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Education

<u>Institution</u>	<u>Date</u>	<u>Degree</u>	<u>Major</u>
University of California, Davis	1991	B.Sc.	Microbiology
University of Idaho	1994	M.S.	Microbiology, Molecular Biology & Biochemistry
University of Arizona	1999	Ph.D.	Soil, Water & Environmental Science

Professional Experience

2007-2014	Director of the Biology MS Program, Department of Integrative Biology, CU Denver
2007-2012	Associate Chair, Department of Integrative Biology, University of Colorado Denver
2006-present	Associate Professor, Department of Integrative Biology, UCD
2005-present	Chair, Shared Analytical Services Laboratory, UCD
1999-2006	Assistant Professor, Department of Biology, UCDHSC
1994-99	Research Associate, Soil, Water & Environmental Science, University of Arizona
1995-97	Teaching Associate, Soil, Water & Environmental Science, University of Arizona
1991-94	Research Assistant, Microbiology, University of Idaho
1991-92	Instructional Assistant, Microbiology, University of Idaho
1990-91	Laboratory Assistant, Wastewater Treatment Facility, University of California, Davis
1990	Research Assistant, Mycoplasma Research Div., Genentech, Inc., San Francisco
1989-90	Bacteriologist, Food Microbiologist, Campbell's Foods, Dixon Canning, Dixon, CA

Publications (*student researchers; **postdoctoral researcher)

- 2016 Park, J-D., T.M. Roane, Z. J. Ren and M. Alaraj*. Dynamic Modeling of a Microbial Fuel Cell Considering Anodic Electron Flow and Electrical Charge Storage. *In Review* at [Bioresource Technology](#).
- 2016 Lantz*, M. and T.M. Roane. Restoration of metal(loid) contaminated soils. *In* Manual of Environmental Microbiology, 3rd edition. American Society for Microbiology, pp. 5.2.3-1 – 5.2.3-10.
- 2015 Narrowe*, A.B., M. Albuti-Lantz*, E.P. Smith, K.J. Bower, T.M. Roane, A.M. Vajda, and C.S. Miller. Perturbation and restoration of the fathead minnow gut microbiome after low-level triclosan exposure. Microbiome 3: 6-24..
- 2014 Roane, T.M. and I.L. Pepper. Microscopic Techniques. *In* Environmental Microbiology. I.L. Pepper, C.P. Gerba, and T.J. Gentry (eds). Academic Press, pp. 177-193.
- 2014 Roane, T.M., I.L. Pepper and T.J. Gentry. Microorganisms and Metal Pollutants. *In* Environmental Microbiology. I.L. Pepper, C.P. Gerba, and T.J. Gentry (eds). Academic Press, pp. 415-439.

- 2012 Luo*, H., P. Xu, T.M. Roane, P.E. Jenkins and Z. Ren. Microbial desalination cells for improved performance in wastewater treatment, electricity production, and desalination. Bioresource Technology 105:60-66.
- 2011 Underwood*, J.C., R.W. Harvey, D.W. Metge, D.A. Repert, L.K. Baumgartner, R.L. Smith, T.M. Roane, and L.B. Barber. Effects of the antimicrobial sulfamethoxazole on a groundwater bacterial enrichment. Environmental Science & Technology 45:3096-3101.
- 2010 Snelling*, L.J. and T.M. Roane. Bacterial removal of mercury from museum materials: a new remediation technology? Smithsonian Institution Publications: Mitigation of Pesticides on Museum Collections, Washington, D.C.
- 2009 Hietala*, K.A. and T.M. Roane. Microbial Metal Remediation. In Soil Biology: Advances in Applied Bioremediation. A. Singh, R.C. Kuhad and O.P. Ward (eds). Springer-Verlag, pp. 201-220.
- 2009 Roane, T.M. and R.M. Maier. Microorganisms and Metals. In Environmental Microbiology. R.M. Maier, C.P. Gerba and I.L. Pepper (eds). Academic Press, pp. 421-441.
- 2009 Roane, T.M., I.L. Pepper and R.M. Maier. Microscopic Techniques. In Environmental Microbiology. R.M. Maier, C.P. Gerba and I.L. Pepper (eds). Academic Press, pp. 157-172.
- 2009 Roane, T.M., R.M. Maier and I.L. Pepper. Microorganisms. In Environmental Microbiology. R.M. Maier, C.P. Gerba and I.L. Pepper (eds). Academic Press, pp. 10-36.
- 2007 Williams, L.H. and T.M. Roane. Nutritional ecology of a parasitic wasp: food source affects gustatory response, metabolic utilization, and survivorship. Journal of Insect Physiology 53:1262-1275.
- 2006 Kassab*, D.M. and T.M. Roane. Differential responses of a mine tailings *Pseudomonas* isolate to cadmium and lead exposures. Biodegradation 17:379-387.
- 2006 Hietala*, K.A., M.L. Lynch*, J.C. Allshouse**, C.J. Johns and T.M. Roane. A mathematical model of *Saccharomyces cerevisiae* growth in response to cadmium toxicity. Journal of Basic Microbiology 46 (3): 196-202.
- 2005 Jimenez-Esquilin*, A. and T.M. Roane. Isolation of antifungal producing rhizosphere actinomycetes from the Sagebrush (*Artemisia tridentata*). Journal of Industrial Microbiology and Biotechnology 32:378-381.
- 2005 Benoit, M.R., Li, A., Stodieck, L.S., Lam, K.S., Winther*, C.L., Roane, T.M., and Klaus, D.M. Microbial antibiotic production aboard the International Space Station. Applied Microbiology and Biotechnology 70: 378-381.
- 2005 Williams III, L., Coscarón, M.C., Dellapé, P.M., and T.M. Roane. *Pachycoris stallii* Uhler (Heteroptera: Scutelleridae)-description of immature stages, effect of maternal care on nymphs, and notes on life history. Journal of Insect Science 5:29 (4 Nov. 2005).
- 2005 Williams III, L., T.M. Roane and J.P. Beach. Gustatory acceptance, longevity, and utilization of nectar and honeydew sugars by *Anaphes iole*, an egg parasitoid of Lygus bugs. Proceedings of the Second International Symposium on Biological Control of Arthropods Sept. 12-16, Davos, Switzerland. United States Forest Service Publication FHTET-2005-08, pp. 409-419.
- 2002 Pepper, I.L., T.J. Gentry, D.T. Newby, T.M. Roane and K.L. Josephson. The role of cell bioaugmentation in the remediation of co-contaminated soils. Environmental Health Perspectives 110:943-946.
- 2001 Roane, T.M., K.L. Josephson and I.L. Pepper. Dual-bioaugmentation strategy to enhance remediation of co-contaminated soil. Applied and Environmental Microbiology 67:3208-3215.
- 2001 Pepper, I.L., T.J. Gentry, D.T. Newby, T.M. Roane and K.L. Josephson. The role of cell bioaugmentation and gene bioaugmentation in the remediation of co-contaminated soils. Proc. for the Conference on the Application of Technology to Chemical Mixture Research Jan. 9-11.
- 2000 Roane, T.M. and I.L. Pepper. Microbial responses to environmentally toxic cadmium. Microbial Ecology 38:358-364. (web version Nov. '99 <http://link.springer-ny.com>).

- 2000 Roane, T.M. and I.L. Pepper. Microscopic techniques. In Environmental Microbiology. R.M. Maier, C.P. Gerba and I.L. Pepper (eds). Academic Press, pp. 195-211.
- 2000 Roane, T.M. and I.L. Pepper. Microorganisms and Metal Pollutants. In Environmental Microbiology. R.M. Maier, C.P. Gerba and I.L. Pepper (eds). Academic Press, pp. 403-423.
- 1999 Roane, T.M. Lead resistance in two bacterial isolates from heavy metal-contaminated soils. Microbial Ecology 37:218-224.
- 1997 Roane, T.M. and I.L. Pepper. Microbial remediation of soils co-contaminated with 2,4-dichlorophenoxyacetic acid and cadmium. 12th Annual Conference on Hazardous Waste Research, pp. 343-356.
- 1996 Roane, T.M. and S.T. Kellogg. Characterization of bacterial communities in heavy metal-contaminated soils. Canadian Journal of Microbiology 42:593-603.
- 1996 Roane, T.M., I.L. Pepper and R.M. Miller. Microbial remediation of metals, pp. 312-340. In Bioremediation: Principles and Applications. R.L. Crawford and D.L. Crawford (eds). Cambridge University Press, United Kingdom.
- 1994 Roane, T.M. and S.T. Kellogg. A study of microbial communities in lead-contaminated soils. Proc. of the 9th Annual Conference on Hazardous Waste Remediation, pp. 248-260.

Technical Reports

- 2014 Roane, T.M. and R.M. Maier. Microbial Methods /n V.T. McLemore, K.S. Smith, and C.C. Russell (eds.), Sampling and Monitoring for the Mine Life Cycle, Appendix 3: Englewood, CO, Society for Mining, Metallurgy and Exploration, Inc.

Courses Taught

- General Microbiology (BIOL 3654); Microbial Ecology (BIOL 4415/5415)
Advanced Topics in Microbiology: Virology (BIOL 4051/5051)
Advanced Topics in Microbiology: Soil Microbiology (BIOL 4051/5051)

Presentations at National Meetings (published abstracts)

(*student presenter; **postdoctoral presenter)

- 2016 Romero*, J., T.M. Roane and J.D. Park. Enhancement of Power Production by Microbial Electrogens from Wastewater. Society for the Advancement of Chicanos and Native Americans in Science, October 2016. (available at www.sacnas.org) .
- 2015 Subotic*, S. and T.M. Roane. Novel Method of Bioremediation and Characterization of Bacterial Communities on Arsenic-Impacted Museum Collections. American Society for Microbiology, May 2015. Poster 2238.
- 2015 Nguyen*, A. and T.M. Roane. A Physiological Investigation into the Metal-Resistance of *Pseudomonas* sp. S8A. American Society for Microbiology, May 2015. Poster 2244.
- 2014 Sackett*, J. and T.M. Roane. Metal Chemistry and Age of System Influence Microbial Community Structure and Diversity in AMD and ARD Systems. American Society for Microbiology, May 2014. Poster 1881.
- 2013 Mogan*, N.M. and T.M. Roane. The Role Bacteria May Play in the Protection and Remediation of Metal-Treated Museum Collections. American Society for Microbiology, May 2013. Poster 339 (available at www.asm.org).
- 2013 Sackett*, J. and T.M. Roane. Microbial Community Analysis of Anthropogenically and Endogenously Metal-Impacted Systems. American Society for Microbiology, May 2013. Poster 354 (available at www.asm.org).

- 2013 Albuthi-Lantz*, M., A.B. Narrowe, T.M. Roane, C.S. Miller and A.M. Vajda. Gut Microbiome Disruption by Environmental Toxicants in Fish. American Society of Microbiology, May 2013. Poster 1126 (available at www.asm.org).
- 2013 Narrowe*, A.B., C.B. Green and T.M. Roane. Skin Bacterial Community Structure Associated with the Initial Presentation of Pediatric Atopic Dermatitis. American Society for Microbiology, May 2013. Poster 2312 (available at www.asm.org).
- 2012 Earle*, B.A., and T.M. Roane. Bacterial Conversion of Styrene into Polyhydroxyalkanoate (PHA). American Association for the Advancement of Science, Feb. 2012. Poster 7483 (available at www.aaas.org).
- 2011 Roane, T.M., and M. Kester. Using Bacterial Community Profiles as Indicators of Metal Toxicity. Society for Mining, Metallurgy and Exploration, Feb. 2011. (available at www.smenet.org).
- 2011 Mogen*, N.M., and T.M. Roane. Microbial Mitigation of Mercury from Metal-treated Museum Artifacts. American Society for Microbiology, May 2011. Poster Q-447 (available at www.asm.org).
- 2011 Narrowe*, A.B., C.B. Green, and T.M. Roane. Molecular Analysis of the Bacterial Skin Flora Associated with Pediatric Atopic Dermatitis. American Society for Microbiology, May 2011. Poster N-2727 (available at www.asm.org).
- 2010 Mogen*, N., M. Albuthi, and T. Roane. Bacterial Enhanced Removal of Mercury from Metal-Treated Museum Collections. American Society for Microbiology, May 2010. Poster Q-2345 (available at www.asm.org).
- 2010 Kester, M. and T.M. Roane. Bacterial Community Structure: An Assessment Tool for Metal Toxicity in Colorado Watersheds. American Society for Microbiology, May 2010. Poster Q-2322 (available at www.asm.org).
- 2009 Kester*, M. and T.M. Roane. Use of Bacterial Community Structure in Assessing Metal Toxicity in Sediments. American Society for Microbiology, May 2009. Poster Q-217 (available at www.asm.org).
- 2009 Persichetti*, J., L. Johansen and T.M. Roane. Genes Expressed by a Novel Metal-Resistant *Pseudomonas* Exposed to Cadmium. American Society for Microbiology, May 2009. Poster Q-219 (available at www.asm.org).
- 2009 Albuthi*, M.H. and T.M. Roane. Bacterial Remediation of Mercury Treated Museum Materials. American Society for Microbiology, May 2009. Poster Q-222 (available at www.asm.org).
- 2008 Albuthi*, M.H. and T.M. Roane. Optimizing the Bacterial Remediation of Mercury-Treated Museum Collections. American Society for Microbiology, June 2008. Poster Q-032 (available at www.asm.org).
- 2008 Kester*, M. and T.M. Roane. Analysis of Sediment Bacteria as Indicators of Metal Toxicity. American Society for Microbiology, May 2008. Poster Q-570 (available at www.asm.org).
- 2008 Persichetti*, J., L. Johansen and T.M. Roane. Differential Gene Expression in a Cadmium-Stressed *Pseudomonas*. American Society for Microbiology, May 2008. Poster Q-039 (available at www.asm.org).
- 2007 Albuthi*, M.H. and T.M. Roane. Identification of Microbial Indicators of Metal Toxicity in Sediments from the Colorado Mineral Belt. American Society for Microbiology, May 2007. Poster Q-034 (available at www.asm.org).
- 2006 Roane, T.M. and L.H. Williams III. Characterization of Microbial Gut Flora of Heteropterous Insects. 11th International Symposium on Microbial Ecology, August 2006. Abstract #118 (available at www.kenes.com/isme).
- 2006 Roane, T.M., L.J. Snelling*, M.H. Albuthi*. The Bacterial Diversity of Mercury-Treated Ethnographic Collections in a U.S. Museum. 11th International Symposium on Microbial Ecology, August 2006. Abstract #91 (available at www.kenes.com/isme).

- 2006 Snelling*, L.J. and T.M. Roane. Mercury Mitigation from Museum Collections Using Mercury-Resistant Bacteria. American Society for Microbiology, May 2006. Poster Q-171 (available at www.asm.org).
- 2005 Schraufnagel, J.R., L. Williams III and T.M. Roane. Characterization of Intestinal Microbial Flora of *Lygus lineolaris*. Ecology and Management of Lygus Plant Bugs, Jan. '05, Ottawa, Canada (available at www.lygus-symposium.org).
- 2005 Snelling*, L.J. and T.M. Roane. Microbial Removal of Mercury from Treated Museum Materials. American Society for Microbiology, June 2005. Poster Q-056 (available at www.asm.org).
- 2005 Snelling*, L.J. and T.M. Roane. A Microbial Method of Mercury Removal from Museum Materials. National Park Service Intercontinental Region Tribal Consultation Meeting, July '05, Santa Fe, NM.
- 2004 Atchison*, K.A., D.M. Kassab, M. Gonzalez and T.M. Roane. Physiological and Molecular Characterization of Cadmium Resistance in an Environmental *Pseudomonas* Isolate. American Society for Microbiology, May 2004. Poster N-150 (available at www.asm.org).
- 2004 Snelling*, L.J. and T.M. Roane. Microbial Detoxification of Mercury Contaminated Museum Collections. Eastern Analytical Symposium, Somerset, NJ, Nov. 2004. (available at www.eas.org).
- 2004 Schraufnagel*, J.R., D.S. Narreau, L.H. Williams III and T.M. Roane. Characterization of the Intestinal Microbial Flora of the Agricultural Insect Pests, *Lygus lineolaris* and *Euschistus servus*. American Society for Microbiology, May 2004. Poster N-312 (available at www.asm.org).
- 2003 Jimenez Esquilin*, A.E. and T.M. Roane. Characterization of Actinomycete Community Structure in Sagebrush (*Artemisia tridentata*) Rhizosphere: A Potential Source for Novel Antifungal Compounds. American Society for Microbiology, May 2003. Poster N-268 (available at www.asmmusa.org).
- 2003 Atchison*, K.A. and T.M. Roane. Spent Brewer's Yeast: Possible Metal Resistance/Detoxification Mechanisms. American Society for Microbiology, May 2003. Poster Q-396 (available at www.asmmusa.org).
- 2003 Kassab*, D.M. and T.M. Roane. Physiological Responses of *Pseudomonas putida* to Metal Exposure. American Society for Microbiology, May 2003. Poster Q-407 (available at www.asmmusa.org).
- 2002 Roane, T.M. Detoxification of Heavy Metals by Soil Microorganisms. Invited seminar: University of Denver Biology Seminar Series April 2002.
- 2002 Roane, T.M. Microorganisms and Metals: A Unique Relationship. Invited seminar: University of Colorado at Boulder Environmental Supergroup Seminar Series March 2002.
- 2002 Atchison*, K.A. and T.M. Roane. The Influence of Spent Brewer's Yeast on Cadmium and Lead Solubility. American Society for Microbiology, May 2002. Poster O-39 (available at www.asmmusa.org).
- 2002 Jimenez Esquilin*, A.E. and T.M. Roane. Isolation and Characterization of Actinomycetes with Antifungal Activity from Sagebrush Rhizosphere. American Society for Microbiology, May 2002. Poster N-61 (available at www.asmmusa.org).
- 2002 Kassab*, D.M. and T.M. Roane. Mechanisms of Metal Resistance in *Pseudomonas putida*. American Society for Microbiology, May 2002. Poster Q-408 (available at www.asmmusa.org).
- 2002 McBride*, J.G. and T.M. Roane. The Use of *Pseudomonas putida* in Reducing Soluble Metal Concentrations. American Society for Microbiology, May 2002. Poster Q-413 (available at www.asmmusa.org).
- 2001 Allshouse**, J.C. and T.M. Roane. The Use of Spent Brewer's Yeast in Metal Detoxification. American Society for Microbiology, May 2001. Poster Q-130 (available at www.asmmusa.org).
- 2001 Jambal*, P. and T.M. Roane. Effect of Cadmium on Naphthalene Biodegradation by *Pseudomonas putida* pPG-7. American Society for Microbiology, May 2001. Poster Q-47 (available at www.asmmusa.org).

- 2001 Kassab*, D.M., J.G. McBride and T.M. Roane. Physiological Response of a Metal-Resistant Bacterial Isolate to Co-Contaminated Conditions. American Society for Microbiology, May 2001. Poster Q-120 (available at www.asmsusa.org).
- 2000 Kassab*, D.M., S. Morris, and T.M. Roane. The Influence of Metal Resistance on Microbial Degradation of Organics. American Society for Microbiology, May 2000. Poster Q-317 (available at www.asmsusa.org).
- 2000 Roane, T.M., and I.L. Pepper. Invited seminar: Bioaugmentation with metal-resistant microorganisms in the remediation of metal and organic contaminated soils. Society for Industrial Microbiology, June 2000. Oral presentation, S26, p. 66.
- 1999 Roane, T.M., and I.L. Pepper. Use of Cadmium-resistant Microorganisms in Co-contaminant Remediation. American Society for Microbiology, May 1999. Poster Q-295 (available at www.asmsusa.org).
- 1998 Roane, T.M., and I.L. Pepper. Microbial Cooperation in the Remediation of Co-contaminated Systems. International Symposium on Microbial Ecology. Oral, p. 282.
- 1998 Roane, T.M., and I.L. Pepper. The Role of Introduced Microbes in Remediation of Co-contaminated Sites. Pacific Basin Consortium for Hazardous Waste Research and Management. Oral, p. 85.
- 1998 Roane, T.M., and I.L. Pepper. The Influence of Microbial Cadmium-resistance on 2,4-Dichlorophenoxyacetic Acid Degradation in Co-contaminated Systems. Risk Considerations for Environmental Health and Safety 1998.
- 1998 Roane, T.M., K.L. Josephson, and I.L. Pepper. Co-inoculant Microbial Remediation of Metal:Organic Contaminated Soils. Annual NIEHS/EPA Superfund Basic Research and Training Program Meeting, abstr. #6.
- 1998 Roane, T.M., and I.L. Pepper. The Use of Microbial Metal-resistance in the Bioremediation of Metal:Organic Contaminated Systems. American Society for Microbiology, May 1998. Poster P-22 (available at www.asmsusa.org).
- 1997 Roane, T.M., and I.L. Pepper. Microbially-induced Biodegradation of 2,4-Dichlorophenoxyacetic Acid in the Presence of Cadmium in Co-contaminated Soils. International Biometals Symposium. Oral, p. 106.
- 1997 Roane, T.M., and I.L. Pepper. Microbial Remediation of Soils Co-contaminated with 2,4-Dichlorophenoxyacetic Acid and Cadmium. 12th Annual Conference on Hazardous Waste Research. Oral.
- 1997 Roane, T.M., and I.L. Pepper. Microbial Remediation of Soils Co-contaminated with 2,4-Dichlorophenoxyacetic Acid and Cadmium. American Society for Microbiology, May 1997. Poster, p. 149.
- 1997 Roane, T.M., and I.L. Pepper. Long-term Influences of Metal Contamination on Soil Microbial Communities. Superfund Basic Research Program: A Decade of Improving Health through Multi-Disciplinary Research. Poster, p. 75.
- 1996 Roane, T.M., and I.L. Pepper. Long-term Influences of Metal Contamination on Soil Microbial Communities. American Society for Microbiology, May 1996. Poster, p. 424.
- 1994 Roane, T.M., and S.T. Kellogg. A Study of Microbial Communities in Lead Contaminated Soils. Annual Conference on Hazardous Waste Remediation. Oral, p. 40.
- 1994 Roane, T.M., and S.T. Kellogg. Influences of Heavy Metals on Soil Microbial Communities. American Society for Microbiology, May 1994. Poster, p. 423.
- 1993 Roane, T.M., and S.T. Kellogg. Microbial Community Analysis in Heavy Metal-contaminated Soils. American Society for Microbiology, May 1993. Poster, p. 81.

Presentations at Regional Conferences

(*student presenter; **postdoctoral presenter)

- 2015 Burns*, A., and T.M. Roane. Environmental Risk Assessment Using Bacterial Communities as Indicators of Metal Toxicity. CU Denver Research and Creative Activities Day, April 2015.
- 2015 Nguyen*, A., and T.M. Roane. Metal Detoxification and Remediation of Acid Mine Drainage by the Bacterium *Pseudomonas* sp. S8A. CU Denver Research and Creative Activities Day, April 2015.
- 2015 Subotic*, S., and T.M. Roane. Novel Method of Bioremediation and Characterization of Bacterial Communities on Arsenic-Impacted Museum Collections. CU Denver Research and Creative Activities Day, April 2015.
- 2015 Ramanathan*, B., J. Sackett, T.M. Roane, and A. Mosier. Effect of Acid Mine Drainage on the Abundance and Diversity of Freshwater Nitrifying Microbes. CU Denver Research and Creative Activities Day, April 2015.
- 2014 Nguyen*, A., and T.M. Roane. Differential Protein Expression in a Mine Tailings *Pseudomonas* Isolate. CU Denver Research and Creative Activities Day, April 2014.
- 2014 Subotic*, S., and T.M. Roane. Bioremediation of and Microbial Characterization of Arsenic-Impacted Museum Collections. CU Denver Research and Creative Activities Day, April 2014.
- 2014 Sackett*, J.D., and T.M. Roane. Spatiotemporal Variation in Microbial Community Structure of an Acidic Minerotrophic Iron Fen. CU Denver Research and Creative Activities Day, April 2014.
- 2013 Sackett*, J.D., and T.M. Roane. Analysis of Microbial Metal Resistance. CU Denver Research and Creative Activities Day, April 2013.
- 2013 Thompson*, L., and T.M. Roane. Sustainability/Microbial Energy Production. CU Denver Research and Creative Activities Day, April 2013.
- 2009 Neel*, D., and T.M. Roane. Development of a Bacterial Mercury-Removal Method for Simulated Museum Material. CU Denver Research and Creative Activities Day, April 2009.
- 2009 Kester*, M., and T.M. Roane. Molecular Profiling of Bacterial Communities Associated with Mining Impacted Sediments. CU Denver Research and Creative Activities Day, April 2009.
- 2009 Persichetti*, J., L.J. Johansen, and T.M. Roane. Bacterial Gene Expression in Response to Toxic Metal Exposure. CU Denver Research and Creative Activities Day, April 2009.
- 2008 Albuti*, M. Bacterial conversion of mercury in the remediation of museum materials. Rocky Mountain American Society for Microbiology, April 2008.
- 2008 Persichetti*, J., L. Johansen, and T.M. Roane. Genome-wide transcriptional analysis of a metal-stressed *Pseudomonas*. Rocky Mountain American Society for Microbiology, April 2008.
- 2008 Kester*, M., M. Albuti, and T.M. Roane. Investigation of bacteria associated with metal-impacted sediments. Rocky Mountain American Society for Microbiology, April 2008.
- 2006 Roane, T.M. The bioremoval of mercury from treated museum materials. 19th Rocky Mountain Regional Meeting of the American Chemical Society, October 2006. (available at <http://acs.confex.com/acs/rmrm06/techprogram/>).
- 2005 Snelling*, L.J. and T.M. Roane. Identification of Microorganisms Associated with Mercury-Contaminated Museum Materials. University of Colorado at Denver and Health Sciences Research Day, April 2005.
- 2004 Atchison*, K.A., M. Gonzalez and T.M. Roane. Molecular Examination of a Putative Novel Protein Isolated from the Cadmium Resistant Soil Bacterium *Pseudomonas putida*. Rocky Mountain Branch American Society for Microbiology, April 2004 (oral).
- 2004 Schraufnagel*, J.R., L.H. Williams III and T.M. Roane. Microorganisms Associated with the Alimentary Canal of the Agricultural Insect Pests *Lygus lineolaris* and *Euschistus servus*. Rocky Mountain Branch American Society for Microbiology, April 2004 (oral).
- 2003 Schraufnagel*, J., D. Narreau*, L.H. Williams III and T.M. Roane. The Microflora of the Tarnished Plant Bug, *Lygus lineolaris*. Rocky Mountain American Society for Microbiology and Society for Industrial Microbiology, October 2003 (poster).

- 2002 Kassab*, D.M. and T.M. Roane. Differential Protein Expression under Various Metal Stress Conditions. Rocky Mountain American Society for Microbiology, April 2002 (oral).
- 2001 Atchison*, K.A. and T.M. Roane. Remediation of Cadmium and Lead Using Spent Brewer's Yeast. Rocky Mountain American Society for Microbiology, October 2001.
- 2001 Atchison*, K.A., J.C. Allshouse and T.M. Roane. The Use of Spent Brewer's Yeast in Metal Detoxification. Air and Waste Management Association, April 2001.
- 2001 Jambal*, P. and T.M. Roane. Biodegradation of Naphthalene in the Presence of Cadmium Using *Pseudomonas putida* PpG-7. Air and Waste Management Association, April 2001.
- 2001 Kassab*, D.M. and T.M. Roane. *Pseudomonas putida* and Metal Stress: A Physiological Study. Rocky Mountain American Society for Microbiology, October 2001.
- 2001 Kassab*, D.M. and T.M. Roane. Physiological Response of a Metal-Resistant Bacterial Isolate to Co-contaminated Conditions. Air and Waste Management Association, April 2001.
- 2001 McBride*, J.G. and T.M. Roane. The Effects of *P.putida* on Cadmium and Lead Stressed Soil Conditions. Rocky Mountain American Society for Microbiology, October 2001.
- 2000 Allshouse**, J.C., and T.M. Roane. The Use of Spent Yeast from Breweries in Detoxification of Metal-Contaminated Soils. Thirteenth Annual Colorado Biotechnology Symposium September 2000. Poster III.7.
- 2000 Jambal*, P., and T.M. Roane. Biodegradation of Naphthalene in the Presence of Cadmium by Using *Pseudomonas putida* pPG-7. Thirteenth Annual Colorado Biotechnology Symposium September 2000. Poster III.5.
- 2000 Kassab*, D.M., and T.M. Roane. Microbial Degradation under Co-Contaminated Conditions. Thirteenth Annual Colorado Biotechnology Symposium September 2000. Poster III.4.
- 2000 Kassab*, D.M., and T.M. Roane. Microbial Degradation under Co-Contaminated Conditions. Rocky Mountain American Society for Microbiology October 2000. Oral presentation.
- 1999 Roane, T.M. Dual Bioaugmentation: A New Approach to Bioremediation. 12th Annual Colorado Biotechnology Symposium, Boulder, CO (Sept. 14).
- 1993 Roane, T.M., and S.T. Kellogg. Analysis of Microbial Communities in Heavy-metal-stressed Soils in Northern Idaho. Annual Pacific Division Meeting of the American Association for the Advancement of Science. Oral, p. 60.

Invited Presentations

- 2016 Roane, T.M. Microorganisms Rule the World pt. II: In, On and Around Us. Denver Café Scientifique II, Jan. 2016.
- 2014 Roane, T.M. U.S. Forest Service, Rocky Mountain Regional Office. Bacterial Metal Detoxification: From Soils to Cultural Artifacts, Nov. 2014.
- 2014 Roane, T.M. CU Denver Interdisciplinary Exchange. Use of Microorganisms to Remove Metals from Native Artifacts, March 2014.
- 2014 Roane, T.M. TriBeta Student Honor Research Society. Microorganisms in our Everyday Lives, May 2014.
- 2013-curr. Multiple research presentations to the Native American Student Organization and to the CU Denver STEM student body
- 2011 Roane, T.M. Bacteria and Toxic Metals: A Precarious Relationship. Department of Civil Engineering, University of Wyoming.
- 2010 Roane, T.M. Denver Café Scientific II: Microorganisms Rule the World: Deal with It, Oct. 2010.
- 2010 Roane, T.M. Microbial Ecology: Why bother? RET Teacher Program, June, 2010.
- 2010 Roane, T.M. Bacterial Removal of Mercury from Museum Materials: A New Remediation Technology? University Honors and Leadership speaker series, May 2010.
- 2009 Roane, T.M. Microbial Ecology: Remediation and More. Environmental Science Master's Program, University of Colorado Denver, November 2009.

- 2007 Roane, T.M. Bacterial Removal of Mercury from Museum Materials: A New Remediation Technology? Smithsonian Institution: Mitigation of Pesticides on Museum Collections Symposium, April 2007.
- 2006 Roane, T.M. Use of Bacteria in the Removal of Mercury from Treated Museum Materials. Sault St. Marie, National Park Service Tribal Conference, June 2006.
- 2006 Roane, T.M. Microorganisms Rule the World: Deal with It. Denver Café Scientifique, February 2006.
- 2006 Roane, T.M. Bacteria, Toxins and the Environment: Can Microorganisms Save Us From Chemical Toxicity? UCHSC Toxicology Graduate Series, January 2006.
- 2005 Roane, T.M. A Microbial Method of Mercury Removal from Museum Materials. National Park Service Intercontinental Region Tribal Consultation Meeting, July 2005.
- 2004 Roane, T.M. Bacteria that Live with Toxic Metals: How do they do it? Invited seminar: University of Northern Colorado Department of Biology Seminar Series February 2004.
- 2004 L.J. Snelling and T.M. Roane. The Microbial Ecology of Mercury Contaminated Museum Collections. Arizona State Museum Department of Material Science November 2004.
- 2003 Roane, T.M. Microbial Remediation of Cultural Artifacts. Invited seminar: University of Colorado at Denver American Indian Cultural Images course (Dr. Donna Langston professor) February 2003.
- 2002 Roane, T.M. Detoxification of Heavy Metals by Soil Microorganisms. Invited seminar: University of Denver Biology Seminar Series April 2002.
- 2002 Roane, T.M. Microorganisms and Metals: A Unique Relationship. Invited seminar: University of Colorado at Boulder Environmental Supergroup Seminar Series March 2002.
- 2001 Roane, T.M., D.T. Newby, K.L. Josephson and I.L. Pepper. Invited seminar: The Role of Cell Bioaugmentation and Gene Bioaugmentation in the Remediation of Co-Contaminated Soils. Conference on Application Technology to Chemical Mixtures Research, NIEHS January 2001, S14, p.11.
- 2001 Roane, T.M. The Role of Microorganisms in Metal Transformation and Remediation. Invited seminar: Environmental Science Program Seminar Series September 2001.
- 2001 Roane, T.M. How Microorganisms can Alleviate Environmental Pollution. Invited seminar: Conservation Biology course speaker September 2001.
- 2000 Roane, T.M. Use of Microbial Metal-Resistance in Remediation. Invited seminar: Environmental Science Program Seminar Series March 2000.
- 2000 Roane, T.M. Invited seminar: Microbial Involvement in Metal Remediation. Pikes Peak Sigma Xi April 2000.
- 2000 Roane, T.M. Invited seminar: The Effects of Acid Mine Drainage to Aquatic Ecology. Aquatic Ecology course speaker (Dr. Greg Cronin professor) April 2000.

Honors and Awards

- 2012 Faculty Advisor, CU Denver Student Chapter of the American Indian Science and Engineering Society
- 2012 Society for Chicanos and Native Americans in Science podcast
- 2011 Outstanding Presentation, Environmental Division, Society for Mining, Metallurgy, and Exploration 2011 Annual Meeting, Denver, CO.
- 2009 Faculty Advisor, Auraria Student Chapter of Society for the Advancement of Chicanos and Native Americans in Science, University of Colorado
- 2009 Research and Creative Activities Day, CU Denver, Outstanding Undergraduate Student Award to Dustin Neel (April 2008).
- 2009 CU Network story on research: "Roane's Research a Step Closer to Reuniting Artifacts with Tribes"
- 2008 American Society for Microbiology Outstanding Abstract Travel Award (May 2008)

- 2008 Research and Creative Activities Day, CU Denver, Outstanding Graduate Student Award to Munira Albuthi (April 2008)
- 2008 First place poster presentation by graduate student, Matthew Kester, at the Rocky Mountain American Society for Microbiology conference (April 2008).
- 2008 First place poster presentation by undergraduate student, Jason Persichetti, at the Rocky Mountain American Society for Microbiology conference (April 2008).
- 2008 Second place poster presentation by graduate student, Munira Albuthi, at the Rocky Mountain American Society for Microbiology conference (April 2008).
- 2007 Article highlighting mercury mitigation research in Chemical and Engineering News, Dec. 2007
- 2002 Teaching Excellence Award (for 2001) College of Liberal Arts and Sciences, Univ. of Colorado
- 2001 Principle Investigator of the Month, University of Colorado at Denver
- 1999 Full membership to SIGMA XI Scientific Research Society
- 1998 Karen Wetterhahn Award (nominated), NIEHS Superfund Program
- 1997 Karen Morehouse Best Paper Award (nominated) 12th Annual Conference on Hazardous Waste Research
- 1997 Teaching Assistant of the Year, College of Agriculture, University of Arizona
- 1997 Teaching Assistant of the Year, Environmental Science Organization, University of Arizona
- 1996 U.S. Environmental Protection Agency STAR Fellowship
- 1996 U.S. Environmental Protection Agency Tribal Lands Environmental Science Scholarship

Professional Organizations

American Indian Science and Engineering Society
American Society for Microbiology
Rocky Mountain Society for Industrial Microbiology

Research Support

University of Colorado

- 2013-2018 U.S. Forest Service, Abandoned Mines Program. Title: Microbial Bioindicators of Metal Toxicity. T.M. Roane.
- 2015-2016 Faculty Development Award, University of Colorado Denver. Title: Determination of the Spatial Distribution of Bacteria in Human Skin. T.M. Roane
- 2015-2016 Office of Research Services, University of Colorado Denver. Title: Identification of Surface-Associated Bacteria on Cultural Museum Collections. T.M. Roane
- 2013-2014 CLAS Research Innovation Seed Program Research Award, CU Denver. Title: Method Development in the Collection and Analysis of Human Skin-Associated Microorganisms. T.M. Roane.
- 2013-2014 National Center for Preservation Technology and Training, National Park Service. Title: Application of Genetic Sequencing for Comprehensive Analysis of the Bacterial Communities Associated with Mercury-Treated Museum Collections. T.M. Roane
- 2012-2014 Marshfield Clinic Research Foundation. Title: Prospective Analysis of Genetic Potential of the Cutaneous Microbiome During Treatment of Atopic Dermatitis. C.B. Green and T.M. Roane.
- 2011-2012 CLAS Research Innovation Seed Program, University of Colorado. Title: Microbial Characterization of the Mount Emmons Fen. T.M. Roane.
- 2011-2012 Faculty Development Award, University of Colorado Denver. Title: Use of the Scanning Electron Microscope to Monitor Deterioration of Simulated Museum Artifact Materials Following the Bacterial Removal of Mercury. T.M. Roane.

- 2010-2011 Colorado Clinical and Translational Sciences Institutes (CCTSI) Co-Pilot Award. Title: Molecular Comparisons of Bacterial Microbiota Associated with Affected and Unaffected Skin of Children with Atopic Dermatitis. T.M. Roane and C. Green.
- 2009-2011 University of Colorado University Scholarship Team Grant. Title: Direct Electricity Production from Household Waste Using Microbial Fuel Cells. Z. Ren, T.M. Roane, and A. Ramaswami.
- 2009-2010 Faculty Development Award, University of Colorado Denver. Title: Frequency of Occurrence of the *ncr* Gene Among Cadmium-Resistant Bacterial Populations. T.M. Roane.
- 2008-2010 CLAS Research Innovation Seed Program, University of Colorado. Title: Genomic Elucidation of a New Species of Bacteria, *Pseudomonas* sp. T.M. Roane.
- 2007-2010 University of Colorado University Scholarship Team Grant. Title: Molecular and Cultural Comparisons of Bacterial and Fungal Microbiota Associated with Affected and Unaffected Skin of Children with Atopic Dermatitis. T.M. Roane, C. Green and J. Morelli.
- 2007-2008 National Center for Preservation Technology and Training, National Park Service. Title: Microbial Mercury Removal from Sulfur-Containing Material Types. T.M. Roane.
- 2006-2008 Mineral Resources Program, USGS. Title: Microbial Community Structure: A Biological Assessment Tool for Metal-Impacted Watersheds in the Central Colorado Assessment Project. T.M. Roane.
- 2005-2006 Agricultural Research Service, USDA. Title: Characterization of the Microbial Gut Flora of the Tarnished Plant Bug and Brown Stink Bug, and the Environmental Factors that Affect it. T.M. Roane and L.H. Williams.
- 2004-2005 Agricultural Research Service, USDA. Title: Characterization of the Microbial Gut Flora of the Tarnished Plant Bug and Brown Stink Bug, and the Environmental Factors that Affect it. T.M. Roane and L.H. Williams.
- 2004-2005 National Center for Preservation Technology and Training, National Park Service. Title: Microbial Detoxification of Mercury Contaminated Museum Collections. T.M. Roane.
- 2004-2005 President's Funds to Support the Retention of Diverse Faculty, University of Colorado. Title: Effect of Systemic Insecticides on the Microbial Gut Flora of Agriculturally-significant Insects. T.M. Roane.
- 2004-2005 University of Colorado at Denver Faculty Research Award. Title: Use of Microorganisms in the Detoxification of Mercury Treated Museum Collections. T.M. Roane.
- 2004 Department of Biology course release (spring only)
- 2002-2003 Department of Biology course release (fall and spring)
- 2002-2003 State of Colorado-Waste Diversion and Recycling Program. Title: The Application of Spent Yeast in the Remediation of Metal-Contaminated Soils. T.M. Roane.
- 2002-2003 CU-Denver Faculty Development Award. Title: Physiological/Genetic Adaptations of Microorganisms upon Growth in Zero Gravity Conditions. T.M. Roane.
- 2002-2003 University of Colorado, Global Change and Environmental Quality Award. Title: Microbial Community Characterization at an Acidic, Iron-, Cadmium-Impacted Wetland.
- 2001-2004 Department of Defense DEPSCoR. Title: Discovery of Novel Antifungal Compounds Produced as a Result of Plant-Microbe Interactions, and Their Use for the Prevention of Biodeterioration. D.L. Crawford (University of Idaho) and T.M. Roane.
- 2001-2002 University of Colorado at Denver, Faculty Research Award. Title: Microbial Remediation of Mixed Metal Waste. T.M. Roane.
- 2001-2002 ASARCO Mining Inc. Title: Metal Mitigation Using *In Situ* Microbial Populations. T.M. Roane.
- 2000-2001 Colorado Research Center. Title: The Use of Spent Yeast from Breweries in Detoxification of Metal-Contaminated Soils. T.M. Roane.
- 1999-2000 University of Colorado at Denver, Junior Faculty Award. Title: The Use of Microorganisms in Environmental Clean-Up. T.M. Roane.

Service

Department

2015-curr Chair, Department Space Committee
2015-curr Curriculum Committee
2007-2014 Director of the Biology MS Program
2012-2013 Chair of microbiology new faculty hire
2011 UCD Open House; UCD graduation
2011 Department of Integrative Biology Open House
2010 UCD Open House; UCD graduation
2010-2014 Program Outcomes Assessment Committee
2010-2011 Strategic Planning Committee
2009 Participated in Department Teaching Assistant Orientation
2009 Staffed a Department recruiting booth at the Metropolitan State College Graduate Day event
2009 UCD Open House; UCD graduation
2008 UCD Open House; UCD graduation
2008 Organized Biology representation at STEM PALOOZA
2008-09 Chair of search committee for Developmental Biology, Evolutionary Genetics, and Environmental Toxicology faculty positions
2008 Sponsored Tri Beta field trip to Lowry Superfund Site
2007-2012 Associate Chair, Graduate Advisor for the Biology M.S. program
2007 Mentoring committee member for Lisa Johansen, Biology faculty member
2007-2014 Department Curriculum Committee
2007 Chair of Part-time Teaching Laboratory Preparator position
2007-08 Member of search committee for the Biostatistics/Computational Biology faculty position
2007-08 Member of search committee for the Science Education faculty position
2007-08 Member of search committee for the Biology Instructor
2007 Biology graduate admission; UCD Open House; UCD graduation
2006-09 New Science Building Planning Committee
2005 Search committee for Biology Instructor and for Molecular Geneticist assistant professor
2004 Committee for merit review changes in Biology; Mentoring committee for Dr. Joy Doan (instructor)
2003 Biology graduate admissions; Medical School Interview committee; Search committee for Molecular Biologist assistant professor; UCD Open House; Mentoring committee for Dr. Joy Doan (instructor)
2002 Biology graduate admissions; Medical School Interview committee; Search committee for Biology laboratory coordinator; Submitted proposal to change Biology M.A. to M.S.; UCD Open House
2001 Biology laboratory instructor training; Re-organized Biology teaching laboratories; Biology graduate admissions; Medical School Interview committee; Search committee for Biology laboratory coordinator; Research evaluation committee; UCD Open House
2000 Biology laboratory instructor training; Re-organized Biology teaching laboratories; Biology graduate admissions; UCD Open House
1999 Re-allocation of Gift Monies for Biology labs; Biology graduate admissions committee

College

2015-curr Dean's Advisory Committee
2009-2011 F&A Committee
2009 CLAS Web Design Committee

- 2007-2014 Dean's Graduate Advisory Committee
- 2007-curr Chair of the Oversight Committee for the Shared Analytical Services Laboratory
- 2007-09 Member of Dean's Advisory Committee
- 2007-08 Member of CLAS Dean Search Committee
- 2003-05 Center for Environmental Sciences Faculty Advisory committee; M.S. in Environmental Sciences Faculty Advisory committee; CLAS Curriculum committee; Udall Scholarship committee; Reviewed nominations for CLAS Excellence in Teaching Award
- 2002 Center for Environmental Sciences Faculty Advisory committee; M.S. in Environmental Sciences Faculty Advisory committee; CLAS Curriculum committee; Udall Scholarship committee
- 2001 Center for Environmental Sciences Faculty Advisory committee; M.S. in Environmental Sciences Faculty Advisory committee; CLAS Curriculum committee; Udall Scholarship committee
- 2000 Center for Environmental Sciences Faculty Advisory committee; M.S. in Environmental Sciences Faculty Advisory committee; CLAS Curriculum committee; Udall Scholarship committee
- 1999 Center for Environmental Sciences Faculty Advisory committee

University

- 2015-curr FACAB (Faculty Advisory Committee to the Auraria Board)
- 2015 Scholarship Panel for CU Denver Nelson Running Wolf Student Scholarship
- 2015 Presenter at the CU Denver & MSU Denver Graduation & Honoring Ceremony
- 2013 Organizer for AISES CU Denver campus tour and recruitment event
- 2012-curr Faculty sponsor for UCD student AISES (American Indian Science and Engineering Society) chapter
- 2011 Organized the UCD booth at the national conference for the Society of Chicanos and Native Americans in Science (SACNAS)
- 2011-2014 Graduate School Advisory Committee
- 2009 Judged student presentations at the Research and Creative Activities Day, CU Denver (April 2009)
- 2009 Organized the UCD booth at the national conference for the Society of Chicanos and Native Americans in Science (SACNAS)
- 2009 Raised funds from the University to support the Rocky Mountain conference for the Society of Chicanos and Native Americans in Science (August 2009).
- 2009 Gave presentations at New Faculty Orientation (CU Denver; downtown) on the function of the Office of Research Development and Education (ORDE)
- 2009 Gave an invited presentation to CU Denver faculty on "Meet with a Program Officer" sponsored by the Office of Research Development and Education (ORDE)
- 2008-2010 Faculty mentor for the NSF GK-12 program
- 2008 Organized the UCD booth at the national conference for the Society of Chicanos and Native Americans in Science
- 2007-2010 Faculty mentor in the University of Colorado downtown Denver campus Tenure Track Mentor Program
- 2007 Organized the UCD booth at the national conference for the Society of Chicanos and Native Americans in Science
- 2003 Auraria Library Faculty Advisory committee; Faculty Development Task Force for Chancellor
- 2002 Research and Creative Activities committee
- 2001 Research and Creative Activities committee

Professional

- 2015-curr. Mentor for AISES Native Postdoctoral Mentoring Program
- 2015-curr Reviewer for several NSF programs
- 2014 Reviewer for NSF Integrative Ecological Physiology-Plant Program in the Division of Integrative Organismal Systems
- 2013 Local organizer on the Steering Committee for the American Indian Science and Engineering Society, 2013 annual conference, Denver, CO
- 2012 Local organizer on the Steering Committee for the American Society for Microbiology Council on Undergraduate Education, 2013 Denver national conference
- 2011 Reviewer of the National Research Council report "International Science in the National Interest at the USGS".
- 2009 Participated on the reader panel for the journal Nature to evaluate journal format and presentation.
- 2007 Organized workshop on Computer Culture Collection for the Society of Industrial Microbiology, Auraria Campus
- 2006-curr Reviewer for Journal of Applied Microbiology; Biodegradation, etc.; Microbial ecology prospectus for textbook by Sinauer Publishers; granting agencies including NSF
- 2005 Reviewer for Journal of Applied Microbiology; Ecotoxicology & Environmental Safety; Current Microbiology; Water, Air and Soil Pollution; Environmental Toxicology & Chemistry
- 2004 Reviewer for Biodegradation Journal; Chemosphere; Science of the Total Environment; Journal of Applied Microbiology; Current Microbiology; Ecotoxicology & Environmental Safety
- 2004 Reviewer for National Science Foundation
- 2003 Reviewer for Journal of Applied Microbiology
- 2003 Reviewer for the U.S. Civilian Research & Development Foundation
- 2002 Reviewer for Journal of Environmental Engineering
- 2000 Founding board member for Rocky Mountain Society for Industrial Microbiology
- 2000-3 Review microbiology textbook chapters for Prentice Hall and McGraw Hill

Community

- 2016 Café Scientific II Denver community presentation
- 2014 K-12 Native Student Campus Tour Recruitment event
- 2014 Biology and Chemistry demonstrations to Title VII Indian Education campus event
- 2009-10 Sponsored a high school student intern from the Denver School of Science and Technology; student performed research in my research laboratory for one semester.
- 2008-curr Regular presenter and attendance at the monthly Denver Café Scientific
- 2007 Lunch, Link and Learn lunch time seminar series sponsored by the College of Liberal Arts and Sciences: "Microorganisms Rule the World, Deal with It"
- 2007 Sponsored a high school student intern from the Denver School of Science and Technology; student performed research in my research laboratory for one semester
- 2001-curr Regular judge for middle and high school science fairs

Consulting

- 1996-2001 Senator Craig (ID) and Mining Advisory Committee: provide scientific evaluation of sample collection methods and data interpretation for metal levels in contaminated soils in the Northern Idaho Mining District (non-compensated)