

# Charles D. Criscione

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## **RESEARCH FOCUS:**

My research group uses tools ranging from classic natural history to molecular ecological methods and population genetics theory to study the interplay between the ecology and evolution of parasites (mostly flatworms and roundworms). My lab is diverse in its types of science: from taxonomy and ecological distribution data to empirical tests of evolutionary theory to applied molecular epidemiology. Of particular interest are questions centered on how parasite ecology and life history influence evolutionary mechanisms and hence, consequential patterns of genetic variation within and among parasite populations. Moreover, the direct observation of many parasite population processes such as mating behaviors or dispersal is impeded due to their small sizes, infection sites within hosts, and complex life cycles. Thus, we also use population genetics data to elucidate the often hidden and elusive ecology, and cryptic biodiversity of parasites.

## **EDUCATION:**

2005           **Ph.D.** Molecular and Cellular Biology, Oregon State University, GPA: 4.0  
2000           **M.S.** Biology, Southeastern Louisiana University, GPA: 4.0  
1995           **B.S.** Zoology, Louisiana State University, GPA: 4.0, Summa Cum Laude

## **EMPLOYMENT:**

2021-current **Associate Head for Academic Affairs** – Texas A&M University, Dept. of Biology  
2019-current **Professor** – Texas A&M University, Dept. of Biology  
Faculty of Interdisciplinary Doctoral Program in Ecology and Evolutionary Biology  
Faculty of Interdisciplinary Graduate Program in Genetics and Genomics  
2014-2019 **Associate Professor** – Texas A&M University, Dept. of Biology  
Faculty of Interdisciplinary Doctoral Program in Ecology and Evolutionary Biology  
Faculty of Interdisciplinary Graduate Program in Genetics and Genomics  
2008-2014 **Assistant Professor** – Texas A&M University, Dept. of Biology  
Faculty of Interdisciplinary Research Program in Ecology and Evolutionary Biology  
2005-2008 Postdoctoral Scientist – Texas Biomedical Research Institute (TBRI), Dept. Genetics  
2003-2005 U.S. Environmental Protection Agency STAR Graduate Fellow (OSU)  
2002 Research Assistant (OSU) - pedigree analysis of Oregon steelhead salmon  
2001-2003 Teaching Assistant (OSU) – details below  
2000-2001 CGRB Core Lab Graduate Assistant (OSU) - provided lessons on Genescan/Genotyper software  
1997-2000 Teaching Assistant (SLU) – details below  
1997-1998 Research Assistant (SLU) - ecological studies of introduced fish parasites in streams of Hawai'i

## **ADMINISTRATIVE AND LEADERSHIP EXPERIENCE:**

2021-current **Associate Head for Academic Affairs**, Department of Biology, Texas A&M University (prior to 9/1/2022 official title was Director of Academic Affairs)  
-lead, oversee, and manage 5 degrees for 2,000 undergraduate majors  
-co-facilitate with the Assistant Dean of Life Science Initiatives the transition of the Biomedical Sciences (BIMS) undergraduate major (~2,500 students) into College of Arts and Sciences  
-supervise and coordinate with the Undergraduate Advising Office in Biology  
-hire and coordinate with Academic Professional Track faculty  
-consult and work with Directors of Lower Division Instruction and Undergraduate Curriculum  
-ex officio on the Undergraduate Program Committee  
-organize teaching schedule and assignments  
-evaluate curriculum requests across A&M's campus; ascertain transfer requests  
-arbitrate student disputes

- 2021-current **Department of Biology Executive Committee** – Member
  - work with Center of Teaching Excellence (A&M) for curriculum design (Biology and BIMS)
  - report status on and evaluate needs of undergraduate academic affairs
  - propose and facilitate departmental initiatives
  - oversee transfer of lab and office space in Heldenfels to accommodate BIMS transition
- 2021-current **Assessment and Reporting Chair**, Ecology and Evolutionary Biology Interdisciplinary Research Program (EEB-IDP), Texas A&M University
  - member of EEB-IDP Executive Committee
  - enhance and monitor graduate student progress
- 2022-current **Dean’s Advisory Committee for Promotion and Tenure**, College of Arts and Sciences
  - evaluate promotion and/or tenure packages from 18 diverse academic departments
  - provide summaries and recommendations to the Dean
- 2019-2022 **Tenure and Promotion Advisory Committee**, College of Science, Texas A&M University
  - evaluated promotion and/or tenure packages from 5 departments (Math, Statistics, Physics, Chemistry, and Biology)
  - provided summaries and recommendations to the Dean
- 2019-2022 **Chair of Local Organizing Committee** for the 97th Annual National Meeting of the American Society of Parasitologists (held in College Station, Texas in July 2022)
  - oversaw hotel venue contract negotiations
  - obtained sponsorship support (received \$15,000 grant from Visit College Station and \$8,500 from Texas A&M academic units)
  - coordinated a local organizing committee of 5 ASP faculty for meeting and event planning
  - managed the meeting budget
  - Public Outreach: “Parasitology on the Green”: In conjunction with the meeting, the local organizing committee conducted outreach on the Century Square Green. The event displayed various educational materials to inform the public about scientific research and general knowledge on parasites.
- 2016-2020 **Curriculum Chair**, EEB-IDP, Texas A&M University
  - member of EEB-IDP executive committee
  - oversaw a committee of 3 faculty members across campus
  - developed and implemented first year graduate curriculum of EEB-IDP
  - evaluated and approved course curriculum for eligible electives in the EEB-IDP program

**DIVERSITY, EQUITY, INCLUSION:**

- 2021-current **ADVANCE Workshop Committee**  
**ADVANCE: Advancing Faculty Diversity, Inclusion and Success (Faculty Affairs Office)**
  - Co-facilitate the STRIDE and STRIPE workshops:
    - STRIDE: Strategies and Tactics for Recruiting to Improve Diversity and Excellence
    - STRIPE: Strategies and Tactics for Retention through Inclusive Promotion Evaluations

**HONORS, RECOGNITIONS, AND AWARDS:**

- 2021 **ADVANCE Diversity Champion:** a special recognition designed to identify and celebrate individuals who are making meaningful contributions to diversity and inclusion efforts at Texas A&M University.
- 2008 Young Investigator Award—Honorable Mention (Am. Soc. Trop. Med. Hyg.)
- 2007 Texas Genetics Society – Best postdoctoral poster presentation (presented by C. Valentim)
- 2006 **Ashton Cuckler New Investigator Award** - American Society of Parasitologists
- 2005 American Fisheries Society Best Paper Award in *J. Aquat. Anim. Health* - Kent *et al.* 2005
- 2003 Best Student Presentation—Honorable Mention – Am. Soc. of Parasitologists Halifax meeting
- 2002 National Science Foundation Graduate Research Fellowship—Honorable Mention
- 1999 Graduate Teaching Fellow (SLU)
- 1995 University Medal (LSU) - awarded for highest graduating GPA
- 1995 Phi Eta Sigma Honors Society’s Senior Award (LSU)

1991-1995 Dean's list (LSU)

### **GRANTS AND FUNDING:**

- 2022-2023 NSF DEB # 1655147 Supplement (**Charles Criscione, PI**) "Testing the mating system model for the evolution of parasite complex life-cycles" (\$75,817)
- 2020-2022 Texas A&M Triads for Transformation (T3) – Project ID: 1414 (**Charles Criscione, PI**; Heath Blackmon, Co-PI; Mike Criscitiello, Co-PI): "Evolutionary Population Genomics of Host Defense and Parasite Counter-defense" (\$32,000).
- 2017-2022 NSF DEB # 1655147 (**Charles Criscione, PI**) "Testing the mating system model for the evolution of parasite complex life-cycles" (\$622,000)
- 2019 NSF DEB # 1916069 REU Supplement (**Charles Criscione, PI**) "Testing the mating system model for the evolution of parasite complex life-cycles" (\$7,800)
- 2018 College of Science (A&M) – Travel Activities Program: Travel Award to **Charles Criscione** to present at the American Society of Parasitologists 93rd Annual meeting in Cancun, Mexico (\$1,000)
- 2012-2018 NSF DEB # 1145508 (**Charles Criscione, PI**; William Font, Co-PI) "Biodiversity in the parasitic fluke genus *Alloglossidium*: Evolutionary origins of changes in life cycle complexity" (\$716,455)
- 2012-2016 Section 6 Traditional Grants, Texas Parks and Wildlife (**Charles Criscione, PI**; Toby Hibbitts, Co-PI; Lee Fitzgerald, Co-PI; Mary Janecka, Co-PI): "Post de-listing demographic and genetic monitoring of the Concho water snake (*Nerodia paucimaculata*)." (\$149,513)
- 2015 NSF DEB # 1519187 REU Supplement (**Charles Criscione, PI**) "Biodiversity in the parasitic fluke genus *Alloglossidium*: Evolutionary origins of changes in life cycle complexity" (\$7,170)
- 2014-2015 One Health Grand Challenge, Internal Texas A&M grant, (Sarah Hamer, PI; **Charles Criscione, Co-PI**, Ann Millard, Co-PI; Gabriel Hamer, Co-PI; Cecilia Giusti, Co-PI; Dan Goldberg, Co-PI): "Chagas disease in humans, animals, and insect vectors across a transnational gradient" (\$50,000)
- 2013 NSF DEB # 1302258 REU Supplement (**Charles Criscione, PI**) "Biodiversity in the parasitic fluke genus *Alloglossidium*: Evolutionary origins of changes in life cycle complexity" (\$6,250)
- 2012-2013 Braun & Gresham, PLLC Texas Ecolab (**Charles Criscione, PI**; Mary Janecka, Co-PI) "Parasites as biological indicators of ecosystem health and influence of host functional ecology on parasite population genetic substructure." (\$15,789)
- 2007-2009 NIH 1 R21 AI072704-02 (Tim Anderson, PI; **Charles Criscione, Postdoc**): A linkage map for *Schistosoma mansoni*. (\$150,000)
- 2006 TBRI Forum Grant (**Charles Criscione, PI**): Characterization of the praziquantel drug-resistant phenotype in the human parasite *Schistosoma mansoni*. (\$25,000)
- 2005 Founder's Council Steves Award (TBRI) - for purchase of stereomicroscope (\$5,692)
- 2005 Cowles Postdoctoral Fellowship (TBRI)
- 2003 Environmental Protection Agency STAR Graduate Fellowship: Comparative population genetics among trematode parasites of salmonids in the Pacific Northwest (\$108,000)
- 2003-2005 American Society of Parasitologists Marc Dresden Student Travel Grants (\$450, \$500, \$500)
- 2003-2004 P. F. Yerex & Nellie Buck Yerex Graduate Fellowship (OSU) (\$5,000)
- 2002-2003 Flyfisher's Club of Oregon Graduate Fellowship (OSU) (\$4,750)
- 2002-2003 Oregon Sports Lottery Scholarship (OSU) (\$3,468)
- 1999 Academic Enhancement Grant (SLU) (\$400)
- 1999 Student Government Association Grant (SLU) (\$350)
- 1994 Louisiana Universities Marine Consortium's Summer Program Grant (\$400)
- 1991-1995 T. H. Harris Scholarship (LSU)
- 1991-1995 Honors Scholarship (LSU)

### **INTERNATIONAL GRANT PARTNER:**

- 2014-2016 INACH Instituto Antartico Chileno (WWW.INACH.CL). (Dr. Isabel Valdivia, PI; Dr. Leyla Cardenas, Co-PI, Dr. Marcelo Oliva, Co-PI; **Dr. Charles Criscione, Co-PI-International**). A

missing component of biodiversity: Evaluating the biodiversity on parasite fauna in Antarctic Fishes” Project INACH RT-22-14.

## **PUBLICATIONS:**

- Criscione, C. D.**, J. M. Hulke, and C. P. Goater. (In Press) Trematode clone abundance distributions: An evolutionary link between parasite transmission and parasite mating systems. *Journal of Parasitology*.
- Janecka, M. J., J. E. Janecka, A. M. Haines, A. Michaels, and **C. D. Criscione**. 2021. Post-delisting genetic monitoring reveals population subdivision along river and reservoir localities of the endemic Concho water snake (*Nerodia harteri paucimaculata*). [\*Conservation Genetics\* 22:1005-1021](#).
- Hulke, J. M., W. H. Ellenburg, D. A. Zelmer and **C. D. Criscione**. 2021. Quantifying bilateral infection patterns in the trematode *Alloglossidium renale*. [\*Journal of Parasitology\* 107:731-738](#).
- Criscione, C. D.**, B. J. van Paridon, J. S. Gilleard, and C. P. Goater. 2020. Clonemate cotransmission supports a role for kin selection in a puppeteer parasite. [\*Proceedings of the National Academy of Sciences\* 117 \(11\): 5970-5976](#).
- Caballero, I. C. and **C. D. Criscione**. 2019. Little to no inbreeding depression in a tapeworm with mixed mating. [\*Journal of Evolutionary Biology\* 32:1002-1010](#).
- Sakla, A. J., J. T. Detwiler, I. C. Caballero, C. Kelehear, and **C. D. Criscione**. 2019. Recognizing the causes of parasite morphological variation to resolve the status of a cryptogenic pentastome. [\*Journal of Parasitology\* 105:432-441](#).
- Kasl, E. L., W. F. Font, and **C. D. Criscione**. 2018. Resolving evolutionary changes in parasite life cycle complexity: molecular phylogeny of the trematode genus *Alloglossidium* indicates more than one origin of precociousness. [\*Molecular Phylogenetics and Evolution\* 126:371-381](#).
- Dusitsittipon, S., **C. D. Criscione**, S. Morand, C. Komalamisra, and U. Thaenkham. 2018. Hurdles in the evolutionary epidemiology of *Angiostrongylus cantonensis*: pseudogenes, incongruence between taxonomy and DNA sequence variants, and cryptic lineages. [\*Evolutionary Applications\* 11:1257-1269](#).
- Detwiler, J.T., I. C. Caballero, and **C. D. Criscione**. 2017. Role of parasite transmission in promoting inbreeding: I. Infection intensities drive individual parasite selfing rates. [\*Molecular Ecology\* 26:4391–4404](#).
- Detwiler, J.T., and **C. D. Criscione**. 2017. Role of parasite transmission in promoting inbreeding: II. Pedigree reconstruction reveals sib-transmission and consequent kin-mating. [\*Molecular Ecology\* 26:4405–4417](#).
- Dusitsittipon, S., **C. D. Criscione**, S. Morand, C. Komalamisra, and U. Thaenkham. 2017. Cryptic lineage diversity in the zoonotic pathogen *Angiostrongylus cantonensis*. [\*Molecular Phylogenetics and Evolution\* 107:404-414](#).
- McAllister, C. T., E. L. Kasl, H. W. Robison, M. B. Connior, W. F. Font, S. E. Trauth, and **C. D. Criscione**. 2016. New host records for *Alloglossidium progeneticum* (Digenea: Macroderoididae) in crayfishes (Decapoda: Cambaridae) from Arkansas and Oklahoma, U.S.A. [\*Comparative Parasitology\* 83:255-259](#).
- van Paridon, B. J., C. P. Goater, J. S. Gilleard, and **C. D. Criscione**. 2016. Characterization of nine microsatellite loci for *Dicrocoelium dendriticum*, an emerging liver fluke of ungulates in North America, and their use to detect clonemates and random mating. [\*Molecular and Biochemical Parasitology\* 207:19-22](#).
- Criscione, C. D.** 2016. History of microevolutionary thought in parasitology: The integration of molecular population genetics. in J. Janovy Jr., G. E. Esch, eds., [\*A Century of Parasitology: Discoveries, ideas and lessons learned by scientists who published in the Journal of Parasitology\*](#), 1914–2014. Wiley. (Invited book chapter).
- Kasl, E. L., C. T. McAllister, H. W. Robison, M. B. Connior, W. F. Font, and **C. D. Criscione**. 2015. Evolutionary consequence of a change in life cycle complexity: a link between precocious development and evolution towards female-biased sex allocation in a hermaphroditic parasite. [\*Evolution\* 69:3156-3170](#).
- Caballero, I. C., A. J. Sakla, J. T. Detwiler, M. Le Gall, S. T. Behmer, and **C. D. Criscione**. 2015. Physiological status drives metabolic rate in Mediterranean geckos infected with pentastomes. [\*PLOS One\* 10\(12\): e0144477](#).
- Doña, J., M. Moreno-García, **C. D. Criscione**, D. Serrano, R. Jovani. 2015. Species mtDNA genetic diversity explained by infrapopulation size in a host-symbiont system. [\*Ecology and Evolution\* 5:5801-5809](#).

- McAllister, C. T., W. F. Font, M. B. Connior, H. W. Robison, N. G. Stokes, and **C. D. Criscione**. 2015. Trematode parasites (Digenea) of the slender madtom, *Noturus exilis* and Black River madtom, *Noturus maydeni* (Siluriformes: Ictaluridae) from Arkansas, U.S.A. [Comparative Parasitology](#) 82:137-143.
- Detwiler, J. T. and **C. D. Criscione**. 2014. Recently introduced invasive geckos quickly reach population genetic equilibrium dynamics. [Biological Invasions](#) 16:2653-2667.
- Valdivia, I. M., **C. D. Criscione**, L. Cárdenas, C. P. Durán and M. E. Oliva. 2014. Does a facultative precocious life cycle predispose the marine trematode *Proctoeces* cf. *lintoni* to inbreeding and genetic differentiation among host species? [International Journal for Parasitology](#) 44:183-188.
- Kasl, E. L., T. J. Fayton, W. F. Font, and **C. D. Criscione**. 2014. *Alloglossidium floridense* n. sp. (Digenea: Macroderoididae) from a spring run in north central Florida. [Journal of Parasitology](#) 100:121-126.
- Criscione, C. D.** 2013. Genetic epidemiology of *Ascaris*: cross-transmission between humans and pigs, focal transmission, and effective population size. in C. Holland, ed. [Ascaris: The Neglected Parasite](#). Academic Press. (peer-reviewed book chapter)
- Gorton, M. J., E. L. Kasl, J. T. Detwiler, and **C. D. Criscione**. 2012. Testing local scale panmixia provides insights into the cryptic ecology, evolution, and epidemiology of metazoan animal parasites. [Parasitology](#) 139:981-997. (Invited review).
- Owusu, K. A., J. T. Detwiler, and **C. D. Criscione**. 2012. Characterization of 21 microsatellite loci from the invasive Mediterranean gecko (*Hemidactylus turcicus*). [Conservation Genetics Resources](#) 4:563-565.
- Peng, W. and **C. D. Criscione**. 2012. Ascariasis in people and pigs: New inferences from DNA analysis of worm populations. [Infection, Genetics and Evolution](#) 12:227-235. (Invited review).
- Williams-Blangero, S., **C. D. Criscione**, J. L. VandeBerg, R. Correa-Oliveira, K. D. Williams, J. Subedi, J. Kent, J. Williams, S. Kumar, and J. Blangero. 2012. Host genetics and population structure effects on parasitic disease. [Philosophical Transactions of the Royal Society B](#) 367:887-894.
- Detwiler, J. T. and **C. D. Criscione**. 2011. Testing Mendelian inheritance from field-collected parasites: revealing duplicated loci enables correct inference of reproductive mode and mating system. [International Journal for Parasitology](#) 41:1185-1195.
- Criscione, C. D.**, R. Vilas, E. Paniagua, and M. S. Blouin. 2011. More than meets the eye: detecting cryptic microgeographic population structure in a parasite with a complex life cycle. [Molecular Ecology](#) 20:2510-2524.
- Criscione, C. D.**, J. D. Anderson, D. Sudimack, J. Subedi, R. P. Upadhayay, B. Jha, K. D. Williams, S. Williams-Blangero, and T. J. C. Anderson. 2010. Landscape genetics reveals focal transmission of a human macroparasite. [PLOS Neglected Tropical Diseases](#) 4:e665.
- Detwiler, J. T. and **C. D. Criscione**. 2010. An infectious topic in reticulate evolution: Introgression and hybridization in animal parasites. [Genes](#) 1:102-123. (Invited review).
- Steinauer, M. L., M. S. Blouin, and **C. D. Criscione**. 2010. Applying evolutionary genetics to schistosome epidemiology. [Infection, Genetics and Evolution](#) 10:433-443. (Invited review).
- Criscione, C. D.**, C. L. L. Valentim, H. Hirai, P. T. LoVerde, T. J. C. Anderson. 2009. Genomic linkage map of the human blood fluke *Schistosoma mansoni*. [Genome Biology](#) 10:R71. (press release from *Genome Biology*, mini-review by Andy Tait in *Genome Biology*, and story by Texas A&M College of Science).
- Valentim, C. L. L., P. T. LoVerde, T. J. C. Anderson, **C. D. Criscione**. 2009. Efficient genotyping of *Schistosoma mansoni* miracidia following whole genome amplification. [Molecular and Biochemical Parasitology](#) 166:81-84.
- Criscione, C. D.** 2008. Parasite co-structure: broad and local scale approaches. [Parasite](#) 15:439-443 (Invited Review).
- Criscione, C. D.**, J. D. Anderson, D. Sudimack, W. Peng, B. Jha, S. Williams-Blangero, and T. J. C. Anderson. 2007. Disentangling hybridization and host colonization in parasitic roundworms of humans and pigs. [Proceedings of the Royal Society B](#) 274:2669-2677.
- Criscione, C. D.**, J. D. Anderson, K. Raby, D. Sudimack, J. Subedi, D. R. Rai, R. P. Upadhayay, B. Jha, S. Williams-Blangero, and T. J. C. Anderson. 2007. Microsatellite markers for the human nematode parasite *Ascaris lumbricoides*: Development and assessment of utility. [Journal of Parasitology](#) 93:704-708.
- Criscione, C. D.**, and M. S. Blouin. 2007. Parasite phylogeographical congruence with salmon host evolutionarily significant units: Implications for salmon conservation. [Molecular Ecology](#) 16:993-1005.



- Criscione, C. D.**, and M. S. Blouin. 2006. Minimal selfing, few clones, and no among-host genetic structure in a hermaphroditic parasite with asexual larval propagation. *Evolution* 60:553-562.
- Criscione, C. D.**, B. Cooper, and M. S. Blouin. 2006. Parasite genotypes identify source populations of migratory fish more accurately than fish genotypes. *Ecology* 87:823-828. (subject of articles in *The Oregonian* newspaper, KVAL 13 Eugene, OR and *Practical Fishkeeping* and *FISH Update* magazines)
- Vilas, R., **C. D. Criscione**, E. Paniagua, and M. S. Blouin. 2006. Microsatellite loci from the trematode *Lecithochirium fusiforme*, a parasite of the European conger eel. *Molecular Ecology Notes* 6:1064-1066.
- Criscione, C. D.**, R. Poulin, and M. S. Blouin. 2005. Molecular ecology of parasites: Elucidating ecological and microevolutionary processes. *Molecular Ecology* 14:2247-2257. (Invited review).
- Criscione, C. D.**, and M. S. Blouin. 2005. Effective sizes of macroparasite populations: A conceptual model. *Trends in Parasitology* 21:212-217.
- Vilas, R., **C. D. Criscione**, and M. S. Blouin. 2005. A comparison between mitochondrial DNA and the ribosomal internal transcribed regions in prospecting for cryptic species of platyhelminth parasites. *Parasitology* 131:839-846.
- Criscione, C. D.**, and M. S. Blouin. 2005. Eleven polymorphic microsatellite loci for the salmonid trematode *Plagioporus shawi*. *Molecular Ecology Notes* 5:562-564.
- Criscione, C. D.**, and M. S. Blouin. 2004. Life cycles shape parasite evolution: comparative population genetics of salmon trematodes. *Evolution* 58:198-202. (with cover illustration)
- Kent, M.L., V. Watral., C. M. Whipps, M. E. Cunningham, **C. D. Criscione**, J. R. Heidel, D. L. Curtis, J. Spitsbergen, D. Markle. 2004. A digenean metacercaria (*Apophallus* sp.) and a myxozoan (*Myxobolus* sp.) associated with vertebral deformities in cyprinid fishes from the Willamette River, Oregon. *Journal of Aquatic Animal Health* 16:116-129.
- Criscione, C. D.**, V. Watral, C. M. Whipps, M. S. Blouin, S. R. M. Jones, and M. L. Kent. 2002. Ribosomal DNA sequences indicate isolated populations of *Ichthyophonus hoferi* in geographic sympatry in the northeastern Pacific Ocean. *Journal of Fish Diseases* 25: 575-582.
- Criscione, C. D.**, and W. F. Font. 2001. The guest playing host: Colonization of the introduced Mediterranean gecko, *Hemidactylus turcicus*, by helminth parasites in southeastern Louisiana. *Journal of Parasitology* 87:1273-1278.
- Criscione, C. D.**, and W. F. Font. 2001. Development and specificity of *Oochoristica javaensis* (Eucestoda: Cyclophyllidae: Anoplocephalidae: Linstowiinae). *Comparative Parasitology* 68:149-155.
- Criscione, C. D.**, and W. F. Font. 2001. Artfactual and natural variation of *Oochoristica javaensis*: Statistical evaluation of in situ fixation. *Comparative Parasitology* 68:156-163.
- Criscione, C. D.**, N. J. Anderson, T. Campbell, and B. Quinn. 1998. *Hemidactylus mabouia*. *Herpetological Review* 29:248.

### **TEACHING EXPERIENCE:**

- 2022-current Evolution (BIOL 610, TAMU)
- 2022 Journal Club: Population Genomics of Parasitic Helminths (BIOL 691, TAMU)
- 2009-2021 Genes, Ecology, Evolution (BIOL 214, TAMU) (years taught 2009-2013, 2017, 2018, 2020, 2021)
- 2018-2021 Population and Quantitative Genetics (EEBL 605, TAMU)
- 2015-2020 Population Genetics (GENE 612, TAMU) (to resume in Fall 2023)
- 2012-2016 Biomedical Parasitology (BIOL 487/VTPB 487, TAMU)
- 2010 General Parasitology (BIOL 489/689, TAMU)
- 2010 Ecological and Evolutionary Applications in Studies of Parasites/Pathogens (BIOL 689, TAMU)
- 2001, 2003 Teaching Assistant – Genetics (OSU)
- 2002 Teaching Assistant – Cell Biology Laboratory (OSU)
- 2000 Teaching Assistant – Graduate Advanced Biostatistics Laboratory (SLU)
- 1999, 2000 Teaching Assistant – Undergraduate Applied Biostatistics Laboratory (SLU)
- 1999 Teaching Assistant – Field Zoology (summer course on vertebrate natural history) (SLU)
- 1999 Biology Computer Laboratory monitor and instructor (SLU)
- 1997-1999 Teaching Assistant – Introduction to Zoology Laboratory (SLU)
- Guest Lecturer – Parasitology (OSU), Evolution (SLU), Herpetology (SLU)

## **POSTDOCTORAL MENTORING:**

- 2013-2017 Dr. Isabel Caballero (current: Ph.D. Program Coordinator, Interdisciplinary Graduate Program in Genetics, Texas A&M University)
- 2010-2013 Dr. Jillian Detwiler (current: Associate Professor, University of Manitoba)  
ADVANCE nominated participant (NSF career, gender-equity program, Texas A&M Univ.)  
2012-2013 Awarded NIH NRSA F32 Postdoctoral Fellow (Jillian Detwiler, PI; **Charles Criscione, sponsor**): “Testing mechanisms of parasite-mediated selection on MHC genetic diversity.” (\$52,190)

## **GRADUATE STUDENT MENTORING:**

### Advisor role:

- 2022-current Ryne Maness (Ph.D. student, Texas A&M Univ., Biology Dept.)
- 2022-current Chelsea Thorn (Ph.D. student, Texas A&M Univ., Biology Dept.)
- 2021-current Owen Dorsey (co-advise) (Ph.D. student, Texas A&M Univ., EEB)
- 2019-current Jenna Hulke (Ph.D. student, Texas A&M Univ., Biology Dept.)
- 2010-2019 Mary Janecka (formerly Gorton) (Ph.D. student, Texas A&M Univ., Biology Dept.) (current: NSF Postdoctoral Fellow in lab of Dr. Jessica Stephenson at the Univ. of Pittsburg)
- 2015-2018 Andrew Sakla (M.S. student, Texas A&M Univ., Biology Dept.) (current: Operations Manager for the Center for Genetics of Host Defense, Univ. of Texas-Southwestern Medical Center)
- 2009-2016 Emily Kasl (Ph.D. student, Texas A&M Univ., Biology Dept.) (current: Assistant Professor, University of North Alabama since August 2017)

### Committee member role:

- 2022-current Matthew Kulpa (Ph.D. committee member, Texas A&M University, Dept. of Veterinary Pathobiology)
- 2021-current Daniel Fanning (M.S. committee member, Texas A&M University-Galveston, Marine Biology)
- 2020-current Jorge Medina Duran (Ph.D. student, Texas A&M Univ., EEB)
- 2020-current Natalie Hamilton (Ph.D. student, Texas A&M Univ., Dept. of Rangeland Wild. and Fish. Mgmt.)
- 2018-2022 Terrence Sylvester (Ph.D. student, Texas A&M Univ., Biology Dept.)
- 2014-2022 Charlayna Cammarata (Ph.D. student, Texas A&M Univ., Dept. of Ecology and Conservation Biology)
- 2017-2022 Stephen Bovio (Ph.D. student, Texas A&M Univ., EEB)
- 2012-2017 Jessica Rodriguez (Ph.D., Texas A&M Univ., Dept. of Vet. Pathobiology)
- 2011-2016 Humberto Martinez Montoya (Ph.D., Texas A&M Univ., WFSC)
- 2010-2016 Melissa Giresi (Ph.D., Texas A&M Univ., Biology Dept.)
- 2012-2015 Mattie Squire (M.S., Texas A&M Univ., Biology Dept.)
- 2012 Eric Rosch (Ph.D. 2012, Texas A&M Univ., Biology Dept.)
- 2008-2011 Zachary W. Culumber (Ph.D. 2011, Texas A&M Univ., Biology Dept.)

### Mentees at other institutions:

- 2015-2018 Erika Ebbs (formerly Gendron) (Ph.D. outside committee member (Univ. New Mexico, Dept. of Biology)
- 2015 Sirilak Dusitsittipon (Ph.D. host, visiting student from Thailand, Development and Promotion of Science and Technology Talents Project (DPST)-(Royal Government of Thailand scholarship) (current: Lecturer, Department of Parasitology and Entomology, Faculty of Public Health, Mahidol University, Thailand)
- 2010-2011 Isabel Valdivia (Ph.D. 2012, Universidad de Antofagasta, Chile). She did an internship in my laboratory via a CONICYT Becas de Pasantía Doctoral en el Extranjero-Becas Chile.
- 2010 Diana Belanger (Ph.D. 2010, The City University of New York and American Museum of Natural History). I served as an outside defense committee member.

## **UNDERGRADUATE STUDENT MENTORING:**

2020-current Nicholas Hein (undergraduate research BIOL 491, student worker)  
 2022-current Devin Rubio (undergraduate research BIOL 491)  
 2021-2022 Payton Pilling (undergraduate research BIOL 491)  
 2021-2022 Shelby Crosby (undergraduate research BIOL 491, NSF REU participant)  
 2019-2020 Genesis Hernandez (undergraduate research BIOL 491)  
 2018-2019 William Ellenburg (student worker, NSF REU participant, undergraduate research BIOL 491)  
 2019 Stephanie Bynum (undergraduate research BIOL 491)  
 2018 Sonny Rodriguez (Regents' Scholar, undergraduate research BIOL 291)  
 2016-2017 Nikki Selby (undergraduate research BIOL 291, 491)  
 2014-2016 Brianna Trejo (undergraduate research BIOL 491, NSF REU participant)  
 2015 Heather Newkirk (undergraduate research BIOL 491, NSF REU participant, BICH 491)  
 2015 Michael Rauch (undergraduate research VIBS 285)  
 2014 Abbie Ince (undergraduate research BIOL 491, student worker)  
 2012-2014 Andrew Sakla (undergraduate research BIOL 491, then employed as technician)  
 2013 Nicholas Stokes (NSF REU participant)  
 2013 Moinuddin Syed (undergraduate research BIOL 491)  
 2013 Katherine Bass (undergraduate research BIOL 491)  
 2011-2013 Erika Medina (Louis Stokes Alliance for Minority Participation undergraduate researcher)  
 2012 Katherine Holley (undergraduate research BIOL 491)  
 2010-2011 Kwadwo Owusu (undergraduate research BIOL 291, 491)  
 2011 Kathleen Peart (undergraduate research BIOL 291)  
 2009-2010 Johnson Cheng (undergraduate research BIOL 491)  
 2009-2010 Shih-Jye Yei (undergraduate research BIOL 491)

#### **INVITED SEMINARS:**

2022 Southeastern Louisiana University, Department of Biological Sciences  
 2021 Sam Houston State University, Department of Biological Sciences  
 2018 Animal Parasitic Diseases Laboratory, USDA/ARS/NEA/BARC, Beltsville, Maryland  
 2018 Texas A&M University, Department of Biology  
 2018 Texas A&M University, Genetics and Genomics (G2) Seminar Series, Interdisciplinary Faculty of Genetics and Institute for Genome Sciences and Society  
 2018 Texas A&M University, Department of Veterinary Pathobiology  
 2018 University of New Mexico, Center for Evolutionary and Theoretical Immunology  
 2018 University of Texas - Tyler, Department of Biology  
 2016 Universidad Austral de Chile, Facultad de Ciencias  
 2015 University of California - Santa Barbara, Department of Ecology Evolution and Marine Biology  
 2013 University of Houston, Department of Biology and Biochemistry  
 2013 Texas A&M University, Department of Biology  
 2012 University of Calgary, Faculty of Veterinary Medicine (departmental seminar and guest lecturer)  
 2011 Rice University, Department of Ecology and Evolutionary Biology  
 2010 RAPIDD; NIH sponsored workshop on cross species transmission. Bethesda, Maryland  
 2010 University of Milano Bicocca, Department of Biotechnology and Biosciences, Milan, Italy  
 2009 TAMU Zoological Society  
 2007 University of Montana (guest seminar for Gordon Luikart's disease ecology/evolution class)  
 2007 University of South Florida, Department of Biology  
 2007 Southern Illinois University-Carbondale, Department of Zoology  
 2007 Louisiana State University, Department of Biological Sciences  
 2007 University of Georgia, Department of Genetics  
 2006 Texas A&M University, Department of Biology  
 2006 University of Central Florida, Department of Biology  
 2000 Louisiana State University, Museum of Natural Science  
 2000 University of California-Davis, Department of Nematology



## **CONFERENCE PRESENTATIONS:**

- Criscione, C. D.**, and C. Goater. 2022. Nascent linkages between parasite transmission, parasite mating systems, and clonemate abundance distributions in trematodes. American Society of Parasitologists (College Station, TX).
- Criscione, C. D.**, B. van Paridon, J. Gilleard, and C. Goater. 2019. Adding reality to the folklore of the iconic host manipulating lancet fluke: hard data on clonal transmission in infected ants from southern Alberta, Canada. American Society of Parasitologists (Rochester, MN).
- Kasl, E. L., W. F. Font, and **C. D. Criscione**. 2018. Evolution of precocious life cycles in the trematode genus *Alloglossidium*. American Society of Parasitologists (Cancun, Mexico).
- Criscione, C. D.**, and J. T. Detwiler. 2017. Elucidating the role of inbreeding in parasites: using pedigree reconstruction data to infer transmission, assess inbreeding depression, and partition the mating system. American Society of Parasitologists (San Antonio, Texas).
- Detwiler, J. T., I. C. Caballero, **C. D. Criscione**. 2016. Role of parasite transmission in promoting inbreeding. Evolution 2016 Austin, TX (poster).
- Criscione, C. D.**, J. T. Detwiler, and I. C. Caballero. 2014. Role of parasite transmission in promoting inbreeding. I. Impact on the primary mating system. American Society of Parasitologists (New Orleans, LA).
- Criscione, C. D.** and J. T. Detwiler. 2014. Role of parasite transmission in promoting inbreeding. II. Impact on sib-mating. American Society of Parasitologists (New Orleans, LA).
- Criscione, C. D.** 2014. History of microevolutionary thought in parasitology: The integration of molecular population genetics. American Society of Parasitologists (New Orleans, LA). (**Invited Speaker - Centennial Symposium: Celebrating 100 years of the *Journal of Parasitology***).
- Criscione, C. D.** 2013. Estimation of the effective population size ( $N_e$ ) as a genetic epidemiological tool to monitor metazoan parasite population and transmission dynamics. American Society of Parasitologists (Quebec City, Canada)
- Criscione, C. D.** 2012. Landscape genetics and estimation of the effective population size ( $N_e$ ) as genetic epidemiological tools to monitor metazoan parasite population and transmission dynamics. 11th International Conference on Molecular Epidemiology and Evolutionary Genetics of Infectious Diseases (New Orleans, LA) (**Plenary Speaker-Invited**).
- Criscione, C. D.** 2012. Shifting Balance Theory and the 'Evolution' of an Academic Career. American Society of Parasitologists (Richmond, VA) (**Students' Symposium Speaker-Invited**).
- Criscione, C. D.** 2011. Transmission and determinants of inbreeding in metazoan parasites: insights from genetic data. Center for Genome Research and Biocomputing (CGRB) Fall Conference, Oregon State University, Corvallis, OR (**Conference Speaker- Invited**).
- Criscione, C. D.**, R. Vilas, E. Paniagua, and M. S. Blouin. 2011. More than meets the eye: cryptic microgeographic genetic structure in a parasite explains extensive variation in population inbreeding coefficients. Evolution (Norman, OK).
- Detwiler, J. T. and **C. D. Criscione**. 2010. Unexpected asexual reproduction in a tapeworm? American Society of Parasitologists (Colorado Springs, CO).
- Criscione, C. D.**, C. L. L. Valentim, H. Hirai, P. T. LoVerde, T. J. C. Anderson. 2009. Genetic linkage map of the human blood fluke *Schistosoma mansoni*. Am. Soc. of Parasitologists (Knoxville, TN).
- Criscione, C. D.**, D. Sudimack, J. D. Anderson, J. Subedi, D. R. Rai, R. P. Upadhayay, B. Jha, K. D. Williams, S. Williams-Blangero, and T. J. C. Anderson. 2008. Landscape genetics reveals focal transmission of *Ascaris lumbricoides*. American Society of Tropical Medicine and Hygiene (New Orleans, LA).
- Criscione, C. D.** 2008. Parasite co-structure: broad and local scale approaches. Xth European Multicolloquium of Parasitology (Paris, France) (**Keynote Speaker-Invited**).
- Criscione, C. D.**, D. Sudimack, J. D. Anderson, J. Subedi, D. R. Rai, R. P. Upadhayay, B. Jha, S. Williams-Blangero, and T. J. C. Anderson. 2008. Molecular epidemiology and landscape genetics as tools to examine foci of parasite transmission within host populations. Am. Soc. of Parasitologists (Arlington, TX).
- Criscione, C. D.**, C. Valentim, P. T. Loverde, T. J. C. Anderson. 2007. Construction of a linkage map for *Schistosoma mansoni*. American Society of Tropical Medicine and Hygiene (Philadelphia, PA).

- Criscione, C. D.**, J. D. Anderson, D. Sudimack, W. Peng, M. E. Romero-Abal, J. Subedi, D. R. Rai, R. P. Upadhayay, B. Jha, S. Williams-Blangero, and T. J. C. Anderson. 2007. Disentangling host colonization and hybridization patterns in human and pig *Ascaris*: Is it possible? 1st North American Parasitology Congress (Merida, Mexico).
- Valentim, C. L., P. T. LoVerde, T. J. C. Anderson, **C. D. Criscione**. 2007. Evaluating whole genome amplification from small parasites: Typing hundreds of microsatellite markers from single miracidia of *Schistosoma mansoni*. 1st North American Parasitology Congress (Merida, Mexico).
- Valentim, C. L., P. T. LoVerde, T. J. C. Anderson, **C. D. Criscione**. 2007. Linkage map construction in the human blood fluke *Schistosoma mansoni*. Texas Genetics Society (San Antonio, TX).
- Criscione, C. D.**, B. Cooper, and M. S. Blouin. 2006. Parasite genotypes identify source populations of migratory fish more accurately than fish genotypes. 11th Int. Congress of Parasitology (Glasgow, Scotland).
- Criscione, C. D.**, J. D. Anderson, K. Raby, D. Sudimack, J. Subedi, D. R. Rai, R. P. Upadhayay, B. Jha, S. Williams-Blangero, and T. J. C. Anderson. 2006. Landscape genetics of *Ascaris lumbricoides*: fine scale genetic structure among human hosts (poster). 11th Int. Congress of Parasitology (Glasgow, Scotland).
- Criscione, C. D.**, and M. S. Blouin. 2005. Elucidating parasite transmission dynamics and mating systems: an examination of the within population genetic structure of the salmonid trematode *Plagioporus shawi*. Am. Soc. of Parasitologists (Mobile, AL).
- Criscione, C. D.**, and M. S. Blouin. 2004. Parasite population genetics: illustrated uses in the environmental and conservation sciences (poster). EPA Graduate Fellowship Conference (Washington, DC).
- Criscione, C. D.**, and M. S. Blouin. 2004. Effective size of macroparasite populations: a conceptual overview. Am. Soc. of Parasitologists (Philadelphia, PA), Evolution (Fort Collins, CO), EVO\_WIBO (Port Townsend, WA).
- Criscione, C. D.**, and M. S. Blouin. 2003. Life cycles shape parasite evolution as shown via comparative population genetics of salmonid trematodes. Am. Soc. of Parasitologists (Halifax, Nova Scotia), Evolution (Chico, CA).
- Criscione, C. D.**, V. Watral, C. M. Whipps, M. S. Blouin, S. R. M. Jones, and M. L. Kent. 2002. Ribosomal DNA sequences indicate isolated populations of *Ichthyophonus hoferi* in the northeastern Pacific Ocean. 10th Int. Congress of Parasitology (Vancouver, Canada).
- Criscione, C. D.**, and W. F. Font. 1999. Helminth parasites from the introduced Mediterranean gecko, *Hemidactylus turcicus*: ecological and conservation implications for reptiles and amphibians. ASIH (Pennsylvania St. Univ, PA), Southeastern Society of Parasitologists (Auburn Univ., AL).

### **WORKSHOPS and SHORT COURSES**

- 2016 Population Genetics in Species with Complex Life Cycles (Universidad Austral de Chile, Facultad de Ciencias in Valdivia, Chile) – Invited Lecturer for week long graduate student summer short-course.
- 2010 RAPIDD (Research and Policy of Infectious Disease Dynamics; NIH sponsored) – Estimating Pathogen Transmission Among Host Species. Invited participant.
- 2007 Conservation Genetics Data Analysis Course, Flathead Lake Biological Station, Montana.

### **SERVICE:**

- 2022-current Dean's Advisory Committee for Promotion and Tenure, College of Arts and Sciences, Texas A&M Univ.
- 2022-current Undergraduate Instruction Committee, College of Arts and Sciences, Texas A&M Univ.
- 2022-current Undergraduate Instruction Committee, Biomedical Sciences (BIMS), Texas A&M Univ.
- 2022-current Program (Re)Design: TAMU Undergraduate BIMS, member (committee to work with Center of Teaching Excellence (A&M) for curriculum design)
- 2021-current Program (Re)Design: TAMU Undergraduate Biology, Core Team member (committee to work with Center of Teaching Excellence (A&M) for curriculum design)
- 2021-current Undergraduate Program Committee, Dept. of Biology, Texas A&M Univ. (ex officio)
- 2021-current Assessment and Reporting Chair, Ecology and Evolutionary Biology Interdisciplinary Research Program, Texas A&M University-elected member

- 2019-current Associate Editor, *The Journal of Parasitology*
- 2015-current *Journal of Helminthology*, Editorial Board
- 2019-2022 Tenure and Promotion Advisory Committee, College of Science, Texas A&M Univ.
- 2022 Interviewer for Science2Medicine program (admits undergrads with guaranteed admission to A&M Medical School)
- 2022 University Working Group #13 – committee member: Charged to develop a First Year Life Science program in the College of Arts and Sciences and to transition BIMS to the College of Arts and Sciences.
- 2019-2022 Local Organizing Committee (Chair), 97th Annual National Meeting of the American Society of Parasitologists (held in College Station, Texas in 2022)
- 2019-2022 Meeting Site Selection Committee, (Chair from 2021-2022), American Society of Parasitologists
- 2020-2021 Graduate Program Committee, Dept. of Biology, Texas A&M Univ.
- 2017-2021 Seminar Committee, Dept. of Biology, Texas A&M Univ.
- 2016-2020 Curriculum Chair, Ecology and Evolutionary Biology Interdisciplinary Research Program, Texas A&M University-elected member
- 2016-2020 Council-Member-at-Large, American Society of Parasitologists-elected member
- 2017 NIH GVE Temporary Panel Member (October)
- 2015-2017 Evolutionary Genomics Search Committee (Dept. of Biology, Texas A&M Univ.)
- 2013-2016 Annual Review Committee (Dept. of Biology, Texas A&M Univ.)-elected member
- 2013-2015 Budget Information Committee (Sub-Committee of Faculty Senate)
- 2012-2015 Faculty Senate (College of Science, Texas A&M Univ.)-elected member
- 2013 Biology Department Head Search Advisory Committee (College of Science, Texas A&M Univ.)
- 2012-2013 Student Awards Committee – American Society of Parasitologists
- 2010-2013 Priorities and Planning Committee - American Society of Parasitologists
- 2009-2012 Graduate Recruiting and Admissions Committee (Dept. of Biology, Texas A&M Univ.)
- 2009-2010 Nominating Committee (elected member) – American Society of Parasitologists
- 2009 Operating Budget and Funding Priorities Subcommittee (Dept. of Biology, Texas A&M Univ.)
- 2007-2009 Henry Baldwin Ward Medal Committee (Chair) - American Society of Parasitologists
- 2005-2009 Membership Committee - American Society of Parasitologists
- 2008 Organizer of symposium at Am. Soc. of Parasitologists (Arlington, TX, 2008): *Population genetics of parasites: from geography to genes.*
- 2003 Invited panel speaker for the Council of Regents (OSU) - special event for university donors
- 2003 Molecular and Cellular Biology Admissions Committee (OSU)
- 1998-1999 President Biology Graduate Student Organization (SLU)
- 1999 Teller's committee - American Society of Parasitologists

#### Journal Reviewer:

*Advances in Parasitology, American Journal of Tropical Medicine and Hygiene, American Naturalist, Behavioral Ecology, Biological Invasions, Biological Journal of the Linnean Society, Biology Letters, BMC Ecology, BMC Evolutionary Biology, Comparative Parasitology, Current Zoology, Diseases of Aquatic Organisms, Evolutionary Applications, Experimental Parasitology, Helminthologia, Heredity, Infection Genetics and Evolution, International Journal for Parasitology, International Journal for Parasitology: Parasites and Wildlife, Journal of Fish Biology, Journal of Helminthology, Journal of Herpetology, Journal of Parasitology, Journal of the Royal Society Interface, Microbes and Infection, Marine Biology Progress Series, Molecular Biology and Evolution, Molecular and Biochemical Parasitology, Molecular Ecology, Molecular Ecology Resources, Molecular Phylogenetics and Evolution, Parasites & Vectors, Parasitology, PLOS Neglected Tropical Diseases, PLOS One, PLOS Pathogens, Proceedings of the National Academy of Sciences (USA), Proceedings of the Oklahoma Academy of Science, Proceedings of the Royal Society B, Transactions of the Royal Society of Tropical Medicine and Hygiene, Trends in Ecology and Evolution, Trends in Parasitology, Veterinary Parasitology, Veterinarski Arhiv.*

Top Reviewer for *Molecular Ecology* (2012, 2014, 2015)

Certificate of Excellence in Reviewing for *International Journal for Parasitology* (2014)  
Certificate of Outstanding Contribution in Reviewing for *Infection, Genetics and Evolution* (2017)  
Certificate of Outstanding Contribution in Reviewing for *Veterinary Parasitology* (2018)

Grant Reviewer:

National Institutes of Health: Genetic Variation and Evolution (GVE)

National Science Foundation:

Division of Environmental Biology (DEB): Systematic and Biodiversity Sciences Cluster

DEB: Dimensions of Biodiversity

Integrative Organismal Systems (IOS): Physiological and Structural Systems: Symbiosis,  
Defense and Self-recognition

Directorate for Geosciences (GEO): Office of Polar Programs: Antarctic Research

National Geographic Society

Leverhulme Trust, UK

Czech Science Foundation

Deutsche Forschungsgemeinschaft (German Research Foundation)

**PROFESSIONAL SOCIETIES:**

Society for the Study of Evolution

American Society of Parasitologists