Julie A. Korak, Ph.D., P.E.

Current Position

Assistant Professor, *Department of Civil, Environmental and Architectural Engineering, University of Colorado Boulder,* 2018-present

Education

University of Colorado Boulder	Civil Engineering	Ph.D.	2014
Advisor: Fernando Rosario-Ortiz			
University of Colorado Boulder	Civil Engineering	M.S.	2013
University of Colorado Boulder	Environmental Engineering	B.S.	2009
University of Colorado Boulder	Chemical Engineering	B.S.	2009
Norwegian University of Science and Technology		N/A	2006-2007

Professional Licensure

Professional Engineer (P.E.), State of Colorado (PE.0052389), June 2017 –present

Professional Experience

Assistant Professor, *University of Colorado Boulder*, Boulder, CO	2018-present
Environmental Engineer, *Bureau of Reclamation, U.S. Department of the Interior*	2015 –2018
Postdoctoral Research Associate, *University of Colorado Boulder,*	2014-2015
Lecturer, *University of Colorado Boulder*	Spring 2015
Graduate Research Assistant, *University of Colorado Boulder*	*2010-2014*

Publications (Google Scholar h-index = 12 as of 1/23/2020)

Key: *corresponding author, ^graduate student mentored, +undergraduate student mentored, †equal contribution

Peer-Reviewed Journal Publications and Book Chapters

1. Arias-Paic, M.S.*; and **Korak, J.A.**; Forward osmosis for ion exchange waste brine management. Environmental Science and Technology Letters, **2020**. https://doi.org/10.1021/acs.estlett.9b00733

2. Ulliman, S.L.^; **Korak, J.A.***; Linden, K.G.; Rosario-Ortiz, F.L.* Methodology for Selection of Optical Parameters as Wastewater Effluent Organic Matter Surrogates. Water Research, **2020**, 170, 115321. https://doi.org/10.1016/j.watres.2019.115321

3. McKay, G.; **Korak, J. A.**; Rosario-Ortiz, F. L.* Temperature dependence of the fluorescence of dissolved organic matter: Implications for DOM photophysics. Environmental Science and Technology, **2018**, 52, 9022-9032. https://doi.org/10.1021/acs.est.8b00643

4. **Korak, J.A.***; Huggins, R.; Arias-Paic, M.; Nanofiltration to improve process efficiency of hexavalent chromium treatment using ion exchange. Journal-American Water Works Association, **2018**, 110 (6), E13-E26. https://doi.org/10.1002/awwa.1051 ***Awarded 2018 Best membrane paper in Journal-AWWA***

5. Kennedy, A.M.*; **Korak, J.A.**; Flint, L.; Hoffman, C.; Arias-Paic, M. Pilot-scale studies of chromium removal using stannous chloride. Journal-American Water Works Association, **2018**,110 (4), E29-E42. https://doi.org/10.1002/awwa.1048

6. McKay, G.M.†; **Korak, J.A.†**; Erickson, P.R.; Latch, D.E.; McNeill, K.*; Rosario-Ortiz, F.L.* The case against charge transfer interactions in dissolved organic matter photophysics. Environmental Science and Technology, **2018**, 52, 406-414. https://doi.org/10.1021/acs.est.7b03589

7. **Korak, J.A.***; Huggins, R; Arias-Paic, M. Regeneration of pilot-scale ion exchange columns for hexavalent chromium removal. Water Research, **2017**, 118, 141-151. https://doi.org/10.1016/j.watres.2017.03.018

8. Cawley, K.*; Hohner, A.; Podgorski, D.; Cooper, W.; **Korak, J.A.**; Rosario-Ortiz, F.* Molecular and spectroscopic characterization of water extractable organic matter from thermally altered soils reveal insight into disinfection byproduct precursors. Environmental Science and Technology, **2017**, 51 (2), 771-779. https://doi.org/10.1021/acs.est.6b05126

9. **Korak, J.A.***; Rosario-Ortiz, F.L.; Summers, R.S. Evaluation of optical surrogates for the characterization of DOM removal by coagulation. Environmental Science: Water Research & Technology, **2015**, 1 493-506. https://doi.org/10.1039/C5EW00024F

10. **Korak, J. A.**; Wert, E. C.; Rosario-Ortiz, F. L.* Fluorescence spectroscopy as a surrogate for the release of intracellular organic matter upon oxidation of cyanobacteria cells. Journal-American Water Works Association, **2015**, 107 (1), E523-E542. https://doi.org/10.5942/jawwa.2015.107.0142

11. **Korak, J.A.**; Wert, E.C.; Rosario-Ortiz, F.L.* Evaluating fluorescence spectroscopy as a tool to characterize cyanobacteria intracellular organic matter upon simulated release and oxidation in natural water. Water Research, **2015**, 68 432-443. https://doi.org/10.5942/jawwa.2015.107.0142

12. Cawley, K.M.; **Korak, J.A.**; Rosario-Ortiz, F.L.* Quantum yields for the formation of reactive intermediates from dissolved organic matter samples from the Suwannee River.

Environmental Engineering Science, **2015**. 32 31-37. https://doi.org/10.1089/ees.2014.0280

13. Lester, Y.; Thurman, E.M.; Ferrer, I.; Sitterley, K.; **Korak, J.A.**; Aiken, G.; Linden, K.*; Characterization of fracturing flowback water in Colorado: Implications for water treatment. Science of the Total Environment, 512-513, **2015**, 637-644. https://doi.org/10.1016/j.scitotenv.2015.01.043

14. Wert, E.C.*, **Korak, J.A.**, Trenholm, R.A., Rosario-Ortiz, F.L. Effect of oxidant exposure on the release of intracellular microcystin, MIB, geosmin from three cyanobacteria. Water Research, **2014**, 52, 251-259. https://doi.org/10.1016/j.watres.2013.11.001

15. **Korak, J.A.**; Dotson, A.D.; Summers, R.S.; Rosario-Ortiz, F.L.* Critical analysis of commonly used fluorescence metrics to characterize dissolved organic matter. Water Research, **2014**, 49, 327–338. https://doi.org/10.1016/j.watres.2013.11.025

16. **Korak, J.A.***; Rosario-Ortiz, F.L.; Summers, R.S. Fluorescence characterization of humic substance coagulation: Application of new tools to an old process. In Advances in the Physicochemical Characterization of Organic Matter; Rosario-Ortiz, F.L., Ed; ACS Symposium Series 1160; American Chemical Society: Washington DC, **2014**; pp 281-300. https://doi.org/10.1021/bk-2014-1160.ch014

17. Mostafa, S.*; **Korak, J.A.**; Shimabuku, K; Glover, C.M.; Rosario-Ortiz, F.L. Relation between optical properties and formation of reactive intermediates from different size fractions of organic matter. In Advances in the Physicochemical Characterization of Organic Matter; Rosario-Ortiz, F.L., Ed; ACS Symposium Series 1160; American Chemical Society: Washington DC, **2014**; pp 159-179. https://doi.org/10.1021/bk-2014-1160.ch008

18. Beggs, K. M. H.; Bilica, J. A.; **Korak, J.A.**; Rosario-Ortiz, F. L.; McKnight, D. M.; Summers, R. S.* Spectral evaluation of watershed dissolved organic matter and DBP precursors. Journal-American Water Works Association, **2013**, 105 (4) E173-188. https://doi.org/10.5942/jawwa.2013.105.0063

Publications in Preparation

1. Warren, M.; Crespo-Medina, M.; Ramirez-Toro, Rodriguez, R.; Hernandez, M.; Rosario-Ortiz, F.L,; **Korak, J.A.** Sampling challenges in potable water systems: Case study in Puerto Rico after Hurricane Maria. Planned submission Spring 2020.

2. **Korak, J.A.**; Flint, L.; Arias-Paic, M. Waste Minimization for hexavalent chromium strong base anion exchange: a process modeling approach. Planned submission Spring 2020.

Patents

1. Arias-Paic, M.; **Korak, J.A.;** Method for purifying and recovering solvent from ion exchange processes. Provisional patent application submitted to U.S. Patent and Trademark Office, **2019**.

Articles (not peer-reviewed)

1. Ling, A.; **Korak, J.A.;** Schliep, A. Lead and Copper Corrosion in Distribution Systems: Current Understanding and Outlook. Breeze Minnesota Section of the AWWA, Summer **2018**, 22–24. Article link.

2. McKay, G.M.; **Korak, J.A.**; Erickson, P.R.; Latch, D.E.; McNeill, K.*; Rosario-Ortiz, F.L.* Response to comment on the case against charge transfer interactions in dissolved organic matter photophysics. Environmental Science and Technology, **2018**, 52 (9) 5514-5516. https://doi.org/10.1021/acs.est.8b01807

3. Rosario-Ortiz, F.L.*; **Korak, J.A.**; Oversimplification of Dissolved Organic Matter Fluorescence Analysis: Potential Pitfalls of Current Methods. Environmental Science and Technology, **2017**, 51 (2), 759-761. https://doi.org/10.1021/acs.est.6b06133

Research Reports (peer-reviewed)

1. Korak, J.A.; Kennedy, A.; Arias-Paic, M.S.; Hexavalent Chromium Treatment Technologies. Report to Bureau of Reclamation Science and Technology Program. Project #9085. 105 pages. **2018**. Report link.

2. **Korak, J.A.;** Monitoring strategies for direct use of reclaimed water. Report to Bureau of Reclamation Science and Technology Program. Project #365. **2016.** 47 pages. Report Link

3. **Korak, J.A.;** Literature review and sampling plan for the San Juan River. Report to the Bureau of Reclamation Office of Research and Development. **2016**. 85 pages. Report link

4. **Korak, J.A.;** Leitz, F.; Hirschbeck, M. San Juan River quality before and after the Gold King Mine spill. Report to Bureau of Reclamation Four Corners Construction Office. **2016.** 76 pages. Report link.

5. **Korak, J.A.;** Arias-Paic, M.; Forward osmosis evaluation and applications for Reclamation. Report to Bureau of Reclamation Science and Technology Program. Project #7911. **2015.** 49 pages. Report link.

6. Guerra, K.L; **Korak, J.A**.; Development and evaluation of a hybrid photovoltaic reverse osmosis system for treating brackish groundwater. Report to Bureau of Reclamation Science and Technology Program. Project #1340. **2015**. 77 pages. Report link.

7. Wert, E.C.; Dong, M.M.; **Korak, J.A.;** Rosario-Ortiz, F.L. Release of intracellular metabolites from cyanobacteria during oxidation processes. Report to Water Research Foundation. Project #4406. **2014.** Project link

Research Funding

1. **Agency:** CDM Smith **Title:** Water treatment testing for City of Westminster **PI:** Julie Korak **Funds Requested:** $107,000 **Duration:** 4/1/2019-8/30/2020 **Status:** Funded

2. **Agency:** Water Energy Nexus Interdisciplinary Research Theme at University of Colorado **Title:** Photocatalytic Reduction of nitrate for local treatment and reuse of ion exchange brine **PI:** Julie Korak **Funds Requested:** $48,196 **Duration:** 6/1/2019-5/30/2020 **Status:** Funded

3. **Agency:** Bureau of Reclamation Office of Native American Affairs **Title:** Modeling and laboratory studies of distribution system blending and its effects on corrosion for Cutter Lateral **PI:** Julie Korak **Funds Requested:** $115,000 **Duration:** 11/1/2016-9/30/2018 **Status:** Funded

4. **Agency:** Bureau of Reclamation Office of Native American Affairs **Title:** Modeling and laboratory studies of distribution system blending and its effects on corrosion **PI:** Julie Korak **Funds Requested:** $138,892 **Duration:** 10/1/2016-9/30/2018 **Status:** Funded

5. **Agency:** Bureau of Reclamation Science and Technology Program **Title:** Water quality impacts in the Animas and San Juan River basins: Literature search, sampling plan and program **PI:** Julie Korak **Funds Requested:** $300,000 **Duration:** 10/1/2016-9/30/2019 **Status:** Funded

6. **Agency**: Bureau of Reclamation Science and Technology Program **Title:** San Juan River water quality literature review and sampling plan **PI:** Julie Korak **Funds Requested:** $25,000 **Duration:** 5/1/2016-9/30/2016 **Status:** Complete

7. **Agency:** Bureau of Reclamation Science and Technology Program **Title:** Monitoring strategies for direct reuse of reclaimed water **PI:** Julie Korak **Funds Requested:** $15,000 **Duration:** 10/1/2015-9/30/2016 **Status:** Complete

8. **Agency:** National Science Foundation **Title:** Characterizing pyrogenic soil organic matter as a source of nitrogenous disinfection byproducts **PI:** Fernando Rosario-Ortiz **Co-PI:** Julie Korak (primary author) **Funds Requested:** $247,708 **Duration:** 7/1/2015-6/30/2018 **Status:** Funded

9. **Agency:** National Science Foundation **Title:** Workshop: Natural organic matter and its impact on drinking water. **PI:** Michael Gonsior. **Role:** Collaborator **Funds Requested:** $48,060. **Duration:** 2/15/15-03/31/2016. **Status:** Funded

10. **Program:** National Science Foundation Graduate Research Fellowship Program. **PI:** Julie Korak. **Total Funds (including awarded supplements):** $125,500. **Award number:** DGE 1144083. **Duration:** 9/1/2011 through 8/31/2014. **Status:** Funded

Presentations

Key: Presenting author underlined, * poster presentation, ^graduate student mentored, +undergraduate student mentored

Invited Presentations

1. Korak, J.A. Proactive Planning at the core of asset management: Lessons learned from the water treatment industry. Asset Management Ecosystem Conference. Denver, CO. April 30, 2019.

2. Korak, J.A. Post-Hurricane Potable Water Quality Assessment in Puerto Rico. 13th Biennial Conference on Potable Water Issues in Puerto Rico. San Juan, Puerto Rico. February 14, 2019.

3. Korak, J.A. Post-Hurricane Potable Water Quality Assessment in Puerto Rico. Colorado School of Mines Environmental Engineering Seminar. Golden, CO. February 9, 2019.

4. Korak, J.A. From Student to Engineer. Colorado School of Mines, Engineering Technology Management Program Executive in Residence Seminar Series. Golden, Colorado, March 13, 2018.

5. Korak, J.A. Limitations of fluorescence spectroscopy to characterize organic matter in engineered systems. American Geophysical Union Fall Meeting. New Orleans, Louisiana, December 11-15, 2017.

6. Korak, J.A. Regeneration and waste minimization of hexavalent chromium ion exchange processes. Environmental Engineering Program Seminar Series, University of Colorado Boulder, December 9, 2016.

7. Korak, J.A. Photovoltaic-powered reverse osmosis desalination. Public webinar for Bureau of Reclamation Office of Research and Development. March 2, 2016.

8. Korak, J.A.; Photovoltaic-powered reverse osmosis desalination. Webinar for the National Science Foundation's Re-Inventing the Nation's Urban Water Infrastructure (ReNUWIt) Program. Presented at New Mexico State University; Broadcasted to Colorado School of Mines, University of California Berkeley and Stanford University. December 2, 2015.

9. Korak, J.A.; Removal of DBP precursors using coagulation. AWWA ACE, Denver, CO, June 9-13, 2013

Presentations

1. Warren, M.R.^; Rosario-Ortiz, F.L Korak. J.A. Challenges with lead and copper sampling: Case study in Puerto Rico. American Water Works Association Annual Conference and Exposition. Denver, CO. June 9-12, 2019.

2. Flint, L^; Korak, J.A.; Croft, R.; Arias-Paic, M. Next Generation Ion Exchange Resins and Brine Minimization Strategies for Hexavalent Chromium Removal. American Water Works Association Annual Conference and Exposition. Denver, CO. June 9-12, 2019.

3. Warren, M.R.^; Rosario-Ortiz, F.L Korak. J.A. Challenges with lead and copper sampling: Case study in Puerto Rico. The 16th Annual Rocky Mountain Section American Water Works Association (RMSAWWA) and Rocky Mountain Water Environment Association (RMWEA) Joint Student Conference. Boulder, CO. May 13, 2019.

4. Flint, L^; Croft, R.; Arias-Paic, M.; Korak, J.A. Comparison of next generation ion exchange resins for hexavalent chromium removal. The 16th Annual Rocky Mountain Section American Water Works Association (RMSAWWA) and Rocky Mountain Water Environment Association (RMWEA) Joint Student Conference. Boulder, CO. May 13, 2019.

5. Warren, M.R.^; Rosario-Ortiz, F.L.; Korak, J.A. Challenges with lead and copper sampling: Case study in Puerto Rico. American Chemical Society National Meeting, Orlando, FL. March 31-April 4, 2019.

6. Kennedy, A; Croft, R.; Flint, L.; Korak, J.A.; Arias-Paic, M. Long-Term Filtration Pilot Study for the Removal of Total and Hexavalent Chromium from Drinking Water Using Stannous Chloride. American Water Works Association - Water Quality and Technology Conference. Toronto, Ontario, Canada, November, 11-15, 2018.

7. Tsuchihashi, R.; Hoffman, C.; Korak, J.; Arias-Paic, M.. Selection and Optimization of External Carbon Addition for Biological Selenium Removal: Addressing Influent/Seasonal Variations. American Water Works Association - Water Quality and Technology Conference. Toronto, Ontario, Canada, November, 11-15, 2018.

8. McKay, G.; Korak, J.A.; Rosario-Ortiz, F. Temperature dependence of dissolved organic matter fluorescence: Implications for DOM photophysics. 255th American Chemical Society National Meeting. New Orleans, Louisiana, March 18-22, 2018.

9. McKay, G.; Korak, J.A.; Erickson, P.; Latch, D.; McNeill, K.; Rosario-Ortiz, F. Critical evaluation of models for CDOM optical properties and photochemistry. 255th American Chemical Society National Meeting. New Orleans, Louisiana, March 18-22, 2018.

10. Arias-Paic, M; Gress, A; Korak, J.A.; Chang, Y. Attempting zero liquid discharge from a challenging water source using membrane-based processes. Membrane Technology Conference. West Palm Beach, Florida. March 12-16, 2018.

11. McKay, G.; Korak, J.A.; Erickson, P.; Latch, D.; McNeill, K.; Rosario-Ortiz, F. The case against charge transfer interactions in dissolved organic matter optical properties. American Geophysical Union Fall Meeting. New Orleans, Louisiana, December 11-15, 2017.*

12. Korak, J.A.; Huggins, R.; Arias-Paic, M.; Beneficial reuse of hexavalent chromium ion exchange brines: Alternative configurations, next-generation resins and nanofiltration. American Water Works Association - Water Quality and Technology Conference. Portland, Oregon, November 12-16, 2017.

13. Korak, J.A.; Arias-Paic, M.; Ion exchange for chromium removal: The unintended consequences of uranium and vanadium during resin regeneration. American Water

Works Association - Water Quality and Technology Conference. Portland, Oregon, November 12-16, 2017. *

14. Kennedy, A.; Korak, J.A.; Flint, L.; Hoffman, C.; Arias-Paic, M.; Stannous chloride for the reduction and subsequent filtration of hexavalent chromium from groundwater. American Water Works Association - Water Quality and Technology Conference. Portland, Oregon, November 12-16, 2017.*

15. Arias-Paic, M; Hoffman, C.; Kennedy, A.; Korak, J.A.; Gress, C.A.; Irvine, S.; Tsuchihashi, R.; Optimization of bioreactor processes for selenium removal in a challenging source water. American Water Works Association - Water Quality and Technology Conference. Portland, Oregon, November 12-16, 2017.

16. Korak, J.A.; Arias-Paic, M. Regeneration of strong base ion exchange resin for hexavalent chromium removal. 253rd American Chemical Society National Meeting. San Francisco, California, April 2-6, 2017.

17. Korak, J.A.; McKay, G.; Erickson, P.; Latch, D.; McNeill, K.; Rosario-Ortiz, F. Investigation of the effect of solvent polarity and temperature on the optical properties of dissolved organic matter. 253rd American Chemical Society National Meeting. San Francisco, California, April 2-6, 2017.

18. Korak, J.A.; Huggins, R.; Hirschbeck, M.; Seidel, C.; Arias-Paic, M. Membrane fractionation, waste minimization and beneficial reuse of hexavalent chromium ion exchange brine. AWWA Annual Conference and Exposition. Chicago, Illinois, June 20-22, 2016.

19. Huggins, R; Korak, J.A.; Hirschbeck, M; Arias-Paic, M; Beneficial reuse of waste minimization of hexavalent chrome ion exchange brine. AWWA American Membrane Technology Association. San Antonio, Texas, February 1-5, 2016.

20. Korak, J.A.; Rosario-Ortiz, F.L.; Summers, R.S.; Fluorescence monitoring for DOM removal by coagulation: the relative (un)importance of wavelength selection. IWA Specialist Conference on Natural Organic Matter in Water., Malmo, Sweden, September 7-10, 2015.

21. Wert, E.C.; Dong, M.M.; Korak, J.A.; Rosario-Ortiz, F.L. Release of cyanobacterial metabolites due to preoxidation processes. AWWA Water Quality and Technology Conference, New Orleans, LA, November 16-20, 2014.

22. Korak, J.A.; Wert, E.C.; Rosario-Ortiz, F.L. Characterization of cyanobacteria-derived intracellular organic matter and its release during cell oxidation. 17th International Humic Substance Society Conference, Ioannina, Greece, September 1-5, 2014 (Poster and Oral).

23. Korak, J.A.; Wert, E.C.; Rosario-Ortiz, F.L. Fluorescence spectroscopy as an indicator for cyanobacteria organic matter release by oxidation processes. 248th American Chemical Society National Meeting and Exposition, San Francisco, CA, August 10-14, 2014.

24. Korak, J.A.; Wert, E.C.; Rosario-Ortiz, F.L. Fluorescence spectroscopy as an indicator for cyanobacteria organic matter release by oxidation processes. Hydrological Sciences Student Research Symposium. Boulder, CO. April 3-4, 2014.

25. Korak, J.A.; Dotson, A.D.; Summers, R.S.; Rosario-Ortiz, F.L. Critical analysis of commonly used fluorescence metrics. AWWA Water Quality and Technology Conference, Long Beach, CA, November 3-6, 2013.

26. Korak, J.A.; Wert, E.C.; Dong, M.M.; Rosario-Ortiz, F.L. Characterizing algal organic matter and its transformations during oxidation using fluorescence spectroscopy. AWWA Water Quality and Technology Conference, Long Beach, CA, November 3-6, 2013.

27. Wert, E.C.; Dong, M.M.; Korak, J.A.; Trenholm, R.; Rosario-Ortiz, F.L. Release of cyanobacterial metabolites due to preoxidation processes. AWWA Water Quality and Technology Conference, Long Beach, CA, November 3-6, 2013. *

28. Wert, E.C.; Dong, M.M.; Korak, J.A.; Rosario-Ortiz, F.L. Release of intracellular metabolites and disinfection byproduct precursors after oxidation of cyanobacteria. International Ozone Association 2013 World Congress, Las Vegas, NV, September 22-26, 2013.

29. Korak, J.A.; Dotson, A.D.; Summers, R.S.; Rosario-Ortiz, F.L. Critical analysis of commonly used fluorescence metrics. Association of Environmental Engineering & Science Professors 50th Anniversary Conference, Golden, CO, July 14-16, 2013.*

30. Korak, J.A.; Wert, E.C.; Dong, M.M.; Rosario-Ortiz, F.L. Characterizing algal organic matter and its transformations during oxidation using fluorescence spectroscopy. AWWA ACE Conference, Denver, CO, June 9-13, 2013.

31. Wert, E.C.; Dong, M.M.; Korak, J.A.; Rosario-Ortiz, F.L. Release of cyanobacteria metabolites due to preoxidation processes. AWWA ACE Conference, Denver, CO, June 9-13, 2013.

32. Korak, J.A.; Rosario-Ortiz, F.L.; Summers, R.S. Evaluating DOM removal during coagulation using fluorescence spectroscopy. RMSAWWA/RMWEA Joint Annual Conference. Keystone, CO, September 8-11, 2013.

33. Korak, J.A.; Wert, E.C.; Dong, M.M.; Rosario-Ortiz, F.L. Characterizing algal organic matter and its transformations during oxidation using fluorescence spectroscopy. RMSAWWA/RMWEA Student Conference. May 14, 2013.

34. Korak, J.A.; Rosario-Ortiz, F.L.; Summers, R.S.; Framework for using fluorescence spectroscopy to evaluate changes in organic matter. 245th ACS National Meeting. New Orleans, LA, April 7-11, 2013.

35. Korak, J.A.; Wert, E.C.; Dong, M.M.; Rosario-Ortiz, F.L. Characterizing algal organic matter and its transformations during oxidation using fluorescence spectroscopy. 245th ACS National Meeting. New Orleans, LA, April 7-11, 2013.*

36. Wert, E.C.; Dong, M.M.; Korak, J.A.; Rosario-Ortiz, F.L. Effect of ozone oxidation on algal cells. International Ozone Association Pan American Group, Milwaukee, WI, September 23-26, 2012.

37. Moutinho, J.; Korak, J.A.; Rosario-Ortiz, F.L.; Characterization of natural organic matter removal during coagulation using fluorescence spectroscopy. SACNAS National Conference. San Jose, CA, October 27-30, 2011.*

38. Korak, J.A.; Moutinho, J.; Rosario-Ortiz, F.L.; Summers, R.S.. Characterization of natural organic matter removal during coagulation using fluorescence spectroscopy. Fourth IWA Specialty Conference on Natural Organic Matter. Costa Mesa, CA, July 27-29, 2011.*

Student Mentoring

A) PhD Students

1) Ayush Raj Shahi (EVEN), Advisor	2019-present
2) Landon Watts (EVEN), Advisor	2020-present

B) Masters Thesis Students

1) Melanie Warren (EVEN), Advisor	2018-2019
2) Leah Flint (EVEN), Advisor	2018-present
3) Juliette Kaplan (EVEN), Advisor	2019-present

C) Undergraduate Students

1) Jennifer Moutinho, Research Experience for Undergraduates (REU)	Summer 2011
2) Marta Viscut (EVEN), Discover Learning Apprenticeship Program	2014-2015
3) Yiqun Yao (EVEN), Undergraduate research assistant	2018-2019
4) Nadia Jorgenson (CHEN), CU SPUR research program	Summer 2019
5) Peter Heller (EVEN), Undergraduate research assistant	2019-present

Teaching Experience

Professor: Analytical Methods, Experimental Design and Applied Data Analysis, Graduate Elective, 12-20 students, University of Colorado, Spring 2019, Spring 2020

Professor: Environmental Engineering Processes, Undergraduate Required, 40-45 students, University of Colorado, Fall 2018, Fall 2019

Lecturer: Intro to Engineering Computing, Undergraduate required, 145 students, University of Colorado, Spring 2015

Lecturer: Analytical Methods for Environmental Engineering, Graduate elective, 12 students University of Colorado, Spring 2015

Grader: Hazardous and Industrial Waste Management, Undergraduate and Graduate, University of Colorado Boulder, online course, Summer 2013

Assistant Lecturer: Analytical Methods for Environmental Engineering, Graduate, University of Colorado, Spring 2013, Developed 4 lectures and 2 lab sessions

Teaching Assistant: Fundamentals of Environmental Engineering, Undergraduate, University of Colorado, Fall 2010

Teaching Assistant: Introduction to Engineering Computing, Undergraduate, University of Colorado, Fall 2008, Spring 2009. Awarded Outstanding Undergraduate TA from Chemical Engineering Department.
Tutor: Herbst Academic Center for Student Athletes (2005-2006)

Graduate Committees

A) PhD Committees
1) Sydney Ulliman, EVEN, Primary advisor K. Linden 2017-2019

B) PhD Preliminary Exams
1) Nicollette Laroco, EVEN, Primary advisor M. Hernandez 2019
2) Lauren Magliozzi, EVEN, Primary advisor J. Ryan 2019

Service Activities

Professional and Academic Organizations
- American Water Works Association
  - Symposium on Inorganic Contaminants 2020 organizing committee
  - Inorganic Contaminant Research Committee (2019-present)
- American Chemical Society
  - Symposium Organizer for Spring 2015 meeting in Denver
  - Symposium Organizer for Summer 2016 meeting in Philadelphia
- American Geophysical Union
- International Humic Substances Society
- Tau Beta Pi (Engineering Honor Society)
- Omega Xi Epsilon (Chemical Engineering Honor Society)

Department Service
- Environmental Engineering Curriculum Committee (2018-2019)

Journal Peer Reviewer
- Environmental Science and Technology Letters
- Environmental Science and Technology
- Water Research
- AWWA Water Science ***Top Reviewer 2019***
- Journal: American Water Works Association
- Environmental Engineering Science
- Journal of Environmental Engineering (ASCE)
- Chemosphere
- Environmental Earth Sciences
- Hydrometallurgy
- Environmental Science: Water Research and Technology

Awards and Honors

1. Membrane Technology Best Paper Award for a publication in the Journal of the American Water Works Association for Nanofiltration to improve process efficiency of hexavalent chromium treatment using ion exchange. 2019
2. Best Doctoral Dissertation: Department of Civil, Environmental and Architectural Engineering, University of Colorado Boulder. May 2015.
3. Student Travel Award to attend and present at the 17th Meeting of the International Humic Substances Society in Ioannina, Greece. Award covered cost of transportation, accommodations and conference registration (33% acceptance rate). 2014
4. Best Graduate Student Presentation: Hydrological Sciences Symposium. 2014
5. Certificate of Merit: American Chemical Society for First Oral Presentation at a National Conference for Framework for using fluorescence spectroscopy to evaluate changes in organic matter. 2013
6. Certificate of Merit: American Chemical Society for First Poster Presentation at a National Conference for Characterizing algal organic matter and its transformations during oxidation using fluorescence spectroscopy. 2013
7. National Science Foundation Graduate Research Fellow. 2011-2014
8. Outstanding Graduate for the College of Engineering at University of Colorado at Boulder (Awarded to one undergraduate student from College of Engineering). 2009
9. Silver Medal Finalist from Colorado Engineering Council (Three undergraduate students from College of Engineering). 2009
10. First Place: Halliburton Environmental Footprint Reduction Challenge. $20,000 team prize split amongst four team members. 2009
11. Ranked #1 in graduating class for both Chemical (52 students) and Environmental (13 students) engineering majors. 2009
12. Awarded Outstanding Undergraduate Teaching Assistant by Chemical Engineering Department. 2009
13. Avon Foundation Scholarship Recipient. 2004-2009

Awards as Faculty Advisor

1. Awardee: Melanie Warren. Certificate of Merit: American Chemical Society for First Oral Presentation at a National Conference for *Challenges with lead and copper sampling: Case study in Puerto Rico*. 2019