Address: Ecology, Evolution, and Natural Resources Program in Science Learning

14 College Farm Road 59 Lipman Drive

School of Environmental and Biological Sciences, Rutgers University

New Brunswick, NJ 08902

**Phone:** (732) 932-8242, (732) 932-9164

**Email:** jordan@aesop.rutgers.edu

#### **Education:**

Ph.D. Organismic and Evolutionary Biology: University of Massachusetts, Amherst, MA

September 2001, Major Advisor: Dr. Francis Juanes

M.S. Organismic and Evolutionary Biology: University of Massachusetts, Amherst, MA

February 2000, Major Advisor: Dr. Francis Juanes

B.S. in Biological Sciences: University of Connecticut, Storrs, CT

May 1997, GPA 3.8

Honors Scholar and Summa Cum Laude

### **Academic/Professional Experience:**

2004-Present. Assistant Professor, SEBS, Rutgers University, New Brunswick, NJ

Environmental Education and Citizen Science

*Director* (January 2008) of the Program in Science Learning (member since 2004)

Both formal and informal science learning programs

Engaged in behavioral ecology research (sexual selection and behavioral evolution in fishes)

Engaged in citizen science and educational research initiatives

Professor of Environmental Education in the School Curriculum, Evolution for Teachers

## 2003-2004. Visiting Assistant Professor, Elizabeth City State University, Elizabeth City, NC

Associate of the Partnership for Minority Advancement in the Biomolecular Sciences (PMABS) University of North Carolina, Chapel Hill

Taught undergraduate courses both in the classroom and via the distance learning network

Created undergraduate course work using digital teaching media

Facilitated faculty development in the use of digital teaching media

Conducted research on student learning, teaching effectiveness, and minority issues in education

Provided student mentorship program for undergraduate research (fish ecology)

Participated in community outreach to increase scientific awareness

### 2002-2003. Lecturer, Princeton University, Princeton, NJ

Team taught the introductory course; The Biology of Organisms

Worked closely with the teaching assistants in the teaching labs

Lead a graduate student seminar; Teacher Development

#### 2001-2003. Post-doctoral Research Associate, Princeton University, Princeton, NJ

Worked with on-campus organizations in curriculum development

Established collaborative research program with behavioral ecology group

Participated in science education outreach for non-scientists and the community

### 2000. Academic Instructor, Academic Study Associates, Armonk, NY

Taught advanced biology at the University of Massachusetts for high school students

Created an interactive Advanced Placement curriculum

Used multimedia classroom with web-based coursework

#### 1998-2001. GAANN Fellow, University of Massachusetts, Amherst, MA

Graduate Assistance in Areas of National Need Federal Dept. of Education Fellowship Participated in teaching/educational seminars

Taught biology courses to college, secondary, and primary school-level students Assisted in sample preparation and volunteer program for the Natural History Museum Volunteered in community based outreach programs to educate the public about science

### 1998. Polgar Fellow, Hudson River Foundation, New York, NY

Tibor T. Polgar Summer Research Fellowship

Assisted with river field work on feeding habits of juvenile striped bass

Analyzed lab samples, compiled data sets and conducted statistical analysis

Prepared final report, and presented work to professionals outside academia

#### 1997-1998. Teaching Assistant, University of Massachusetts, Amherst, MA

Classes include: Dynamics and Management of Animal Populations

Teaching assistant/consultant for graduate and undergraduate students

Population and Habitat Assessment

Coordinated Field experiments and provided training in field techniques

**Public Speaking** 

Taught a section and provided interactive instruction

Introductory Biology (lab)

Taught two sections, prepared curriculum/exams, coordinated lab exercises

### 1997-1998. Research Assistant, University of Massachusetts, Amherst, MA

Supervisor: Dr. Francis Juanes

Assisted with stream related field work on flow regimes with juvenile Atlantic salmon

Compiled data sets and conducted statistical analysis

Prepared manuscripts for publication and presented at conferences

### 1997. Supplemental Instructor, University of Connecticut, Storrs, CT

Supervisor: Steve Jarvi at the Center for Teaching

Introductory Psychology (experimental psychology and ethology)

Taught special section for non-traditional and struggling students

Worked with faculty member to use creative approaches to help students learn

#### 1994-1997. Program Assistant, University of Connecticut, Storrs, CT

Supervisor: Dr. Jennie Talbot

Served as editor of the program newsletter

Organized committee meetings

Consulted with individual students on a daily basis

### 1995-1997. Honors Thesis, University of Connecticut, Storrs, CT

Supervisor: Dr. Eric Schultz

Collected data using field and lab equipment on larval growth rates of bay anchovy

Conducted independent research dealing with the primary literature

Gained computing experience in image analysis and statistical software packages

Prepared thesis, manuscript for publication, and orally presented work

#### 1993-1994. Volunteer, UConn PIRG (consumer awareness group), Storrs, CT

Worked with the Environmental Education Unit

Created a program: Protect our Oceans and Rivers

Worked in elementary and preschool schools

#### 1991-1997. Caregiver (ages 0-12), Kindercare, Bethel, CT

Completed teaching courses and created new curricula

Shared responsibility for the coordination of the summer science education program (ages 5-12)

#### **Peer-reviewed publications:**

- Jordan, R.C., S. Gray, and R.G. Duncan. Science, teachers, and scholarship; The role of science teachers and professional development. (In review, *Education and Society*).
- Jordan, R.C., L. Wilt, D. Gershenson, D. Mellor, and D.V. Howe. Behavior on the lek: an analysis of male *Metriaclima* zebra territorial behavior. (In review, *Copeia*).
- Brooks, W.R. and R.C. Jordan. Interspecific territoriality behavior of the non-native *Tilapia mariae* (Cichlidae) with native fishes. (In review, *Biological Invasions*).
- Jordan, R.C., D. Howe, S. Gray, and J. Ehrenfeld. Developing conservation knowledge through citizen science: supporting claims. (In review, *Conservation Biology*)
- Jordan, R.C., M. Ruibal-Villasenor, and E. Etkina. Reconsidering preparation for teaching biological science laboratory exercises. (In review, *Journal of Research in Science Education*).
- Jordan, R.C., S. Gray, M. Demeter, L. Lui, and C. Hmelo-Silver.

  Systems and cycles: teaching ecology. (In press, *Applied Environmental Education & Communication*).
- Etkina, E., A. Karelina, M. Ruibal-Villasenor, D. Rosengrant, R. Jordan and C.Hmelo-Silver. Transfer of scientific abilities. (In press, the *Journal of the Learning Sciences*).
- Gray, S. Hmelo-Silver, C, Lui L. and R. Jordan. Learning with ecosystem models: A tale of two classrooms. (In press, *International Conference of the Learning Sciences Proceedings*).
- Jordan, R.C., F. Singer, J. Vaughan, and A. Berkowitz. What should every citizen know about ecology? (In press, *Frontiers in Ecology and the Environment*)
- Jordan, R.C. and R.G. Duncan. Preservice teachers' image of science in ecology when compared to genetics. (In review, *Journal of Biological Education*)
- Jordan, R.C., K.A. Kellogg, F. Juanes, J.R. Stauffer, Jr., E. Garcia-Vasquez, and E.R. Loew. 2008. Variation along a depth gradient of a Lake Malawi cichlid. *African Journal of Ecology* **46:**107-109.
- Jordan, R.C. 2008. Color based association among heterospecifics in Lake Malaŵi rock-dwelling cichlids. *Ethology* **112**:272-278.
- Howe, D., R.C. Jordan, and F. Juanes. 2008. Selective feeding in a generalist invertivore, age-0 Striped Bass. *Journal of Freshwater Fish* **17**: 495-501
- Hmelo-Silver, C. Jordan, R, Lui, L. Gray, S., Demeter, M., Rugaber, S., Varrtam, S., and A. Goel. 2008. Focusing on function: Thinking below the surface of complex natural systems. *Science Scope* **31**: 27-35.
- Hmelo-Silver, C., E. Chernobilsky, and R. Jordan. 2008. Understanding Collaborative Learning Processes in New Learning Environments. *Instructional Science* **36:** 409-430.
- Ruibal-Villasenor, M., E. Etkina, A. Karelina, D. Rosengrant, R. Jordan, and A. Van Huevelen 2007. From physics to biology; helping students attain all-terrain knowledge. *American Physics Teacher*.
- Jordan, R.C., and D.V. Howe. 2007. Photopigment spectral absorbance of four Hudson River fishes. *Journal of Freshwater Ecology* **22**:155-157.
- Jordan, R.C., Beavers, A., Dean, A., and Gould J.L. 2006. Female preferential association with members of their own population in *Poecilia gilli* (Poeciliidae). *Journal of Freshwater Ecology* 21: 47-52.
- Jordan, R.C. 2006. Educating Citizens serves to educate at all levels of higher education. On The Horizon 14: 7-8.
- Jordan, R.C., K.A. Kellogg, F. Juanes, and E.R. Loew.2006 Photopigment sensitivities across taxa of Lake Malawi cichlids. *Journal of Fish Biology* **68:** 1291-1299.
- Jordan, R.C., D.V. Howe, T. Knight, and J.L. Gould. 2006 Female choice linked to male dorsal fin height in a shortfin molly *Journal of Ethology* **24:** 301-304
- Jordan, R.C., J.M. Rousch, and D.V. Howe. 2006. What do undergraduates think about science? *Journal of Natural Resources and Life Sciences Education* **35:** 79-84.
- Spady, T.C., O Seehausen, E.R. Loew, R.C. Jordan, T.D. Kocher, and K.L. Carleton. 2005. Adaptive molecular evolution in the opsin genes of rapidly speciating cichlid species. *Molecular Biology and Evolution* 22: 1412-1422.
- Jordan, R.C., D.V. Howe, F. Juanes, J.R. Stauffer, Jr., and E.R. Loew. 2004. The role of ultraviolet radiation in foraging in a group of Lake Malawi cichlids. *African Journal of Ecology* 42: 228-231.

- Jordan, R.C., K.A. Kellogg, F. Juanes, D.V. Howe, E.R. Loew, J.R. Stauffer, Jr., and G. Losey. 2004. Ultraviolet reflectivity in three species of Lake Malawi rock-dwelling cichlids. *Journal of Fish Biology* 65: 876-882
- Jordan, R.C., K.A. Kellogg, F. Juanes, and J.R. Stauffer, Jr. 2003. An evaluation of female mate choice cues in a group of Lake Malawi *mbuna* (Cichlidae). *Copeia* 2003: 181-186
- Jordan, R.C., D.V. Howe, T.D. Hurst, and F. Juanes. 2003. Feeding Habits of juvenile (age-0) striped bass *Morone saxatilis* in the mid-Hudson River Estuary *Estuaries* 26: 1486-1493.
- Jordan, R.C. and K.A.Kellogg. 2001. Lake Malawi cichlid evolution and what stories females can tell. Buntbarsche Bulletin: Journal of the American Cichlid Association 203:25-30
- Jordan, R.C., A.M. Gospodarek, E.T. Schultz, R.K. Cowen, and K. Lwiza. 2000. Spatial and temporal variation in growth rates of larval bay anchovy (*Anchoa mitchilli*) in the lower Hudson River estuary. *Estuaries* 23: 683-689.
- Jordan, R.C. and F. Juanes. 1999. Ontogenetic shifts in feeding habits of juvenile striped bass (*Morone saxatilis*) in the mid-Hudson River estuary. Section VI:21pp. In W.C. Nieder & J.R. Waldman (eds.), *Final Reports of the Tibor T. Polgar Fellowship Program, 1998.* Hudson River Foundation.

### Other publications:

- Jordan, R.C., S. Gray, M. Demeter, L. Lui, and C. Hmelo-Silver. 2007. Quick fix: Don't forget behavior in systems thinking! *American Biology Teacher* **70:** 329-330.
- Jordan, R.C. 2007. Nudging academic science into the public sphere. Academe May-June: 52-54
- Jordan, R.C., S. Gray, and D.V. Howe. 2007. Atlantic Ocean. The Encyclopedia of Global Warming and Climate Change. (Online Sage Publishing).
- Jordan, R.C. 2007. Intertropical convergence zone. The Encyclopedia of Global Warming and Climate Change. (Online Sage Publishing).
- Gray, S., R.C. Jordan, and D.V. Howe. 2007. Oceanic Changes. The Encyclopedia of Global Warming and Climate Change. (Online Sage Publishing).
- Jordan, R.C. 2006. Environmental education: Restoring Connections. *Native Cultural Alliance Educator Web:* **Summer** 2006.
- Jordan, R.C. 2005. Protecting what we care about by doing what we love. *TrailWalker*. **September/October** 2005.

#### **Papers Presented at Scientific Meetings:**

- 2008 North American Association of Environmental Education's Annual Meeting
  A characterization of ecology and ecosystem understanding: a call for targeted instruction.
- 2008 Ecological Society of America's Annual Meeting
  - 1. Organized an Oral Session: Promoting Ecological Literacy in Public Audiences: Research and Case studies in which I gave a talk: Research on adult learning gains in an ecologically oriented project (co-authors Joan Ehrenfeld, Steven Gray, Edwin McGowan, and Edward Goodell).
  - 2. Co-organized a special discussion session: Ecological Literacy in Public Audiences: Building upon Successful Strategies and Defining the Research Agenda. 42 members attended the discussion
  - 3. Co-lead a workshop entitled: Promoting Ecological Literacy in Public Audiences: Building upon Successful Strategies Using a Citizen Science Approach. We had 30 attendees
- 2008. American Educational Research Association Annual meeting, NYC, NY.
  - Symposium: Understanding complex learning environments: Integrating multiple data sources An integrated framework for bridging diverse analytical tools for understanding technology-mediated learning about complex natural systems; (Cindy Hmelo-Silver, Rebecca Jordan, Lei Liu, Steven Gray, Heisawn Jeong.)
- 2008. American Educational Research Association Annual meeting, NYC, NY.
  Transfer of scientific abilities. E. Etkina, Ruibal-Villasenor, M., A. Karelina, D. Rosengrant, R. Jordan, and C. Hmelo-Siver.

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2008. Northeast Natural History Conference Annual Meeting

- Using citizens to collect data on weedy invasives
- 2007. Black Rock Forest Regional Research Symposium

Using Citizen Scientists to collect Invasive Plant Data on Public Lands (D. Mellor presentor)

- 2007. Citizen Science Toolkit Symposium; by invitation
  - Investigating citizen efficacy and learning in an ecological study of invasive plants (poster)
- 2007. International Conference on Science and Technology Education; Global Sustainability conference Perth, AUS Declaration on International Science Education; working group
- 2007. Ecological Society of America's Annual Meeting, San Jose, CA

Assessing ecological understanding through a citizen science project

- 2007. Physics Education Research Conference Paper Presentations
  - From physics to biology; helping students attain all-terrain knowledge
  - (Ruibal-Villasenor, M., E. Etkina, A. Karelina, D. Rosengrant, R. Jordan, and A. Van Huevelen)
- 2007. North American Association of Environmental Educators Annual meeting, VA Beach, VA. Poster: Assessing environmental learning through citizen science
- 2006. American Society of Ichthyologists and Herpetologists: Annual meeting Interspecific female choice in a Lake Malawi Cichlid
- 2006. Animal Behavior Society: Annual Meeting
  - Female Lake Malawi cichlid mate choice: a maladaptive response?
- 2006. Ecological Society of America: Annual Meeting
  - Pre-service teacher's understanding of the nature of ecological science.
- 2006. Ecological Society of America: Annual Meeting
  - Workshop: Help define what every citizen should know about ecology.
- 2005. American Society of Ichthyologists and Herpetologists: Annual meeting Female choice linked to male dorsal fin height in a shortfin molly
- 2005. Ecological Society of America: Annual Meeting
  - What do undergraduates think about science and biology?
- 2004. Ecological Society of America: Annual Meeting
  - Female preferential association with members of their own population in *Poecilia gilli* (Poeciliidae)
- 2003. Northeast Ecology and Evolution Conference: Annual Meeting

Small scale genetic and morphological differentiation in a population of Lake Malawi cichlids.

- 2003. American Society of Ichthyologists and Herpetologists: Annual Meeting
  - Ultraviolet reflectivity and male communication in a group of Lake Malawi cichlids.
- 2002. American Society of Ichthyologists and Herpetologists: Annual Meeting

Variation along a depth gradient in a group of Lake Malawi Cichlids

- 2001. American Fisheries Society: Regional Chapter Meeting
  - Habitat availability and use in juvenile Atlantic salmon (Salmo salar)
- 2001. American Society of Ichthyologists and Herpetologists: Annual Meeting
  - African cichlid symposium: Visual sensitivity across taxa in Lake Malawi cichlids.
- 2001. American Fisheries Society: Annual Meeting
  - The role of ultraviolet radiation in foraging in a group of Lake Malawi cichlids.
- 2000. American Society of Ichthyologists and Herpetologists: Annual Meeting
  - An evaluation of female mate choice cues in a group of Lake Malawi *mbuna* (Cichlidae).
- 1999. American Fisheries Society: Regional Chapter Meeting
  - Ontogenetic shifts in feeding habits of juvenile striped bass in the Hudson River.
- 1999. Animal Behavior Society: Annual Meeting
  - The role of ultraviolet radiation in mate choice in a group of Lake Malawi cichlid fishes.
- 1998. American Fisheries Society: Regional Chapter Meeting
  - Spatial and temporal variation in growth rates of larval bay anchovy (*Anchoa mitchilli*) in the lower Hudson River estuary.
- 1998. Hudson River Foundation Polgar Presentations
  - Ontogenetic shifts in feeding habits of juvenile striped bass in the Hudson River.
- 1997. International Council for the Exploration of the Seas (ICES)

Spatial and temporal variation in growth rates of larval bay anchovy (*Anchoa mitchilli*) in the lower Hudson River estuary. (Jordan, R.C., A.M. Gospodarek, E.T. Schultz, R.K. Cowen, and K. Lwiza. ICES:CM; 1997/S:02, paper)

#### **Invited Talks:**

2008. Cary Institute for Ecosystem Studies

**Ecological Learning in Different Audiences** 

2008. Gloucester County College Science Teacher Day: Keynote Speaker Directions in Science Learning

2008. Urban Ecology Center of Milwaukee's Citizen Science Symposium

I gave an invited presentation: Promoting ecological understanding through citizen science.

- 2008. Ecological Society of American Annual Meeting; Milwaukee, WI.
  - 1. Invited to speak at an organized oral session: Linking Ecological Literacy and Environmental Justice. I gave a talk entitled: Integrating underserved groups into scientific endeavors (coauthors Wesley Brooks, David Mellor, and Alicia Shenko).
  - 2. Invited to speak at the Citizen Science Symposium. I gave a talk entitled: Promoting ecological understanding through citizen science: working within a framework where citizens and scientists benefit.
- 2007. James J. Howard Marine Laboratory (NOAA) Seminar Series, Sandy Hook, NJ.

  Talk title: Mate choice in a group of Lake Malawi rock-dwelling cichlids: consequences for the maintenance of biodiversity
- 2007. Organismic and Evolutionary Biology Program Seminar Series, UMass Amherst Talk title: Biodiversity in Lake Malawi Cichlids
- 2006. Jane Goodall Institute's Roots & Shoots University Program: Annual Mtg.

  Talk title: A sense of place. Invited to present an environmental education program from Rutgers and to serve as a faculty panelist
- 2006. United States Department of Agriculture CSREES: Panel Meeting,
  Talk title: The citizen as a scientist or a technician? Invited to discuss the impetus for a USDA funded project and future directions for the funding program. Grant administrators were in attendance.
- 2005. Cook College Board of Trustees meeting.

Talk title: African fish, NJ citizens, Rutgers undergraduates, and grade 6-12 students.

#### **Professional Societies:**

**Ecological Society of America** 

Animal Behavior Society

American Society for Ichthyologists and Herpetologists

American Institute of Fishery Research Biologists

NJ Commission for Environmental Education

Alliance for New Jersey Environmental Education

National Science Teachers Association

North American Association for Environmental Education

#### **Financial Awards:**

- 2009. Department of Education: Institute of Educational Studies (\$1,630,450; collaboration with Georgia Tech) co-PI; Lead PI of Cindy Hmelo-Silver. Using SBF Ontology to engage students in ecosystem studies.
- 2008. Pre-tenure Faculty Career Development Award (\$3050): Studying Cichlid Mate Choice with Graduate Student David Mellor
- 2008. Curriculum Development Award (\$48,700): Enabling SEBS Students to Become Better Learners with Caron Chess and Andrew Pleasant
- 2008. Woodrow Wilson Foundation, Teacher as Scholars Award (\$15,000)—Spring 2007, renewed (\$10,000)
- 2006. Cook College Advisory Committee for Instructional Computing (ACIC) (\$7900) Distance Learning. (with Peter Bastardo, Cook College Teacher Education Program) –Fall 2006.
  Rutgers University Northeast Consortium (Food Systems) (\$2500)-Spring 2006

Co-coordinators (different budget): Peter Bastardo and Terry Regan; development of summer institute for science teachers

2006. National Science Foundation Alternative Learning Technologies (Collaborative Proposal) with Georgia Institute of Technologies. (\$304,242) Learning About Complex Systems in Middle School by Constructing Structure-Behavior-Function Models-Fall

(with Cindy Hmelo-Silver, Graduate School of Ed.)

2005. United States Department of Agriculture, Citizen Participation in Science grant (\$462,606)

Co-PIs Joan Ehrenfeld (Ecology, Evolution, and Nat. Res.) and Edwin McGowan (NY-NJ Trail Conf.)

2005. National Science Foundation ROLE-ISE, Transfer of Scientific Abilities grant (\$512,806)-Fall 2005 (*Co-PI*) Lead PI: Eugenia Etkina (Graduate School of Education)

2005. Rutgers Cook College Tuition Differential for Course Enhancement (\$17,000)-Fall 2005

2005. Rutgers University Faculty Research Award (\$1725)-Fall 2005

Co-PI: Julie Lockwood (Ecology, Evolution, and Nat. Res.)

2004. Ecological Society of America Faculty Travel Award (full meeting cost)

2001. American Institute of Fishery Research Biologists Award (\$350)

#### Graduate Student Awards:

University of Connecticut Travel Award (\$150)-Fall 1997

Richard Cronin Fisheries Scholarship (\$450)-Spring 1998

Marine Biological Laboratory Award 1998 (\$600)-Summer 1998, 1999, 2000, and 2001

Tibor T. Polgar Award for summer research in the Hudson River (\$5,000)-Summer 1998

Guy Jordan Endowment Fund of the American Cichlid Association (\$1,500)-Fall 1998

GAANN Grant Research Support (\$6000)-Fall 1999

Healy Foundation Grant with Francis Juanes (\$5,000)-Fall 1999

University of Massachusetts Travel Award (\$150)-Spring 2000, 2001

American Fisheries Society Student Membership Award-Fall 2000

National Science Foundation Dissertation Improvement Grant (\$5000)-Spring 2001

#### Service:

#### Reviewer for:

Journals: Estuarine and Coastal Shelf Science, Environmental Biology of Fishes, Estuaries, Journal of Fish Biology, Ecology and Society, Behavioral Ecology, The American Naturalist, Ethology Grants: NOAA, NSF, USDA, NAAEE

#### Committees and Panels:

Elizabeth City State University: Curriculum Committee, Grant Writing Committee

Rutgers University: Freshman Recruitment Committee, Mission Statement Committee (2004-2005)

Rutgers University: Faculty Consultant for NJ WaterWatch (2004-2005)

Rutgers University: Higher Education Quality Indicator Standards-Alignment Committee (11/2004-6/2005)

Rutgers University: Teacher Preparation Working Group (On-going)

Rutgers University: Evolution on Campus Workshop Planning committee (11/2005-2/2006)

Rutgers University: Ad-Hoc TUE curriculum implementation committee for Cook College (On-going)

Rutgers University: Ecology and Evolution Graduate Admissions committee (1/2006-4/2006)

Rutgers University: Advisory committee to the Executive Dean for budgetary changes (4/2006)

Rutgers University: Graduate Student Committees (J. McDonald, A. Candelmo, L. Spearman, A. Banerji, C. Santiago-Bass, J. Sanders, H. Vuong, B. Mathys and A. Siegal)

Rutgers University: Club advisor for Rutgers Roots and Shoots (On-going)

Rutgers University: University-wide Assessment Committee (1/2007-Present)

New Jersey: Environmental Stewards Partnership Advisory Committee and Grant writing (On-going)

New Jersey: Black Bear Education Working Group (On-going)

New Jersey: Highlands Council Technical Advisory Committee for Education (1/2006-6/2006)

National: Ecological Society of America's Education Section (On-going)

National: North American Association of Environmental Education's Research Commission (On-going)

National: North American Association of Environmental Education's Proposal Review panel (4/2006; 3/2007)

National: United States Department of Agriculture's CSREES NRI Proposal Review panel (5/2006)

National: National Science Foundation's REESE Proposal Review panel (4/2007)

#### Advisor:

Angela Dean and Amanda Beavers, Differential Association among conspecific molly species, Undergraduate Research, Elizabeth City State University (2003-2004)

Wesley Brooks, Tentative Topic: Species invasions in the Everglades region in Florida Ph.D. student, Ecology and Evolution, Rutgers University (2005-present)

David Mellor, Tentative Topic: Sexual selection in Lake Malawi cichlids

Ph.D. student, Ecology and Evolution, Rutgers University (2005-present)

Ryan Burrows, Tentative Topic: Behavioral and hormonal influences on mate selection Ph.D. student, Ecology and Evolution, Rutgers University (2005-present)

Steven Gray, Tentative Topic: Environmental literacy, Rutgers University

Ph.D. student, Ecology and Evolution, Rutgers University (2006-present)

Alicia Buchanan, (co-advised by Ravit Golan Duncan), Tentative Topic: Ecology Education Ph.D. student, Ecology and Evolution, Rutgers University (2006-present)

Suzanne DeCoursey, Tentative Topic: Citizen Science; best practices

MS student, Ecology, Evolution, Rutgers University (2007-present)

Undergraduate Research Advisor (5 students); Cook College Honors Thesis; Lisa Wilt; Biology honors thesis (with graduate student David Mellor): Catherine Tarzieweiz, Kerrie Tiedemann (2009)

### **Current Projects:**

Influence of male territoriality on mate selection in Lake Malawi cichlids

Possible pre-existing bias for male dorsal fin enlargement in close relative of the Mollenesia Scientific/Environmental literacy assessment in adult free-choice learning (USDA supported project listed above)

Development of ecological transfer tasks for physics students (NSF supported project listed above)
Use of aquaria as classroom learning tool about complex systems (collaboration: Cindy Hmelo-Silver,
Rutgers University, Ashok Goel and Spenser Rugber Georgia Tech.)

Development of teacher professional development training modules (collaboration: Terry Regan and Peter Bastardo, Rutgers University)

Development of monitoring tools for community based citizen action (collaboration: Water Quality Monitoring Tool: Cara Muscio and Jenny Carleo, Rutgers Cooperative Research and Extension, Stewardship Evaluation Tool: Bruce Barbour, Rutgers Cooperative Research and Extension)

Development of Ecological Literacy Benchmarks for Citizen Awareness (ESA Workshop for special sessions 2008)

#### **Outreach Projects:**

Cichlids in the Classroom with Wilde lake Middle School, Howard County Maryland Rainforest Science Education, with Georgann Serino (former NJ Science Teacher)

#### **References:**

James Gould

Professor, Department of Ecology and Evolution

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