Lindsay V. Clark

Postdoctoral Research Associate
Energy Biosciences Institute
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Education:

PhD, Genetics — September 2011
University of California, Davis

Bachelor of Arts — June 2004
Dartmouth College, Hanover, NH
Major: Genetics, Cell, and Developmental Biology
Minor: Chemistry

Publications:

Lindsay V. Clark and Marie Jasieniuk (2011) "POLYSAT: an R package for polyploid microsatellite analysis." **Molecular Ecology Resources** 11: 562-566. link

Lindsay V. Clark and Marie Jasieniuk "Native and exotic *Rubus* hybridize to produce facultative apomictic offspring in the Western United States." **Heredity** (in revision).

Lindsay V. Clark, Katherine J. Evans, and Marie Jasieniuk "Origins of two invasive *Rubus fruticosus* agg. clones in the Western United States." **Biological Invasions** (submitted).

Amanda Garris, Lindsay Clark, Chris Owens, Steven McKay, James Luby, Kathy Mathiason, and Anne Fennell (2009) "Mapping of Photoperiod-Induced Growth Cessation in the Wild Grape *Vitis riparia* Michx." **Journal of the American Society for Horticultural Science** 134: 261-272. link

Software:

polysat: tools for polyploid microsatellite analysis — May 2010

Research Experience:

Postdoctoral Research Associate — August 2011-present
Erik Sacks, University of Illinois, Urbana-Champaign
Characterizing molecular genetic diversity and population structure in *Miscanthus* in order to develop plant breeding resources for the development of bioenergy crops. Quantifying phenotypic variation and mapping traits of interest. Managing hourly workers.

Graduate Student Researcher — June 2007-July 2011
Marie Jasieniuk, UC Davis
Conducted molecular research on invasiveness in *Rubus*, including studies on hybridization, clonal diversity, reproductive strategy, and differential gene expression. Assisted with molecular marker studies of *Echinochloa*. Mentored an undergraduate August 2009-October 2010.

Biological Science Laboratory Technician November 2004-July 2006
Amanda Garris, USDA-ARS-Plant Genetic Resources Unit, Geneva, NY
Cloned phytochrome genes from *Vitis* species. Performed genotyping and phenotyping experiments relating to day-length detection in grapevine. Organized and participated in journal club.

Undergraduate Honors Thesis June 2002-June 2004
Thomas Jack, Dartmouth College, Hanover, NH
Performed research and wrote honors thesis on the characterization of a gene cluster in *Arabidopsis*. Regularly presented this research and outside papers at lab meetings.

Women in Science Project Intern January-May 2001, January-March 2002
Roger Sloboda, Dartmouth College, Hanover, NH
Performed research on protein localization during mitosis, using Western blotting and immunofluorescence.

Laboratory Technician June-August 2001
Thomas Foxall, University of New Hampshire
Developed a protocol for immunocytochemical staining hamster arteries for estrogen receptors. Prepared photographs for publication using Adobe Photoshop.

Posters and Presentations:

Presentations:
"Hybridization of native and invasive blackberries in California" at UC Davis Weed Day, July 17, 2008.
Annual research presentations at UC Davis Genetics Graduate Group student seminar series.

Posters:
"Microsatellites distinguish sexual vs. apomictic reproduction in spontaneous *Rubus* hybrids" at Plant and Animal Genome XIX, January 15-19, 2011.
"Hybridization between native and introduced *Rubus* in California and the Pacific Northwest" at Plant and Animal Genome XVIII, January 9-13, 2010.
"Hybridization between invasive and native blackberries (*Rubus*) in California" at California Invasive Plant Council Symposium, October 2-4, 2008.

Undergraduate Honors Thesis: Molecular and genetic characterization of the chromosome 4 REM gene cluster in *Arabidopsis thaliana*.
Undergraduate Posters: Presented *Arabidopsis* work at the Beckman Scholars Symposium in Irvine, CA. Presented protein localization work and *Arabidopsis* work at undergraduate symposiums at Dartmouth College.

Graduate Honors and Awards:

UC Davis Department of Plant Sciences Graduate Research Assistantship 2007-2011
Jastro-Shields Research Award 2008-2009, 2009-2010, 2010-2011
UC Davis Department of Plant Sciences Graduate Student Travel Award 2009, 2010
California Weed Science Society Scholarship 2010

Graduate Coursework:

Genetic Analysis, Population and Quantitative Genetics, Molecular Biology, History of Genetics, Population Genetic Software, Genomics, Multivariate Systems and Modeling, Molecular Phylogenetic Analysis, Molecular Ecology, Plant Population Biology, Translating Research Beyond Academia, Landscape Genetics

Undergraduate Honors and Awards:

Summa Cum Laude (95th percentile GPA), Phi Beta Kappa, Sigma Xi, High Honors in Major, Beckman Scholar, Presidential Scholar, Women in Science Project Intern, Willard W. Eggleston Botany Prize, John Whiteley Band Spirit Award

Relevant Undergraduate Coursework:

Molecular Biology, Processes of Evolution, Molecular Genetics of Eukaryotes, Advanced Genetics, Biochemistry, Plant Physiology, Cell Biology, Statistics, Computer Science, Honors Research in Biology

Technical Skills:

DNA Analysis and Manipulation: PCR, Southern blotting, SSR analysis on capillary machines and acrylamide gels, DNA extraction from plant tissue and bacteria, sequencing, cloning, electroporation of *E. coli.*
RNA Analysis: RNA extraction from plant tissue, RT-PCR, 5´ and 3´ RACE, real-time PCR.
Field Work: Randomized sampling schemes, tissue preservation in silica gel for DNA analysis, collection of voucher specimens for morphological records.
Computer: Mac/PC; R; BLAST; web-based primer design; Sequencher; BioEdit; ABI GeneMapper; JoinMap; Structure; GenAlEx; GenoDive; SPAGeDi; NTSYS; Phred, Phrap, Consed, Polyphred, and Polybayes; object-oriented programming concepts; Microsoft PowerPoint, Word, Excel, and Access.
***Arabidopsis*:** Dissection, anatomy, GUS-staining, crossing, seed collection, growth of seedlings on soil or agar, *Agrobacterium*-mediated transformation by vacuum infiltration, enhancer traps, genetic markers, Columbia and Landsberg *erecta* accessions.
Vitis* and *Rubus: Seed collection and germination, propagation from seeds and cuttings.
General Laboratory Skills: Electrophoresis, centrifugation, buffers and solutions, sterile technique, light microscopy.

Teaching Experience:

Associate Instructor, Plant Genetics and Biotechnology Laboratory June-July 2009
Department of Plant Sciences, UC Davis
Instructor of record for an intensive laboratory course. Edited laboratory manual and designed a new activity to introduce students to primary literature. Prepared and gave lectures, held office hours, and did all lab setup and clean up. Wrote quizzes and extra credit assignments, wrote and graded exams. Demonstrated techniques, assisted students, and answered questions during lab.

Guest Lecturer, Ecological Genetics February 2011
Ecology Graduate Group, UC Davis
"Polyploid data analysis, and how to gently transition from software user to software developer"
Presentation PDF

Teaching Assistant, Molecular Genetics Laboratory January-March 2010
Department of Molecular & Cellular Biology, UC Davis
Wrote answer keys and graded assignments and exams. Held review sessions. Answered student questions during lab. Assisted professor and staff with lab setup and clean up.

Teaching Assistant, Genes and Gene Expression Sept.-Dec. 2009, January-March 2011
Department of Molecular & Cellular Biology, UC Davis
Led three one-hour discussion sections per week as well as exam review sessions. Held office hours. Wrote exam questions and graded exams and quizzes.

Teaching Assistant, Human Heredity March-June 2007, March-June 2009
Department of Molecular & Cellular Biology, UC Davis
Wrote lesson plans and quizzes and led four one-hour discussion sessions every week. Held office hours and graded quizzes and extra credit assignments.

Teaching Assistant, Plant Genetics and Biotechnology Laboratory February-March 2009
Department of Plant Sciences, UC Davis
Prepared reagents and equipment needed for course. Demonstrated and instructed students in molecular techniques.

Undergraduate Teaching Assistant, Molecular Biology June-August 2003
Department of Biological Sciences, Dartmouth College, Hanover, NH
Instructed students in molecular techniques and protocols in a laboratory setting. Ensured that benches were clean, samples were collected, and equipment was shut off at the end of each lab.

Graduate Service:

Organized Genetics student seminar	Winter 2008
Hosted prospective students	2007-2011
Hosted Genetics recruitment barbecue	2008-2010
Helped with Plant Science displays at Picnic Day	2007-2011
Graduate Student Association Representative	2008-2009
Genetics Graduate Group Education Policy Committee	2009-2010
Genetics Graduate Group Student Executive Committee	2007-2010
Helped with Genetics Graduate Group Colloquium	2010, 2011
Outreach presentation to Anna Kyle Elementary, Fairfield, CA	May 2010

Professional Development

"Entering Mentoring" workshop series, UC Davis College of Biological Sciences	Fall 2009
"Beyond the Basics" workshop series, UC Davis Teaching Resources Center	Spring 2009