

Justen Bryant Whittall
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1. Education

- **Associate Professor**, Department of Biology, Santa Clara University, 9/13-present.
- **Assistant Professor**, Department of Biology, Santa Clara University, 9/07-8/12.
- **Postdoc**, Comparative Biology Fellow, UC Davis, 3/05-9/07 (Michael Sanderson).
- **PhD** in Evolution, University of California Santa Barbara, 6/05 (Scott Hodges),
 “Ecological Speciation and Convergent Evolution in the North American Columbine Radiation”
- **MS** in Botany, Oregon State University, 6/99 (Aaron Liston & Robert Meinke), “A Molecular Phylogeny for the *Mimulus moschatus* Alliance and its Conservation Implications”
- **BS** in Biology *cum laude*, Biology Major, Santa Clara University, 9/96.

2. Teaching and Related Experience

Courses taught at SCU include:

Course Name (#)	Description	# Quarters Taught
Evolution (BIOL 173) ¹	Upper division, lecture and lab	7
Introduction to Ecology & Evolution (BIOL 22) ¹	Lower division, lecture only	7
Bioinformatics (BIOL 178) ²	Upper division, lecture and lab	3
California Plant Diversity (BIOL 134) ³	Upper division, lecture and lab	4
Arctic Biology (BIOL 136) ³	Upper division, lecture and lab	2
Directed Research (BIOL 198)	Intensive Research (Heidi Cossentine, Juliana Moreno, Leena McCann, Julie Herman, Peter Biro, Sophia Huang)	5

¹ I helped develop the laboratory/discussion portion for this course.

² I developed the laboratory portion for this course.

³ I developed both the lecture and laboratory portions of these courses.

- **Graduate Teaching Assistant**, various biology courses at OSU & UCSB (9/96-6/05).

b) Other Academic Experience (Including Workshops & Undergraduate Trainees)

- **Colloquium Co-Organizer**, “Patterns and Processes of American Amphitropical Plant Disjunctions: New Insights”, Botany 2016, Savannah, Georgia (expected 8/16)
- **Session Participant**, “Genetics101”, Northern California Botanists Symposium, Chico, CA (expected 1/16)
- **Host**, Jose Carlos del Valle, Ph.D. candidate, Universidad Pablo de Olavide, Sevilla, Spain (3/15 – 7/15)
- **PhD Committee Member**, José Carlos del Valle, Ph.D. candidate, Universidad Pablo de Olavide, Sevilla, Spain (5/14 – present)
- **Host**, Dr. Ines Soriguer, Ph.D. candidate (at that time), Universidad Pablo de Olavide, Sevilla, Spain (6/12 – 12/12)
- **Committee Member**, Miranda Melen (SCU ESS ‘09), Master Degree candidate (at that time), Environmental Studies, San Jose State University, CA (3/12-5/14)
- **Host**, Prof. Eduardo Narbona, Research Stay, Universidad Pablo de Olavide, Sevilla, Spain (6/11 – 11/14)
- **Affiliate**, Section of Evolution and Ecology, UC Davis (9/07 – 6/12)
- **Host**, Dr. Mohamed Abdelaziz, Ph.D. candidate (at that time), University of Grenada, Spain (1/09 – 5/09)
- **Instructor**, Applied Phylogenetics Workshop, Bodega Bay, CA (3/05-3/11)
- **Participant**, Applying Modern Genomic Tools to the Management and Characterization of Plant Genetic Resources, University of British Columbia (7/27/08)
- **Participant**: Agilent’s Workgroup/Systems Biology VIP Day (8/09)
- **Coordinator**, qPCR Tutorial Session (12/4/07)
- **Instructor**, Phylogenetic Comparative Methods, CSU Northridge, CA (3/06).

Undergraduate Student Researchers Since Appointment at SCU (9/07):

Name	Dates	Project(s)	Current Status
Peter Schmidt	9/07 – 6/08	Metcalf Jewelflower Reproductive Biology – Greenhouse Project	Instructor, YMCA Outdoor Education (San Francisco)
Emanuel MacCalli	4/08 – 6/08	Metcalf Jewelflower Reproductive Biology – Field Studies	Albany Medical School Student
Amelia Bethke	9/08 – 6/10	Columbine Phenology Study & Wallflower Scientific Illustrations	Field Biologist, Washington Conservation Corps.
Jeannine Strenk	9/08 – 6/09	Columbine Phenology Study	Intern, Conservation and Land Management (Bureau of Land Management, Wyoming)
Timothy Butler	6/08 – 9/10	California Mustard Speciation & Arctic Mustard Transcriptome Analysis (including Senior Honors Thesis – DeNardo Senior Prize Winner)	Ph.D. Candidate, Molecular & Cell Biology (Oregon Health Science Institute)
Jason Buenrostro	6/08 –	Torrey Pine Chloroplast Genomics &	Ph.D. Candidate in Genetics

	6/09	qPCR Methodology including Bioengineering Senior Design Project (co-advised w/ Craig Stephens)	(Stanford University)
Michelle Mattson	9/08 – 6/09	qPCR Methodology (co-advised w/ Craig Stephens)	Ph.D. Student in Developmental Cell Biology (UC Irvine)
Heidi Cossentine	9/09 – 4/11	Arctic Mustard Molecular Phylogeography including BIOL 198 Research course	Staff, Roche Molecular Systems, Pleasanton
Memori Otsuka	3/10 – 6/10	Mammalian Lactoferrin Molecular Evolution	Graduate Student in Medical Illustration (University of Toronto, Canada)
Hilary Titus	6/10 – 9/10	Arctic Mustard Metabolomics & Genetic Diversity	Medical School Bound (Tacoma, WA)
Stephanie Saffouri	10/10 – 5/12	Metcalf Jewelflower & San Benito Evening Primrose Pollination Bio.	Master's Degree Student in Ecology (SFSU)
Jared Lumpe	6/11 – 7/12	Molecular Evolution of Anthocyanin Biosynthetic Genes in Brassicaceae	Biotech Startup Employee, Santa Clara
Gavin Powell	6/12 – present	Wallflower Pollination	Bicycle Coalition (San Jose)
Juliana Moreno	9/10 – present	Columbine Speciation Project	NA
Leena McCann	9/10 – present	Columbine Speciation Project	Research Assistant, Biotech
Julie Herman	6/11 – 9/14	San Benito Evening Primrose Conservation Genetics & Wallflower Genetic Diversity (ALZA Scholarship Awardee, 6/12)	PhD Student in Plant Evolution, UCSC
Andrea Che	9/14 – present	Endangered Jewelflower & Paintbrush Reintroduction Experiments	Biology Major, SCU
Kate Horiuchi	9/14 – present	Endangered Jewelflower & Paintbrush Reintroduction Experiments	Biology Major, SCU
Michael Turgeon	6/15 – present	Mission tobacco – forensic molecular ecology at SCU	Biology Major, SCU
Sophia Huang	6/15 – present	SCU Tree of trees – Improved Tree Thinking Using Campus Biodiversity	ESS Major, SCU
Megan Kohn	9/15 – present	Serpentine Columbine Soil Dilution Experiment	Biology Major, SCU

Supervised training and daily work of full-time field & laboratory technicians:

- 9/07 – 9/08: Stephanie Kim (SCU Biology '07)
- 10/08 – 9/11: Cynthia Dick (SCU Biology '08)
- 6/12 – 4/14: Khaaliq Dejan (SCU Bioengineering '11)
- 10/12 – 8/15: Aaron Thom (SCU Biology '10)

3. Scholarly and Artistic Work

a) Scholarly Publications (**SCU coauthors in bold followed by graduation year**)

Since Appointment at SCU (2007)

- Casimiro-Soriguer, Inés, José Carlos Del Valle, M. Luisa Buide, Eduardo Narbona, **Justen B. Whittall**. Transcriptome and biochemical analysis of a flower color polymorphism in *Silene littorea* (Caryophyllaceae). *Frontiers in Plant Biology* (in review).
- Del Valle, José Carlos, M. Luisa Buide, Inés Casimiro-Soriguer, **Justen B. Whittall**, Eduardo Narbona. 2015. On flavonoid accumulation in different plant organs: Unraveling the variation among individuals and populations in the shore campion (*Silene littorea*). *Frontiers in Plant Biology* 6:939.
- **Butler, Timothy** ('10), **Dick, Cynthia A.** ('08), Matthew L. Carlson, **Justen B. Whittall**. 2014. Transcriptome analysis of a petal anthocyanin polymorphism in the arctic mustard, *Parrya nudicaulis*. *PLoS ONE* 9(7): e101338.
- **Dick, Cynthia** ('08), **Julie Herman** ('14), Ryan E. O'Dell, Adriana Lopez-Villalobos, Chris Eckert, **Justen B. Whittall**. 2013. Cryptic genetic subdivision in the San Benito evening primrose (*Camissonia benitensis*). *Conservation Genetics* 15:165-175.
- Fulkerson, Justin R., **Justen B. Whittall**, Matthew L. Carlson. 2012. Reproductive ecology and severe pollen limitation in the polychromic tundra plant, *Parrya nudicaulis* (Brassicaceae). *PLoS ONE* 7(3): e32790.
- **Whittall, Justen B.** and Scott A. Hodges. 2012. *Aquilegia*. *The Jepson Manual* 2. UC Press, CA.
- Grossenbacher, Dena and **Justen B. Whittall**. 2011. Increased floral divergence in sympatric monkeyflowers. *Evolution* 65: 2712-2718.
- **Dick, Cynthia A.** ('08), **Jason Buenrostro** ('09), **Timothy Butler** ('10), Daniel J. Kliebenstein, Matthew L. Carlson, **Justen B. Whittall**. 2011. Arctic mustard flower color polymorphism controlled by petal-specific downregulation at the threshold of the anthocyanin biosynthetic pathway. *PLoS ONE* 6(4): e18230.
- Anacker, Brian¹, **Justen B. Whittall**¹, Emma Goldberg and Susan Harrison. 2011. Origins and consequences of serpentine endemism in the California flora. *Evolution* 65: 365-376 (¹ both authors contributed equally)
- **Whittall, Justen B.**, John Syring, Matthew Parks, **Jason Buenrostro** ('09), **Cindy Dick** ('08), Aaron Liston, and Richard Cronn. 2010. Finding a (Pine) Needle in a haystack: Chloroplast genome sequence divergence in rare and widespread pines. *Molecular Ecology* 19: 100-114.
- Von Wettberg, Eric J., Maureen L. Stanton, and **Justen B. Whittall**. 2010. How anthocyanin mutants respond to stress: the need to distinguish between stress tolerance and maximal vigour. *Evolutionary Ecology Research* 12: 457-476.
- Cooper, Elizabeth A., **Justen B. Whittall**, Scott A. Hodges, and Magnus Nordborg. 2010. Genetic variation at nuclear loci fails to distinguish two morphologically distinct species of *Aquilegia*. *PLoS ONE* 5: e8655.
- **Whittall, Justen B.** and Matthew L. Carlson. 2009. Plant defense: A preadaptation for pollinator shifts. *New Phytologist* 182: 5-8.

- Hodges, Scott A. and Justen B. Whittall. 2008. One-sided evolution or two? A reply to Ennos. *Heredity* 1-2.

Prior to Appointment at SCU (2007)

- Justen B. and Scott A. Hodges. 2007. Pollinator shifts drive increasingly long nectar spurs in columbine flowers. *Nature* 447: 706-709.
- Whittall, Justen B. and Sharon Strauss. 2006. Non-pollinator agents of selection on floral traits. In: *Ecology and Evolution of Flowers* (Eds. L. Harder and S. Barrett) Oxford Univ. Press, pp.120-138.
- Whittall, Justen B.¹, Claudia Voelckel¹, and Scott A. Hodges. 2006. Convergence, constraint and the role of gene expression during adaptive radiation: Floral anthocyanins in *Aquilegia*. *Molecular Ecology* 15: 4645-4657 (¹ both authors contributed equally).
- Kay, Kathleen¹, Justen B. Whittall¹, and Scott A. Hodges. 2006. A survey of nrITS substitution rates across angiosperms reveals an approximate molecular clock with life history effects. *BMC Evolutionary Biology*: 6: 36 (¹ both authors contributed equally).
- Whittall, Justen B., Andrew Medina-Marino, Elizabeth A. Zimmer, and Scott A. Hodges. 2006. Generating single-copy nuclear gene data for species-level phylogenies: Further evidence for a rapid radiation in *Aquilegia*. *Molecular Phylogenetics and Evolution* 39: 124-134.
- Whittall, Justen B., Matthew Carlson, Paul M. Beardsley, Robert J. Meinke and Aaron Liston. 2006. The *Mimulus moschatus* alliance (Phrymaceae): Molecular and morphological phylogenetics and their conservation implications. *Systematic Botany* 31(2): 380-397.
- Whittall, Justen B., C. Barre Hellequist, Edward Schneider, and Scott A. Hodges. 2004. Cryptic species in an endangered pondweed community (*Potamogeton*, Potamogetonaceae) revealed by AFLP markers. *American Journal of Botany* 91 (12): 2022-2029.
- Beardsley, Paul M., S. E. Schoenig, Justen B. Whittall, and Richard G. Olmstead. 2004. The radiation of *Mimulus* in western North America: Systematics, hybridization, chromosomal evolution, cryptic biodiversity, and patterns of rarity. *American Journal of Botany* 91(3): 474-489.
- Hodges, Scott A., Michelle Fulton, Ji Y. Yang, and Justen Whittall. 2004. Verne Grant and evolutionary studies of *Aquilegia*. *New Phytologist* 161(1): 113-120.
- Hodges, Scott A., Justen B. Whittall, Michelle Fulton and Ji Yang. 2002. Genetics and floral isolation between *Aquilegia formosa* and *A. pubescens*. *American Naturalist* 159: S51-S60.
- Whittall, Justen B., Aaron Liston, Steve D. Gisler, and Robert J. Meinke. 2000. Detecting superimposed nucleotide additivity patterns is a SNAP: an example from *Sidalcea* (Malvaceae). *Plant Biology* 2: 211-217.
- Linderman, Jon K., Justen B. Whittall, Krisin L. Gosselink, Tommy J. Wang, Venkat R. Mukku, Frank W. Booth, and Richard Grindeland. 1995. Stimulation of myofibrillar protein synthesis in hindlimb suspended rats by resistance exercise and growth hormone. *Life Sciences* 57: 755-762.

c) Works in Progress

In Preparation or Revision:

- **Herman, Julie A.** ('14) and Justen B. Whittall. Mating system trumps island-like habitat in determining the distribution of genetic diversity in a rare sandhill endemic (*Erysimum teretifolium*, Brassicaceae). *International Journal Plant Sciences*.
- Whittall, Justen B., **Cynthia Dick** ('08) and **Timothy Butler** ('10). Two cryptic species of California mustard (*Caulanthus lasiophylla*) differentiated by molecular and geographical evidence. *American Journal of Botany*.
- Eduardo Narbona, Matthew L. Carlson, **Cynthia A. Dick** ('08), Daniel J. Kliebenstein, and Justen B. Whittall. On the measurement of flower color: Examples from the Brassicaceae. *New Phytologist*.
- Melen, Miranda, **Julie A. Herman** ('14), Justen B. Whittall. The mating system of a rare, sandhill endemic wallflower (*Erysimum teretifolium*, Brassicaceae). *American Journal of Botany*.
- **Biro, Peter** ('14) and Justen B. Whittall. The age of amphitropic disjunct plants coincides with the Great American Biotic Interchange. *Evolution*.
- Dejan, Khaaliq ('11) and Justen B. Whittall. Wallflowers make good company – adaptive radiation in *Erysimum* (Brassicaceae). *International Journal of Plant Sciences*.
- Whittall, Justen B., **Leena McCann** ('12), **Juliana Moreno** ('13), **Cynthia A. Dick** ('08). Multiple layers of reproductive isolation in the serpentine columbine (*Aquilegia eximia*). *Evolution*.

d) Presentations

Invited Seminars Since Appointment at SCU (2007)

- Numerous Plant Amphitropic Disjuncts Coincide with the Great American Biotic Interchange, Botany 2016, Savannah, Georgia (expected 8/16)
- Genomic Skimming for Wallflower Chloroplast Genomes and its Utility for Phylogenetics of Very Recent and Rapid Adaptive Radiations. Northern California Botanists Symposium (expected 1/16).
- Flower Color, Pollinators, Soils and Genetics in the Metcalf Canyon Jewelflower and its Closest Relatives. California Native Plant Society, San Jose, CA (1/15).
- Wallflowers Keep Good Company: Adaptive Radiation in *Erysimum*, California Academy of Sciences (2/14), Botanical Society of America (7/14), and University of San Francisco (10/14).
- Reintroduction Potential of the Metcalf Canyon Jewelflower, Department of Environmental Sciences, San Jose State University (2/13)
- Messages from the Arctic: Transcriptome Analysis of an Arctic Mustard Flower Color Polymorphism, Plant Biology Departmental Seminar, UC Davis (10/12)
- On the Measurement of Flower Color: Examples from the Brassicaceae, Ecological Society of America, Portland OR (8/12)
- The Evolutionary Ecology of Three Local Serpentine Endemics, California Native Plant Society, Los Altos, CA (3/12)
- Floral Anthocyanins: A Metamodel for Ecological Pleiotropy in the Brassicaceae, Biology Departmental Seminar, Washington State University, Pullman (10/11)

- New Perspectives on Cryptic Divergence & Ecological Pleiotropy: Lessons from Pine Plastomes and Arctic Mustard Transcriptomes, Symposium on Next-Gen Sequencing in Phylogenetics & Phylogeography, Evolution 2011, Norman, OK (7/11)
- Messages from the Arctic: Ecological, Metabolomic & Molecular Analysis of a Flower Color Polymorphism in Arctic Mustard, Carnegie Institute Dept. Seminar, Stanford (10/10)
- Past, Present, and Future: Applications of Next-Gen Sequencing in Ecology & Evolution, Centillion Biosciences, Mountain View (9/10)
- Adaptive Radiation in the California Wallflowers. “Botany Lunch”, UC & Jepson Herbarium, UC Berkeley (4/10)
- The Metcalf Jewelflower (*Streptanthus albidus* ssp. *albidus*) - Still a Mystery... Northern California Botanists Annual Symposium, Chico, CA (1/10)
- Cryptic Diversity in the California Flora: Lessons from Mustards, Columbines and Pines. California Native Plant Society Annual Meeting (12/09).
- Flower Color Evolution: Messages from the Arctic. Biology Dept., Humboldt State University (9/09) & Department of Integrative Biology, UC Berkeley (10/09)
- Flower Color Evolution and the Primacy of Pollinators. Rancho Santa Ana Botanical Garden, Claremont Colleges (1/09)
- Finding the Pine Needle in a Haystack: Using Genomic Tools to Reveal the Evolutionary History of Torrey Pine. 2nd Annual Torrey Pine Symposium, La Jolla, CA (9/08)
- Pollinator Shifts Drive Increasingly Long Nectar Spurs in Columbine Flowers. Biology Dept., Chico State University (9/07)

Selected Contributions Since Appointment at SCU (2007)

- **Cindy Dick** (’08), Ryan O’Dell and Justen Whittall. Genetic Diversity and Population Differentiation in the Rare Serpentine Endemic, San Benito Evening Primrose (*Camissonia benitensis*). Poster, Ecological Society of America, Portland, OR (8/12) & presented by **Julie Herman** (’14) at West Coast Bio, LMU (8/12)
- McCann, Leena (’12), Juliana Moreno (’13), Cynthia Dick (’08), Stephanie Saffouri and Justen B. Whittall. The Role of Adaptation During Columbine Speciation. Student Poster, West Coast Bio, LMU (4/12; *1st Place Poster Award*)
- **Cossentine, Heidi** (’12), **Cindy Dick** (’08) and Justen Whittall. Chemical Defense, Flower Color and Phylogeography in the Arctic Mustard, *Parrya nudicaulis*. Student Poster, Sigma Xi, SCU (5/11)
- **Butler, Timothy** (’10), **Cynthia Dick** (’08) and Justen B. Whittall. Transcriptome-level Comparisons of Purple- and White-flowered Arctic Mustards (*Parrya nudicaulis*) using Next-Gen Sequencing Technologies. Student Poster, West Coast Undergraduate Biological Science Research Conference, SCU, CA (4/10); Sigma Xi, SCU, CA (4/10); Evolution 2010, Portland, OR (6/10); Society for Molecular Biology & Evolution, Lyon, France (7/10)
- Carlson, Matthew L., Mohamed Abdelaziz, Josh Barsis, **Tim Butler** (’10), **Cindy Dick** (’08), Justin Fulkerson, Savannah Hamilton, Cara Hesselbach, **Rachel Munsen** (’09), **Mimi Portilla** (’10), Keith Schneider, Laura Schneller, **Beth Storelli** (’09), Dan Kliebenstein, Justen B. Whittall. Exceptional floral diversity in the Arctic: The

- roles of pollinator and non-pollinator agents of selection in *Parrya nudicaulis*. Poster, Botanical Society of America, Snowbird, UT (7/09)
- **Cindy Dick** ('08), **Jason Buenrostro** ('09), **Tim Butler** ('10), **Heidi Cossentine** ('12), Savannah Hamilton, **Rachel Munsen** ('09), **Mimi Portilla** ('10), Keith Schneider, **Beth Storelli** ('09), Dan Kliebenstein, Matthew L. Carlson, Justen B. Whittall. The metabolomic and molecular basis of flower color diversity in the Arctic mustard *Parrya nudicaulis*. Poster, Botanical Society of America, Snowbird, UT (7/09)
 - Richard C. Cronn, Aaron Liston, Matthew Parks, John Syring, Justen B. Whittall and **Jason Buenrostro** ('09). Chloroplast population genomics in narrowly-endemic and widespread species of *Pinus*. Poster. Plant Animal Genome, San Diego, CA (10/08).
 - Justen B. Whittall, **Jason Buenrostro** ('09), Matthew Parks, Richard Cronn and Aaron Liston. Finding a Pine Needle in a Haystack: Using Microread Sequencing of the Chloroplast Genome to Locate Cryptic Genetic Diversity in the Narrow Endemic *Pinus torreyana*. Poster. Botanical Society of America, University of British Columbia, Canada (7/08)
 - Dena Grossenbacher, Samuel Veloz, Jason Sexton and Justen B. Whittall. Niche evolution is initially related to speciation: A test within the genus *Mimulus*. Poster. Ecological Society of America Meetings (7/08)
 - Brian Anacker¹, Justen Whittall¹ and Susan Harrison. A predictable evolutionary pathway to serpentine endemism and its consequences in the California flora. The 6th International Conference on Serpentine Ecology (6/08) (¹ both authors contributed equally to this work)
 - Jessica Wright and Justen B. Whittall. Serpentinomics – An Exciting New Field of Study. The 6th International Conference on Serpentine Ecology (6/08)

e) Grants Funded Since Appointment at SCU

External Funding (Totaling \$1,072,220)

- “Culture and host preference in *Castilleja affinis* var. *neglecta*” funded by Creekside Center for Earth Observation in collaboration with Christal Niederer (subcontract \$2,000; funded 11/14).
- “The Perks of Being a Ben Lomond Wallflower” Graduate Research Scholarship awarded to Miranda Melen ('09) from the Santa Clara Valley Chapter of the California Native Plant Society for her Masters Thesis Research Project (\$1,500; funded Winter 2013).
- Department of the Interior, “Reintroduction of the Metcalf Canyon Jewelflower (*Streptanthus albidus* ssp. *albidus*) at Tulare Hill in Southern Santa Clara County” (\$272,968; 4/12)
- Spanish Ministry of Science in collaboration with Dr. Eduardo Narbona, “Ecological and evolutionary significance of anthocyanins in *Silene* (Caryophyllaceae)” (\$115,791 Euros = \$148,815 US; 8/12)
- Northern California Botanists with students Juliana Moreno & Leena McCann, “Sympatric Speciation in Northern California Columbines” (\$1,680; 7/12)
- California Department of Fish and Game, “Managing reproduction and genetic diversity in the Ben Lomond and Contra Costa wallflowers (*Erysimum teretifolium* and *E. capitatum* var. *angustatum*)” (\$156,199; 9/11)

- Bureau of Land Management, “Identifying reservoirs of genetic diversity and reproductive mode in the San Benito Evening Primrose (*Camissonia benitensis*)” (\$40,000; 5/11)
- NSF, “Research Experience for Undergraduates: Linking Ecology & Genomics to Understand Flower Color Evolution in the Arctic” (\$6,000; 4/09)
- NSF, “Flower Color Evolution in the Arctic: Integrating Genomic Research and Undergraduate Education in Polar Environments” (\$352,493; with Co-PI Matt Carlson, separate budget, 3/08)
- Santa Barbara Botanical Garden, “Torrey Pines: From Conservation to Genomics” (\$19,344; 3/08)
- US Dept. of Interior, “Determining the optimal conditions for propagation and reproduction of the endangered serpentine endemic Metcalf Jewelflower (*Streptanthus albidus* ssp. *albidus*) of Santa Clara County and genetic assessment of its taxonomic status” (\$74,721; with Sharon Strauss, 9/07)

Internal Funding (Totaling \$45,178)

- “Developing an introductory biology toolkit - a collaborative approach” funded by Santa Clara University’s Collaborative for Teaching Innovation grant (\$10,000; funded 10/15). Primary Author: Christelle Sabatier; Participating Faculty: Janice Edgerly-Rooks, Jim Grainger, Dawn Hart, David McMillan, and Justen Whittall.
- ALZA Scholarship (to Julie Herman), “Genetic diversity profile for the Ben Lomond Wallflower (*Erysimum teretifolium*)” (\$13,000; 6/12)
- SCU URI Travel Grants for Peter Biro and Julie Herman to present their research at West Coast Bio (Azusa Pacific University 4/14).
- SCU URI Travel Grants for Peter Biro, Kyle Hohu, Julie Herman and Devin Wakefield to present their research at West Coast Bio (Point Loma Nazarene 4/13)
- SCU URI Travel Grants for Juliana Moreno, Leena McCann & Julie Herman to present their research posters at West Coast Bio, LMU (\$1,400; 4/12)
- SCU FSRAP, “Bridging Disparate Disciplines: The Metabolomics of Flower Color and Herbivore Defense in Arctic Mustards” (\$1,000, 5/10)
- SCU Undergraduate Research Initiative, “Applying Next-Gen Sequencing Technologies in Ecology & Evolution with Tim Butler (Biology, ‘10)” (\$2,000, 9/09)
- Santa Clara University Technology Grant, “Improved DNA Visualization Capabilities for Undergraduate Education and Research” (\$12,523, 12/08)
- Santa Clara University Technology Grant, “Real Time PCR Instrument to Enhance Instruction and Research in Evolution and Ecology” (\$18,255, with Elizabeth Dahlhoff, 1/08)

f) Grants Currently In Review

- “The importance of flower color polymorphism in the plant speciation process” in review with the Spanish Ministry of Science in collaboration with Drs. Eduardo Narbona and Montse Arista (\$227,397 Euros = \$253,381; submitted 7/15).

g) Grants & Awards Prior to Appointment at SCU (<9/07)

- Comparative Biology Postdoctoral Fellowship, UC Davis (3/05-3/07)

- NSF Doctoral Dissertation Improvement Grant, UCSB (\$12,000, 1/03-1/05)
- 1st Place Award, Plant Speciation Meetings, Antigonish, Nova Scotia (6/03)
- Olivia Long Converse Fellowship, UCSB Grad. Div. (totaling \$95,530, 6/02-3/05)
- 1st Place Award, California Botanical Society Grad. Meetings, Chico (2/01)
- Karling Award, Botanical Society of America (6/01-9/01)
- Pamplin Fellowship for Native Plant Res., Portland Gard. Club, OSU (\$5,000, 9/98)
- Linus Pauling Graduate Internship, Molecular Clock Research, OSU (6/97-9/97)

4. Service to the University, the Profession, and the Community

a) Service to University

1. Department

- Faculty Advisor, Tri-Beta Biological Honors Society, Dept. of Biology (9/15-present; organized Grad School Info Night 10/15)
- Faculty Advisor, Club Bio, Dept. of Biology (9/15-present)
- Greenhouse Coordinator, Dept. of Biology (9/08-present)
- Member, Intro Bio Series Working Group, Dept. of Biology, SCU (9/07-present)
- Chair, Plant Biologist TT Search, Dept. of Biology, (5/11-2/12)
- Hot Topics Contributor, Dept. of Biology (2/08, 2/09, 2/10, 4/11)
- Member, Ecology & Evolution AYL Search, Dept. of Biology - 2 hires (4/10)
- Member, Genetics QPT Search Committee, Dept. of Biology, SCU (2009)
- Co-author, Proposal for an Endowed Chair in Medical Genomics submitted to the Dean of Arts & Sciences w/ Janice Edgerly-Rooks (11/09).
- Volunteer, Biology Representative, Major/Minor Fair, Benson Center, SCU (2/08 & 2/09)
- Host, Seminar Speakers (Winter '08, Winter '10, Winter '11):
- Member, Molecular Biologist Tenure Track Search Committee, Dept. of Biology, SCU (9/08 – 3/09)
- Member, Ecology AYL Search Committee, Dept. of Biology, SCU (9/08)
- Member, Academic Year Planning Committee, Dept. of Biology, SCU (9/07-6/08)

2. College

- Member, Integrated Science Center Committee (5/12)
- Volunteer, West Coast Undergraduate Biological Science Research Conference, SCU, CA (4/10)
- “Flora and Fauna...” Exhibit Contributor, de Saisset Museum, SCU (2008)

3. University

- Judge, Environment Panel, SCU Tech Awards (6/12-8/12)
- Biology Representative, Faculty Senate (9/11-present)
- New Faculty Retreat, Nature Walk Leader (2009 & 2011 & 2012)

- Speaker, On the Origin of Species: A Darwin Anniversary Lunch, Literary Cuisine, SCU (11/09)
- Volunteer, Preview Days, SCU (4/08 & 4/09)
- Contributor, Article for President's Report, SCU (9/07-6/08)
- Contributor, SCU Public Relations

b) Service to Profession

- Judge, West Coast Bio Undergraduate Meetings, LMU (4/12)
- Guest Lecturer, Plant Systematics, UC Santa Cruz (4/10 & 4/11)
- Panelist, Doctoral Dissertation Improvement Grants, Division of Environmental Biology, National Science Foundation, Washington DC (2/10)
- Host, Bay Area Biosystematists Panel on Coevolution, SCU (4/10)
- Undergraduate Textbook Reviewer, *Evolution: Making Sense of Life* by Ellen & Zimmer (Two Chapters, Roberts and Company Publishers)
- Reviewer for several academic journals and granting organizations since appointment at SCU including: *American Naturalist*, *Annals of Botany*, *Applications in Plant Sciences*, *Bioinformatics*, *BMC Ecology*, *Evolution*, *French Science Foundation*, *Frontiers in Plant Sciences*, *International Journal of Plant Sciences*, *Israel Science Foundation (Israel Academy of Sciences & Humanities)*, *Journal of Heredity*, *Molecular Biology & Evolution*, *Molecular Ecology*, *Molecular Phylogenetics & Evolution*, *New Phytologist*, *Northeastern Naturalist*, *NSF*, *Proceedings of the National Academy of Sciences*, *Science Reports (a Nature journal)*, *Systematic Biology*, *Science*, *Systematic Biology*, *The Austrian Fund (Austrian National Funding Agency)*, and *Trends in Ecology and Evolution*.
- Panelist, Bay Area Biosystematists Panel on Adaptation, CSU Sonoma (4/07)
- Judge, California Botanical Society Meetings-Chico & San Diego (2/01 & 2/03)
- Faculty Search Committee (EEMB Macroevolutionary Biologist)-UCSB (12/00-3/01)
- Systematics and Ecology Curriculum Committee-OSU (10/98-6/99)
- Environmental Leadership Coordinator-SCU (9/95-6/06)

c) Community Service

- Botanical Consultant for Santa Clara County District Attorney's Office (5/10 - present)
- Organized Biology Faculty, Staff and Student Volunteers for Monthly Service at the 2nd Harvest Foodbank, San Jose CA (9/11 – 9/13)
- Scientific Advisor, Brook Knoll Elementary Science Fair, Scotts Valley (2/11, 2/12, 2/13, 2/14, 2/15)
- Science Fair Judge, Vine Hill Elementary, Scotts Valley (1/09 & 1/10)
- Discussion Leader on Evolution & Religion, Opus Dei Meeting, Mountain View (5/11)
- Science Fair Advisor for Elizabeth Bernal, Presentation High School (4/11)
- Instructor, Elementary School Lessons in Ecology & Evolution, Brook Knoll Elementary, Scotts Valley CA (2007-present)
- Girl Scouts Field Trip Leader (Feb, April & May, 2011)

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- Educational Seminars, Oak Tree Villa Retirement Community, Scotts Valley (12/09 & 7/10)
- Field Trip Leader, “Pollinators of De Laveaga County Park”, Santa Cruz Chapter, California Native Plant Society (5/10 & 5/11).