomechanical Processes in CO2 Injection and Storage (2013 Fall Meeting, San Francisco, CA, Dec.) and judge for student presentations
- Convener Technical Session - Physical, Chemical, and Biological Processes Controlling Transport and Remediation of Contaminants (2012 Fall Meeting, San Francisco, CA, Dec.) and judge for student presentations
- Convener Technical Session – Coupled Hydro-Geochem-Mechanical Evaluations of CO2 Sequestration (2012 Fall Meeting, San Francisco, CA, Dec.) and judge for student presentations
- Convener Technical Session - Advances in the Transport and Remediation of Organic Contaminants (2011 Fall Meeting, San Francisco, CA, Dec.) and judge for student presentations
- Member "Groundwater" technical committee of the Hydrology Section (2010-Present)
- Convener Technical Session H41 - Physical, Chemical, and Biological Processes Controlling NAPL Source Zone Remediation (2008 Fall Meeting, San Francisco, CA, Dec. 15-19) and judge for student presentations

Arizona Hydrologic Society:
- Tucson Chapter Treasurer (2003-2006)
- Planning Committee of Annual Symposium (2004)

International Organizations:
- UNU (UN University) AID members assisting with regional, national, and global datasets, tools, and analytics projects and questions https://www.sustainabilityaid.net/groundwater
- Remtech Europe member https://www.linkedin.com/company/remtecheurope/about/

National Ground Water Association:

- Convener Technical Session - Remediation of Subsurface Contamination in Arid and Semi-Arid Environments: Impact on Water Resource Sustainability, NGWA 2009 Ground Water Summit (April 19-23 in Tucson, AZ)

New Mexico State University:

- ACES College and Plant & Environmental Sciences Department
  - PES Faculty Search: Professor of Soil Physics (2025)
  - PES Faculty Search: Professor of Forest Ecophysiology (2024)
  - PES Faculty Search: Professor and Superintendent of the Ag Science Center in Artesia (2022)
  - PES Promotion and Tenure Committee Member (2022-Present)
  - PES Undergraduate Student Recruitment and Retention Committee (2014-2018; Chair, 2017-2018, Chair: 2019-2021)
  - Faculty Search: Assistant/Associate Professor Water for Sustainable Agriculture and Food Systems, ACES College (2019)
  - ACES Strategic Planning Committee (2018-2019)
  - PES Student Assessment Committee (2018-2019)
  - ACES Committee to Develop new Ph.D. program in Natural Resources (2018-2019)
  - NMSU Water Initiative Committee (2017-2020)
  - PES Awards Committee (2017-2018)
  - ACES College Dean's Faculty Advisory Team (2017-2019)
  - PES Doña Ana Community College Liaison for Plant & Environmental Science Dept. 2016-Present
  - PES Ad Hoc Committee for Faculty Replacement Recruitment 2014-2016
  - Member of the NM State Brackish Water Work Group (2014-2016)
  - PES Faculty Search: Professor of Environmental Soil Microbiology, 2014/2015
  - PES Graduate Studies Committee (2013-2017)
- WSM Graduate Program Management Team 2013-Present
- Faculty advisor for WSM Graduate Student Organization 2014-2023
- Supported development of a Joint Center for Hydrology Research with the China Agricultural University (2014-Present) and developed Nanjing University collaboration.
- New Mexico Water Institute Program Development and Review Board 2023-Present
- New Mexico Bureau of Geology Aquifer Characterization and Monitoring Steering Committee 2024-Present

Other University Service:

- Alumni association for the OU Geological Sciences Department (2024-Present)
- External P&T review (UNC Charlotte, NM Tech, and others)

Scientific Journal Editorial Board (Associate Editor):

- *Soil Science Society of America Journal (2025-Present)*
- *Vadose Zone Journal (2022-Present)*
- *Journal of Hydrology (2019-Present)*
- *Journal of Hydrology X (Open Access; 2019-2024)*
- *Journal of Contaminant Hydrology (2015-Present)*

Scientific Journal Reviewer (Since 2013):

- *Chemosphere; Environmental Science & Technology; Groundwater; Groundwater Monitoring & Remediation; Journal of Contaminant Hydrology; Journal of Environmental Quality; Journal of Hazardous Materials; Journal of Hydro-environment Research; Journal of Hydrology; Science of*

the Total Environment; Soil Science Society of America Journal; Vadose Zone Journal; Water; Water, Air, & Soil Pollution; Water Research; Water Resources Research

Scientific Research Grant Proposal Reviewer:

- *NSF Hydrology Program (2019; 2023)*
- *NSERC Discovery Grant, Canada (2017)*
- *NSF Hydrology CAREER Program (2016; 2022)*
- *NIWR-USGS National Competitive Grants Program (2016)*
- *NSF Environmental Engineering CAREER Program (2015)*
- *DOE User Facility EMSL Terrestrial & Subsurface Ecosystems (2015)*
- *The American Chemical Society Petroleum Research Fund (2015)*
- *The Research Partnership to Secure Energy for America, RPSEA (2014)*

Sigma Xi - The Scientific Research Society:

- NMSU Chapter Vice President (2023-Present)
- NMSU Chapter President (2021-2023)
- NMSU Chapter Secretary (2017-2021)

Soil Science Society of America:

- Convener Technical Symposium--CrossDiv-- Machine Learning for Soil & Water Mapping, Characterization, and Monitoring Across Scales (2025 Annual Meeting)
- SSSA S101 Nominations Committee Member (2025)
- Convener Technical Symposium--CrossDiv--Tribute to Dr. Rien Van Genuchten, Recipient of the 2023 Wolf Prize for Agriculture (2024 Annual Meeting)
- Convener Technical Symposium--CrossDiv--Opportunities and Potential Limitations of Applying Artificial Intelligence and Machine Learning to Soil Science (2024 Annual Meeting)
- Convener Technical Symposium--CrossDiv--Fine-Tuning Fertilizer – Approaches in Enhancing Fertilizer Performance (2024 Annual Meeting)
- Convener Technical Session - Biochar for Maximizing Soil Quality and Pollution Prevention (Oral & Poster) (2024 Annual Meeting)
- Convener Technical Session - Soil and Water Quality Impacted By Solute Transport and Remediation of Contaminants (Oral & Poster) (2024 Annual Meeting)
- Convener Technical Virtual Session--Soils and Environmental Quality Oral (2024 Annual Meeting)
- Convener Technical Virtual Session--Soils and Environmental Quality Poster (2024 Annual Meeting)
- Convener Technical Session - Soils and Environmental Quality (Oral & Poster) (includes student competition) (2024 Annual Meeting)
- Convener Technical Session - Poster and 5 Minute Rapid--Soils and Environmental Quality Oral (includes student competition) (2024 Annual Meeting)
- Convener Technical Session - Soil and Water Quality Impacted by Solute Transport and Remediation of Contaminants (2023 Annual Meeting)
- Convener Technical Session - Biochar For Maximizing Soil Quality and Pollution Prevention (2023 Annual Meeting)
- Convener Technical Session - Physical, Chemical, and Biological processes Controlling Solute Transport and Remediation of Contaminants in Soils (2021 Annual Meeting, Virtual)

- Convener Symposia for the SEQ Division - Physical, Chemical, and Biological processes Controlling Solute Transport and Remediation of Contaminants in Soils (2021 Annual Meeting, Virtual)
- Convener Technical Session - Physical, Chemical, and Biological Processes Controlling Transport and Remediation of Emerging Contaminants in Soils (2016 Annual ASA, CSSA, and SSSA Meeting, Phoenix, AZ, Nov. 6-9)

USA Multistate Research Projects Supporting NMSU Ag. Experiment Station:

- W3188/W4188 Multistate Research Project member "Soil, Water, and Environmental Physics across Scales."
- W4170 Multistate Research Project member "Beneficial Use of Residuals to Improve Soil Health and Protect Public, and Ecosystem Health."

SELECTED STUDENT AND RESEARCH SCIENTIST MENTORING AND ADVISING

Ph.D. Committee Chair:

2024–Present Pushpa Raj Dahal: Geophysical Monitoring of Perched Groundwater. Ph.D. Major Advisor in the WSM Program, NMSU

2021–2025 Ahsan Jamil: Machine Learning Characterization Methods for Mercury Transport and Surface Water-Hyporheic Zone Exchange. Ph.D. Major Advisor in the WSM Program, NMSU

2016–2021 Chia-Hsing (Peter) Tsai: Coupling Direct and Indirect Characterization Methods for Mercury Transport and Surface Water-Hyporheic Zone Exchange. Ph.D. Major Advisor in the WSM Program, NMSU

2015–2018 Naima Khan: 1,4-Dioxane In Situ Chemical Oxidation Using Strong Oxidants. Ph.D. Major Advisor in the WSM Program, NMSU

Ph.D. Committee Co-Chair:

2022– Present Darby Kellum: SWAT Modeling of Hydrologic and Nutrient Analysis for Irrigation and Municipal Use Along Lower Rio Grande, NM. Ph.D. Co-Advisor (with Dr. Shukla) in the WSM Program, NMSU

2013–2019 Erek Fuchs: Groundwater Investigation, Characterization, and Analysis for an Alternative Irrigation Source for the Middle Rio Grande Agricultural Area. Ph.D. Co-Advisor (with Dr. King) in the WSM Program, NMSU

MS Committee Chair:

2023–2025 Gladisol Smith Vega: Monitoring of Hydrologic Perturbation Impacts on Hyporheic Exchange. M.S. Major Advisor in the WSM Program, NMSU

2021– 2024 Rachael Apodaca: Multicomponent Sorption of PFAS Contaminants in Soils and Groundwater. M.S. Major Advisor in the WSM Program, NMSU

2021– 2023 Clark Safely: Snow and Groundwater PFAS Contamination Characterization in an Alpine Watershed in NM. M.S. Major Advisor in the WSM Program, NMSU

2020–2022 Cheyenne Stice: Comparison of numerical and analytical modeling methods for pneumatic subsurface characterization. M.S. Major Advisor in the WSM Program, NMSU

2019–2021 Autumn Pearson: Geophysical Characterization of River-Groundwater Connection and Disconnection. M.S. Major Advisor in the WSM Program, NMSU

2019–2021 Michael Hitzelberger: PFAS Contaminant Transport Soils and Site Characterization at a Dairy Site. M.S. Major Advisor in the WSM Program, NMSU

2018–2020 Tanzila Ahmed: Statistical Characterization of Streambed Sediment Hydraulic Properties. M.S. Major Advisor in the WSM Program, NMSU

2017–2019 Chris Kubicki: Groundwater Age Dating for Recharge and Sustainability Assessment. M.S. Major Advisor in the WSM Program, NMSU

2015–2017 Justin Milavec: Trichloroethene and 1,4-Dioxane Contamination Mixture Dissolution and Sorption. M.S. Major Advisor in the WSM Program, NMSU

2015–2017 Logan Bridges: Manganese Oxide Supported Oxidation of 1,4-Dioxane Contamination in Groundwater. M.S. Major Advisor in the WSM Program, NMSU

2014–2016 Steven Maestas: Characterization of the Nature and Extent of the Suspended Particulate Material and Turbidity in Groundwater at the NASA White Sands Test Facility. M.S. Major Advisor in the WSM Program, NMSU

2014–2015 Spencer Willman: Assessment of Spatiotemporal Groundwater Level Changes Throughout New Mexico. M.S. Major Advisor in the WSM Program, NMSU

2013–2015 Naima Khan: Beneficial Use Evaluation for Oil & Gas Produced Water. M.S. Major Advisor in the WSM Program, NMSU

2013–2015 Adam Dettmer: 1,4-Dioxane In Situ Chemical Oxidation and Facilitated Transport. M.S. Major Advisor in the WSM Program, NMSU

Research Staff and Postdoctoral Advisor:

2024–Present Huichao Yin - Postdoctoral Research Scientist: Machine Learning for Hydrology

2023–Present Yusen Yuan - Postdoctoral Research Scientist: Surface Water-Groundwater Connectivity

2017–2024 Ruba A. M. Mohamed - Postdoctoral Research Scientist: PFAS Transport Through Soils and Water/Wastewater Treatment

2021–2022 Chia-Hsing (Peter) Tsai – Postdoctoral Research Scientist: Coupling Direct and Indirect Characterization Methods for Mercury Transport and Surface Water-Hyporheic Zone Exchange

2018–2020 Naima A. Khan - Staff Research Scientist: Solute Transport and Advanced Oxidation of Contaminants in Groundwater

2016–2017 Binod Chaudhary – Postdoctoral Research Scientist: Produced Water Quality Spatial Variability

2015–2016 Hao Chen - Postdoctoral Research Scientist: Metal-Free Catalysis of Persulfate Activation and Organic-Pollutant Degradation by Nitrogen-Doped Graphene and Aminated Graphene.

2012–2013 Hun Bok Jung: Reservoir-Stimulation Optimization with Operational Monitoring for Creation of Enhanced Geothermal Systems. ½ FTE Post-Doctoral Advisor, PNNL.

Undergraduate Researcher Advisor:

2024–Present Ryan Phillips: Research Support of Hydrogeology Evaluation of NM Aquifers. Undergraduate Research Advisor, NMSU

Summer 2024 Justin Mirabal: Research Support of Electrical Resistivity Survey at the DOE's WIPP Site. Undergraduate Environmental Science Research Advisor, NMSU

2023–Present Makani Araujo: Research Support of Experiments including Contaminant Transport Through Soils. Undergraduate Environmental Science Research Advisor, NMSU

2022–2024 Sophia Fuentes: Research Support of Experiments including PFAS Transport Through Soils. Undergraduate Environmental Science Research Advisor, NMSU

2022–2023 Andrea Loya Lujan: Research Support of Experiments including PFAS Transport Through Soils. Undergraduate AMP Research Advisor, NMSU

Summer 2022 Anika Baloun: Measurement of Antibiotic Resistance Gene in Soils. Undergraduate NISE Intern Advisor at NMSU

2021–2021 Kaitlin Marry: Comparison of Multiple Adsorbant Materials for PFAS Water Contamination Treatment. MARC Program Undergraduate Research Advisor, NMSU

2020–2021 Maya Gabitzsch: Research Support of Experiments including PFAS Transport Through Soils. Undergraduate Environmental Science Research Advisor, NMSU

2020–2021 Adrianna Tafoya: Research Experience for Learning to Use Chemicals in the Lab. Undergraduate Environmental Science Research Advisor, NMSU

2019–2020 Cheyenne Stice: Research Support of Experiments including PFAS Transport Through Soils. Undergraduate Environmental Science Research Advisor, NMSU

2018–2019 Autumn Pearson: Research Support of Experiments including Transport Through Soils and Surface-Groundwater Exchange. Undergraduate Environmental Science Research Advisor, NMSU

Summer 2018 Amanda Laura: Measurement of Surface/Groundwater Exchange. Undergraduate Intern Advisor in the DOE-MSIPP at ORNL

2018–2019 Anthony Cornwell: Algal Bioremediation of Emerging Contaminants. Undergraduate Research Advisor with Dr. F. Omar Holguin in the MARC Program, NMSU

2016–2017 Kaitlin Cordova: Database Spatial Evaluation of Groundwater Contamination Sites Throughout USA. Undergraduate Environmental Science Research Advisor, NMSU

2014–2016 Sativa Cruz: In Situ Complexation and Facilitated Transport of Oxidants. Undergraduate Env. Science Research Advisor in the MARC Program, NMSU

Ph.D. Committee Member:

2025–Present Alyssa Mineau: Governing Complex Landscapes: Collaborative Forest Management and Watershed Resilience in the Southwest. Ph.D. Thesis Committee (Major Advisor Dr. Kelly Jones) in Fish, Wildlife, and Conservation Ecology, NMSU

2024–Present Md Masudur Rahman: New Mexico Water Security Mapping and Modeling. Ph.D. Thesis Committee (Major Advisor Dr. Michaela Buenemann) in the WSM Program, NMSU

2020–Present Anthony Cornwell: Algal biochemistry (Major Advisor Dr. Holguin) in the Plant & Environmental Science Graduate Program, NMSU

2018–Present Victoria Blumenberg: Water availability and sustainability in northeast New Mexico, specifically examining agroecosystem resilience in times of drought. Ph.D. Thesis Committee (Major Advisor Dr. Michaela Buenemann) in the WSM Program, NMSU

2020–2023 Sarah Cerra: Long term effect of using RO concentrate in drip irrigation on chemical soil properties, soil-microbial habitat changes, and impact to Atriplex canescens and A. lentiformis. Ph.D. Thesis Committee (Major Advisor Dr. Manoj Shukla) in the WSM Program, NMSU

2017–2021 Kaavya Polisetti: Algal Bioremediation of Emerging Contaminants. Ph.D. Co-Advisor (Major Advisor Dr. Holguin) in the PES Program, NMSU

2017–2021 Khandaker Iftekharul Islam: Evaluation of Multiple Geostatistical Methods for Interpolation of Multiple Data Types. Ph.D. Thesis Committee (Major Advisor Dr. Brown) in the WSM Program, NMSU

2016–2019 Sarah Sayles: Evaluation of Groundwater Use for Pecan Irrigation Systems in Southern New Mexico. Ph.D. Thesis Committee (Major Advisor Dr. Ward) in the WSM Program, NMSU

2015–2017 Jose Juan Cruz Chairez: Water Balance and Quantification of Groundwater Recharge with Acequia Irrigation Systems in Northern New Mexico. Ph.D. Thesis Committee (Major Advisor Dr. Fernald) in the WSM Program, NMSU

2016–2017 Lu Lin: Photocatalysis of Contaminants of Emerging Concern. Ph.D. Thesis Committee (Major Advisor Dr. Pei Xu) in Civil Engineering, NMSU

MS Committee Member:

2023– Present Will Bass: Population Dynamics and Species Interactions of Hybrid Striped Bass in Caballo Reservoir, New Mexico. M.S. Thesis Committee (Major Advisor Dr. Zachary Klein) in Fish, Wildlife, and Conservation Ecology, NMSU

2023–2025 Kevin Pérez: climate change scenarios in the water balance in the Mesilla aquifer using the RGTIHM (Rio Grande Transboundary Integrated Hydrologic Model). M.S. Thesis Committee (Major Advisor Dr. Alexander Fernald) in WSM, NMSU

2023–2023 Marco Cortez: Non-thesis Project on PFAS and Produced Water. M.S. Non-Thesis Committee (Major Advisor Dr. Pei Xu) in Civil Engineering, NMSU

2020–2022 Subanky Suvendran: Reducing the impact of soil salinity on crop yield and improving irrigation efficiency using desalination and non-chemical treatment. M.S. Thesis Committee (Major Advisor Dr. Pei Xu) in Civil Engineering, NMSU

2020–2022 Jenelle Hansen: Ra-Th Dating of Single Feldspar Crystals from Young Lavas, Mt. Erebus, Antarctica. M.S. Thesis Committee (Major Advisor Dr. Nancy McMillan) in Geology, NMSU

2020–2022 Reid Riley: Estimating Sediment Loading into the Lower Rio Grande Using the Modified Universal Soil Loss Equation (MUSLE). M.S. Thesis Committee (Major Advisor Dr. Alexander Fernald) in WSM, NMSU

2019–2020 Kailey Garland: Adsorption of N-Nitrosodimethylamine (NDMA) onto Activated Carbons in a Lab-Scale Column. M.S. Thesis Committee (Major Advisor Dr. Catherine Brewer) in Chemical Engineering, NMSU

2019–2019 CJ Bianconi: The Adsorption of N-nitrosodimethylamine onto Wood-Based Biochar. M.S. Thesis Committee (Major Advisor Dr. Catie Brewer) in the Chemical and Materials Engineering Department, NMSU

2017–2018 Jonathan Ingram: Constraining the sediment provenance, Quaternary uplift, and slip history of the Santa Susana Mountains and fault, western Transverse Ranges, southern California through U-Pb detrital zircon geochronology of Cenozoic sediments. M.S. Thesis Committee (Major Advisor Dr. Reed Burgette) in Geology, NMSU

2017–2018 Ashley Page: Assessment of feasibility for a desalination plant in Santa Teresa, NM. M.S. Thesis Committee (Major Advisor Dr. Fernald) in the WSM Program, NMSU

2018–2018 Austin Hanson: Late Quaternary slip rates from offset alluvial fan surfaces along the Central Sierra Madre fault, southern California. M.S. Thesis Committee (Major Advisor Dr. Reed Burgette) in Geology, NMSU

2014–2015 Guanyu Ma: Assessment of shale gas produced water treatment, beneficial use and management. M.S. Thesis Committee (Major Advisor Dr. Xu) in the Environmental Engineering Program, NMSU

2014–2015 Celeste Lewis: NDMA Contaminant Treatment System Development and Evaluation. M.S. Thesis Committee (Major Advisor Dr. Papelis) in the Environmental Engineering Program, NMSU

2013–2015 Benjamin Nana O Kuffour: Assessment of water table and water quality variations with respect to river flow along Rio Grande River between Garfield NM and Fabens TX. M.S. Thesis Committee (Major Advisor Dr. Stringam) in the WSM Program, NMSU

2013–2014 Rachael Jones: Estimating the Volume of the Southern Mesilla Basin Aquifer with GIS. M.S. Thesis Committee (Major Advisor Dr. Fernald) in the WSM Program, NMSU

External Graduate Student Committee Member:

2023– Present Farzad Moeini: Heterogeneous Subsurface Multiphase Flow Numerical and Machine Learning Modeling. Ph.D. Dissertation Committee (Major Advisor Dr. Reza Soltanian) in Geological Sciences at University of Cincinnati

2019–2020 Ahmet Emin: Multicomponent Transport Modeling of Uranium Biosequestration. M.S. Thesis Committee (Major Advisor Dr. Brusseau) in Environmental Science at University of Arizona

2016–2020 Rebecca R. Greenberg: Remediation of polyfluorinated compound contaminant mixtures in groundwater. Ph.D. Dissertation Committee (Major Advisor Dr. Tick) in Geology at University of Alabama

2016–2018 Joe (Boone) Abbott: Nonideal Dissolution of Multicomponent Nonaqueous Phase Liquids (NAPLs) in Contaminated Groundwater. M.S. Thesis Committee (Major Advisor Dr. Tick) in Geology at University of Alabama

2013–2015 Mark Padgett: Rate-Limited Diffusion and Dissolution of Multicomponent Nonaqueous Phase Liquids (NAPLs) and Effects on Mass Discharge in Groundwater. M.S. Thesis Committee (Major Advisor Dr. Tick) in Geology at University of Alabama

2013–2015 Doug Mateas: Creating NAPL-Mixtures for Solubility and Mass-Flux Reduction: A Novel In-Situ Source-Remediation Method. M.S. Thesis Committee (Major Advisor Dr. Tick) in Geology at University of Alabama

2011–2012 Kieran McDonald: X-Ray Microtomography Evaluation or Two and Three Phase Fluids in Porous Media. M.S. Thesis Committee in the SWES Department, UA

2011–2012 Andrew McMillan: Effects of Ethanol Addition on Denitrification Through a Natural-Gradient Test at the Uranium Mill Tailing Site in Monument Valley, Arizona. M.S. Thesis Committee in the SWES Department, UA

2009–2010 Andrew Borden: Pilot Test of Enhanced Nitrate Attenuation at the Uranium Mill Tailing Site in Monument Valley, Arizona. M.S. Thesis Committee in the SWES Department, UA