

CURRICULUM VITAE
JOSEPHA P. KURDZIEL

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EDUCATION

Postdoctoral Fellowship in Science, Mathematics, Engineering, and Technology Education
(PFSMETE), *National Science Foundation* (1999 to 2003)

1999 Ph.D. Ecology & Evolutionary Biology
Department of Ecology & Evolution
State University of New York @ Stony Brook

Advisor: Jeffrey S. Levinton

Dissertation title: Evolution of Male Dimorphism in the
Marine Amphipod *Jassa marmorata*

1991 M.S. Zoology, Marine Ecology emphasis
Department of Biology
University of South Florida

Advisor: Susan S. Bell

Thesis title: Emergence and Dispersal in Phytal-Dwelling Copepods

1987 B.S. Biological Sciences
Minor in English Literature
State University of New York @ Stony Brook

CURRENT RESEARCH INTERESTS

SCIENCE EDUCATION

- development of highly-structured active learning classrooms for large enrollment introductory biology courses and assessment of the effectiveness of these teaching methods on student learning of science concepts and science process skills
- approaches to facilitating systemic reform in undergraduate science education

GRANTS, AWARDS & FELLOWSHIPS

2016–*Individual Contributions to Undergraduate Education Teaching Award, University of Michigan*

2014–*Collegiate Lecturer Award, University of Michigan*

- 2010 – Faculty Grant (co-PI), Research Opportunities for Undergraduates (REU) Sites Program,
2013 *National Science Foundation*
- 2009 – Faculty Grant, IDEA Institute, *University of Michigan*
2012
- 2006 - National Academies Education Fellow in the Life Sciences, *National Academy of Sciences*
- 2006 - Outstanding Instructor Recognition in College Board Best Practices Study, *College Board*
My introductory biology course for non-science majors was identified as one of the top examples
of best practices in a national study of biology courses conducted by the College Board of USA.
- 2004 - Faculty Grant, Course, Curriculum & Laboratory Improvement (CCLI) Program,
2007 *National Science Foundation*
- 2004 - Faculty Grant, LS&A Funds to Supplement NSF grant, *University of Michigan*
- 2005 - National Academies Summer Institute Fellow, *University of Wisconsin @ Madison*
- 2004 - Faculty Grant, LS&A Instructional Technology Committee, *University of Michigan*
- 2003 - Faculty grant, *Edward Ginsberg Center for Community Service and Learning*
- 2003 - Lecturer's Professional Fund Development Grant, *University of Michigan*
- 1999 - Postdoctoral Fellowship in Science, Mathematics, Engineering,
2002 and Technology Education (PFSMETE), *National Science Foundation*
- 1998 - "Graduate Assistance in Areas of National Need" (GAANN)
1999 Teaching Fellowship, *U.S. Department of Education*
- 1998 Sigma Xi Grant in Aid of Research, *Sigma Xi Scientific Research Society*
- 1998 Ecology & Evolution Travel Award, *SUNY @ Stony Brook*
- 1997 Lerner-Gray Fund for Marine Research, *American Museum of Natural History*
- 1997 Robert R. Sokal Travel Award, *SUNY @ Stony Brook*
- 1997 Outstanding Graduate Student Presentation Award in Ecology & Evolution,
SUNY @ Stony Brook

PUBLICATIONS

- 2007 Libarkin, J.C., **Kurdziel, J.P.** and Anderson, S.W. College student conceptions of geological time and the disconnect between ordering and scale. *Journal of Geoscience Education*, Vol. 55: 413-422.
- 2006 Libarkin, J.C. and **J.P. Kurdziel**. Ontology and the teaching of earth system science. *Journal of Geoscience Education* Vol. 54: 408-413.
- 2005 Libarkin, J.C., S. Anderson, J. Dahl, M. Beilfuss, W. Boone and **J.P. Kurdziel**. College students' ideas about geological time, Earth's interior, and Earth's crust. *Journal of Geoscience Education* Vol. 53: 17-26.
- 2004 Luft, J.A., **J.P. Kurdziel**, G.H. Roerhig and J.A. Turner. Growing a garden without water: Graduate teaching assistants in introductory science labs at a doctoral/research

- university. *Journal of Research in Science Teaching* Vol. 41: 211-233.
- 2004 Libarkin, J.C. and **J.P. Kurdziel**. Research methodologies in science education: Human subjects and education research. *Journal of Geoscience Education* Vol. 52: 199-204.
- 2003 Roerhig, G.H., J.A. Luft, **J.P. Kurdziel** and J.A. Turner. Graduate teaching assistants and inquiry-based instruction: Implications for graduate teaching assistant training. *Journal of Chemical Education* Vol. 80: 1206-1210.
- 2003 Libarkin, J.C. and **J.P. Kurdziel**. Research methodologies in science education: Gender and the Geosciences. *Journal of Geoscience Education* Vol. 51: 446-452.
- 2003 **Kurdziel, J.P.** and J.C. Libarkin. Research methodologies in science education: Training graduate teaching assistants to teach. *Journal of Geoscience Education* Vol. 51: 347-351.
- 2003 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. The distance dependence prediction of the Janzen-Connell hypothesis: a meta-analysis. *Oikos* Vol. 103: 590-602.
- 2003 Libarkin, J.C., M. Beilfuss and **J.P. Kurdziel**. Research methodologies in science education: Mental models and cognition in education. *Journal of Geoscience Education* Vol. 51: 121-126.
- 2003 **Kurdziel, J.P.** What Evolution Is. *Quarterly Review of Biology* Vol. 78: 92-93.
- 2002 **Kurdziel, J.P.** and J.C. Libarkin. Research methodologies in science education: Undergraduate research mentoring, teacher workshops, and K-12 outreach activities. *Journal of Geoscience Education* Vol. 50: 602-609.
- 2002 **Kurdziel, J.P.** and L. L. Knowles. The mechanisms of morph determination in the amphipod *Jassa*: Implications for the evolution of alternative male phenotypes. *Proceedings of the Royal Society of London B* Vol. 269: 1749-1754. (DOI: 10.1098/rspb.2002.2089)
- 2002 **Kurdziel, J.P.** and J.C. Libarkin. Research methodologies in science education: Students' ideas about the nature of science. *Journal of Geoscience Education* Vol. 50: 322-329.
- 2002 Libarkin, J.C. and **J.P. Kurdziel**. Research methodologies in science education: Qualitative data. *Journal of Geoscience Education* Vol. 50: 195-200.
- 2002 Libarkin, J.C. and **J.P. Kurdziel**. Research methodologies in science education: The qualitative-quantitative debate. *Journal of Geoscience Education* Vol. 50: 78-86.
- 2001 Libarkin, J.C. and **J.P. Kurdziel**. Research methodologies in science education: Assessing students' alternative conceptions. *Journal of Geoscience Education* Vol. 49: 378-383.

- 2001 Libarkin, J.C. and **J.P. Kurdziel**. Research methodologies in science education: Strategies for productive assessment. *Journal of Geoscience Education* Vol. 49: 300-304.
- 2000 Nilsson, P.G., J.S. Levinton and **J.P. Kurdziel**. Migration of a marine oligochaete: Induction of dispersal and microhabitat choice. *Marine Ecology Progress Series* Vol. 207: 89-96.
- 1999 **Kurdziel, J.P. Monitoring Macroalgal Biomass and the Spread of Reed Grass, *Phragmites australis*, Along Fire Island National Seashore.** Technical Report for the National Park Service.
- 1998 Baker, S.M., J.S. Levinton, **J.P. Kurdziel** and S.E. Shumway. Selective feeding and biodeposition by zebra mussels and their relation to changes in phytoplankton composition and seston load. *Journal of Shellfish Research* Vol. 17: 1207-1213.
- 1997 Nilsson, P., **J.P. Kurdziel** and J.S. Levinton. Heterogeneous population growth, parental effects, and genotype-environment interactions of a marine oligochaete. *Marine Biology* Vol. 130: 181-191.
- 1995 Levinton, J.S., M.L. Judge and **J.P. Kurdziel**. Functional differences between the major and minor claws of fiddler crabs (*Uca*, Family Ocypodidae, Order Decapoda, Subphylum Crustacea): A result of selection or developmental constraint? *Journal of Experimental Marine Biology and Ecology* Vol. 193: 147-160.
- 1994 Clements, L.A.J., S.S. Bell and **J.P. Kurdziel**. Abundance and arm loss of the infaunal brittlestar *Ophiophragmus filigraneus* (Echinodermata: Ophiuroidea) with an experimental determination of regeneration rates in natural and planted seagrass beds. *Marine Biology* Vol. 121: 97-104.
- 1993 Bell, S.S., L.A.J. Clements and **J.P. Kurdziel**. Production in natural and restored seagrass beds: A case study of a macrobenthic polychaete. *Ecological Applications* Vol. 3: 610-621.
- 1992 **Kurdziel, J.P.** and S.S. Bell. Emergence and dispersal of phytal-dwelling meiobenthic copepods. *Journal of Experimental Marine Biology and Ecology* Vol. 163: 43-64.
- 1992 Kovach, C.W., **J.P. Kurdziel**, R. Bowman, J. Wagner and J.M. Lawrence. The effects of stress and disturbance on proximate composition, allocation of production, photosynthesis, respiration, and chlorophyll levels in *Hygrophila polysperma* (Roxb.) (Acanthaceae). *Environmental and Experimental Botany* Vol. 32: 479-486.

REVIEW PANELS (Invited) & CURRICULAR SERVICE

Grant proposal reviewer for *National Science Foundation*:
Division of Undergraduate Education, Arlington, VA
CCLI Program Review Panel, STEP Program Review Panel,
Division of Graduate Education, Arlington, VA
G-K 12 Program Review Panel

Grant proposal reviewer for *Eisenhower Mathematics and Science Program*, Arizona Board of Regents, Phoenix, AZ (2000-2002)

Proposal reviewer for *National Association for Research in Science Teaching*. I reviewed summaries of conference papers to be presented in "College Science Teaching" and "Curriculum, Evaluation, and Assessment" strands at the annual meeting of NARST. (1999-2005)

Committee member of "Education Committee" of the *Society for the Study of Evolution* (2001-2005)

Panel Member on Alternative Faculty Careers for *Preparing Future Faculty Workshop*, Center for Research on Teaching & Learning, University of Michigan, 2007

Reviewer of introductory biology textbook chapters for several publishers and manuscript reviewer for the following journals: *CBE-Life Sciences Education*, *American Biology Teacher*, *Journal of Geoscience Education*, *Marine Biology*, *Marine & Freshwater Research*, *Quarterly Review of Biology*

TEACHING EXPERIENCE

Instructor

2007-17 **Introductory Biology: Genetics, Ecology & Evolution** (BIO 171, for majors)
enrollment - 500 to 650 students
Biology of Nutrition (BIO 105, for non-majors)
enrollment - 180 to 300 students
Biology for Non-scientists (BIO 100, for non-majors)
enrollment - 60 to 120 students
Biology of Insects (EEB 442)
enrollment - 10 to 20 students
Teaching College Science Seminar (EEB 494, MCDB 494)
enrollment capped at 15 students
Ecology & Evolution of Infectious Diseases (BIO 120, freshman seminar)
enrollment capped at 20 students
Investigative Biology Labs (BIO 111, for non-majors)
enrollment capped at 20 students
Biodiversity Research Seminar (EEB 335, for majors)
enrollment - 15 to 20 students
all courses above taught at the University of Michigan

- 2003-6 **Introductory Biology** (BIO 162, for majors)
enrollment - 600 students
Evolution of Animal Mating Behavior (BIO 120, freshman seminar)
enrollment capped at 20 students
- Biology for Non-scientists** (BIO 100, for non-majors)
enrollment - 145 students
Investigative Biology Labs (BIO 111, for non-majors)
enrollment - 18 students
all courses above taught at the University of Michigan
- 2002 **Animal Sexual Behavior** (NATS 104, introductory course, non-science majors)
University of Arizona; enrollment - 72 students (2001, 2002)
Pima Community College; enrollment - 15 students (2000)
- 2002-10 **Teaching workshop for National Institutes of Health Postdoctoral Fellows**
Postdoctoral Excellence in Research and Teaching (PERT) Program
Center for Insect Science, University of Arizona; summer months
Enrollment 2002- 6 fellows; Enrollment 2004-12 fellows;
Enrollment 2007- 24 fellows; Enrollment 2008- 28 fellows
Enrollment 2010- 32 fellows
- 2001 Teaching workshop for “**Peer Leaders in Introductory Biology**”
Community College of Rhode Island, Warwick Campus
Two-day workshop focused on collaborative learning techniques,
concept maps, learning styles, and introduction to learning theories;
enrollment- six peer leaders, two biology faculty
- 2001 **Marine Biology** (Co-Instructor); enrollment- 11 students
Summer field course in Guayamas, Sonora, Mexico
Offered through Arizona State University’s
Minority Access to Research Careers (MARC) program
- 1998 **Invertebrate Zoology** (Co-Instructor); enrollment- 45 students
Department of Education GAANN Teaching Fellowship
State University of New York @ Stony Brook

Graduate Teaching Assistant

- 1998 **Marine Ecology**; enrollment- 50 students
State University of New York @ Stony Brook
- 1987-89 **Principles of Ecology**; enrollment- 50 students
Fundamentals of Biology, laboratory section- 24 students
Fundamentals of Zoology, laboratory section- 24 students
University of South Florida

CONFERENCE PRESENTATIONS

- 2005 Libarkin, J.C., Kurdziel, J.P., and S.W. Anderson. College Student Conceptions of Geologic Time. *Annual Meeting of the Geological Society of America*, Salt Lake City, UT
- 2005 Kurdziel, J.P. "They think *what?*": Capturing & using student ideas in the non-majors classroom. *Joint Annual Meeting of the Society for the Study of Evolution, the Society of Systematic Biologists, and the Society of American Naturalists*, Fairbanks AK
- 2004 Kurdziel, J.P., and J.C. Libarkin. Time is everything: Geologic time as the linchpin to a complete understanding of Earth. *Annual Meeting of the National Association for Research in Science Teaching*, Vancouver, BC.
- 2003 Kurdziel, J.P., J.C. Libarkin, and M.L. Beilfuss. College students' conceptions of evolutionary processes: Probing beyond natural selection. *Annual Meeting of the National Association for Research in Science Teaching*, Philadelphia, PA.
- 2003 Libarkin, J.C., M.L. Beilfuss, and J.P. Kurdziel. Student cognition about the earth system. *Annual Meeting of the National Association for Research in Science Teaching*, Philadelphia, PA.
- 2002 Beilfuss, M.L., J.C. Libarkin, and J.P. Kurdziel. Analysis of college students' ideas about the earth: Drawings of the Earth's interior. *Annual Meeting of the Geological Society of America*, Denver, CO
- 2002 Kurdziel, J.P. Evolution education research: Implications for your classroom. *Joint Annual Meeting of the Society for the Study of Evolution and the Society of Systematic Biologists*, Champaign-Urbana, IL
- 2002 Kurdziel, J.P. College students' views of the nature of science in general education courses that utilized varied teaching strategies. *Annual Meeting of the National Association for Research in Science Teaching*, New Orleans, LA
- 2001 Kurdziel, J.P. Introductory Biology Students' Conceptions of Evolution. *Joint Annual Meeting of the American Society of Naturalists, the Society for the Study of Evolution and the Society of Systematic Biologists*, Knoxville, TN
- 2001 Kurdziel, J.P., J.A. Turner, G.H. Roehrig, and J.A. Luft. Growing a Garden Without Water: Graduate Teaching Assistants in Introductory Science Labs. *Annual Meeting of the National Association for Research in Science Teaching*, St. Louis, MO
- 2001 Turner, J.A., Kurdziel, J.P., G.H. Roehrig, and J.A. Luft. Voices of Graduate Teaching Assistants in Undergraduate Science Courses. *Annual Meeting of the National Association for Research in Science Teaching*, St. Louis, MO
- 2000 Kurdziel, J.P. Brawn doesn't always get the girl: Mating success of dimorphic males in

- Jassa marmorata*. **Joint Annual Meeting of the American Society of Naturalists, the Society for the Study of Evolution and the Society of Systematic Biologists**, Bloomington, IN
- 2000 Kurdziel, J.P. Using studies of sexual behavior to engage students in scientific inquiry. **Joint Annual Meeting of the American Society of Naturalists, the Society for the Study of Evolution and the Society of Systematic Biologists**, Bloomington, IN
- 1999 Kurdziel, J.P. Environmental control of male dimorphism in a marine amphipod: The role of diet quality. **Joint Annual Meeting of the American Society of Naturalists, the Society for the Study of Evolution and the Society of Systematic Biologists**, Madison, WI
- 1999 Kurdziel, J.P. Environmental control of male dimorphism in the marine amphipod *Jassa marmorata*. **Marine Benthic Ecology Meeting**, Baton Rouge, LA
- 1998 Kurdziel, J.P. and J.S. Levinton. Male dimorphism and combat in the marine amphipod *Jassa*: Do big thumbs have it hands down? **Joint Annual Meeting of the American Society of Naturalists, the Society for the Study of Evolution and the Society of Systematic Biologists**, Vancouver, Canada
- 1997 Kurdziel, J.P. and J.S. Levinton. Dimorphic males in an amphipod: Do juveniles with high growth rates choose to be minors? **Joint Annual Meeting of the American Society of Naturalists, the Society for the Study of Evolution and the Society of Systematic Biologists**, Boulder, CO
- 1997 Kurdziel, J.P. and J.S. Levinton. Morphometrics and maintenance of dimorphic males in an amphipod: A preliminary report. **Marine Benthic Ecology Meeting**, Portland, ME
- 1995 Kurdziel, J.P., P. Nilsson, and J.S. Levinton. Genotype-environment interactions and parental effects generate variation in life history traits in an oligochaete. **Marine Benthic Ecology Meeting**, New Brunswick, NJ
- 1993 Kurdziel, J.P., S.S. Bell, M.O. Hall, and D. Meyer. Manipulation of algal abundance: Illuminating the nature of faunal enhancement in seagrass beds. **Marine Benthic Ecology Meeting**, Mobile, AL
- 1991 Kurdziel, J.P. and S.S. Bell. Emergence and dispersal of phytal-dwelling meiobenthic copepods. **American Society of Zoologists**, Atlanta, GA
- 1991 Kurdziel, J.P., S.S. Bell, and L.A.J. Clements. A polychaete parable: Reduction, recruitment, and recovery in seagrass beds. **Marine Benthic Ecology Meeting**, Williamsburg, VA
- 1990 Kurdziel, J.P. and S.S. Bell. Colonization of seagrass patches by harpacticoid copepods: Is emergence coupled with invasion of new areas? **Marine Benthic Ecology Meeting**, Mobile, AL

- 1989 Kurdziel, J.P., R. Bowman, C. Kovach, J. Wagner, and J.M. Lawrence. The effect of stress and disturbance on proximate composition and allocation of production in *Hygrophila polysperma* (Roxb.) Anders. *Florida Academy of Sciences*, Jacksonville, FL

INVITED SEMINARS & POSTERS

- 2016 Kurdziel, J.P., Giffen, C. and Schmidt, M. *Stereotype Threat and Pedagogies for Minimizing its Effects (Poster)* Faculty Communities for Inclusive Teaching Poster Session, Ann Arbor, MI, Nov. 14, 2016.
- 2010 Kurdziel, J.P. Focusing discussion sections on higher-order thinking skills. Biology Leadership Conference VII, Naples, FL
- 2008 Kurdziel, J.P. Teaching with clickers: A workshop for faculty. CRLT Winter 2007 Workshop, CRLT, *University of Michigan*, Ann Arbor, MI
- 2005 Kurdziel, J.P. Engaging and interacting with students in large lectures using an audience response system. Provosts' Seminar on Teaching "New Bridges to New Knowledge: Instructional Technology and Collaboration", Michigan League, *University of Michigan*, Ann Arbor, MI
- 2005 Kurdziel, J.P. Engaging students in large lectures using a classroom response system. CRLT Winter 2005 Workshop, CRLT, *University of Michigan*, Ann Arbor, MI
- 2005 Kurdziel, J.P. Interacting in large numbers: Using a classroom response system. Enriching Scholarship, Showcase Activities at Keynote Event, Duderstadt Center, *University of Michigan*, Ann Arbor, MI
- 2002 Kurdziel, J.P. Using investigations of animal mating behavior to engage non-science majors in scientific inquiry. *University of Michigan*, Ann Arbor, MI
- 2002 Kurdziel, J.P. Function and evolution of male dimorphism in a marine amphipod. *San Francisco State University*, San Francisco, CA
- 2002 Kurdziel, J.P. Using authentic investigations to engage undergraduates in scientific inquiry. *Soka University of America*, Aliso Viejo, CA
- 1999 Kurdziel, J.P. Assessing threats to coastal habitats at Fire Island National Seashore: Algae and reed grass. *Fire Island National Seashore Science Conference*, Brookhaven NY

PROFESSIONAL SOCIETIES

- Society for the Study of Evolution (SSE)
Ecological Society of America (ESA)
Society for the Advancement of Biology Education Research (SABER)