**Vanessa L. Lougheed**

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#### Education:

2001 **Ph.D.** Department of Biology, McMaster University. Hamilton, ON, Canada.

1994 **B.Sc.** Department of Biology, McMaster University. Hamilton, ON, Canada.

#### Professional Experience:

2018 - present: **Professor,** Department of Biological Sciences, The University of Texas at El Paso (UTEP), El Paso, USA.

2014 - 2018: **Associate Chair,** Dept. of Biological Sciences, UTEP.

2011 - 2018: **Associate Professor**, Dept. of Biological Sciences, UTEP.

2005 - 2011: **Assistant Professor**, Dept. of Biological Sciences, UTEP.

2001 - 2004: **Postdoctoral Research Associate,** Algal Ecology Lab, Department of Zoology, Michigan State University, USA.

2001: **Lecturer,** Department of Biology, University of Waterloo, Waterloo, ON, Canada

#### Professional Affiliations:

1998 - present Society of Wetland Scientists (SWS)

2008 - present American Geophysical Union (AGU)

2005 - 2014 Sigma Xi, The Scientific Research Society

2008 - 2013 Society for the Advancement of Chicanos and Native Americans in Sciences (SACNAS)

2003 - 2011 Ecological Society of America (ESA)

1996 - 2006 International Association for Great Lakes Research (IAGLR)

### Research

#### Grants:

##### Current Grants

**Lougheed**, V.L, C.E. Tweedie. NSF-LTER: Beaufort Sea Lagoons: An Arctic Coastal Ecosystem in Transition. NSF Polar Programs, $589,834 to UTEP. (09/2017 – 08/2023).

Golding, P., S.C. Brozina, E.J. Walsh, V.L. **Lougheed.** STEMGROW Program: An HSI STEM program designed to raise inclusiveness in STEM education. Dept. of Education HSI STEM. $5,412,165. (10/2016 – 09/2021).

**Lougheed**, V., Tweedie, C., Olimpo, J. Research Opportunities in the Arctic for Minorities (ROAM2): Elucidating drivers of Arctic ecosystem responses to global change. NSF-Polar IUSE. $299,000. (09/2016-08/2019).

Jin, L., **Lougheed**, V., Doser, D., Walsh, E. Improved STEM education for 21st century environmental scientists through stratified mentoring and professional networking. NSF-IUSE. $298,983. (09/2016-08/2019).

**Lougheed**, VL and F. Day. Society of Wetland Scientists Diversity Program: Undergraduate Mentoring at the Annual Meeting. NSF. $93,500. (08/2015 – 09/2020). *AKA “SWaMMP”.*

**Lougheed**, V.L., J.R. McLaren, C.E. Tweedie. Revitalizing the UTEP Green Roof and Research Platform. UTEP Green Fund. $55,000. 2015-2018.

Hargrove, W. and J. Heyman.(Senior Personnel: **Lougheed**). Sustainable water resources for irrigated agriculture in a desert river basin facing climate change and competing demands: From characterization to solutions. USDA, $5,000,000. (2015-2020).

##### Completed Grants

**Lougheed**, V.L. ROAM-ing with the local high schools along the US-Mexico border (PolarTREC: Teachers and Researchers Exploring and Collaborating), Sponsored by ARCUS PolarTREC, ~$6,000. (December 2016 - December 2017).

Walsh, E., Doser, D., Hagedorn, E., Jin, L., **Lougheed**, V. TIERA: Training in Environmental Research and Academic Success. U.S. Department of Education - Minority Science and Engineering Improvement Program (MSEIP). $604,868. (10/2013-09/2017).

Sowards, S. (Senior Personnel: **Lougheed**). Supporting Universities to Partner Across the Pacific. USAID. $997,31.3 (2012-2015)

Jin, L., Borrok, D., Ma, L., **Lougheed**. V. Natural and human impacts on soil development in the Rio Grande Valley: Sustainability of agriculture and water resources on the US-Mexico border. Southwest Consortium for Environmental Research and Policy (SCERP). $50,000.

Velasco, A.A., **Lougheed, V.L.**, Robertson, W.H. GK12: Science for a Sustainable Future: Developing the Next Generation of Diverse Scientists. National Science Foundation (NSF), GK-12, $2,858,000. (02/2010 – 01/2016).

Walsh, E., M.Cox, W-Y. Lee, and V. **Lougheed**. Developing Monitoring Systems for Emerging Contaminants in the Rio Grande. UTEP Border Biomedical Research Center Pilot Project. $25,000. (2010-2011).

Esposito, G. and **V. Lougheed.** What is the role of habitat isolation and dispersal ability on genetic diversity of aquatic invertebrates in former ranchlands of the northern Chihuahuan Desert? T&E, Inc. $2500 (2010-2011).

**Lougheed, VL.** Revisiting “The Limnology of Tundra Ponds”: Re-sampling historic sites to track global change in Arctic aquatic ecosystems. National Science Foundation (NSF), $389,800. 09/2009-08/2013.

**Lougheed, V.L.** and K. Garza. URM Proposal: Mentoring of minority undergraduate research focused on the ecology of disease in the US-Mexico borderlands. National Science Foundation (NSF). $650,007. 09/2009 – 05/2015.

Johnson, J., **V. Lougheed,** W. MacKay, C. Tweedie. Development of Indio Mountains Research Station, Phase III. National Science Foundation (NSF), $106,651. 09/2009-08/2012.

**Lougheed, V.L.** Improving capacities to examine water quantity and quality of ephemeral inputs to the Forgotten Stretch of the Rio Grande. USIBWC Texas Clean Rivers Program. $10,000. 2009.

Modave, F., E. Freudenthal, **V. Lougheed**, O. Varela. An Integrated, Multidisciplinary and Cross-Fertilizing Model for Computing Education. National Science Foundation (NSF), $148,543. 2008-2010.

**Lougheed, V.L.** Fort Bliss Wetland GIS Database Project.Miratek (Fort Bliss DOD), $64,000. 2008-2009.

**Lougheed, V.L.** Assessment of Management Strategies for Tumbleweed Control in a National Park Setting. National Park Service Desert Southwest CESU. $14,000. 2008-2009.

**Lougheed, V.L.** and S. Palsole. Proposal to develop an on-line course in Antarctic System Science. UTTelecampus $8,388. 2007.

Tweedie, C.E., **V.L. Lougheed**, W. Robertson and A. Velasco. IPY-ROAM: International Polar Year Research and Educational Opportunities in Antarctica for Minorities. National Science Foundation (NSF), $455,000. 2006 – 2010.

**Lougheed, V.L.,** C.E. Tweedie and R. Langford. A decision tool to aid water management and restoration of southwestern riparian habitats. Southwest Consortium for Environmental Research and Policy (SCERP). $45,000. 2006 – 2008.

**Lougheed**, VL. Rio Grande/Rio Bravo Bi-National Wetland. World Wildlife Fund (WWF) – Chihuahuan Desert Program. $27,000. 2006 –2008.

Wiley, M. J. and 17 others. An Ecological Assessment of the Muskegon River Watershed to Solve and Prevent Environmental Problems. Great Lakes Fisheries Trust. $1,596,594. 2003-2006; $34,454 Subcontract to Lougheed (UTEP). 2005 - 2008

**Lougheed**, V. Monitoring the potential for ecological impacts of flash floods on an ephemeral desert stream at Indio Mountain Research Station. University Research Initiative (URI); $2000. 2005-6.

#### Publications:

##### Publications in prep (1 total) (\*indicates student co-author)

1. **Lougheed**, V.L., C.E. Tweedie, C.G. Andresen\*, A.M. Armendariz\*, S.M. Escarzaga\*, N.A. Miller\*, G. Tarin\*. The substantial contribution of small aquatic ecosystems to landscape carbon flux in the Arctic. *Global Biogeochemical Cycles*.

##### Publications in submission/revision (2 total) (\*indicates student co-author)

1. Lara, M.J.\*, D.H. Lin, C.G. Andresen\*, V.L. **Lougheed**, C.E. Tweedie. Permafrost thaw in arctic tundra wetlands, a positive feedback to warming? *Journal of Geophysical Research – Biogeosciences*.
2. Jin, L., D. Doser, V. **Lougheed**, E. Walsh, L. Hamdan, M. Zarei, G. Corral. Experiential learning and mentoring improve recruitment and retention in the undergraduate environmental science curriculum at a Hispanic serving institution. *Journal of Geoscience Education.*

##### Refereed Publications (29 total) (\*indicates student co-author)

1. Olimpo, J.T., R. Rodriguez, V.L. **Lougheed**, C.E. Tweedie. 2018. CUREcasts: An Innovative Mechanism to Increase Communication of Scientific Outcomes to Novice and Expert Audiences within the Context of Course-Based Undergraduate Research Experiences. *Journal of Microbiology and Biology Education.* doi:[10.1128/jmbe.v19i1.1426](http://dx.doi.org/10.1128/jmbe.v19i1.1426)
2. Cox\*, C., L. Jin, G. Ganjegunte, D. Borrok, V.L. **Lougheed**, L. Ma. 2018. Soil quality changes due to flood irrigation in agricultural fields along the Rio Grande in western Texas. *Applied Geochemistry* 90: 87-100.
3. Andresen\*, C.G., C.E. Tweedie, and V.L. **Lougheed**. 2018. Climate and nutrient effects on arctic wetland plant phenology observed from phenocams. *Remote sensing of the environment* 205:46-55. <https://doi.org/10.1016/j.rse.2017.11.013>
4. Andresen\*, C.G., M.J. Lara\*, C.E. Tweedie, and V.L. **Lougheed**. 2017. Rising plant-mediated methane emission from Arctic wetlands. *Global Change Biology*. DOI: 10.1111/gcb.13469
5. **Lougheed**,V.L., C. Hernandez\*, C.G. Andresen\*, N.A. Miller\*, V. Alexander, and R. Prentki. 2015. Contrasting responses of phytoplankton and benthic algae to recent nutrient enrichment in Arctic tundra ponds. *Freshwater Biology*. 60: 2169-2186.
6. Andresen, C.G.\* and V.L. **Lougheed**. 2015. Disappearing Arctic tundra ponds: Fine-scale analysis of surface hydrology in drained thaw lake basins over a 65 year period (1948–2013). *Journal of Geophysical Research – Biogeosciences*. DOI: 10.1002/2014JG002778
7. Reyes, F.R.\* and V.L. **Lougheed**. 2015. Rapid nutrient release from permafrost in Arctic aquatic ecosystems. Arctic, Antarctic and Alpine Research. 47(1): 35-48.
8. Andresen, C.G.\*, Vargas, S.A.\*, **Lougheed**, V. L., & Tweedie, C. E. 2014. Kite-based Aerial Photography (KAP): A Low Cost, Effective Tool for Wetland Research. *Wetland Science and Practice*, Dec, 28–31.
9. **Garcia, C.V.\*, W.E. Robertson, V.L. Lougheed, C.E. Tweedie, and A. Velasco. 2013.** Journey to the End of the Earth: Academic and Professional Benefits for Students Participating in a Field-based Research Program in Antarctica**.** *Journal of College Science Teaching*. 42:72-81.
10. **Lougheed**, V.L., M.G. Butler, D.C. McEwen, J.E. Hobbie. 2011. Changes in tundra pond limnology: Re-sampling Alaskan ponds after 40 years. *Ambio*. 40: 589-599.
11. Callaghan, T.V. and 54 others. 2011. Multi-Decadal Changes in Tundra Environments and Ecosystems: Synthesis of the International Polar Year-Back to the Future Project (IPY-BTF). *Ambio*. 40: 705-716.
12. Ordoñez, C.\*, V.L. **Lougheed**, J.L.Gardea-Torresdey and L. J. Bain. 2011. Impact of Metals on Macroinvertebrate Assemblages in the Forgotten Stretch of the Rio Grande. *Archives of Environmental Contamination and Toxicology*. 60: 426-436.
13. Rodriguez, R.\* and V.L. **Lougheed**. 2010. The potential to improve water quality in the middle Rio Grande through effective wetland restoration. *Water Science and Technology* 62(3): 501-509.
14. Ogdahl, M.E., V.L. **Lougheed**, R.J. Stevenson, and A.D. Steinman. 2010. Influences of multi-scale habitats on metabolism in a coastal Great Lakes watershed. *Ecosystems* 13(2): 222-238.
15. **Lougheed**, V.L., J. Herrera, W. Robertson, C.E. Tweedie. 2010. Out of the Frying Pan and Into the Freezer: Students from the desert travel to Antarctica! Invited paper In: Polar Science and Global Climate: An International Resource for Education and Outreach. Kaiser, B. (editor). Pearson Education Limited. Great Britain.
16. Garcia, C.V., A. Giangiulio, V.L. **Lougheed**, W. Robertson, C.E. Tweedie. 2010. Polar Feasts! Invited paper In: Polar Science and Global Climate: An International Resource for Education and Outreach. Kaiser, B. (editor). Pearson Education Limited. Great Britain.
17. **Robertson, W.E., C.V. Garcia\*, V.L. Lougheed, C.E. Tweedie, and A. Velasco. 2009. Bridging the Gap Between Real World Polar Science and the Classroom.** *Journal of College Science Teaching*. 39:18-22.
18. **Lougheed**, V.L., M.D. McIntosh, C.A. Parker, R.J. Stevenson. 2008. Wetland degradation leads to homogenization of biota at multiple trophic levels and spatial scales. *Freshwater Biology* 53: 2402-2413.
19. **Lougheed**, V.L., C.A. Parker, R.J. Stevenson. 2007a. Using non-linear responses of multiple taxonomic groups to establish criteria protective of wetland biological condition. *Wetlands* 27: 96-109.
20. **Lougheed**, V.L., C.A. Parker, R.J. Stevenson. 2007b. Evaluation of rapid assessment techniques for establishing wetland condition on a watershed scale. Invited paper In: Wetland and Water Resource Modeling and Assessment: Watershed Perspective. Ji, W.W., J. Qi, S. Bao, and L. Geying (editors). CRC Press.
21. R. Jan Stevenson, M.J. Wiley, S.H. Gage,V.L. **Lougheed**, C.M. Riseng, P. Bonnell, T.M. Burton, R.A. Hough, D.W. Hyndman, J.K. Koches, D.T. Long, B.C. Pijanowski, and J. Qi, A.D. Steinman, and D.G. Uzarski. 2007. Watershed Science: Essential, Complex, Multidisciplinary and Collaboratory. Invited paper In: Wetland and Water Resource Modeling and Assessment: Watershed Perspective. Ji, W.W., J. Qi, S. Bao, and L. Geying (editors). CRC Press.
22. **Lougheed**, V.L., R.J. Stevenson. 2004. Exotic marine macroalgae (Enteromorpha flexuosa) reaches bloom proportions in a coastal lake of Lake Michigan. *J. Great Lakes Res*. 30(4): 538-544.
23. **Lougheed**, V.L., T. Theÿsmeÿer, T. Smith, P. Chow-Fraser. 2004. Carp exclusion, food-web interactions and the restoration of Cootes Paradise Marsh. *J. Great Lakes Res*. 30(1): 44-57.
24. **Lougheed**, V.L. and P. Chow-Fraser. 2002. Development and use of a zooplankton index to monitor wetland quality in the Great Lakes basin. *Ecological Applications* 12: 474-486.
25. **Lougheed**, V.L. and P. Chow-Fraser. 2001. Spatial variability in the response of lower trophic levels after biomanipulation in a freshwater marsh. *J. Aquat. Ecosystem Stress and Recovery* 9: 21-34.
26. **Lougheed**, V.L., B. Crosbie and P. Chow-Fraser. 2001. Primary determinants of macrophyte community structure in 62 marshes across the Great Lakes basin: latitude, land use & water quality effects. *Can. J. Fish. Aq. Sci.* 58: 1603-1612
27. **Lougheed**, V.L., B. Crosbie and P. Chow-Fraser. 1998. Predictions on the effect of carp exclusion on water quality, zooplankton and submergent macrophytes in a Great Lakes wetland. *Can. J. Fish. Aq. Sci.* 55: 1189-1197.
28. **Lougheed**, V.L. and P. Chow-Fraser. 1998. Factors that regulate the zooplankton community structure of a turbid, hypereutrophic Great Lakes wetland. *Can. J. Fish Aq.Sci.* 55:150-161.
29. Chow-Fraser, P., V. **Lougheed**, V. LeThiec, B. Crosbie, L. Simser and J. Lord. 1998. Long-term response of the biotic community to fluctuating water levels and changes in water quality in Cootes Paradise Marsh, a degraded coastal wetland of Lake Ontario. *Wetland Ecology and Management* 6: 19-42.

##### Non-Refereed Publications (Reports, Newsletters, Bulletins)

1. **Lougheed**, V. L., Day, F., Solek, C., (2015). Society of Wetland Scientists Multicultural Mentoring Program (SWaMMP): Undergraduate mentoring at the Annual Meeting. (vol. Dec, pp. 7). *Wetland Science and Practice*. issuu.com/societyofwetlandscientists/docs/dec\_2015\_wsp\_final.
2. Andresen,C. G. and **Lougheed, V.L.** Remote Sensing of Fort Bliss Wetlands. Report prepared for Fort Bliss Directorate of the Environment and Miratek. January 2010.
3. **Lougheed,** V.L.and C. G. Andresen. Fort Bliss Wetland GIS Database Project. Report prepared for Fort Bliss Directorate of the Environment and Miratek. September 2009.
4. **Lougheed,** V.L. and R. Rodriguez. Creation of a Chihuahuan Desert Bi-National Wetland: A Feasibility Assessment. Report prepared for the Chihuahuan Desert Program, World Wildlife Fund. May 2008.
5. McNair, S. and V.L. **Lougheed.** 2003. Plankton: the hidden world of marshes. In “Between Land and Lake: Michigan’s Great Lakes Coastal Wetlands” By Albert, Dennis A. MSU Extension, East Lansing, MI.: Extension Bulletin E-2902. 96p.
6. **Lougheed**, V.L. and P. Chow-Fraser. 2001. Background paper and progress report for the coastal wetland network coordination meeting. February 22nd, 2001. A publication of the Great Lakes Fisheries Commission Coastal Wetland Network. McMaster University, Hamilton, ON.
7. **Lougheed**, V.L., B. Crosbie and P. Chow-Fraser. 2000. Response of aquatic plants and zooplankton to water quality and land-use in 60 wetlands in the Great Lakes basin. The Wood Duck 53(9): 193.
8. McDonald, G., P. Chow-Fraser, S. Baskin, S. Clearwater, B. Crosbie, S. Croke, V. **Lougheed**, W. McFarlane and L. Taylor. 1997. Literature review: The effects of highway stormwater runoff pollutants on aquatic life. Contracted by Ontario Ministry of Transport.

#### Presentations:

(\*indicates student co-author(s))

##### Contributed Meeting Presentations and Posters (>147 since 2005; 93 since 2011):

2018

Society of Wetland Scientists National Meeting (SWS), Denver, CO (1 talk, 4 posters)\*

COURI Undergraduate Research Symposium, Spring 2017, El Paso, TX (4 posters)\*

SACNAS National Conference, October 2018, San Antonio, TX (1 invited talk)

2017

Society of Wetland Scientists National Meeting (SWS), San Juan, PR (1 talk, 2 posters)\*

COURI Undergraduate Research Symposium, Spring 2017, El Paso, TX (3 posters)\*

COURI Undergraduate Research Symposium, Summer 2017, El Paso, TX (3 posters)\*

LSAMP/STEMGROW Undergraduate Research Symposium, Summer 2017, El Paso, TX (4 posters)\*

SACNAS National Conference, October 2017, Salt Lake City, UT (1 poster)\*

2016

Society of Wetland Scientists National Meeting (SWS), Corpus Christi, TX (2 talks)\*

COURI Undergraduate Research Symposium, Spring 2016, El Paso, TX (6 posters)\*

American Society of Limnology and Oceanography, June 2016, Sante Fe, NM (1 poster)

2015

Society of Wetland Scientists National Meeting (SWS), Providence, RI (2 posters)\*

American Geophysical Union (AGU), San Francisco, CA, Dec. 2012 (1 talk)\*

Geological Society of America (GSA), Baltimore, MD, Nov. 2015 (1 talk)

2014

Ecological Society of America (ESA) Meeting, Sacramento, CA (1 poster)\*

Joint Aquatic Sciences Meeting, May 2014, Portland, OR (4 posters, 1 talk)\*

COURI Undergraduate Research Symposium, Summer 2014, El Paso, TX (1 poster)\*

2013

Ecological Society of America (ESA) Meeting, Minneapolis, MN (3 posters, 2 talks)\*

SACNAS National Conference, October 2011, San Antonio, TX (4 posters)\*

Society for Freshwater Science (SFS), (1 poster, 1 talk)\*

Society of Wetland Scientists National Meeting (SWS) (1 poster)\*

American Geophysical Union (AGU), San Francisco, CA, Dec. 2012 (3 posters)\*

UTEP Geological Science Colloquium,March 2011, El Paso, TX, (1 poster, 1 talk)\*

COURI Undergraduate Research Symposium, April 2011, El Paso, TX (3 posters)\*

American Society of Limnologists and Oceanographers (ASLO) (3 posters)\*

2012

American Geophysical Union (AGU), San Francisco, CA, Dec. 2012 (4 posters)\*

Ecological Society of America (ESA) Meeting, Portland, OR, Aug. 2012 (1 posters)\*

SACNAS National Conference, October 2012, Seattle, WA (5 posters)\*

Society for Freshwater Science (SFS), Louisville, KY, May 2012 (1 poster)\*

International Polar Year (IPY) 2012- From Knowledge to Action, Montreal, Canada (2 posters)\*

UTEP Geological Science Colloquium,March 2011, El Paso, TX, (3 posters, 2 talks)\*

COURI Undergraduate Research Symposium, April 2011, El Paso, TX (3 posters)\*

2011

American Geophysical Union (AGU), San Francisco, CA, Dec. 2011 (2 posters)\*

UTEP Geological Science Colloquium,March 2011, El Paso, TX, (2 posters, 1 talk)\*

COURI Undergraduate Research Symposium, April 2011, El Paso, TX (7 posters)\*

Society of Wetland Scientists National Meeting (SWS), Prague, Czech Republic, July 2011 (2 posters, 1 talk)\*

Ecological Society of America (ESA) Meeting, Austin, TX, Aug. 2011 (3 posters)\*

SACNAS National Conference, October 2011, San Jose, CA (3 posters, 1 talk)\*

2010

American Geophysical Union (AGU), San Francisco, CA, Dec. 2010 (1 poster)

State of the Arctic Meeting, Miami, FL, March 2010 (1 poster)

UTEP Geological Science Colloquium,March 2010, El Paso, TX, (1 poster)\*

International Polar Year - Oslo Science Conference, Oslo, Norway, June 2010 (1 talk)

SACNAS National Conference, October 2010, Anaheim, CA (4 posters, 1 talk)\*

2009

American Geophysical Union (AGU), San Francisco, CA, Dec. 2009 (1 poster)

Ecological Society of America (ESA) Meeting, Albuquerque, NM, Aug. 2009 (2 posters).\*

North American Benthological Society (NABS), May 2009 (1 talk)

UTEP Geological Science Colloquium*.* March 2009, El Paso, TX, (1 poster)\*

2008

Society of Wetland Scientists National Meeting (SWS), Washington, DC, May 2008. (4 posters, 1 talk)\*

SCAR/IASC Open Science Conference 2008. St. Petersburg, Russia. (2 posters)\*

Ecological Society of America (ESA) Annual Meeting 2008. (5 posters, 1 talk)\*

SACNAS National Conference, October 2008, Salt Lake City, UT (4 posters) \*

American Geophysical Union (AGU), San Francisco, CA, Dec. 2008. (1 talk)\*

UTEP SACNAS Student Research Expo, El Paso, TX (4 posters)\*

2007

North American Benthological Society (NABS), May 2009 (1 talk)

UTEP SACNAS Student Research Expo, El Paso, TX (3 posters)\*

2006

American Society of Wetland Managers (ASWM) meeting. Traverse City, MI, Aug. 2006. (2 talks)

SACNAS National Conference, October 2006 (2 posters)\*

Ecological Society of America (ESA) Winter Meeting 2006. (1 poster)\*

Society of Wetland Scientists National Meeting (SWS), Cairns, AU (1 talk)\*

North American Benthological Society (NABS), 2006 (1 talk)

Ecological Integration STUDENT Research Symposium, Texas A&M University. April 1, 2006. (1 talk)\*

2005

SACNAS National Conference, 2005. (1 poster)\*

International Association for Great Lakes Research Conference (IAGLR). May, 2005. (2 talks, 1 poster)

North American Benthological Society (NABS), 2005 (1 talk)

### Teaching

##### Subjects Taught (UTEP) (ordered by level):

Organismal Biology (BIOL 1306)

Introduction to Environmental Science (ESCI 1301)

Field Experience in Environmental Science (ESCI 2301; ESCI 2101, 2103, 2103)

Environmental Policy (ESCI 2201; *\*Clean Water Act only*)

Professional Development for Eco/Evo majors (BIOL 3192)

Quantitative Methods in Ecology (BIOL 3360)

Environmental Science Senior Project (ESCI 4301)

Regional Water Sustainability (ESCI 4315)

Field Biology (BIOL 4325)

Professional Development (BIOL 5308/6308; *\*Myers Briggs personalities only*)

Ecosystem Ecology (BIOL 4466; BIOL 5301)

Environmental Science Graduate Seminar (ESCI 5101)

GK12 Fellow Graduate Seminar (GEOL 5115/6115)

Limnology (BIOL 5360)

Biostatistics (BIOL 5328)

##### Doctoral Students (1 completed, 3 in progress; since 2005):

(\* indicates funded by research or training grant (in whole or in part))

Christian Andresen (PhD Env Sci & Eng, 2014) – Monitoring and understanding decadal scale changes in hydrology, productivity and carbon balance in Arctic tundra ponds. *\* NSF Graduate Research Fellowship recipient\**

Mariana Vargas Medrano\* (PhD Eco Evo, In progress) - Aquatic ecosystem changes in Arctic ponds as a response to warming temperatures.

Jennifer Ramos-Chavez\* (PhD Eco Evo, In progress) - Novel tools for community based assessment and monitoring of forest phenology response to environmental variability and change in the tropics

Anna Piňa\* (PhD Eco Evo, In progress) – Macroinvertebrates as an indicator of wetland quality in the desert southwest.

##### Master’s Students (11 completed, 1 in progress; since 2005):

Ursula Sherrill (MS Biology, 2008) - The restoration of wetland functions at the Rio Bosque Wetland Park in El Paso, TX, USA

Ruth Rodriguez\* (MS Biology, 2009) - Nutrient dynamics in a created desert wetland: Implications for the Rio Bosque Wetlands Park

Mariana Vargas Medrano\* (MS Biology, 2011) - Causes and consequences of changes in the algal community structure of Arctic tundra ponds from Barrow, Alaska

Fernanda De La Cerda (MS Env Sci, 2011) - Influence of orography on the weather patterns and water availability of a topographically complex Chihuahuan Desert region.

Claudia Ortega\* (MS Interdisc. Studies, 2011) – A water budget to aid in management of created desert wetlands.

Gena Esposito\* (MS Env Sci, 2012) – What is the role of isolation and disturbance on the diversity of aquatic invertebrates in former ranchlands of the northern Chihuahuan Desert?

Christina Hernandez\* (MS Env Sci, 2012) - Recent changes in the growth and nutrient limitation of benthic and pelagic algae in Arctic tundra ponds.

Nickole Miller\* (MS Biology, 2013) - Changes in net ecosystem production over the past 40 years in Arctic tundra ponds near Barrow, Alaska: Application of historic and modern techniques

Anna Ortiz\* (MS Env Sci, 2013) - Soil respiration in a northern Chihuahuan Desert shrubland: seasonal and environmental controls.

Ector Martell\* (MS Env Sci, 2015) - The impacts of water availability on macroinvertebrate communities in west Texas and southcentral New Mexico

Gabriela Contreras\* (MS Env Sci, 2016) – Predicting the water quality of shallow Arctic ponds using remote sensing.

##### Undergraduate Students Mentored (70 since 2005):

(\* indicates participant in funded research programs)

* **Current** (10 total): Christy Adame\*, Christopher Sandoval\*, Carlos Vargas\*
* **Former** (2011-2018) (30 total): Julia Alva\*, Don Apodaca, Jacob Bilbo, Alondra Carillo, Dominic Chacon, Luis Del Val\*, Jessica Duran, Maryflor Garcia Gamboa, Nuria Garcia, Jessie Hampton\*, David Hernandez, Sarah Hernandez, Ashley Lopez, Bianca Luong\*, Ector Martell\*, Monica Mendoza, Marisela Montelongo, Antonio Nevarez\*, Jeanette Olivarez\*, Viridiana Orona\*, Lydia Ornelas, Darlina Prieto, Francisco R. Reyes\*, Scott Reza, Javier Rodriguez, Victoria Rodriguez, Rocio Ronquillo\*, Rafael Sanchez, Julieta Saucedo\*, Gabriela Tarin (Contreras), Aracely Tellez\*, Isaac Tilley, Isabel Torres, Fabian Uribari\*, Isa Valdez\*, Tiffany Wilson, Diana Zamora-Reyes\*
* **Former** (2005-2010) (30 total): Christian Andresen\*, Daniel Arriaga\*, Noemi Baquera, Michelle Brennan, Monika Carrasco, Fernanda De La Cerda\*, Aleece Dobrzyn, Jason Garcia, Laura Garcia\*, Christina Hernandez\*, Jose Lozoya, Ivia Moreno\*, Karla Moore\*, Jonathon Murphy, Denise Nuñez\*, Claudia Ortega\*, Jorge Ramos, Sarah Renteria\*, Frank Reyes, Valerie Reyes\*, Edmundo Rodriguez, Luis Rodriguez, Vanessa Rojas, Alyssa Stetler\*, Christopher Tijerina\*, Elivorio (Tony) Turrey, Victor Omar Vasquez\*, Gilda Victorino, Sandra Villarreal\*, Katrina Weber\*

##### Service on Graduate Student Committees (36 since 2005):

* ***Graduated:*** Krystal Pearson (MS Geology, 2006), Chima Nzenumweh (MS Geology, 2006), Yvette Villegas (MS Geology, 2007), Alvaro Fernandez (MS Geology, 2008), Mollie McIntosh (PhD Entomology, 2008, (MSU)), Claudia V. Garcia (M.Ed. 2009), Suzan Aranda Luna (MS Geology, 2010), Shawn Dash (PhD Biology, 2011), Ana Gutierrez (MS Geology, 2011), G. Walker Johnson (MS Env Sci, 2011), Vicente Mata Silva (PhD Biology, 2011), Sonny Emmert (MS Env Sci, 2011), Adrian Aguirre (MS Env Sci, 2011), David Lin (PhD Eco Evo, 2012), Rebecca Marin (PhD Eco Evo, 2012), Diana Martinez Gomez (MS Env Sci, 2012), Christine Cox (MS Env Sci, 2012), Libia Gonzalez (MS Env Sci, 2012), Mark Lara (PhD Eco Evo, 2012), Sandra Villarreal (PhD Eco Evo, 2013), Jennifer Martinez (MS Env Sci, 2013), Luis Mora (MS Stats, 2013), Gabby Franco (MS Biology, 2013), Aline Jaimes (PhD Env Sci & Eng, 2014), Oluwaseye Owoseni (MS Civil Eng, 2014), Suzanne Apodaca (MS Env Sci, 2015), Toni Carrick (MS Chemistry, 2015), Dominic Lannutti (PhD Eco Evo, 2017), Sergio Vargas (PhD Env Sci & Eng, 2017), Maite Martin (MS Env Sci, 2017), Marisela Montelongo (MS Env Sci, 2017).
* ***In progress:*** Maribel Baeza (PhD Eco Evo), Elizabeth Stunz (PhD Eco Evo), Andrew Anderson (MS Geology), Victor Parga (MS Env Sci), Marc Lucero (MS Geology).

##### Informal and K-12 teaching activities:

2017 Barrow Arctic Science Center Science Fair (3 days; middle school kids)

2014-5 TecH2O Wise Actions outreach program to middle school students about wetland science. Awarded “Partner of the Year” for these efforts.

2010-5 GK-12 education and outreach in El Paso Early College High Schools

2009-10 Development of graphic novel to teach school children about polar science.

2008-9 Curated the UTEP Centennial Museum display: “*To The Ends of The Earth: UTEP at The Poles*”. Included guided tours of display for local schoolchildren.

2008-10 Development of lesson plans for K-12 classrooms on Antarctic system science (e.g. Garcia et al. 2010)

2006 Contributed to the UTEP Centennial Museum display: *“Building a Bosque”*

### Service

#### Professional Service

##### Review of Grants:

Great Lakes Protection Fund (2002); Ecology and Oceanography of Harmful Algal Blooms; EPA-STAR (2004); Texas Advanced Research Program (ARP) UTEP pre-proposals (2005); NSF GK-12 review panel (2006); NSERC (National Sciences and Engineering Research Council of Canada): Healthy Environment and Ecosystems (2007); PolarTREC (Teachers & Researchers Exploring & Collaborating) (2009), SCERP Faculty Development Program (2010); NSF Arctic Observing Networks (2012); NSF-REU Program (2013); NSF Polar Programs (2017); NSF Career grants (2018), NSF IUSE (2019).

##### Review of Journal Articles:

Aquatic Sciences (2000-1); Canadian Journal of Fisheries and Aquatic Sciences (2003-2015); Ecological Applications (2008); Ecological Indicators (2009), Environmental Management (2005, 2009); Hydrobiologia – (2003, 2008); Journal of Great Lakes Research (2005, 2011); Aquatic Ecology (2006); Journal of the North American Benthological Society (2007); Reviews in Fisheries Science (2009); Transactions of the American Fisheries Society (2003, 2007); Wetlands (2006-present); Ambio (2011); Ecosphere (2011, 2014); Oecologia (2013); Arctic (2013-7); Freshwater Biology (2014-6); Global Change Biology (2014-8); Chemical Geology (2016); Journal of Geophysical Research (2016-8).

##### Other Professional Service:

2017-present. Executive Committee, Beaufort Lagoon Ecosystems LTER

2014-present. Director, Society of Wetland Scientists (SWS) Multicultural Mentoring Program (SWaMMP).

2008-present. Member of Human Diversity Committee, Society of Wetland Scientists.

2014 SWS National Conference Diversity Student Mentor

2011 SWS National Conference Diversity Student Mentor

2011 Judge of student presentations at SWS Annual Conference

2010-12 US Delegate to the International Arctic Science Committee (IASC) Terrestrial Working Group (appointed by the National Academy of Science - Polar Research Board) (stepped down for medical reasons).

2009-12 International Boundary and Water Commission (IBWC) Rio Grande Basin Monitoring Program

2009 Judge of student presentations at SACNAS Research Expo (UTEP) and Ecological Society of America (ESA)

2008 Organized Special Session: “*Linking Research and Education in the Sciences: The International Polar Year and Beyond*” at SACNAS National Conference 2008.

2008 Organized Special Session: “*International Polar Year: Research and Educational Opportunities in Antarctica for Minorities (IPY-ROAM)*” at Ecological Society of America (ESA) Annual Meeting – August 2008.

2008 Aided in organization of events at Annual Diversity mixer (Theme: Polar Science) at ESA Annual Meeting – August 2008.

2008 SWS National Conference Diversity Student Mentor

2008 Judge of student presentations at SACNAS Research Expo (UTEP), SWS Annual Conference, SACNAS National Conference, Sigma Xi Annual Meeting.

2007 Judge of student presentations at SACNAS Research Expo (UTEP).

2006 Judge of student presentations at SACNAS Research Expo (UTEP), SWS Annual Conference, Sigma Xi Annual Meeting.

2005 Judge of student presentations at International Association of Great Lakes Research Annual Meeting.

#### UTEP Service

##### University Service

UTEP Graduate School professional development: Academic Interviewing 101 (2017-8)

President's Advisory Committee on Sustainability (2013-present)

Green Fund Committee, Faculty Advisor (2011 - Present)

Women's History Month Committee (2008 - 2013).

Women's Resource Center Advisory Board. (2008 - 2013).

UTEP Faculty Senate.

Alternate Senator (2007 - 2010).

UTEP Senate Catalog and Calendar Committee. (2009 - 2012).

UTEP Senate Undergraduate Scholarships Committee (2007-2008)

UTEP Chapter of Sigma Xi, The Scientific Research Society

UTEP Chapter Secretary, 2009-2013

UTEP Chapter Vice-President, President, 2007-2008

Annual Meeting delegate, 2006, 2008

UTEP Centennial Museum Native Plant Sale Volunteer (2006-2011).

##### College Service

Environmental Science Program Oversight Committee (2010-present).

Academic advisor for Environmental Science (Biology track) students (2010-present)

Environmental Science Faculty Search Committee 2012 (Biogeochemistry)

Judges coordinator - College Office of Undergraduate Research Programs (COURI) Spring Research Symposium (2011-2013)

Environmental Science Program Ad Hoc Restructuring Committee (2009).

Commencement Ceremonies Attended: Spring 2006, Fall 2006, Spring 2009, Spring 2010, Spring 2011, Fall 2012, Fall 2014

Pre-commencement Ceremonies Attended: Fall 2006, Spring 2007, Fall 2007, Fall 2008, Spring 2009, Spring 2011, Fall 2011, Spring 2012, Fall 2014, Fall 2016

Faculty Marshall, Spring Convocation 2009.

##### Departmental Service

Biological Sciences Departmental Advisory Committee (2012-present)

Ecology and Evolutionary Biology (EEB) Doctoral Program Steering Committee (2011-Present)

Academic advisor for BS in EEB students (2007-present)

Faculty Search Committee 2019 (Biology of Infectious Disease)

Biological Sciences Associate Chair (2014-2018)

Biological Sciences Teaching Evaluation Committee (2015-2017)

Faculty Search Committee 2013 Chair (Ecological Modeler)

Faculty Search Committee 2012 (Global Change Biologist)

Faculty Search Committee 2011 (Environmental Toxicologist)

Biology Student Awards Committee Member (2011-2015)

Graduate Student Seminar Coordinator (2008 - 2010).

Faculty Search Committee 2008 (Evolutionary Geneticist)

Coordinator of weather station network at UTEPs Indio Mountains Research Station (2009-2012)

Ecology Qualifying Exam Committee (2005-2008)

##### Community Service:

2017 Barrow Area Research Center Science Fair (3 day event)

2014 TecH2O Wise Actions Middle School outreach program

2010 Solar City Task Force

2007-2011 Executive Member, Paso del Norte Watershed Council

2006-2010 Board Member, Science Advisory Board for Keystone Wetland