

CURRICULUM VITAE

Michael Samuel Rosenberg

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EDUCATION

Ph.D., State University of New York at Stony Brook, Department of Ecology & Evolution, 2000.
B.A., Northwestern University, Majors in Biology, Geology, and Anthropology, 1994.

RESEARCH POSITIONS AND EMPLOYMENT

Associate Professor, School of Life Sciences, Arizona State University, 2008 – *present*.
Member, Center for Evolutionary Medicine and Informatics, The Biodesign Institute, Arizona State University, 2010 – *present*.
Sabbatical Fellow, National Evolutionary Synthesis Center, Durham, NC, 2009 – 2010.
Member, Center for Evolutionary Functional Genomics, The Biodesign Institute, Arizona State University, 2003 – 2010.
Assistant Professor, School of Life Sciences, Arizona State University, 2003 – 2008.
Note: 7/2003 – 6/2008: School of Life Sciences
1/2003 – 6/2003: Department of Biology
Faculty Research Associate (to Dr. Sudhir Kumar), Department of Biology, Arizona State University, 2000 – 2002.
Graduate Research Assistant (to Dr. Robert R. Sokal), Department of Ecology & Evolution, State University of New York at Stony Brook, 1995 – 1999.
Graduate Research Assistant (to Dr. Manuel Lerchau), Department of Ecology & Evolution, State University of New York at Stony Brook, 1998.
Graduate Teaching Assistant, Department of Ecology & Evolution, State University of New York at Stony Brook, 1994 – 1995, 1998 – 2000.
Short Term Fellow, Smithsonian Tropical Research Institute, 1997.
Intern, Vertebrate Fossils Department, Carnegie Museum of Natural History, 1991.
Computing Consultant, Northwestern University Information Technology, 1991 – 1994.

RESEARCH INTERESTS

Computational evolutionary biology and ecology; bioinformatics; sequence alignment; phylogenetics; spatial analysis and statistics; landscape genetics; genomics; fiddler crab biology and evolution; meta-analysis; geometric morphometrics

PUBLICATIONS († = *Sponsored PostDoc*)

In Refereed Journals

41. Stoltzfus, A., H. Lapp, N. Matasci, H. Deus, B. Sidlauskas, C.M. Zmasek, G. Vaidya, E. Pontelli, K. Cranston, R. Vos, C.O. Webb, L.J. Harmon, M. Pirrung, B. O'Meara, M.W. Pennell, S. Mirarab, M.S. Rosenberg, J.P. Balhoff, H.M. Bik, T. Heath, P.

- Midford, J.W. Brown, E.J. McTavish, J. Sukumaran, M. Westneat, M.E. Alfaro, A. Steele, and G. Jordan (2013) Phylotastic! Making Tree-of-Life knowledge accessible, reusable and convenient. *BMC Bioinformatics* 14:158.
40. Perez, D.M., M.S. Rosenberg, and M.R. Pie (2012) The evolution of waving displays in fiddler crabs (*Uca* spp., Crustacea, Ocypodidae). *Biological Journal of the Linnean Society* 106(2):307–315.
 39. Rosenberg, M.S., and C.D. Anderson[†] (2011) PASSaGE: Pattern Analysis, Spatial Statistics, and Geographic Exegesis. Version 2. *Methods in Ecology & Evolution* 2(3):229–232.
 38. Chen, S.-C., M.S. Rosenberg, and B.G. Lindsay (2011) MixtureTree: A program for constructing phylogeny. *BMC Bioinformatics* 12:111.
 37. Anderson, C.D.[†], and M.S. Rosenberg. 2011. Variation in association with manmade habitat edges exhibited by the Timber Rattlesnake (*Crotalus horridus*) in St. Louis County, Missouri. *Journal of Herpetology* 45(1):50–55.
 36. Manel, S., S. Joost, B.K. Epperson, R. Holderegger, A. Storfer, M.S. Rosenberg, K. Scribner, A. Bonin, and M.-J. Fortin (2010) Perspectives on the use of landscape genetics to detect genetic adaptive variation in the field. *Molecular Ecology* 19(17):3760–3772.
 35. Anderson, C.D.[†], B.K. Epperson, M.-J. Fortin, R. Holderegger, P.M.A. James, M.S. Rosenberg, K.T. Scribner, and S. Spear (2010) Considering spatial and temporal scale in landscape-genetic studies of gene flow. *Molecular Ecology* 19(17):3565–3575.
 34. Epperson, B.K., B. McRae, K. Scribner, S.A. Cushman, M.S. Rosenberg, M.-J. Fortin, P.M.A. James, M. Murphy, S. Manel, P. Legendre, and M.R.T. Dale (2010) Utility of computer simulations in landscape genetics. *Molecular Ecology* 19(17):3549–3564.
 33. Rosenberg, M.S. (2010) A generalized formula for converting chi-square tests to effect sizes for meta-analysis. *PLoS ONE* 5(4):e10059.
 32. Pearson, D.L., C.D. Anderson[†], B.R. Mitchell, M.S. Rosenberg, R. Navarette, and P. Coopmans. (2010) Testing hypotheses of bird extinctions at Rio Palenque, Ecuador, with informal species lists. *Conservation Biology* 24(2):500–510.
 31. Niehuis, O., J.D. Gibson, M.S. Rosenberg, B. Pannebakker, T. Koevoets, A.K. Judson, C. Desjardins, K. Kennedy, D. Duggan, L.W. Beukeboom, L. van de Zande, D.M. Shuker, J.H. Werren, and J. Gadau (2010) Recombination and its impact on the genome of the haplodiploid parasitoid wasp *Nasonia*. *PLoS ONE* 5(1):e8597.
 30. Ogden, T.H.[†], and M.S. Rosenberg (2007) Alignment and topological accuracy of the direct optimization approach via POY and traditional phylogenetics via ClustalW + PAUP*. *Systematic Biology* 56(2):182–193.
 29. Ogden, T.H.[†], and M.S. Rosenberg (2007) How should gaps be treated in parsimony? A comparison of approaches using simulation. *Molecular Phylogenetics and Evolution* 42(3):817–826. (Erratum: 2008, 46(2):807–808)
 28. Ogden, T.H.[†], and M.S. Rosenberg (2006) Multiple sequence alignment accuracy and phylogenetic inference. *Systematic Biology* 55(2):314–328.
 27. Rosenberg, M.S. (2005) Multiple sequence alignment accuracy and evolutionary distance estimation. *BMC Bioinformatics* 6:278.
 26. Rosenberg, M.S. (2005) MySSP: Non-stationary evolutionary sequence simulation, including indels. *Evolutionary Bioinformatics Online* 1:81–83.

25. Rosenberg, M.S. (2005) Evolutionary distance estimation and fidelity of pair wise sequence alignment. *BMC Bioinformatics* 6:102.
24. Rosenberg, M.S. (2005) The file-drawer problem revisited: A general weighted method for calculating fail-safe numbers in meta-analysis. *Evolution* 59(2):464–468.
23. Gadagkar, S.R., M.S. Rosenberg, and S. Kumar (2005) Inferring species phylogenies from multiple genes: Concatenated sequence tree versus consensus gene tree. *Journal of Experimental Zoology. B. Molecular and Developmental Evolution* 304(1):64–74.
22. Rosenberg, M.S., K.A. Garrett, Z. Su, and R.L. Bowden (2004) Meta-analysis in plant pathology: Synthesizing research results. *Phytopathology* 94(9):1013–1017.
21. Rosenberg, M.S. (2004) Wavelet analysis for detecting anisotropy in point patterns. *Journal of Vegetation Science* 15(2):277–284.
20. Sokal, R.R., N.L. Oden, M.S. Rosenberg, and B.A. Thomson (2004) A new protocol for evaluating putative causes for multiple variables in a spatial setting, illustrated by its application to European cancer rates. *American Journal of Human Biology* 16(1):1–16.
19. Hyatt, L.A., M.S. Rosenberg, T.G. Howard, G. Bole, W. Fang, J. Anastasia, K. Brown, R. Grella, K. Hinman, J.P. Kurdziel, and J. Gurevitch (2003) The distance dependence prediction of the Janzen-Connell hypothesis: A meta-analysis. *Oikos* 103(3):590–602.
18. Rosenberg, M.S., S. Subramanian, and S. Kumar (2003) Patterns of transitional mutation biases within and among mammalian genomes. *Molecular Biology and Evolution* 20(6):988–993.
17. Rosenberg, M.S., and S. Kumar (2003) Heterogeneity of nucleotide frequencies among evolutionary lineages and phylogenetic inference. *Molecular Biology and Evolution* 20(4):610–621.
16. Rosenberg, M.S., and S. Kumar (2003) Taxon sampling, bioinformatics, and phylogenomics. *Systematic Biology* 52(1):119–124.
15. Dungan, J.L., J. Perry, M. Dale, S. Citron-Pousty, M.-J. Fortin, A. Jakomulska, P. Legendre, M. Miriti, and M.S. Rosenberg (2002) A balanced view of scaling in spatial statistical analysis. *Ecography* 25(5):626–640.
14. Perry, J.N., A. Liebhold, M.S. Rosenberg, J. Dungan, M. Miriti, A. Jakomulska, and S. Citron-Pousty (2002) Illustration and guidelines for selecting statistical methods for quantifying spatial patterns in ecological data. *Ecography* 25(5):578–600.
13. Dale, M.R.T., P. Dixon, M.-J. Fortin, P. Legendre, D.E. Myers, and M.S. Rosenberg (2002) Conceptual and mathematical relationships among methods for spatial analysis. *Ecography* 25(5):558–577.
12. Rosenberg, M.S. (2002) Fiddler crab claw shape variation: A geometric morphometric analysis across the genus *Uca*. *Biological Journal of the Linnean Society* 75(2):147–162.
11. Rosenberg, M.S., and S. Kumar (2001) Incomplete taxon sampling is not a problem for phylogenetic inference. *Proceedings of the National Academy of Sciences USA* 98(19):10751–10756.
10. Rosenberg, M.S., and S. Kumar (2001) Traditional phylogenetic reconstruction methods reconstruct shallow and deep evolutionary relationships equally well. *Molecular Biology and Evolution* 18(9):1823–1827.

9. Rosenberg, M.S. (2001) The systematics and taxonomy of fiddler crabs: A phylogeny of the genus *Uca*. *Journal of Crustacean Biology* 21(3):839–869.
8. Rosenberg, M.S. (2000) The bearing correlogram: A new method of analyzing directional spatial autocorrelation. *Geographical Analysis* 32(3):267–278.
7. Sokal, R.R., N.L. Oden, M.S. Rosenberg, and B.A. Thomson (2000) Cancer incidences in Europe related to mortalities, and ethnohistoric, genetic, and geographic distances. *Proceedings of the National Academy of Sciences USA* 97(11):6067–6072.
6. Rosenberg, M.S., R.R. Sokal, N.L. Oden, and D. DiGiovanni (1999) Spatial autocorrelation of cancer in Western Europe. *European Journal of Epidemiology* 15(1):15–22.
5. Adams, D.C., and M.S. Rosenberg (1998) Partial-warps, phylogeny, and ontogeny: A comment on Fink and Zelditch (1995). *Systematic Biology* 47(1):168–173.
4. Sokal, R.R., N.L. Oden, M.S. Rosenberg, and D. DiGiovanni (1997) Ethnohistory, genetics and cancer mortality in Europeans. *Proceedings of the National Academy of Sciences USA* 94(23):12728–12731.
3. Sokal, R.R., N.L. Oden, M.S. Rosenberg, and D. DiGiovanni (1997) The patterns of historical population movements in Europe and some of their genetic consequences. *American Journal of Human Biology* 9(3):391–404.
2. Adams, D.C., J. Gurevitch, and M.S. Rosenberg (1997) Resampling tests for meta-analysis of ecological data. *Ecology* 78(4):1277–1283.
1. Rosenberg, M.S. (1997) Evolution of shape differences between the major and minor chelipeds of *Uca pugnax* (Decapoda: Ocypodidae). *Journal of Crustacean Biology* 17(1):52–59.

Software

7. Rosenberg, M.S., and C.D. Anderson[†] (2011) *PASSAGE*. Pattern analysis, spatial statistics and geographic exegesis. Version 2.
6. Rosenberg, M.S. (2010) *IndelCoder*. Version 1.
5. Rosenberg, M.S. (2005) *MySSP*. Non-stationary evolutionary sequence simulation, including indels. Version 1.
4. Rosenberg, M.S. (2005) *Fail-Safe Number Calculator*. Version 1.
3. Rosenberg, M.S. (2001) *PASSAGE*. Pattern analysis, spatial statistics and geographic exegesis. Version 1. <http://www.passagesoftware.net>. [Since Oct 2002: downloaded > 4200 times, by > 2100 distinct, voluntarily provided email addresses (> 1000 additional anonymous), from at least 149 U.S. universities and 60 countries]
2. Rosenberg, M.S., D.C. Adams, and J. Gurevitch (2000) *MetaWin*. Statistical software for meta-analysis. Version 2. Sinauer Associates, Sunderland, Massachusetts.
1. Rosenberg, M.S., D.C. Adams, and J. Gurevitch (1997) *MetaWin*. Statistical software for meta-analysis with resampling tests. Version 1. Sinauer Associates, Sunderland, Massachusetts.

Edited Books

1. Rosenberg, M.S. (2009) *Sequence Alignment: Methods, Models, Concepts, and Strategies*. University of California Press: Berkeley, CA.

Book Chapters

7. Lajeunesse, M.J., M.S. Rosenberg, and M.D. Jennions (2013) Phylogenetically independent meta-analysis. Pp. 284–299 in *Handbook of Meta-analysis in Ecology and Evolution*, J. Koricheva, J. Gurevitch, and K. Mengersen, eds. Princeton University Press: Princeton, NJ.
7. Jennions, M.D., C.J. Lortie, M.S. Rosenberg, and H.R. Rothstein (2013) Publication and related biases. Pp. 207–236 in *Handbook of Meta-analysis in Ecology and Evolution*, J. Koricheva, J. Gurevitch, and K. Mengersen, eds. Princeton University Press: Princeton, NJ.
5. Rosenberg, M.S. (2013) Moment and least-squares based approaches to meta-analytic inference. Pp. 108–124 in *Handbook of Meta-analysis in Ecology and Evolution*, J. Koricheva, J. Gurevitch, and K. Mengersen, eds. Princeton University Press: Princeton, NJ.
4. Rosenberg, M.S., H.R. Rothstein, and J. Gurevitch (2013) Effect sizes: Conventional choices and calculations. Pp. 61–71 in *Handbook of Meta-analysis in Ecology and Evolution*, J. Koricheva, J. Gurevitch, and K. Mengersen, eds. Princeton University Press: Princeton, NJ.
3. Chen, S.-C., M. Li, M.S. Rosenberg, and B. Lindsay (2011) Mixture tree construction and its applications. Pp. 135-147 in *Handbook of Statistical Bioinformatics*, H.H.-S. Lu, B. Schölkopf, and H. Zhao, ed. Springer-Verlag.
2. Rosenberg, M.S., and T.H. Ogden (2009) Simulation approaches to evaluating alignment error and methods for comparing alternate alignments. Pp. 179–207 in *Sequence Alignment: Methods, Models, Concepts, and Strategies*, M.S. Rosenberg, ed. University of California Press: Berkeley, CA.
1. Rosenberg, M.S. (2009) Sequence alignment: Concepts and history. Pp. 1–22 in *Sequence Alignment: Methods, Models, Concepts, and Strategies*, M.S. Rosenberg, ed. University of California Press: Berkeley, CA.

Reports

1. Dowling, T.E., P.C. Marsh, C.D. Anderson, M.S. Rosenberg, and A.T. Kelsen (2008) Population structure in the roundtail chub (*Gila robusta* complex) of the Gila River basin as determined by microsatellites. Report to Arizona Game and Fish Department.

Other Publications

2. E.A. Ainsworth, M.S. Rosenberg, and X. Wang (2007) Meta-analysis: The past, present and future. *New Phytologist* 176:742–745. [commissioned meeting report]
1. Rosenberg, M.S. 2005. Why lectures seem to last forever. *Journal of Irreproducible Results* 49:16. [humor]

Book Reviews

2. Rosenberg, M.S. (1998) [Book Review] Modeling Dynamic Biological Systems. *Quarterly Review of Biology* 73:340.

1. Rosenberg, M.S. (1997) [Software Review] Minitab for Windows. *Quarterly Review of Biology* 72:240–241.

Published Abstracts

3. Pfister, L.-A., L.T. Nash, M.S. Rosenberg, and A.C. Stone (2009) Influence of androgen receptor variation in primate and carnivore female social dominance. *American Journal of Physical Anthropology* 138(S48):210.
2. Pfister, L.-A., M.S. Rosenberg, and A. C. Stone (2008) Full genome comparisons of *Mycobacterium*: Insight into the origin of tuberculosis and leprosy. *American Journal of Physical Anthropology* 135(S46):171.
1. Sokal, R.R., N.L. Oden, M.S. Rosenberg, and B.A. Thomson (2000) Cancer incidences in Europe related to ethnohistoric and genetic distances. *American Journal of Physical Anthropology* 111(S30):286–287.

Theses

1. Rosenberg, M.S. (2000) *The Comparative Claw Morphology, Phylogeny, and Behavior of Fiddler Crabs (Genus Uca)*. Ph.D. Thesis. Department of Ecology and Evolution, State University of New York at Stony Brook, Stony Brook, NY.

GRANTS AND RESEARCH SUPPORT

- National Evolutionary Synthesis Center, “Geography, phylogeny, and population: an evolutionary synthesis.” PI: M.S. Rosenberg (9/1/2009 – 4/30/2010), \$39,932.
- National Institutes of Health, grant #R01 LM009505-01A1, “Sequence alignment fidelity in genomics and bioinformatics.” PI: M.S. Rosenberg (8/1/2009 – 7/31/2011), \$581,750.
- National Center for Ecological Analysis and Synthesis, “An interdisciplinary approach to advancing landscape genetics.” PI: M.S. Rosenberg, Co-PIs: B.K. Epperson, A. Storfer (9/19/2008 – 2/22/2011), \$79,800.
- National Science Foundation, grant #DMS-0714949, “Collaborative research: Statistical methods and algorithms for genomic data.” PI: S.-C. Chen, Co-PI: M.S. Rosenberg (30% rec.) (8/15/2007 – 7/31/2011), \$624,592.
- National Science Foundation, grant #DBI-0542599, “Spatial analysis across biological disciplines.” PI: M.S. Rosenberg (7/1/2006 – 6/30/2010), \$642,862.
- National Institutes of Health, grant #R03 LM008637, “Effect of sequence alignment fidelity on genome research.” PI: M.S. Rosenberg (7/1/2005 – 6/30/2007), \$142,453.
- Sigma Xi, Grant-in-Aid of Research, “The study of combat and morphology in fiddler crabs (genus *Uca*).” PI: M.S. Rosenberg (1998), \$600.
- Smithsonian Tropical Research Institute, Short Term Fellowship, “The study of combat and morphology in fiddler crabs.” PI: M.S. Rosenberg (9/15/1997 – 12/15/1997), \$2,800.

AWARDS AND HONORS

- Nominated by the School of Life Sciences, Arizona State University, for “Sloan Research Fellowship in Computational and Evolutionary Molecular Biology” (2003).
- Outstanding Graduate Student Presentation Award in Ecology & Evolution, State University of New York at Stony Brook (1996).

Robert R. Sokal Travel Award, State University of New York at Stony Brook (1996).

LABORATORY AWARDS AND HONORS

T. Heath Ogden (Postdoctoral Associate), 2005 finalist for Ernst Mayr Award (Society of Systematic Biologists) for “The use of simulation to study the role of alignment accuracy in phylogenetic inference” (T.H. Ogden and M.S. Rosenberg).

RECENT INVITED PAPERS (*Indicates presenter)

- Rosenberg, M.S.* 2007. Plenary address: Methods for comparing alignments and the dissociation between primary and functional performance of alignment algorithms in phylogenetics and bioinformatics. Computational Phylogenetics and Molecular Systematics conference, Moscow, Russia.
- Rosenberg, M.S.* 2007. Keynote address: The bioinformatic approach to exploring the evolutionary history of infectious disease causing agents: A case study of tuberculosis and leprosy. Symposium on Biomedical Bioinformatics. Idaho State University Practical Bioinformatics Workshop, Lava Hot Springs, ID.
- Rosenberg, M.S.* 2007. What are ecological meta-analysts missing out on? *In* Synthesizing Ecological Studies in a Changing World Using Meta-Analysis. Ecological Society of America and Society for Ecological Restoration, joint meeting, San Jose, CA.

RECENT CONTRIBUTED PAPERS (*Indicates presenter)

- Hepp, C. *, and M.S. Rosenberg. 2012. Recombination affects origin estimates: Rethinking the HIV-1 subtype B global pandemic. 11th International Conference on Molecular Epidemiology and Evolutionary Genetics of Infectious Diseases, New Orleans, LA.
- Hepp, C., and M.S. Rosenberg*. 2012. Recombination affects origin estimates: Rethinking the HIV-1 subtype B global pandemic. Society for the Study of Evolution, Society of Systematic Biologists, American Society of Naturalists, Canadian Society for Ecology and Evolution, and European Society for Evolution Biology, joint meeting, Ottawa, Canada.
- Hepp, C. *, and M.S. Rosenberg. 2012. Recombination affects origin estimates: Rethinking the HIV-1 subtype B global pandemic. Society for Molecular Biology and Evolution annual meeting, Dublin, Ireland.
- Pfister, A.-L.*, M.S. Rosenberg, and A.C. Stone. 2012. On the origin of leprosy: a genomics perspective. Society for Molecular Biology and Evolution annual meeting, Dublin, Ireland.
- Rosenberg, M.S.* 2011. Extending gene family identification through phylogenetics. Society for the Study of Evolution, Society of Systematic Biologists, and American Society of Naturalists, joint meeting, Norman, OK.
- Hepp, C. *, and M.S. Rosenberg. 2010. Determination of the order and immune-impact of resistance mutations accumulated in HIV gp120 from longitudinally sampled HIV-infected individuals. Society for Molecular Biology and Evolution annual meeting, Lyon, France.
- Hepp, C. *, and M.S. Rosenberg. 2009. Deciphering Protein-Protein Interactions in Eukaryotic Genomes. Society for Molecular Biology and Evolution annual meeting, Iowa City, IA.

- Rosenberg, M.S. *, and C.D. Anderson. 2008. *PASSaGE: Pattern Analysis, Spatial Statistics, and Geographic Exegesis*. Version 2. Wildlife Society annual meeting, Miami, FL.
- Pfister, L.-A. *, M.S. Rosenberg, and A.C. Stone. 2008. How do we estimate bacterial mutation rates? Society for Molecular Biology and Evolution annual meeting, Barcelona, Spain.
- Pfister, L.-A. *, M.S. Rosenberg, and A.C. Stone. 2008. Full genome comparisons of Mycobacterium: Insight into the origin of tuberculosis and leprosy. American Association of Physical Anthropology annual meeting, Columbus, OH.
- Rosenberg, M.S. *, and C.D. Anderson. 2007. *PASSaGE: Pattern Analysis, Spatial Statistics, and Geographic Exegesis*. Version 2. Ecological Society of America and Society for Ecological Restoration, joint meeting, San Jose, CA.
- Rosenberg, M.S., and C.D. Anderson*. 2007. *PASSaGE: Pattern Analysis, Spatial Statistics, and Geographic Exegesis*. Version 2. Joint meeting of Ichthyologists and Herpetologists, St. Louis, MO.
- Pfister, L.-A. *, M.S. Rosenberg, and A.C. Stone. 2007. Full genome comparisons of mycobacteria: Insights into the origin of tuberculosis. Society for Molecular Biology and Evolution annual meeting, Halifax, Canada.
- Rosenberg, M.S. *, L.-A. Pfister, and A.C. Stone. 2007. Full genome comparisons of mycobacteria: Insights into the origin of tuberculosis. Society for the Study of Evolution, Society of Systematic Biologists, and American Society of Naturalists, joint meeting, Christchurch, New Zealand.
- Rosenberg, M.S. *, and C.D. Anderson. 2007. *PASSaGE: Pattern Analysis, Spatial Statistics, and Geographic Exegesis*. Version 2. Society for the Study of Evolution, Society of Systematic Biologists, and American Society of Naturalists, joint meeting, Christchurch, New Zealand.
- Rosenberg, M.S. *, and C.D. Anderson. 2007. *PASSaGE: Pattern Analysis, Spatial Statistics, and Geographic Exegesis*. Version 2. United States Regional Association of the International Association for Landscape Ecology meeting, Tucson, AZ.

RECENT INVITED TALKS

- National Evolutionary Synthesis Center, 2010.
 University of North Carolina, Department of Biology, 2010.
 Duke University, Department of Biology, 2010.

PROFESSIONAL SOCIETIES (PAST* AND PRESENT)

American Association for the Advancement of Science, American Society of Naturalists*, Animal Behavior Society*, International Association for Landscape Ecology*, Scientific Research Society of North America (Sigma Xi), Society for Integrative and Comparative Biology*, Society for Molecular Biology and Evolution*, Society of Systematic Biologists, Society for the Study of Evolution

FIELD RESEARCH

Fiddler crab biology in Long Island, New York (1995 – 2000), Republic of Panama (1997).

WORKING GROUPS/WORKSHOPS

Hackathons, interoperability, and phylogenetics (Leadership team), National Evolutionary Synthesis Center, Durham, NC, 2011 – 2013

An interdisciplinary approach to advancing landscape genetics (Lead PI), National Center for Ecological Analysis and Synthesis, Santa Barbara, CA, 2009 – 2011.

SEED: Proposal to develop a novel journal concept for evolutionary meta-analyses (Invited Working Group Member), National Evolutionary Synthesis Center, Durham, NC, 2006 – 2007.

Meta-analysis in ecology: Lessons, challenges and future (Invited Working Group Member), National Center for Ecological Analysis and Synthesis, Santa Barbara, CA, 2006 – 2007.

MARC Winter Institute (Participant), National Academies Summer Institutes on Undergraduate Education in Biology, Santa Cruz, CA, 2005.

Meta-Analysis: Synthesis across studies in plant pathology (Invited Workshop Instructor), American Phytopathological Society annual meeting, Milwaukee, WI, 2002.

Integrating the statistical modeling of spatial data in ecology (Invited Working Group Member), National Center for Ecological Analysis and Synthesis, Santa Barbara, CA, 1999 – 2000.

COURSES TAUGHT (*Indicates a newly developed course)

Arizona State University

Instructor:

BIO 189 – Life Science Career Paths (Sex on Display: F12)

BIO/MAT 294* – Quantitative and Reasoning Skills in the Life Sciences (S05)

BIO 345 – Organic Evolution (F03, S04, F05, F06, F07, F08, S11, F11, F12)

BIO/MAT/MBB 355 – Introduction to Computational Molecular Biology (S07†, S08, S09, F10, S12) [*†previously BIO/MAT/MBB 394*]

BIO 494/591* – Bioinformatics (F04); Molecular Evolution and Bioinformatics (S05)

BIO 591 – Seminar: Phylogenetics Discussion Group (S06)

BIO 591 – Seminar: Spatial Analysis for Ecology and Evolution (F08)

CBS 584 – Internship (SumI07)

CBS 590 – Readings & Conference (SumI07)

CBS 591 – Seminar: Computational Methods for Determining Functional Elements from Sequence Data (S04)

EVO 598 – Principles of Programming for Biologists (S13)

EVO 610 – Research Areas in Evolution (F12, S13)

State University of New York at Stony Brook

Graduate Teaching Assistant:

BIO 150 – The Living World (S00)

BIO 151 – Principles of Biology I: Organisms to Ecosystems (F94, F98)

BIO 152 – Principles of Biology II: Molecules to Organisms (S95)

BEE 552 – Biometry (S99, F99)

BEE 585 – Introduction to Ecological Research (S98)

STUDENT SUPERVISION

Sponsored Postdoctoral Associates

Corey D. Anderson (2006 – 2011)

Alan Filipinski (2009 – 2011)

T. Heath Ogden (2005 – 2006)

Dissertation Advisor

Crystal Hepp, Ph.D. Molecular and Cellular Biology, “HIV Evolution: Biogeography and Intra-Individual Dynamics” (2013)

Thesis Advisor

Virginia Earl-Mirowski, M.S. Computational Biosciences, “Compare and contrast the effects of using less stringent criteria in BLASTCLUST to a novel iterative method for identifying gene families” (2007)

Meraj Aziz, M.S. Computational Biosciences, “Estimating *ClustalW* pairwise alignment parameters for non-coding DNA sequences” (2007)

Loretta Goldberg, M.S. Computational Biosciences, “Extending gene families via predicted ancestral sequences” (2006)

Graduate Student Research Supervisor

Amy Harris, M.S. Computational Biosciences (2006 – 2007)

Ahmet Kurdoglu, M.S. Computational Biosciences (2005 – 2006)

Shruti Lal, M.S. Computational Biosciences (2004)

Graduate Committee Membership

In progress: WangJuh Chen (Ph.D. Mathematics), Stella Chenet (Ph.D. Microbiology), Renxia Huang (Ph.D. Molecular and Cellular Biology), Joanna Malukiewicz (Ph.D. Biology), Szabolcs Szelinger (Ph.D. Molecular and Cellular Biology), Andrew Jansen (M.S. Biology), Maria Colon (Ph.D. Anthropology), Andreina Castillo (Ph.D. Evolutionary Biology)

2013: Erica Tassone (Ph.D. Biology)

2012: Stephanie Touchman (Ph.D. Education)

2011: Tingting Zhao (M.S. Molecular and Cellular Biology), Takahiro Maruki (Ph.D. Biology)

2010: Daryn Stover (Ph.D. Biology)

2009: Yih-Kuang Lu (M.S. Computational Biosciences)

2007: Vinod Swarna (M.S. Biology)

2006: Ahmet Kurdoglu (M.S. Computational Biosciences)

2005: Shruti Lal (M.S. Computational Biosciences), Xiaofen Liu (M.S. Computational Biosciences), Kaushal Parekh (M.S. Computational Biosciences), Stephanie Rogers (M.S. Computational Biosciences), Vinod Swarna (M.S. Computational Biosciences)

2003: Patrick Kolb (M.N.S. Biology)

Undergraduate Research

Michael Suleski (2010 – 2011)

Undergraduate Mentoring

Honors/Footnote 18: Anne Sonnenschein (BIO 355: Spring 2009), R.J. Austerman (BIO 345: Fall 2008), Saundra Dohrenwend (BIO 345: Fall 2008), Carley Emery (BIO 345: Fall 2008), Allison Hoynes-OConnor (BIO 345: Fall 2008), Glenn Markov (BIO 345: Fall 2008), Aidan Morrell (BIO 345: Fall 2008), Erin Nelson (BIO 345: Fall 2008), Kelli Ortega (BIO 345: Fall 2008), Meagan Rubel (BIO 345: Fall 2008), Joanna Yang (BIO 345: Fall 2008), Rebecca Oehler (BIO 345: Fall 2006)
Reader for Barrett Honors College undergraduate thesis: Marissa Swanson (2012), Ivana Malenica (2012), Jenna Bunda (2012), Joseph Maranville (2007), Nicole Garber (2003)

Other

Volunteer post-baccalaureate research assistant, Nasser Hamdan (2005)

SERVICE

Professional

Associate Editor, *Evolution* (2012 – present)

Council Member, Society of Systematic Biologists (2014 – 2016)

Principal co-organizer, 2006 annual meeting of the Society for Molecular Biology and Evolution, Tempe, AZ

Grant Reviewer: National Institutes of Health, National Science Foundation, Czech Science Foundation

Manuscript reviewer for 55 journals: *Acta Oecologica; American Naturalist; Animal Behaviour; Aquatic Biology; Behavioral Ecology and Sociobiology; Bioinformatics; Biological Reviews; Biology Letters; BMC Bioinformatics; BMC Evolutionary Biology; BMC Genomics; Bulletin of Environmental Contamination and Toxicology; Canadian Journal of Zoology; Cladistics; Crustaceana, Current Bioinformatics; Ecography; Ecology Letters; Écoscience; Ecosphere; Evolution; Evolutionary Bioinformatics Online; Genetics; Geographical Analysis; Global Ecology and Biogeography; Gulf and Caribbean Research; Heredity; Hydrobiologia; IEEE/ACM Transactions on Computational Biology and Bioinformatics; Image Analysis & Stereology; Insect Science; Journal of Crustacean Biology; Journal of Ecology; Journal of Experimental Marine Biology and Ecology; Journal of Heredity; Journal of Human Evolution; Journal of Natural History; Journal of the Marine Biological Association of the United Kingdom; Journal of the Royal Society Interface; Journal of Vegetation Science; Journal of Zoology; Limnology and Oceanography: Methods; Marine Biology; Molecular Biology and Evolution; Molecular Ecology Resources; Molecular Phylogenetics and Evolution; Nauplius; Pacific Symposium on Biocomputing; PLoS Computational Biology; Quarterly Review of Biology; Rangifer; Revista Brasileira de Zoologia; Systematic Biology; Wetlands; Zoologica Scripta; and Zootaxa.*

External book proposal reviewer for *Blackwell Publishing, John Wiley & Sons, Oxford University Press, Pearson Education, Roberts & Company Publishers, Taylor and Francis, and W.W. Norton & Company.*

Interviewed for commentary, *New Scientist* magazine (June 8, 2006; published November 25, 2006).

University

ARIZONA STATE UNIVERSITY

University Senate (F11 – *present*).

Research and Creative Activities Committee (F11 – *present*, Chair Pro Tem (F12)).

COLLEGE OF LIBERAL ARTS & SCIENCES

College Senate (F11 – *present*).

CLAS Senate Committee on Unit Bylaws (F11 – S12).

SCHOOL OF LIFE SCIENCES

Director, Evolutionary Biology Graduate Program (F10 – *present*).

Personnel Committee: Genomics, Evolution, and Bioinformatics (F03 – S09, F10 – *present*).

Undergraduate Program Committee (F05 – S09, F10 – S11, F12).

Member/Liaison to Informatics Certificate Committee, School of Computing and Informatics (S07 – S09).

IT Resources Committee (F05 – S09).

Leader, Computational Biosciences iGELS (S06 – S08)

Search Committee, Evolutionary Bioinformatics (F04 – S05).

Adjunct/Affiliate Membership Committee (F04 – S05).

Search Committee, Computational Biology (F03 – S04).

Search Committee, Evolutionary Bioinformatics (F03 – S04).

Visualization Laboratory/Information Technology Committee (F03).

CENTER FOR EVOLUTIONARY FUNCTIONAL GENOMICS, BIODESIGN INSTITUTE
Chair, Website Committee (S06 – S09).

DEPARTMENT OF BIOLOGY

Search Committee, Center for Evolutionary Functional Genomics (S03).

STATE UNIVERSITY OF NEW YORK AT STONY BROOK

DEPARTMENT OF ECOLOGY & EVOLUTION

Senior Graduate Representative to Faculty (F99 – S00).

Search Committee, Theoretical Evolutionary Biology (S96).