

Curriculum Vitae  
**PATRICIA J. WITTKOPP (née Polaczyk)**

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**Research Interest:** Understanding the genetic basis of development, evolution and disease, with an emphasis on the molecular mechanisms controlling gene expression

**Education:**

1997-2002 Ph.D. in Genetics  
University of Wisconsin, Madison, WI  
Advisor: Dr. Sean Carroll  
1993-1997 B.S. in Cellular and Molecular Biology (with “Highest Honors” and distinction)  
B.S. Chemistry (with distinction)  
University of Michigan, Ann Arbor, MI  
Advisor: Dr. Greg Gibson

**Academic appointments:**

2005- Assistant Professor of Ecology and Evolutionary Biology  
Assistant Professor of Molecular, Cellular, and Developmental Biology  
Member, Program in the Biomedical Sciences  
Member, Center for Computational Medicine and Biology  
Member, Center for Statistical Genetics  
Trainer, NIH Genome Sciences Training Grant  
Trainer, NIH Genetics Training Grant  
University of Michigan, Ann Arbor, Michigan  
2002-2005 Damon Runyon Cancer Research Foundation Postdoctoral Fellow  
Cornell University, Ithaca, NY  
Advisor: Dr. Andrew Clark

**Honors and Awards:**

2008 “Scientist to Watch”, *The Scientist*  
2008 Institutional nominee for Packard Award  
2008-2010 Alfred P. Sloan Research Fellow  
2007-2009 March of Dimes Basil O’Connor Starter Scholar Research Award  
2006 Institutional nominee for Searle Scholar Award  
2003-2006 Damon Runyon Cancer Research Foundation Postdoctoral Fellow  
2003 American Cancer Society Postdoc Fellowship (ranked 1<sup>st</sup> in section prior to withdrawal)  
2003 National Institutes of Health NRSA Postdoctoral Fellowship (Declined)  
2000 Best Poster award at the 9th Annual "Egg to Organ" Symposium  
1998-2001 National Institutes of Health Genetics Training Grant  
1998 Henry Vilas Fellowship  
1998 National Science Foundation Predoctoral Fellowship Honorable Mention  
1997-1998 Wisconsin Alumni Research Foundation Fellowship  
1993-1997 W.R. Hotchkiss Foundation Scholarship

**Publications:** (Listed in chronological order.)

1. **Polaczyk, P.J.**, R. Gasparini, and G. Gibson (1998) Naturally occurring genetic variation affects *Drosophila* photoreceptor determination. *Development, Genes & Evolution* **207**, 462-470.  
Cover Article
2. Halder G. H., **P. J. Polaczyk**, M.E. Kraus, A. Hudson, J. Kim, A. Laughon, and S.B. Carroll (1998) The Vestigial and Scalloped proteins act together to directly regulate wing-specific gene expression in response to signaling proteins. *Genes & Development*, **12**:3900-3909.  
Co-first authorship
3. **Wittkopp, P.J.**, J.R. True, and S.B. Carroll (2002) Reciprocal functions of the *Drosophila* Yellow and Ebony proteins in the development and evolution of pigment patterns. *Development*, **129**, 1849-1858.  
Cover article
4. Radovic, A, **P.J. Wittkopp**, A.D. Long, and M.D. Drapeau (2002) Immunohistochemical colocalization of Yellow and male-specific Fruitless in *Drosophila melanogaster* neuroblasts. *Biochemical and Biophysical Research Communications*, **293**, 1262-1264.
5. **Wittkopp, P.J.**, K. Vaccaro and S.B. Carroll (2002) Evolution of *yellow* gene regulation and pigmentation patterns in *Drosophila*. *Current Biology*, **12**, 1547-1556.  
Cover article  
Featured in *Nature Reviews Genetics* Research Highlights section, November 2002
6. Drapeau, M.D., A. Radovic, **P.J. Wittkopp**, and A. Long (2003) A gene necessary for normal male courtship, *yellow*, acts downstream of fruitless in the *Drosophila melanogaster* larval brain. *J. of Neurobiology*, **55**, 53-72.
7. **Wittkopp, P.J.**, B.L. Williams, J.E. Selegue, and S.B. Carroll (2003) *Drosophila* pigmentation evolution: divergent genotypes underlying convergent phenotypes. *Proc Natl Acad Sci U.S.A.*, **100**, 1808-1813  
Featured in *Nature Reviews Genetics* Research Highlights section, April 2003
8. **Wittkopp, P.J.**, S.B. Carroll, and A. Kopp (2003) Evolution in Black and White: Genetic control of pigment patterns in *Drosophila*. *Trends in Genetics*, **19**, 495-504.  
Cover article
9. **Wittkopp, P.J.\***, Haerum, B.K. and A.G. Clark (2004) Evolutionary divergence of *cis* and *trans* gene regulation. *Nature*, **430**, 85-88.  
Selected by Faculty of 1000  
Featured in Briefings in Bioinformatics 5, 370-377  
\*corresponding author
10. Gompel, N, B. Prud'homme, **P.J. Wittkopp**, V.A. Kassner, and S.B. Carroll (2005) Chance caught on the wing: *cis*-regulatory evolution and the origin of pigment patterns in *Drosophila*. *Nature* **433**, 481-487.  
Featured in 2005 Breakthrough of the year: Evolution in action, *Science* 310, 1878-1879  
News and Views by Brakefield and French, *Nature* 433, 466-467  
Selected by Faculty of 1000
11. **Wittkopp, P.J.** (2005) Genomic sources of regulatory variation in *cis* and in *trans*. *Cellular and Molecular Life Sciences* **62**, 1779-83.  
Invited, "Visions & Reflections"

12. Landry, C.R, **P.J. Wittkopp**, C. Taubes, J.M. Ranz, A.G. Clark, and D.L. Hartl (2005). Compensatory *cis-trans* regulation and dysregulation of gene expression in hybrids between species. *Genetics* **171**, 1813-1822.  
Selected by Faculty of 1000
13. **Wittkopp, P.J.** (2006) Evolution of *cis*-regulatory sequence and function in diptera. *Heredity* **97**, 139-147  
Invited, *Evolution and Development (EvoDevo) special issue*
14. **Wittkopp, P.J.**,\* B.K. Haerum, and A.G. Clark (2006). Parent-of-origin effects on mRNA levels in *Drosophila melanogaster* are not caused by genomic imprinting. *Genetics*, **173**, 1817-1821.  
\*corresponding author
15. Fay, J.C. and **P.J. Wittkopp** (2007). Evaluating the role of natural selection in the evolution of gene regulation. *Heredity*, **100**, 191-199  
Invited, *Ecological and Evolutionary Functional Genomics special issue*
16. **Wittkopp, P.J.** (2007). Variable gene expression in eukaryotes: a network perspective. *Journal of Experimental Biology*, **210**, 1567-1575.  
Invited, *Post-genomic Comparative Physiology special issue*
17. Davis, GK, Srinivasan, D, **Wittkopp, PJ** and DL Stern (2007) The function and regulation of *Ultrabithorax* in the legs of *Drosophila melanogaster*. *Developmental Biology* **308**, 621-631.
18. Kohn, M.H. and **P.J. Wittkopp**. (2007) Annotating *ebony* on the fly. *Molecular Ecology*, **16**, 2831-3.  
Invited "News and Views", non-peer reviewed
19. **Wittkopp, P.J.** (2007) Evolutionary genetics: how flies get naked. *Current Biology* **17**, R881-3.  
Invited "Dispatch", non-peer reviewed
20. **Wittkopp, P.J.**\*, B.K. Haerum, and A.G. Clark. (2008) Genetic basis of regulatory variation within and between *Drosophila* species. *Nature Genetics* **40**, 346-50.  
Selected by Faculty of 1000  
\*corresponding author
21. **Wittkopp, P.J.**\* B.K. Haerum, and A.G. Clark. (2008). Independent effects of *cis*- and *trans*-regulatory variation on gene expression in *Drosophila melanogaster*, *Genetics* **178**, 1831-5.  
\*corresponding author
22. **Wittkopp, P.J.** and P. Beldade (2008) Development and evolution of insect pigmentation: genetic mechanisms and the potential consequences of pleiotropy, *Seminars in Cell and Developmental Biology*, 2008 Oct 14. [Epub ahead of print]  
Invited, *Pigment Cell Development special issue*
23. **Wittkopp, P.J.**\*, G. Smith-Winberry, L.L. Arnold, E. M. Thompson (2008). Local adaptation for body color in *Drosophila americana*, *Submitted*.  
\*corresponding author  
(undergraduate co-authors in italics)

**Research from above publications is discussed in the following textbooks:**

- 2001 *From DNA to Diversity: Molecular genetics and the evolution of animal design* by S.B. Carroll, J.K. Grenier, S.D. Weatherbee (Blackwell Science)
- 2005 *Evolution* by D.J. Futuyma (Sinauer Associates, Inc)
- 2006 *Introduction to Genetic Analysis, 9<sup>th</sup> edition* by Griffiths, Wessler, Lewontin, and Carroll (W.H. Freeman and company)

## Presentations and Working Groups

### Invited participation in international workshops, working, and discussion groups:

- 2008 Program on "Population Genetics and Genomics"  
Kavali Institute for Theoretical Physics, (Santa Barbara, CA)
- 2008 Organization of Biological Networks (Schedule conflict)  
Institute for Mathematics and its Applications (Minneapolis, MN)
- 2008-09 "Trait loss and relaxed selection", Working group  
National Evolutionary Synthesis Center (Durham, NC)
- 2007 "From Statistics to Genes: Figuring out the Molecular Basis of Complex Traits", Discussion mtg  
Banbury Center, Cold Spring Harbor Laboratory (Lloyd Harbor, NY)
- 2007 Program on "Evolution of Molecular Networks"  
Kavali Institute for Theoretical Physics, (Santa Barbara, CA)
- 2007-08 "Modeling variation in gene networks", Working group  
National Evolutionary Synthesis Center (Durham, NC)
- 2006 "Post-Genomic Comparative Physiology", Discussion meeting  
*Journal of Evolutionary Biology* (Banff, Canada)

### Invited Seminars and conference presentations:

- 2009 National Institute of Genetics, Mishima, Japan  
University of Illinois, Department of Entomology, Urbana-Champaign, IL  
Max Planck Institute for Plant Breeding Research, Dept of Plant Devel Bio, Cologne, Germany  
Darwin Symposium, Queen's College, Flushing, NY  
Princeton University, Department of Biology, Princeton, NJ  
"Evolution of Molecular Function" Symposium at 2009 SSE meeting (Schedule conflict)  
The Japanese Drosophila Research Conference (Kobe, Japan) (Schedule conflict)  
Gordon Research Conference: Developmental Biology, Andover, N.H (Schedule conflict)  
Gordon Research Conference: Microbial Population Biology, Andover, NH  
Gordon Research Conference: Quantitative Genetics and Genomics Galveston Island, TX  
Insect Genomics, Riken CDB, Kobe, Japan
- 2008 16th EMBO Drosophila Workshop, Kolymbari, Crete, Greece  
RECOMB Satellite Workshop on Comparative Genomics, Paris, France, *Keynote presentation*  
National Association of Biology Teachers, Memphis, TN  
Integrative Post-Genomics Symposium, Lyon, France, *Keynote presentation*  
University of Rochester, Department of Biology, Rochester, NY  
7th Annual Genomics Symposium, NYU Genomics and Systems Biology, New York, NY  
Symposium on Transcriptional Regulation and Systems Biology, East Lansing, MI  
Society of Molecular Biology and Evolution, Barcelona, Spain  
Gordon Research Conference: Molecular Evolution, Ventura, CA
- 2007 Indiana University, Biology Department, Bloomington, IN  
*Graduate Student Invited speaker*  
Gordon Research Conference: Ecol and Evol Funct Genomics, Newport, RI (Discussion leader)  
University of Notre Dame, Biology Department, South Bend, IN  
University of Maryland Baltimore County, Baltimore, MD  
Eastern Great Lakes Molecular Evolution meeting, Toronto, ON, Canada  
University of Michigan, Department of Cell and Developmental Biology, Ann Arbor, MI  
University of Michigan, Center for Statistical Genetics, Ann Arbor, MI
- 2006 University of Chicago, Department of Ecology and Evolution, Chicago, IL  
Wayne State University, Department of Biological Sciences, Detroit, MI

- 4<sup>th</sup> annual Ecological Genomics Symposium, Kansas City, KS  
*Graduate Student Invited speaker*  
 Duke University, Evolution and Development Group, Durham, NC  
*Graduate student invited "Super Speaker", 2 seminars*  
 Genomics of Closely Related Organisms, IGERT Symposium, Tucson, AZ  
 2005 Gordon Research Conference: Evolutionary and Ecological Functional Genomics, Oxford, UK  
 Genomes Evolving Symposium, University of California, San Diego, CA  
 2004 University of Michigan, Dept. of Molecular, Cellular, and Developmental Biology, Ann Arbor, MI  
 University of Michigan, Department of Ecology and Evolutionary Biology, Ann Arbor, MI  
 Harvard University: Population and Evolutionary Genetics Seminar Series, Cambridge, MA  
 The Evolution of Gene Regulation, an IGERT Symposium, Eugene, OR  
 Cornell Ecology and Evolutionary Biology Annual Symposium, Ithaca, NY  
 Regional SDB meeting "Evolution and Development" section, Woodshole, MA  
 University of Rochester, Department of Biology, Rochester, NY  
 2002 Wayne State University, Department of Biological Sciences, Detroit, MI

**Contributed Presentations:** (\*selected for oral presentation)

- 2007 \*European Society for Evolutionary Biology, Uppsala, Sweden  
 Gordon Research Conference: Ecol and Evol Funct Genomics, Newport, RI  
 \*48<sup>th</sup> Annual Drosophila Research Conference, Philadelphia, PA  
 2006 Origin of Novel Features, an IGERT symposium, Bloomington, IN  
 \*Evolution (SSE/SSB/ASN Annual meeting), Stony Brook, NY  
 Society of Developmental Biology, Ann Arbor, MI  
 2005 Developmental Basis of Evolutionary Change, U. Chicago, IL  
 46<sup>th</sup> Annual Drosophila Research Conference, San Diego, CA  
 2004 \*Genomes and Evolution Conference, SDBE annual meeting, State College, PA  
 45<sup>th</sup> Annual Drosophila Research Conference, Washington DC  
 2003 \*44<sup>th</sup> Annual Drosophila Research Conference, Chicago, IL  
 Gordon Research Conference: Ecol and Evol Functional Genomics, New London, NH  
 2002 The Microevolution of Development, an IGERT Symposium, Eugene, OR  
 2001 \*Annual meeting for the Society of Developmental Biology, Seattle, WA  
 \*42<sup>nd</sup> Annual Drosophila Research Conference, Washington DC  
 Symposium on the Developmental Basis of Evolutionary Change, Chicago, IL  
 2000 9th Annual Symposium in the "Egg to Organ" series, St. Paul, MN  
 1999 Keystone Symposium: Specificity in Signal Transduction, Keystone, CO  
 1997 38<sup>th</sup> Annual Drosophila Research Conference, Chicago, IL

**Session chair or Discussion leader:**

- 2008 49<sup>th</sup> Annual Drosophila Research Conference, San Diego, CA  
 "Evolution and Quantitative Genetics"  
 2007 Banbury Center, Cold Spring Harbor Laboratory, Lloyd Harbor, NY  
 "From Statistics to Genes: Figuring out the Molecular Basis of Complex Traits"  
 Gordon Research Conference: Ecol and Evol Funct Genomics, Newport, RI  
 "Transcription and Evolution"

**Grant Support:  
Research:**

- 2008 Margaret and Herman Sokol Endowment for Faculty and Graduate Student Research Projects in the Sciences, Office of the Vice President for Research and the Horace H. Rackham School of Graduate Studies (\$4000)
- 2008 - 2010 Alfred P. Sloan Research Fellowship (\$50,000)
- 2008 - 2011 National Research Service Award National Institutes of Health [1 F32 GM083513-0] (Postdoctoral fellowship for Dr. Jonathan Gruber)  
"Investigating compensatory mechanisms for gene expression in the yeast genome"  
Sponsor, (\$141,318)
- 2007-2010 National Science Foundation [DEB-0640485]  
"Genetic basis of pigmentation evolution in Drosophila", P.I. (\$450,000)  
2007 REU supplement (\$6000)  
2008 REU supplement (\$6000)
- 2007-2009 March of Dimes Basil O'Connor Starter Scholar Research award [5-FY07-181]  
"The genetic basis of abnormal gene expression", P.I. (\$150,000)
- 2006-2007 Rackham Graduate School (University of Michigan) [G005283]  
"Genomic sources of altered gene expression", P.I. (\$15,000)
- 2006 Whitaker II award, Department of Ecology and Evolutionary Biology, (University of Michigan), P.I. (\$300)
- Teaching:**
- 2007-2008 CRLT Large Lecture Course Grant (U. Michigan), co-PI (\$22,500)  
"Energizing Genetics: Incorporating active and cooperative learning into a large lecture course"
- 2006 LSA "Teaching with technology" mini-grant (University of Michigan), P.I. (\$2,000)  
"Presenting Interactive Lectures Using a Tablet PC"

## Teaching/ Mentoring:

### Courses:

- 2007-2008 Genetics (Biology 305), 430 students, (E&E 4.22/5, *highest for faculty in at least 7 years*)  
 Genetics, Development and Evolution (EEB404/MCDB404), 35 students (E&E 4.95/5)  
 Guest lecture: Developmental Biology (CDB580)  
 Molecular Systematics (EEB512)
- 2006-2007 Genetics (Biology 305), 400 students (E&E 3.83/5)  
 Genetics, Development, and Evolution (EEB 401), 22 students (E&E 4.93/5)  
 20 undergraduate, 2 graduate students  
 Model Systems (MCDB 614) (*Drosophila* module), 19 students  
 Guest lecture: Genetic Analysis (Human Genetics 632), 15 students
- 2005-2006 Genetics (Biology 305), 300 students (E&E 3.86/5.0, *highest for faculty in ≥ 5 years*)  
 Guest lecture: Principles of Evolution (Biology 516), 20 students

### Participation in teaching seminars and discussion groups:

- 2007-08 Life Sciences Learning Community, discussion group (organized by D. Klionsky)
- 2007 “The Vanishing professor? The changing role of faculty in the world of pod-casting and lecture posting”, CRLT seminar
- 2006 “Authority and credibility in the classroom”, CRLT seminar
- 2006 Teaching with technology lecture series:  
 Engaging students in problem-based learning  
 Making “group work” work: effective activities for groups
- 2005 “Evolution: Using new resources for teaching complex issues”, CRLT seminar

### Students:

#### Post-doctoral

- Jonathan Gruber (2008-), Ph.D. from U. California – Irvine, advisor Dr. Anthony Long  
 Joseph Coolon (2008-), Ph.D. from Kansas State U., advisor Dr. Michael Herman  
 Arielle Cooley (arriving March 2009), Ph.D. from Duke University, advisor Dr. John Willis

#### Graduate

- Lisa Arnold (2007- ), Ph.D. student, Molecular, Cellular, and Developmental Biology  
 Gizem Kalay (2006- ), Ph.D. student, Molecular, Cellular, and Developmental Biology  
 Elliott Howell (2007-2008), Ph.D. student, Ecology and Evolutionary Biology  
 Erin Shellman (2006), Master’s student, Biostatistics Department

#### Additional rotation students (graduate)

- Dave Yuan (Winter 2009), PIBS/MCDB  
 Melissa Cui (Winter 2009), PIBS/MCDB  
 Hilary Archbold (Fall 2008), PIBS/MCDB  
 Qingxuan Song (Fall 2008), MCDB  
 Emily Petty (Winter 2006), PIBS/MCDB  
 Ceyda Bilgir (Winter 2006), MCDB  
 Tyler Nusca (Fall 2006), PIBS/MCDB

#### Undergraduate

- Laura Shefner (2008 - ) Undergraduate researcher, *honors thesis*  
 Xiaowei Weng (2007 - ) Undergraduate Research Opportunities Program, *honors thesis*  
 Marisa Weizel (2007), Biology major, post-bachelors researcher  
 Elizabeth Thompson (2006-2008), Biology major, MCDB 300, MCDB 400  
*Started a Biology Ph.D. program at Duke University in Fall 2008*  
 Gabriel Smith-Winberry (2006-2007) Political Science major, pre-med, EEB 300, EEB 400

*Started Medical school @ University of Virginia in Fall 2007*

Emma Stewart (2005 - 2009) Biology major, Undergraduate Research Opportunities Program

Alekhyia Ratnala (2005-2006) Engineering major, Undergraduate Research Opportunities Program

Monica Woll (2005-2006) History major, EEB 300

*Summer Research Opportunities Program (for non-UM minority students)*

Yainna Hernaiz Hernandez (2008) (home institution: Universidad Metropolitana, Puerto Rico)

Saleh Akhras (2007) (home institution: Northeastern Illinois University)

Co-sponsored Undergraduates (primary advisor)

Melissa Wylie (W08), MCDB 400 (David Burke, Human Genetics, UM)

Whitney Chadwick (F07), MCDB 300 (Evan Keller, Pathology, UM)

Kimberly Ku (F07, W08), MCDB 300/MCDB 400 Yongqun He, Micro and Immun, UM)

Shayna Ravindran (W07), MCDB 300, (Paresh Patel, Mol & Behav Neuro Inst)

Jeff Gibson (W06, F06), MCDB 300, 400 (Deneen Wellik, Dept. of CDB, UM)

Patrick McLaren (F06, W07), EEB 300 (Julia Richards, Kellogg Eye Center, UM)

Neha Sekhri (F06), MCDB 300 (Madhavi Kadakia, Wright State University)

Kelly Daws (F06), MCDB400 (Benedict Lucchesi, Dept of Pharmacology, UM)

High school

Taylor James, Notre Dame Academy (senior project, 2006)

Thesis committees

Tim Connallon, EEB (major advisor, Lacey Knowles), 2005-

Ben-yang Liao, EEB (major advisor, Jianzhi Zhang), 2006-

Christina Rogers, CDB (major advisor, Scott Barolo), 2006-

Margaret Bakewell, EEB (major advisor, Jianzhi Zhang), 2007-

Karishma Sadikot, MCDB (major advisor, Gyorgyi Csankovszki), 2007-

Zhi Wang, EEB (major advisor, Jianzhi Zhang), 2007-

Victoria Cattani, Univ. of Rochester Biology Dept (major advisor, Daven Presgraves), 2007 –

Wenfeng Qian, EEB (major advisor, Jianzhi Zhang), 2008-



## Service

### Professional Service:

2008 Judge for poster competition, Society of Molecular Biology and Evolution (~1000 attendees)  
 2008 Panelist, “Preparing Future Faculty” Seminar, University of Michigan (May 2008)  
 2007 Judge for poster competition, 48<sup>th</sup> Annual Drosophila Research Conference (~1500 attendees)  
 2007 Panelist, “Preparing Future Faculty” Seminar, University of Michigan (May 2007)  
 2007 Panelist, “Preparing Future Faculty” Seminar, University of Michigan (October 2007)  
 2006 Contributed to revision of national AP Biology standards for evolution (with Susan Offner)

### Editorial boards:

*Evolution*, Associate editor (2009-2012)

### Reviewing activity: Grants

National Science Foundation (Panelist: Population and Evolutionary Processes)  
 National Science Foundation (*ad hoc* reviewer: Genes and Genome Systems, Eukaryotic Genetics, Population and Evolutionary Processes, Physiological and Structural Systems)  
 Human Frontier Science Program  
 Austrian Science Fund  
 Kansas State University Ecological Genomics Institute  
 University of Michigan, Office of the Vice President for Research

### Reviewing activity: Academic Journals

<i>Nature</i>	<i>Genetics</i>
<i>Nature Genetics</i>	<i>Evolution and Development</i>
<i>Nature Reviews Genetics</i>	<i>Molecular Biology and Evolution</i>
<i>Science</i>	<i>Journal of Molecular Evolution</i>
<i>Proceedings of the National Academy of Sciences</i>	<i>Trends in Genetics</i>
<i>Proceedings of the Royal Society B</i>	<i>Trends in Ecology and Evolution</i>
<i>Current Biology</i>	<i>Genome Research</i>
<i>PLoS Biology</i>	<i>Genome Biology</i>
<i>PLoS Genetics</i>	<i>BMC Evolutionary Biology</i>
<i>PLoS ONE</i>	<i>Heredity</i>
<i>Plant Cell</i>	<i>Gene</i>
<i>Development</i>	<i>Genetica</i>

### Reviewing activity: Books

2000 “From DNA to Diversity: Molecular genetics and the evolution of animal design” (1<sup>st</sup> edition)  
 S.B. Carroll, J.K. Grenier, S.D. Weatherbee (Blackwell Science)  
 2000 “A primer of Genome Science” (1<sup>st</sup> edition)  
 G. Gibson and S. Muse (Sinauer Publishing)  
 2006 “Introduction to Genetic Analysis”, (9<sup>th</sup> edition)  
 Griffiths et al. (WH Freeman Publishers)  
 2006 “Developmental Basis of Evolutionary Change”  
 D.L. Stern (Roberts and Company Publishers)

**Membership in professional Societies:**

1997- Genetics Society of America, member  
2000 - American Association for the Advancement of Science, member  
2001 - Society of Developmental Biology, member  
2005- Society for the Study of Evolution, member  
2005- American Society of Naturalists, member

**Departmental Service:**

2007-2008 Executive committee, EEB  
Nomination committee, EEB  
Early Scientists Symposium organizing committee (chair), EEB  
Prelim evaluation committee, (Yuliang Ma, Raymond lab), MCDB  
2006-2007 Executive committee, EEB  
Prelim evaluation committee (Mikyung Chang, Cadigan lab), MCDB  
2005-2006 Departmental seminar committee, EEB  
Young Scientists Symposium organizing committee, EEB  
Prelim evaluation committee (Ryan Frisch, Bender lab), MCDB

## Synergistic activities and Outreach

### K-12 Outreach

- 2008 Lab and class visit with Advanced Placement Biology class from Romulus High School  
Video interview on CD supplement for high school/college teachers (NABT, NESCent, AIBS)  
Class visit, 5<sup>th</sup> grade class, Childs Elementary School, Ypsilanti, MI
- 2006 University of Michigan Saturday Seminars for Outstanding HS juniors, 40 students  
“DNA and the Genomics Revolution
- 2006 Sponsor for high school student senior project (Taylor James)
- 2004 Visited Lansing High School Biology class (Lansing, NY), and provided resources for fly lab
- 2001 Visited Deerfield High School Biology class (Deerfield, WI), and provided resources for fly lab  
“Introduction to Genetics”
- 2000 Visited elementary schools in Livonia, MI (1<sup>st</sup> grade) and Deerfield, WI (3<sup>rd</sup> grade)  
“Genetics and the fruit fly”
- 2000 Demonstration for summer day camp participants at the University of Wisconsin

### Undergraduate education and increasing representation of minority groups

Invited speaker for undergraduate Women in Science and Engineering (WISE) Residential program, Mentor for Summer Research Opportunity Program 2007 (program for minority students from other universities), Presentations to visiting students from Howard University and universities from Puerto Rico, Supervised honors thesis research of two female undergraduate students: Belinda Haerum (HHMI summer fellow 2003, co-author on *Nature* 2004 and *Genetics* 2006 publications, and another manuscript in preparation), and Beth Larimore (HHMI summer fellow 2005, began graduate studies at U. Washington in 2006). In all, supervised undergraduate research projects by 12 undergraduates (7 since starting at UM), including 7 females, and 4 members of under-represented groups: Swetha Madhavarapu, Anandita Kumari Rajpurohit, Alekhya Ratnala, Saleh Akhras. Among 3 graduate students advised to date, two are women (one from Turkey). Invited speaker at two IGERT symposia (U. Oregon 2003 and U. Arizona 2006) organized by graduate students and also attended by some undergraduate students.

### Conveying science to the general public

- 2008 Interviewed for *Science* magazine article:  
“Deciphering the genetics of evolution”
- 2006 Interviewed for *Seed* magazine article:  
“The spotty history of fruit flies” (4/23/06)
- 2005 Work featured in a cover story of *Wisconsin State Journal* (2/3/05) called “The key to evolution?”
- 2005 Interviewed for article in *Chronicles of Higher education*:  
“Is it whom you know?” by Gabriela Montell (7/1/05)
- 2002 Filmed working with flies for episode 125 of the PBS series: “Secrets of the Sequence”

### Technical resources

Developed transgenes to use a time-sensitive dsRed reporter gene in *D.melanogaster* and applied transgenic techniques in *D. virilis* for hypothesis testing; Developed a high-throughput strategy to distinguish *cis*- and *trans*-regulatory divergence; Shared reagents (e.g. transgenic constructs, antibodies, and fly strains), protocols and technical advice with the scientific community.

### Other professional activities

- 2006 Society of Developmental Biology New Faculty Boot-camp

## Collaborators

### Current collaborators and recent (<5 years) coauthors (OUT OF DATE as of Aug 2008)

Sean Carroll (U. Wisconsin)	Andrew Clark (Cornell)	Greg Davis (Princeton)
Mark Drapeau (NYU)	Nicolas Gompel (U. Cambridge)	Daniel Hartl (Harvard)
Justin Fay (Wash U St. Louis)	Vicki Kassner (U. Wisconsin)	Michael Kohn (Rice University)
Artyom Kopp (UC – Davis)	Christian Landry (Harvard)	Anthony Long (UC– Irvine)
Bryant McAllister (Iowa)	Benjamin Prud'homme (U. Wisconsin)	Anna Radovic (UC – Irvine)
Steven Richards (Baylor)	Jayne Selegue (U. Wisconsin)	Dayalan Srinivasan (Princeton)
David Stern (Princeton)	Clifford Taubes (Harvard)	John True (SUNY Stony Brook)
Kathy Vaccaro (U. Wisconsin)	Barry Williams (U. Wisconsin).	