

JOSEPH A. ROSS, PH.D.  
Assistant Professor

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EDUCATION

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- 2002—2008      Ph.D. Molecular and Cellular Biology  
University of Washington (Seattle, WA)  
“The evolution of sex-chromosome systems in stickleback fishes.”  
Advisor: Catherine Peichel, Ph.D.  
Fred Hutchinson Cancer Research Center (FHCRC)
- 1996—2000      B.A. Biochemistry, *magna cum laude* and Departmental Honors  
University of Oregon (Eugene, OR)  
“DNA-TATA Binding Protein interactions during transcription initiation.”  
Advisor: Diane K. Hawley, Ph.D.

EMPLOYMENT

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- 2012—            Assistant Professor (Tenure Track)  
Department of Biology  
College of Science and Mathematics (CSM)  
California State University, Fresno (CSU Fresno)
- 2008—2012      Post-Doctoral Research Associate / Fellow  
Eric Haag Laboratory, Department of Biology  
University of Maryland, College Park (UMCP)  
“The evolution of genetic incompatibility in *Caenorhabditis briggsae*.”
- 2001—2002      Research Technician  
Barbara Trask Laboratory  
Fred Hutchinson Cancer Research Center (Seattle, WA)  
“Mouse olfactory epithelium cDNA library screen.”
- 2000—2001      Quality Assurance / Quality Control Technician  
GeneSpan, Inc. (Bothell, WA)  
“QA/QC of additives to stabilize transient transfection in cultured cells.”

## RESEARCH COMMUNICATION

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### Manuscript Metrics ([Google Scholar](#))

Peer-reviewed manuscripts: 10      h-index: 7      Citations: 1,067

#### Biology Research Publications (\* undergraduate author with Ross)

- 2016 **Ross JA**, Howe DK, Coleman-Hulbert A, Denver DR, Estes S. “Paternal mitochondrial transmission in intra-species *Caenorhabditis briggsae* hybrids.” *Mol Biol Evol* **33**(12):3158–3160
- 2016 Chang C-C\*, Rodriguez J\*, **Ross JA**. “Mitochondrial-Nuclear Epistasis Impacts Fitness and Mitochondrial Physiology of Inter-population *Caenorhabditis briggsae* Hybrids” *G3* **6**:209–219.
- 2011 **Ross JA**, Koboldt DC, Staisch JE, Chamberlin HM, Gupta BP, Miller RD, Baird SE and Haag ES. “*Caenorhabditis briggsae* recombinant inbred line genotypes reveal inter-strain incompatibility and the evolution of recombination.” *PLoS Genet* **7**(7): e1002174.
- 2009 Kitano J, **Ross JA**, Mori S, Kume M, Jones FC, Chan YF, Absher DM, Greenwood J, Schmutz J, Myers RM, Kingsley DM and Peichel CL. "A role for a neo-sex chromosome in stickleback speciation." *Nature* **461**(7267): 1079–1083.
- 2009 **Ross JA**, Urton JR, Boland J, Shapiro M and Peichel CL. "Turnover of Sex Chromosomes in the Stickleback Fishes (*Gasterosteidae*)." *PLoS Genet* **5**(2): e1000391.
- 2008 **Ross JA** and Peichel CL. "Molecular cytogenetic evidence of rearrangements on the Y chromosome of the threespine stickleback fish." *Genetics* **179**: 2173–2182.
- 2004 Peichel CL, **Ross JA**, Matson CK, Dickson M, Grimwood J, Schmutz J, Myers RM, Mori S, Schluter D and Kingsley DM. “The master sex-determination locus in threespine sticklebacks is on a nascent Y chromosome.” *Current Biology* **14**:1416–1424.
- 2003 Young JM, Shykind BM, Lane RP, Tonnes-Priddy L, **Ross JA**, Walker M, Williams EM, Trask BJ. “Odorant receptor expressed sequence tags demonstrate olfactory expression of over 400 genes, extensive alternate splicing and unequal expression levels.” *Genome Biology* **4**:R71.
- 2002 Young JM, Friedman C, Williams EM, **Ross JA**, Tonnes-Priddy L, Trask BJ. “Different evolutionary processes shaped the mouse and human olfactory receptor gene families.” *Human Molecular Genetics* **11**:535–546.

#### Education and Pedagogy Research Publications

- 2016 **Ross JA**. “Predicting and classifying effects of insertion and deletion mutations on protein coding regions.” *CourseSource* **3**.  
<http://coursesource.org/courses/predicting-and-classifying-effects-of-insertion-and-deletion-mutations-on-protein-coding>

### Other Publications

- 2007 **Ross JA**. Correspondence. *Nature* **445**:593.

## Oral Presentations (Invited and Submitted)

- 2016 "The genetic architecture of hybrid dysfunction in *Caenorhabditis briggsae*" Evolution of *Caenorhabditis* and other Nematodes, Cold Spring Harbor.
- 2015 "A tale of two genomes: Genetic incompatibilities in the nematode *Caenorhabditis briggsae*" University of San Francisco Biology Seminar Series
- 2015 CSU Fresno Plant Health Society research presentation
- 2015 "A tale of two genomes: Genetic incompatibilities in the nematode *Caenorhabditis briggsae*" Cal. Poly. San Luis Obispo Biology Seminar Series
- 2014 "A selection scheme for studying male mitochondrial transmission in *Caenorhabditis briggsae*" Evolution 2014
- 2014 "Who's your daddy? Studying the genetic impact of parents on the fitness of their children using *Caenorhabditis briggsae*." CSU Stanislaus Biology Seminar Series
- 2013 "Elucidating the cellular and genetic basis of hybrid dysfunction between wild isolates of *Caenorhabditis briggsae*," Evolution 2013
- 2012 CSU Fresno Beta Beta Beta Biology Club research presentation
- 2012 "Evolution of Hybrid Genetic Interactions in *Caenorhabditis briggsae*." Southeast Missouri State University Biology Seminar Series
- 2012 "Evolution of Hybrid Genetic Interactions in *Caenorhabditis briggsae*." Rice University Biology Seminar Series
- 2012 "Evolution of Hybrid Genetic Interactions in *Caenorhabditis briggsae*." University of Colorado, Denver Biology Seminar Series
- 2012 "Evolution of Hybrid Genetic Interactions in *Caenorhabditis briggsae*." Huntingdon College Biology Seminar Series
- 2012 "Evolution of Hybrid Genetic Interactions in *Caenorhabditis briggsae*." University of North Carolina, Charlotte Biology Seminar Series
- 2012 "Evolution of Hybrid Genetic Interactions in *Caenorhabditis briggsae*." University of Central Oklahoma Biology Seminar Series
- 2012 "Evolution of hybrid genetic interactions in *Caenorhabditis briggsae*," Evolution of *Caenorhabditis* and other Nematodes, Cold Spring Harbor.
- 2011 "Non-*elegans* *Caenorhabditis* species: resources and methods," Workshop on Ecology & Evolution, 18<sup>th</sup> International *C. elegans* Meeting.
- 2010 "The rise and demise of sex-chromosome systems in sticklebacks," University of Maryland, College Park Behavior, Ecology, Evolution & Systematics Seminar.
- 2010 "The rise and demise of sex-chromosome systems in sticklebacks," University of Pittsburgh, Ecology and Evolution Seminar Series.
- 2006 "Evolution of sex chromosomes in stickleback fishes," Fourth International Symposium on Vertebrate Sex Determination (Kona, HI)

**Poster Presentations** (presenting author; † CSU Fresno undergraduate & †† graduate student)

- 2015 **Ross J.** "Tablet computer-based active & blended learning in an undergraduate genetics course." Gordon Research Meeting: Undergraduate Biology Education Research
- 2015 Mouanoutoua H<sup>†</sup>, Chang C-C<sup>†</sup>, Ortega B<sup>††</sup>, Velazco L<sup>†</sup>, and **Ross J.** "Investigation of genetic mechanisms of hybrid dysfunction reveals evidence of male mitochondrial transmission." 20<sup>th</sup> International *C. elegans* Meeting
- 2015 **Ross J** and Rodriguez J<sup>†</sup>. "Mitochondrial-nuclear epistasis & hybrid dysfunction in *Caenorhabditis briggsae*." Gordon Research Conference: Speciation
- 2014 **Ross J**, Montgomery J<sup>††</sup>, and Ortega B<sup>††</sup>. "Genetic architecture of hybrid less-function in *Caenorhabditis briggsae*." Evolution 2014
- 2011 **Ross J**, Koboldt D, Staisch J, Baird S, Chamberlin H, Gupta B, Miller R and Haag E. "The Evolution of Genetic Incompatibility in *Caenorhabditis briggsae*." Gordon Research Conference: Ecological and Evolutionary Genomics.
- 2011 **Ross J**, Koboldt D, Staisch J, Baird S, Chamberlin H, Gupta B, Miller R and Haag E. "The Evolution of Genetic Incompatibility in *Caenorhabditis briggsae*." 18<sup>th</sup> International *C. elegans* Meeting.
- 2011 **Ross J**, Dooling R, and Popper A. "Establishing an Association of Post-Docs, by Post-Docs." 9<sup>th</sup> Annual Meeting of the National Postdoctoral Association.  
\* Best Poster Award \*
- 2010 **Ross JA**, Koboldt DC, Staisch JE, Baird SE, Chamberlin HM, Gupta BP, Miller RD and Haag ES. "High-density genotyping in *Caenorhabditis briggsae* advanced-intercross recombinant inbred lines reveals unexpected inter-strain genomic incompatibilities." Evolutionary Biology of *Caenorhabditis* and Other Nematodes.
- 2006 Bruner A, **Ross J** and Peichel C. "Evolution of sex determination in stickleback fishes." Society of Integrative and Comparative Biology.
- 2005 **Ross JA**, Blahm AM and Peichel CL. "Evolution of genetic sex determination in sticklebacks (*Gasterosteus* spp.)" Northwest Reproductive Sciences Symposium. Seattle, Washington.
- 2004 **Ross JA** and Peichel CL. "Evolution of sex determination mechanisms and sex chromosomes in stickleback fish." EVO-WIBO (Evolutionary Biology Conference of Washington, Idaho, British Columbia, and Oregon).  
\* Student Presentation Award \*
- 2003 Young J, Shykind B, Lane R, Tonnes-Priddy L, **Ross J**, Walker M, Williams E, Axel R and Trask B. "Odorant receptor ESTs demonstrate olfactory expression of over 400 genes, extensive alternate splicing, and unequal expression levels." Cold Spring Harbor 68<sup>th</sup> Symposium: The Genome of *Homo Sapiens*.
- 2003 **Ross JA** and Peichel CL. "Evolution of sex determination mechanisms and sex chromosomes in stickleback fish." American Indian Science and Engineering Society National Conference.  
\* Best Graduate Student Poster Award \*
- 2001 Young JM, Friedman C, Tonnes-Priddy L, **Ross J**, Lane RP and Trask BJ. "The human and mouse olfactory receptor gene families are shaped by different evolutionary processes." Cold Spring Harbor Symposium: Genome Sequencing and Biology.

## TEACHING & MENTORING

### Teaching Experience

2012— Assistant Professor, California State University, Fresno State

	<b>BIOL 102</b>	<b>BIOL 104</b>	<b>BIOL 105</b>	<b>BIOL 155</b>	<b>BIOL 189T/ 280</b>	<b>BIOL 224</b>	<b>BIOL 241A</b>	<b>BIOL 248</b>	<b>BIOL 273</b>	<b>BIOL 281</b>
<b>Fall 2012</b>			30 <sup>§</sup> (4.5)				11 <sup>§</sup> (4.8)			
<b>Spr 2013</b>				25 <sup>§</sup> (4.8)	15 <sup>§</sup> (4.7)			14 <sup>§</sup> (4.6)		
<b>Fall 2013</b>	74 <sup>§</sup> (4.4)		41 (4.9)		18 <sup>§</sup> (4.8)					
<b>Spr 2014</b>								16 <sup>§</sup> (4.4)		6 <sup>§</sup> (4.8)
<b>Fall 2014</b>	84* <sup>§†</sup> (4.7)	20 <sup>§</sup> (4.5)			15 <sup>§</sup> (4.7)		6 <sup>§</sup> (4.3)			
<b>Spr 2015</b>	95 <sup>†</sup> (4.5)					5 <sup>§</sup> (4.9)			20 <sup>§†</sup> (4.5)	12 <sup>§</sup> (4.5)
<b>Fall 2015</b>	75 <sup>†</sup> (4.5)									
<b>Spr 2016</b>	89 <sup>†</sup> (4.7)		71 <sup>†</sup> (4.4)						8 <sup>†</sup> (4.8)	
<b>Fall 2016</b>							Pending <sup>†</sup>			
<b>Spr 2017</b>	Pending <sup>†</sup>								Pending	
<b>Total</b>	<b>417</b>	<b>20</b>	<b>142</b>	<b>25</b>	<b>48</b>	<b>5</b>	<b>17</b>	<b>30</b>	<b>28</b>	<b>18</b>

Number of Students Enrolled

(IDEA Center Student Ratings of Evaluation Raw Summary Evaluation Score, maximum 5.0)

<sup>§</sup> New prep or significant revision effort required each subsequent semester

<sup>†</sup> DISCOVERe (tablet computer-based instruction) course

\* Two sections (enrollments 54 and 30, taught by traditional and tablet-based instruction; both scored 4.7)

#### Undergraduate Courses

BIOL 102 Genetics  
 BIOL 104 Cell Biology & Genetics Lab  
 BIOL 105 Evolution  
 BIOL 155 Developmental Biology  
 BIOL 189T/280 Biology Colloquium  
 (formerly 260T)

#### Graduate Courses

BIOL 241A Molecular Biology I  
 BIOL 248 Biotechnology Seminar  
 BIOL 273 Applied Bioethics (formerly 260T)  
 BIOL 224 Evol. Development (formerly 270T)  
 BIOL 281 Biology Seminar

- 2011—2012 Course Assistant, Bioethics (CBMG 688B) Dr. Anne Simon, University of Maryland, College Park
- 2004 Graduate Teaching Assistant, Gene Structure and Function (GS372) Dr. Janet Kurjan, Department of Genome Sciences, University of Washington

### **Guest Lecturing**

- 2016 CSU Fresno PLANT 150, Dr. Bruce Roberts (April 26)
- 2015 CSU Fresno BIOL 1A, Dr. Alejandro Calderón-Urrea (December 9)
- 2014 CSU Fresno BIOL 11, Dr. Ruth Kern (November 20)
- 2014 CSU Fresno CHEM 156, Dr. Laurent Dejean (November 4)
- 2014 CSU Fresno BIOL 104, Dr. Alejandro Calderón-Urrea (October 21)
- 2013 CSU Fresno BIOL 105, Dr. Paul Crosbie (February 8, 22; March 22)

### **Pedagogy Training/Outreach: Presentations & Media**

- 2016–2017 CSU Course Redesign with Technology: Faculty Cohort Proven Lead
- 2016 Developed and presented CV/resumé-writing workshop to CSM undergraduates
- 2016 Break-out session leader: Technology, Innovation and Teaching workshop, "Lecture capture, dissemination, and formative assessment best practices"
- 2016 New Faculty Orientation panelist, "Excelling in your first year of teaching"
- 2016 Presented three break-out sessions on the SAMR Model and Educational Technology, CSU Fresno DISCOVERe Faculty Summer Institute
- 2016 Co-organized (with R. Pun and H. Jones) CSU Fresno Untenured Faculty Organization workshop on Digital RTP Asset Management
- 2016 DISCOVERe Presentation to CSU Chancellor White
- 2016 Featured in article on the DISCOVERe tablet instruction initiative at CSU Fresno <https://campustechnology.com/articles/2016/05/10/transforming-teaching-at-fresno-state-with-tablets.aspx>
- 2016 Feature article with video on DISCOVERe in the Fresno State Journal <http://www.fresnostatejournal.com/vol19no7/feature3.html>
- 2015 DISCOVERe Presentation on YouTube Analytics to USF Delegation
- 2015 Panel presentation, DISCOVERe Faculty Summer Institute
- 2015 "An Apple a Day Keeps the Doctor at Play," CSU Fresno President's Showcase of Excellence
- 2015 Panel presentation, CSU Fresno Student Success Summit
- 2015 Guest presenter at DISCOVERe tablet instruction faculty learning community (April 6)
- 2015 "Take one tablet and call me in the morning: Blended learning with mobile technology," Cal. Poly. San Luis Obispo
- 2015 Presentation at CSU Fresno Technology Innovations and Pedagogy Conference on Engaging Learners
- 2014 Guest presenter at DISCOVERe tablet instruction faculty learning community (November 6)
- 2014— Writing Tablet Pedagogy blog (<http://tabletpedagogy.blogspot.com>)
- 2014 Faculty Panel on Tablet Computer Instruction, CSU Fresno Technology Innovations and Pedagogy Conference
- 2014 Panel Presentation on Teaching, New Faculty Orientation, CSU Fresno

## Professional Development

- 2017 CSU Course Redesign with Technology Mid-Year Conference
- 2016 NSF RUI grant workshop, CSU Fresno
- 2016 CSU Course Redesign with Technology Summer Institute
- 2016 NSF WIDER Active Learning Workshop, CSU Fresno
- 2015, 6 NSF WIDER Grant faculty summer institute participant, CSU Fresno
- 2015 CSU Fresno ORSP NSF CAREER grant workshop
- 2015 Education Resource Writing Workshop, 20<sup>th</sup> International *C. elegans* Meeting
- 2014— FLOCK course redesign member, CSU Fresno NSF WIDER grant
- 2014— Faculty Fellow, CSU Fresno DISCOVERe (tablet instruction) initiative
- 2014 NIH RIMI Fellow Manuscript-Writing Workshop
- 2014 Quality Education for Minority students (QEM) NSF CAREER grant workshop
- 2014 NIH RIMI Fellow Grant-Writing Workshop
- 2014 CSU Fresno ORSP NSF CAREER grant workshop
- 2014 NIH RIMI Fellow Faculty Development Workshop
- 2013 Active Learning Workshop by Edward Prather

## Graduate Research Student Mentoring (6)

- 2015— E. Johnson (PSM Biotechnology)
- 2014—2016 R. Haddad (*PSM Biotechnology, currently Gas Chromatography Analyst at Agriculture & Priority Pollutants Laboratories, Inc.*)
- 2014—2016 S. Adineh (*MS Biology, currently teaching at CSU Fresno and Clovis Community College*)
- 2013—2016 B. Ortega (*PSM Biotechnology, currently employed by Lindsey Burbank, USDA ARS, Parlier CA*)
- 2013—2015 J. Montgomery (*PSM Biotechnology, 2016 Biology Department Outstanding Graduate Project Award, currently Associate Scientist at PPD*)
- 2012—2014 K. Pham (*PSM Biotechnology, 2015 College of Science and Mathematics Outstanding Graduate Project Award, 2014 Division of Graduate Studies Outstanding Graduate Student Award, currently Lab Specialist at Genentech*)

## Undergraduate Research Student Mentoring (17)

- 2016– M. Montelongo  
2016– N. Harp  
2016– E. Cazares-Navarro (*Louis Stokes Alliance for Minority Participation*)  
2016– E. Pano (*Louis Stokes Alliance for Minority Participation*)  
2016– L. Pereira-Fita  
2016– K. Helwick  
2015– B. Pavic  
2015 R. Gabriel  
2014– M. Lauri  
2014–2016 A. Contreras (*Louis Stokes Alliance for Minority Participation*)  
2014–2015 H. Mouanoutoua (*B.S. Biology, currently enrolled in medical school*)  
2014–2015 N. Reetz (*B.S. Biology, currently Research Technician, USDA*)  
2014–2015 J. Hobby (*B.S. Biology*)  
2013–2015 H. Salas (*B.S. Biology, currently M.S. Biology student at CSU Fresno*)  
2013–2015 J. Rodriguez (*B.S. Biology, currently my Research Technician*)  
2012–2016 L. Velazco-Cruz (*Louis Stokes Alliance for Minority Participation; 2014 participant in Washington University’s Opportunities in Genomics Research for underrepresented students; 2014-5 President, CSU Fresno SACNAS chapter; 2016 Biology Department Outstanding Undergraduate Student, currently entering doctoral program Fall 2016*)  
2012–2015 C-C. Chang (*B.S. Biology, Downing Scholarship, CSU Fresno College of Science and Mathematics Dean’s Medalist, Delegate to 2015 CSU Student Research Competition, currently enrolled in U.C. San Francisco Medical School*)

## Student Poster Presentations (presenting; † CSU Fresno undergraduate; †† graduate student)

- 2017 Lauri M<sup>†</sup> and Ross J. “Reactive Oxygen Species and Developmental Delay in *Caenorhabditis briggsae*.” CSUPERB Symposium (Santa Clara)  
2017 Montelongo M<sup>†</sup>, Pano E, Rodriguez J, Jorgensen C and Ross J. “*Caenorhabditis briggsae* hybrid developmental delay is caused by mitochondrial-nuclear mismatch.” CSUPERB Symposium (Santa Clara)  
2016 Haddad R<sup>††</sup> and Ross J. “Investigating adaptability to climate change by monitoring temperature effects on genetic inheritance patterns in *Caenorhabditis briggsae*.” Evolution 2016 (Society for the Study of Evolution).  
2016 Ortega B<sup>††</sup> and Ross J. “Investigating the genetic basis of delayed development with *Caenorhabditis briggsae* recombinant inbred lines.” CSM Celebration of Student Research, CSU Fresno  
2016 Haddad R<sup>††</sup> and Ross J. “Investigating adaptability to climate change by monitoring temperature effects on genetic inheritance patterns in *Caenorhabditis briggsae*.” CSM Celebration of Student Research, CSU Fresno  
2016 Adineh S<sup>††</sup> and Ross J. “Quantifying paternal mitochondrial DNA transmission in *Caenorhabditis briggsae* hybrids.” CSM Celebration of Student Research, CSU Fresno  
2016 Lauri M<sup>†</sup> and Ross J. “Reactive oxygen species and developmental delay in *Caenorhabditis briggsae*” CSM Celebration of Student Research, CSU Fresno



- 2016 Contreras A<sup>†</sup> and Ross J. “A potential impact of climate change on fitness in *Caenorhabditis briggsae*” CSM Celebration of Student Research, CSU Fresno
- 2016 Ortega B<sup>††</sup> and Ross J. “Investigating the genetic basis of delayed development with *Caenorhabditis briggsae* recombinant inbred lines.” CSU Fresno Graduate Research and Creative Activities Symposium
- 2016 Haddad R<sup>††</sup> and Ross J. “Investigating adaptability to climate change by monitoring temperature effects on genetic inheritance patterns in *Caenorhabditis briggsae*.” CSU Fresno Graduate Research and Creative Activities Symposium
- 2016 Adineh S<sup>††</sup> and Ross J. “Quantifying paternal mitochondrial DNA transmission in *Caenorhabditis briggsae* hybrids.” CSU Fresno Graduate Research and Creative Activities Symposium
- 2016 Lauri M<sup>†</sup> and Ross J. “Reactive oxygen species in *Caenorhabditis briggsae* mitochondria.” Central California Research Symposium  
\*Provost’s Outstanding Undergraduate Poster Award\*
- 2016 Contreras A<sup>†</sup> and Ross J. “A potential impact of climate change on fitness in *Caenorhabditis briggsae*” Central California Research Symposium
- 2016 Stanbouljian S<sup>†</sup>, Kendoyan S<sup>†</sup>, Ross J and Calderón-Urrea A. “Introgression of the *him-5* mutation into the GFP strains ST65 and PD4251 of *Caenorhabditis elegans*.” Central California Research Symposium
- 2016 Contreras A<sup>†</sup> and Ross J. “A potential impact of climate change on fitness in *Caenorhabditis briggsae*.” CSUPERB Symposium (Garden Grove)
- 2015 Velazco L<sup>†</sup> and Ross J. “Genetic mapping of developmental delay phenotype in *Caenorhabditis briggsae* tropical x temperate hybrids.” Fresno State WASC Accreditation Site Visit Student Poster Session
- 2015 Montgomery J<sup>††</sup> and Ross J. “Genetic mapping of hybrid developmental delay with novel near-isogenic lines of *Caenorhabditis briggsae*.” 20<sup>th</sup> International *C. elegans* Meeting.
- 2015 Ortega B<sup>††</sup> and Ross J. “Investigating the genetic basis of delayed development with *Caenorhabditis briggsae* recombinant inbred lines.” CSU Fresno Graduate Research and Creative Activities Symposium
- 2015 Chang C-C<sup>†</sup> and Ross J. “Exploration of mitochondrial dysfunction in nematodes through fat content.” CSM Celebration of Student Research, CSU Fresno
- 2015 Hobby J<sup>†</sup> and Ross J. “Measuring male sperm motility in mitochondria-deficient *Caenorhabditis briggsae* hybrids.” CSM Celebration of Student Research, CSU Fresno
- 2015 Reetz N<sup>†</sup> and Ross J. “Embryonic lethality in hybrid crosses of *Caenorhabditis briggsae*.” CSM Celebration of Student Research, CSU Fresno
- 2015 Rodriguez J<sup>†</sup> and Ross J. “Early onset of speciation by hybrid nuclear-mitochondrial dysfunction in *Caenorhabditis briggsae*.” CSM Celebration of Student Research, CSU Fresno
- 2015 Mouanoutoua H<sup>†</sup> and Ross J. “Who’s your daddy? Detecting mitochondrial inheritance in *Caenorhabditis briggsae* using polymerase chain reaction.” CSM Celebration of Student Research, CSU Fresno
- 2015 Chang C-C<sup>†</sup> and Ross J. “Exploration of mitochondrial dysfunction in nematodes through fat content.” Central California Research Symposium
- 2015 Hobby J<sup>†</sup> and Ross J. “Measuring male sperm motility in mitochondria-deficient *Caenorhabditis briggsae* hybrids.” Central California Research Symposium

- 2015 Reetz N<sup>†</sup> and Ross J. "Embryonic lethality in hybrid crosses of *Caenorhabditis briggsae*." Central California Research Symposium
- 2015 Rodriguez J<sup>†</sup> and Ross J. "Early onset of speciation by hybrid nuclear-mitochondrial dysfunction in *Caenorhabditis briggsae*." Central California Research Symposium
- 2015 Mouanoutoua H<sup>†</sup> and Ross J. "Who's your daddy? Detecting mitochondrial inheritance in *Caenorhabditis briggsae* using polymerase chain reaction." Central California Research Symposium
- 2015 Velazco L<sup>†</sup> and Ross J. "Genetic mapping of developmental delay phenotype in *Caenorhabditis briggsae* tropical x temperate hybrids." CSUPERB Symposium (Santa Clara, CA)
- 2015 Chang C-C<sup>†</sup> and Ross J. "Exploration of mitochondrial dysfunction in nematodes through fat content." CSUPERB Symposium (Santa Clara, CA)
- 2015 Montgomery J<sup>††</sup> and Ross J. "Genetic mapping of hybrid developmental delay with novel near-isogenic lines of *Caenorhabditis briggsae*." CSUPERB Symposium (Santa Clara, CA)
- 2015 Nwangwu A<sup>††</sup>, Ross J, Cheng D, Bhardwaj E, Bushoven J. "Genetic Variability in a Representative 'Kerman x Peters' Population of Pistachio, *Pistacia vera* L." American Society for Agronomy
- 2014 Nwangwu A<sup>††</sup>, Ross J, Cheng D, Bhardwaj E, Bushoven J. "Genetic Profiling and Variability Study in Representative 'Kerman x Peters' Populations of Pistachio Plants, *Pistacia vera* L." American Society of Agronomy, Crop Science Society of America and Soil Science Society of America International Annual Meeting, Long Beach
- 2014 Velazco L<sup>†</sup> and Ross J. "Polymerase chain reaction genotyping of developmental delay phenotype in *Caenorhabditis briggsae* hybrids." CSM Celebration of Student Research, CSU Fresno
- 2014 Chang C-C<sup>†</sup> and Ross J. "Quantification of Fat Levels with Hybrid Dysfunction." CSM Celebration of Student Research, CSU Fresno
- 2014 Rodriguez J<sup>†</sup> and Ross J. "Exploring speciation in *Caenorhabditis briggsae* through mitochondrial dysfunction in hybrids." CSM Celebration of Student Research, CSU Fresno
- 2014 Pham K<sup>††</sup> and Ross J. "Elucidating the cellular and genetic basis of hybrid dysfunction between wild isolates of *Caenorhabditis briggsae*." CSM Celebration of Student Research, CSU Fresno
- 2014 Montgomery J<sup>††</sup> and Ross J. "Genetic mapping of hybrid developmental delay with novel near-isogenic lines of *Caenorhabditis briggsae*." CSM Celebration of Student Research, CSU Fresno
- 2014 Pham K<sup>††</sup> and Ross J. "Elucidating the cellular and genetic basis of hybrid dysfunction between wild isolates of *Caenorhabditis briggsae*." Central California Graduate Research and Creative Activities Symposium
- 2014 Montgomery J<sup>††</sup> and Ross J. "Genetic mapping of hybrid developmental delay with novel near-isogenic lines of *Caenorhabditis briggsae*." Central California Graduate Research and Creative Activities Symposium
- 2014 Chang C-C<sup>†</sup> and Ross J. "Quantification of Fat Levels with Hybrid Dysfunction." Central California Research Symposium

\*Best Undergraduate Poster Award\*

- 2014 Rodriguez J<sup>†</sup> and Ross J. "Exploring speciation in *Caenorhabditis briggsae* through mitochondrial dysfunction in hybrids." Central California Research Symposium
- 2014 Pham K<sup>††</sup> and Ross J. "Elucidating the cellular and genetic basis of hybrid dysfunction between wild isolates of *Caenorhabditis briggsae*." CSUPERB Symposium (Santa Clara, CA)
- 2013 Velazco-Cruz L<sup>†</sup> and Ross J. "Assessing the onset of speciation using *Caenorhabditis briggsae* hybrids." Louis Stokes Alliance for Minority Participation Research Program Posterboard Symposium, California State University, Fresno
- 2013 Pham K<sup>††</sup> and Ross J. "Testing for a mitochondrial basis of intraspecific genetic incompatibility in *Caenorhabditis briggsae* cytonuclear hybrids." 19th International *Caenorhabditis elegans* Meeting
- 2013 Pham K<sup>††</sup> and Ross J. "Elucidating the cellular and genetic basis of hybrid dysfunction between wild isolates of *Caenorhabditis briggsae*." College of Science and Mathematics Celebration of Student Research and Achievements, California State University, Fresno

### **Competitive Student Research & Travel Funding (total \$23,255.32)**

- 2016 M. Lauri: CSU Fresno research grant (\$976.32)  
B. Pavic: CSU Fresno research grant (\$1,000)  
R. Haddad: CSUPERB Conference Travel Award (\$1,500)
- 2015 M. Lauri: CSM Faculty Sponsored Student Research Award (\$714)  
S. Haji Adineh: CSM Faculty Sponsored Student Research Award (\$714)  
B. Ortega: CSM Faculty Sponsored Student Research Award (\$714)  
R. Haddad: CSM Faculty Sponsored Student Research Award (\$1,000)  
J. Montgomery: CSUPERB Conference Travel Award (\$1,275)
- 2014 N. Reetz: CSM Faculty Sponsored Student Research Award (\$600)  
J. Hobby: CSM Faculty Sponsored Student Research Award (\$1,000)  
C-C. Chang: CSM Faculty Sponsored Student Research Award (\$990)  
H. Mouanoutoua: CSM Faculty Sponsored Student Research Award (\$780)  
H. Salas: CSM Faculty Sponsored Student Research Award (\$850)  
N. Reetz: CSU Fresno research grant (\$970)  
H. Mouanoutoua: CSU Fresno research grant (\$1,000)  
L. Velazco: CSU Fresno research grant (\$972)
- 2013 K. Pham: CSUPERB Conference Travel Award (\$1,200)  
C-C. Chang: CSM Faculty Sponsored Student Research Award (\$1,000)  
J. Rodriguez: CSM Faculty Sponsored Student Research Award (\$1,000)  
K. Pham: CSU Fresno NIH RIMI Faculty-Initiated Student Award (\$5,000)

### **Masters Committee Membership (29)**

- 2012— M. Abou-Naoum, S. Aucar, N. Avery, P. Bekal, E. Braschayko, Y. Chavan, P. Chhina, R. Elizondo, M. Gonzales, S. Gorle, S. Gunasekara, R. Haddad, S. Haji Adineh, Y. Ibarra, E. Johnson, P. Lakkaraju, B. Mahmood, J. Montgomery, A. Nwangwu, B. Ortega, K. Patterson (Duris), K. Pham, V. Sharma, S. Shetty, R. Tamayo, J. Tyson, K. Vander, A. Wakeman-Hill, W. Whalen

## Advising

2016 Staffed Biology Masters program table at CSU Fresno Graduate Resource Fair  
2013, 4 CSU Fresno Preview Day  
2013, 5 Dog Days Advising  
2012— College of Science and Mathematics Advising Days (3)

Semester 'Year	Undergrad Advisees Seen	Graduate Advisees Seen	Total Visits	Recommendations Submitted	New Chair or Member of Project/Thesis Committee
Fall '16	19	2	21	33	0
Spring+Summer '16	16	1	17	25	1
Fall '15	13	2	15	20	3
Spring+Summer '15	18	8	26	39	4
Fall '14	20	11	31	20	6
Spring+Summer '14	23	16	39	21	1
Fall '13	34	12	46	16	1
Spring+Summer '13	3	12	15	15	8
Fall '12	3	4	7	5	5

## FUNDING & AWARDS

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### Active Research Funding

2015— PI: NIH SC2 “Identification of genetic mechanisms preventing male mitochondrial inheritance” 1SC2GM113727 (\$100,000 direct costs/year; 3 years)

### Completed Research Funding

2013—2014 PI: New Investigator Grant, California State University Program for Education and Research in Biotechnology (\$15,000)  
2010—2012 PI: Ruth Kirschstein NRSA Post-Doctoral Fellowship NIH 1F32GM090492 (\$103,516)  
2004—2007 Participant: Cell and Molecular Biology Graduate Training Grant NIH NIGMS T32 GM07270

### Attempted Research Funding

2016 PI: NSF CAREER Grant “Principles of adaptation to climate change: temperature-dependent epistasis”  
2016 PI: NSF DEB Core Program Grant Preproposal “Mitochondrial dysfunction: the role of intergenomic epistasis between natural variants”  
2015 PI: NIH MIRA Grant “Intra-species hybrids and the inter-genomic basis of mitochondrial function”  
2015 PI: NSF CAREER Grant “The dynamics and consequences of mitochondrial-nuclear co-evolution”

### **Pending Teaching Funding**

2016 HHMI Inclusive Excellence preproposal (PI Lynnette Zelezny; written by Ross. Submitted 12/5/2016)

### **Active Teaching Funding**

2016–2017 CSU Chancellor’s Office Course Redesign with Technology (CRT) Lead Faculty (\$15,998)

### **Completed Education Funding**

2014 CSU COAST Research Seminar Award (\$700)  
2014 CSU Fresno Associated Students Inc. Peter Mehas Memorial Grant: PCR machine and micropipettors for BIOL 104 (\$4,997.86)  
2013 CSU Fresno CSM Lecture Award (with Dr. D. Lent, co-applicant, \$1,500)

### **Attempted Education Funding**

2016 Society for the Study of Evolution Outreach Grant (\$435)  
2015 HHMI Inclusive Excellence preproposal (PI CSM Interim Dean Lawson; drafted by Ross, Goto and Chung; submitted 12/1/2015)  
2015 Phi Kappa Phi Excellence in Innovation Award preproposal (contributed content; submitted by CSU Fresno December 2015)

### **Professional Development Funding**

2016 CSU Fresno CSM Scholarly and Creative Activity Award (\$5,000)  
2015 CSUPERB Faculty Travel Grant (\$1,318)  
2015 CSU Fresno CSM Scholarly and Creative Activity Award (\$5,000)  
2015 CSU Fresno CSM Faculty Professional Development (Travel) Award (\$1,200)  
2014 CSU Fresno CSM Faculty Professional Development (Travel) Award (\$1,195)  
2014 CSU Fresno CSM Scholarly and Creative Activity Award (\$5,000)  
2014 California State University Program for Education and Research in Biotechnology (CSUPERB) Faculty Travel Grant (\$1,500)  
2013 CSU Fresno CSM NIH RIMI Faculty Development Award (\$7,000)  
2012 CSU Fresno CSM Performance Award (\$961)

### **Attempted Professional Development Funding**

2016 CSUPERB Faculty Travel Grant (\$1,000)

### **Awards and Recognition**

2016 CSU Fresno Provost’s Award for Innovation in Teaching  
2015 Nominated to deliver a Fresno State Talks address  
2014–2016 Nominated by student trainees for Fresno State Outstanding Advisor award

## SERVICE AND OUTREACH

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### University Service

- 2016— Co-Lead, Advanced DISCOVERe Faculty Learning Community
- 2016— Co-Chair, DISCOVERe Task Force Assessment Committee
- 2016— CSM Curriculum Committee
- 2016— Advisor, Fresno State chapter of the Society for the Advancement of Chicanos and Native Americans in Science (SACNAS)
- 2016 Invited to join DISCOVERe Taskforce Professional Development subcommittee (declined)
- 2015— Member, Fresno State DISCOVERe (Tablet Teaching Initiative) Task Force
- 2015— Member, Fresno State Information and Educational Technology Coordinating Council (IETCC)
- 2015 Applied for membership on Fresno State Grants and Research Advisory Board (not selected)
- 2015— Biology Dept. Co-Representative to Jordan Ag. Research Center space committee
- 2015—2016 Biology Dept. Tenure-Track Faculty Search Committee: Population Biology
- 2014—2015 Biology Dept. Tenure-Track Faculty Search Committee: Population Genetics
- 2014 CSM Representative, Academic Information Technology Subcommittee
- 2013— Biology Scholarship Committee Chair
- 2012— Biology Graduate/Research Committee
- 2012—2013 Biology Assessment, Scholarships, Awards and Library Reps. Committee

### Professional Society Memberships

- 2012— Society for the Study of Evolution
- 2011— Genetics Society of America

### Grant and Manuscript Reviewing

- 2016 Responded favorably to CSUPERB request to review travel grants; not seated
- 2016 Manuscript peer review: *J Heredity* (2), *Reviews in Fish Biology and Fisheries*
- 2016 Research Development Grant Reviewer, CSUPERB
- 2015 *ad hoc* Fellowship reviewer, Sigma Delta Epsilon (Graduate Women in Science)
- 2015 New Investigator Grant Reviewer, CSUPERB
- 2014 Student/Faculty Travel Grant Reviewer, CSUPERB
- 2014 Manuscript peer review: *PLoS Genetics*, *Genetics*, *Mol Biol Evol*
- 2012 Manuscript peer review: *PLoS One*, *Evolution*, *Mitochondrion*, *Amer. Naturalist*
- 2012 *ad hoc* Grant proposal review: National Science Foundation
- 2011 Manuscript peer review, *Evolution*
- 2010 Manuscript peer review, *Ichthyological Research*
- 2010 *ad hoc* Grant proposal review, National Science Foundation

## Research Seminar Hosting

- 2014 Dr. Jonathon Stillman, San Francisco State University (November 14)  
Dr. Miriam Barlow, UC Merced (November 7)  
Dr. Julin Maloof, UC Davis (October 24)  
Dr. Elena Keeling, Cal. Poly. San Luis Obispo (October 17)  
Dr. Amber Stokes, CSU Bakersfield (October 3)  
Dr. Lars Tomanek, Cal. Poly. San Luis Obispo (September 26)  
Dr. James Sikes, U. of San Francisco (September 19)  
Dr. Michael Cleary, UC Merced (September 5)  
Dr. Valerie Williamson, UC Davis (August 29)  
Dr. Harmit Malik, Fred Hutchinson Cancer Research Center (March 21)
- 2013 Dr. Joel Atallah, UC Davis (October 11)  
Dr. Ron Burton, UC San Diego (March 8)  
Dr. Susannah Tringe, DOE JGI (March 15)  
Dr. Anna Greenwood, Fred Hutchinson Cancer Research Center (April 26)  
Dr. Christopher Kitts, Cal. Poly. San Luis Obispo (3 May)

## Other Professional Service

- 2017 Host, lunch student discussion table, “Translating Research Experience into a Resumé or C.V.,” CSUPERB Symposium
- 2016 *ad hoc* Institutional Review Board member for E. Walter
- 2016 Peer Evaluation/Review Committee for W. Menefee, A. McClelland
- 2016 Applied to be a Genetics Society of America mentor for Promoting Active Learning & Mentoring (PALM)
- 2015 Poster Session Judge, 20th International *Caenorhabditis elegans* Meeting
- 2015–7 Host, “Graduate school information” topic table, CSUPERB Symposium
- 2014 Oral Presentation Judge for the Hamilton Award, Evolution 2014
- 2014 California Math and Science Partnership: Next Generation Science Standards Teacher Assessment Question Review
- 2013 Judge, American Society of Human Genetics' DNA Day Student Essay Contest
- 2013 Host, "How to get a job in academia" post-doc lunch, Int'l *C. elegans* Meeting
- 2013 Poster Session Judge, 19th International *Caenorhabditis elegans* Meeting
- 2013 Oral Presentation Judge for the Hamilton Award, Evolution 2013
- 2008—2010 Founding President, UMD College of Chemical & Life Sciences Post-Doc Assn.

## Outreach

- 2016 Interviewed by ABC30 anchor Graciela Moreno for a TV package on genetic testing, aired November 21:  
<http://abc30.com/health/dna-testing-offers-window-into-family-ancestry/1618839/>
- 2016 Submitted “Active Learning Day” video to AAC&U, which was featured on the STEM Central website:  
<https://stem-central.net/announcements/144/> - .WH1VcLGZOu4
- 2016 Organized (obtained institutional funding and space for, and advertised) Baba Brinkman performance of the “Rap Guide to Climate Chaos”
- 2015 Advising local high school student B.M. on an evolution class project
- 2015 Girl Scout Detective Badge leader (topic: forensic science and DNA)
- 2013 Girl Scout Home Scientist Badge leader (topic: kitchen chemistry)
- 2013 Quoted in *The Collegian* about evolution and genetics of love in "My chemical romance: The science behind love," by Dalton Runberg (13 February)
- 2010 Judge, Prince George’s County (MD) Kids for Science STEM Fair
- 2007 Seminar: “Sex chromosome degeneration: fish and the future of men.”  
“Science for Life” public seminar series, Fred Hutchinson CRC
- 2007 External Affairs Outreach committee member, Fred Hutchinson CRC
- 2004–2007 Activity Coordinator for “Hutch High”, Fred Hutchinson CRC
- 2006 Seminar: “Love sees no color: how discriminating fish choose mates.”  
Fred Hutchinson CRC Administrative Managers’ Forum
- 2005 Seminar: “Embrace diversity by aiding discrimination: Color-blindness, science and society.” “Science Friday” seminar, Fred Hutchinson CRC
- 2005 University of Washington, Molecular and Cell Biology Student Representative, Society for the Advancement of Chicanos and Native Americans in Science Annual Meeting.
- 2004 University of Washington, Molecular and Cell Biology Student Representative, Annual Biomedical Research Conference for Minority Students.
- 2003 Cancer Info Service Volunteer, “Cancer 101,” Fred Hutchinson CRC
- 2003 University of Washington, Molecular and Cell Biology Student Representative, American Indian Science and Engineering Society Annual Meeting.