

**KRISTI ANNA WHARTON**

Associate Professor of Medical Sciences  
Department of Molecular Biology, Cellular Biology and Biochemistry

**EDUCATION**

- |      |         |  |
|------|---------|--|
| 1978 | A.B.    | Biology<br>School of Arts and Sciences, Cornell University, Ithaca, NY |
| 1982 | M.S.    | Biology<br>Yale University, New Haven, CT                              |
| 1984 | M. Phil | Biology<br>Yale University, New Haven, CT                              |
| 1986 | Ph.D.   | Biology<br>Yale University, New Haven, CT                              |

**PROFESSIONAL APPOINTMENTS**

- |             |  |
|-------------|--|
| 1979 - 1981 | Research Assistant<br>Biology Department<br>Yale University<br>Mentor: Mark Mooseker   |
| 1981 - 1986 | Graduate Student<br>Biology Department<br>Yale University<br>Mentor: Spyros Artavanis-Tsakonas   |
| 7/86 – 7/87 | Postdoctoral Fellow<br>Biology Department<br>Yale University<br>Mentor: Spyros Artavanis-Tsakonas  |
| 8/87-12/87  | Postdoctoral Fellow<br>Institute of Molecular Biology and Biotechnology<br>Crete, Greece<br>Mentors: Fotis Kafatos and Christos Louis    |
| 1988 - 1991 | Postdoctoral Fellow<br>Cell and Developmental Biology<br>Harvard University<br>Mentor: William Gelbart                                   |
| 1991 - 1995 | Assistant Professor (Research)<br>Division of Biology and Medicine<br>Department of Molecular Biology, Cellular Biology and Biochemistry |

- Brown University
- 1995 - 2001     Assistant Professor of Medical Sciences  
Department of Molecular Biology, Cellular Biology and Biochemistry  
Brown University
- 2000 - 2001     Manning Assistant Professor  
Department of Molecular Biology, Cellular Biology and Biochemistry  
Brown University
- 2003             Department of Cell Biology  
Biozentrum, University of Basel, Switzerland  
(sabbatical leave from Brown University, Spr 2003)
- 2001-present    Associate Professor of Medical Sciences  
Department of Molecular Biology, Cellular Biology and Biochemistry  
Brown University
- 2010             Departement Genetique et Developpement  
Institut de Genetique Humaine, CNRS Montpellier, France  
(sabbatical leave from Brown University, Spr 2010)

## COMPLETED PUBLICATIONS

### *Referred Journal Articles*

- Mooseker, M.S., Pollard, T.D. and **Wharton, K.A.** (1982) Nucleated polymerization of actin from the two ends of microvillar filaments in the intestinal brush border. **J.Cell Biol.** 95:223-233.
- Mooseker, M.S., Bonder, E.M., Grimwade, B.G., Howe, C.L., Keller, T.C.S., Wasserman,R.H. and **Wharton, K.A.** (1982) Regulation of contractility, cytoskeletal structure and filament assembly in brush borders of the intestinal epithelial cells. **Cold Spring Harbor Sympos.Quant.Biology** 46: 855-870.
- Artavanis-Tsakonas, S., Grimwade, B.G., Harrison, R.G., Markopoulou, K.,Muskavitch, M.A.T., Schlesinger-Bryant, R., **Wharton, K.A.** and Yedvobnick, B. (1984) The *Notch* locus of *Drosophila melanogaster*. A molecular analysis. **Developmental Genetics** 4: 233-254.
- Wharton, K.A.**, Yedvobnick,B., Finnerty, V.G. and Artavanis-Tsakonas, S. (1985) opa: A novel family of transcribed repeats shared by the *Notch* locus and other developmentally regulated loci in *Drosophila melanogaster*. **Cell** 40: 55-62.
- Wharton, K.A.**, Johansen, K.M., Xu, T. and Artavanis-Tsakonas, S. (1985) Nucleotide sequence from the neurogenic locus *Notch* implies a gene product which shares homology with proteins containing EGF-like repeats. **Cell** 43, 567-581.

- Ramos, R.G.P., Grimwade, B.G., **Wharton, K.A.**, Scottgale, T.N. and Artavanis-Tsakonas, S. (1989) Physical and functional definition of *Drosophila Notch* locus by P -element transformation. **Genetics** 123, 337-348.
- Wharton, K.A.**, Thompsen, G. and Gelbart, W.M. (1991) *Drosophila 60A* gene, a TGF- $\beta$  family member, is closely related to human bone morphogenetic proteins. **PNAS** 88, 2914-9218.
- Wharton, K.A.**, Ray, R. and Gelbart, W.M. (1993) An activity gradient of *decapentaplegic* is required for dorsal-ventral patterning in the *Drosophila* embryo. **Development** 117, 807-822.
- Rafferty, L.A., Twombly, V., **Wharton, K.A.** and Gelbart, W.M. (1995) Genetic screens to identify elements of the *decapentaplegic* signaling pathway in *Drosophila*. **Genetics** 139, 241-254.
- Wharton, K.A.**, Ray, R.P., Findley, S.D., Duncan, H.E. and Gelbart, W.M. (1996) Molecular lesions associated with alleles of *decapentaplegic* identify residues necessary for TGF- $\beta$ /BMP cell signaling in *Drosophila melanogaster*. **Genetics** 142, 493-505.
- Khalsa, O., Yoon, J-W., Torres-Schumann, S. and **Wharton, K.A.** (1998) TGF- $\beta$ /BMP superfamily members, Gbb-60A and Dpp, cooperate to provide pattern information and establish cell identity in the *Drosophila* wing. **Development** 125: 2723-2734.
- Haerry, T. E., Khalsa, O., O'Connor, M.B. and **Wharton, K.A.** (1998) Synergistic signaling by two BMP ligands through the SAX and TKV receptors controls wing growth and patterning in *Drosophila*. **Development** 125, 3977-3987.
- Wharton, K. A.**, Cook, J., Torres-Schumann, S., de Castro, K., Borod, E. and Phillips, D.A. (1999) Genetic analysis of the BMP-related gene, *gbb*, identifies multiple requirements during *Drosophila* development. **Genetics** 152, 629-640.
- Ray, R. and **Wharton, K.A.** (2001) Context-dependent relationships between the BMPs *gbb* and *dpp* during development of the *Drosophila* wing imaginal disc. **Development** 128, 3913-3925.
- Sinenko, S.A., Kim, E.K., Wynn, R., Manfruelli, P., Ando, I., **Wharton, K.A.**, Perrimon, N. and Mathey-Prevot, B. (2004). *Yantar* is a novel and evolutionary conserved gene involved in *Drosophila* hemocyte differentiation. **Developmental Biology** 273: 48-62.
- Bangi, E. and **Wharton, K.A.** (2006) Dpp and Gbb exhibit different effective ranges in the establishment of the BMP activity gradient critical for *Drosophila* wing patterning. **Developmental Biology** 295, 178-193.
- Bangi, E. and **Wharton, K. A.** (2006). Dual function of the *Drosophila* ALK1/ALK2 orthologue, Saxophone, influences the BMP activity gradient critical for wing patterning. **Development**

133, 3295-3303.

Prabhat, Forsberg, A., Katzourin, M., **Wharton, K.A.** and Slater, M (2007). A Comparative Study of Desktop, Fishtank and Cave Systems for the Exploration of Volume Rendered Confocal Data Sets. **IEEE Transactions on Visualization and Computer Graphics**, epub. 06 Aug 2007. <http://doi.ieeecomputersociety.org/10.1109/TVCG.2007.70433>

Twombly, V., Bangi, E., Le, V.Q., Malnic, B., Singer, M. and **Wharton, K.A.** (2009). Functional analysis of *saxophone*, the Drosophila BMP type I receptor ortholog of human ALK1/ ACVRL1 and ACVR1/ALK2. **Genetics** 183, 563-79. PMID: 19620392

Ballard, S., Jarolimova, J. and **Wharton, K.A.** (2010) Gbb/BMP signaling is required to maintain energy homeostasis in Drosophila. **Developmental Biology** 337, 375-85. PMID: 19914231

### **Chapters in books**

Artavanis-Tsakonas, S., Grimwade, B., Halpern, M.E., Johansen, K. Markopoulou, K., Ramos, R.G.P. Schlesinger-Bryant, R., **Wharton, K.A.** and Yedvobnick, B. (1985) Molecular biology of genes involved in the neurogenesis of *Drosophila*. Society for Developmental Biology 44th Annual Symposium. ed. Joseph Gall

Yedvobnick, B., Muskavitch, M.A.T., **Wharton, K.A.**, Halpern, M.E., Paul, E., Grimwade, B.G., and Artavanis-Tsakonas, S. (1985) Molecular genetics of *Drosophila* neurogenesis. **Cold Spring Harbor Sympos.Quant.Biology** 50:841-854.

### **Refereed Reviews**

**Wharton, K.A.** and Derynck, R. (2009) TGF- $\beta$  family signaling: Novel insights in development and disease. **Development** 136, 3691-97. PMID: 19855012 (invited review)

Ray, R.P. and **Wharton, K.A.** (2001) Twisted perspective: New insights into extracellular modulation of BMP signaling during development. **Cell** 104, 801-804. (invited review)

**Wharton, K. A.** (1995) How many receptors does it take? **Bioessays** 17, 13-16.

### **Critique of published work**

Science Signaling Editor's Choice for:

Ballard, S., Jarolimova, J. and **Wharton, K.A.** (2010) **Developmental Biology** 337, 375-85  
<http://stke.sciencemag.org/cgi/content/abstract/sigtrans;3/104/ec7?etoc>

Faculty 1000 evaluation of:

Bangi E & Wharton K Development 2006 Sep 133 (17) :3295-303  
<http://www.f1000biology.com/article/id/1040007/evaluation>

### ***Published Abstracts***

**Wharton, K.A.**, Savery, C., Ray, R.P. (2000) Coordinate signaling by two BMPs in the regional specification of the *Drosophila* endoderm. **Dev. Biol.** 222, 233

### ***Invited lectures***

Centre de Biologie du Développement, UMR 5547 CNRS, Toulouse, France, May 17, 2010

University of Cambridge, Gurdon Institute of Cancer and Developmental Biology, Cambridge, UK, April 23, 2010

Cancer Research UK London Research Institute, Laboratory of Developmental Signalling, London, UK, April 16, 2010

Institut de Genetique Humaine, CNRS Montpellier, France, April 2, 2010

Institut de Génomique Fonctionnelle, CNRS Montpellier, France, November 16, 2009

The University of Pennsylvania School of Medicine, Orthopaedic Molecular Medicine, Philadelphia, PA, September 30, 2009

NIH/NICHD, Laboratory of Gene regulation and Development, Unit on Cellular Communication, Bethesda, MD, September 18, 2009

Oregon Health & Science University, Department of Cell and Developmental Biology, Portland, OR, June 2, 2008

Stony Brook University, Center for Developmental Genetics, Dept. Biochemistry & Cell Biology, May 15, 2008

UMass Boston, Biology Department, May 9, 2008

The University of Pennsylvania School of Medicine, Orthopaedic Molecular Medicine, Philadelphia, PA. "BMP signaling during development: a highly regulated balancing act." Jan. 11, 2007

Worcester Polytechnic Institute, Worcester, MA. "BMP signaling during development: a highly regulated balancing act." Nov. 14, 2006.

Harvard Faculty Club, The Notch Signaling Pathway: Molecules and Progeny (a symposium in honor of Spyros Artavanis-Tsakonas) Cambridge, MA. "BMP signaling in patterning and metabolism." Oct. 28, 2006.

Brown University, Department of Orthopaedics, "BMP signaling during development: a highly regulated balancing act." June 7, 2006.

Stowers Institute for Medical Research, Kansas City, Mo. "BMP signaling during development: variations on a theme." May 11, 2005.

Connecticut College, "BMP signaling during development: variations on a theme." April 15, 2004.

Biozentrum, University of Basel, Switzerland, "BMP signaling during development: variations on a theme." February 17, 2003

Brown Inaugural Faculty Forum, "Do we have to get old?" October 13, 2001.

Harvard Medical School, Department of Genetics, group meeting, "Context-dependent interactions between two BMPs, *gbb* and *dpp*, in wing and midgut development." May 30, 2001.

Brown University, "It takes two to tango: Signaling by two BMPs during development."

February 16, 2001.  
American Cancer Society, Daffodil Days Kick-off, "Cancer research update: BMPs in development." February 7, 2001.  
University of Rhode Island, "Signaling by multiple BMPs: It takes two to tango.", December 4, 2000  
Carnegie Institution of Washington, "Coordinate BMP signaling in cell fate determination.", October 23, 2000  
American Cancer Society, Making Strides Against Breast Cancer Corporate Breakfast, "Cancer research update: BMPs in development.", August 17, 2000  
Whitehead Institute, Cambridge, MA, TGF- $\beta$  group "Multiple BMP signaling in development" 1998  
Marine Biological Laboratories - Physiology Course, "Signaling in Drosophila", June 26, 1995  
Tufts University, Biology Department, "TGF- $\beta$  signaling in development", November 18, 1994  
Jacob Monod Institute, University of Paris, "TGF- $\beta$  signaling components and their role in development", June 28, 1994  
EMBO Workshop on Molecular and Developmental Biology of Drosophila, Kolymbari, Crete, Greece, "Characterization of TGF- $\beta$  signaling components and their role in development" June 20-26, 1994  
Northeast Developmental Biology Conference, Woods Hole, MA, "TGF- $\beta$  signaling in Drosophila development", April 15-17, 1994  
Annual Drosophila Research Conference - Plenary speaker, "TGF- $\beta$  -type signaling in Drosophila development", Chicago, IL, April 20-24, 1994  
Brown University, Summer Research Early Identification Program, "Drosophila genetics", June 15, 1993  
Rhode Island College, Department of Biology, "The role of TGF- $\beta$  -like genes in Drosophila development", April 8, 1992

## RESEARCH GRANTS

### Current:

#### **Cali Center Development Grant**

Center for FOP Research and Related Disorders - University of Pennsylvania

Total project period: 02/01/2010

Total costs: \$48,793

Role in project: PI

Title of project: FOP in Drosophila: Playing (the) Sax and ACVR1 to decipher the tune

#### **National Institutes of Health – 2R56-GM068118-05**

Budget period: 07/01/2009 – 06/30/2010

Total direct costs: \$298,399

Role in project: PI

Title of project: Differential regulation of BMP signals in vivo

#### **ADVANCE Career Development Award**

Brown University ADVANCE Program

Total project period: 2/1/2008 – 07/31/2010  
Total costs: \$22,761  
Role in project: PI  
Title of project: ADVANCE Career development Award

**Completed grants:**

**Center for FOP Research and Related Disorders** - University of Pennsylvania

Total project period: 06/01/2007 – 10/31/2009

Total costs: \$99,840

Role in project: PI

Title of project: FOP in Drosophila: Playing (the) Sax and ACVR1 to decipher the tune

**National Institutes of Health - 1R01-GM068118-04**

Total project period: 02/01/05 – 01/31/10

Total direct costs: \$1,178,895

Role in project: PI

Title of project: Differential regulation of BMP signals in vivo

**Research Seed Funding Award**

Brown University, 2007-2008

Total costs: \$15,000

Role in project: PI

Title of project: A table-top display for visualization of volume rendered confocal data. (This project is to support an offshoot of an ongoing collaboration with the Center for Computing and Visualization (CCV) that was intended to develop a system for the Leduc Bioluminescence Imaging Facility. The system has been installed and will be available for general use.)

**Research Seed Funding Award**

Brown University

Total costs: \$55,000

Role in project: co-PI (no funds received)

Title of project: Evolutionary Response to Nanomaterial Exposure in the Environment: Functional Genomics of C60-Resistance in Drosophila

**Richard B. Salomon Faculty Research Award**

Brown University

Office of the Vice President for Research

Total project period: 02/01/04 – 07/01/05

Total direct costs: \$15,000

Role in project: PI

Title of project: Establishing assays to investigate BMP ligand type and receptor choice.

**NIH/NCRR - 1 P20 RR15578-01**

COBRE

Center for Genetics and Genomics (Sedivy, J.-PI)

Total project period: 09/30/00 – 08/31/05

Total direct costs for current year: \$1,590,251  
Role in subproject: Investigator (K. Wharton)  
Title of subproject: Mechanism of BMP signaling  
Total subproject period: 9/01/01 – 08/31/05  
Total costs for subproject: \$196,997

**American Cancer Society** - RPG DDC-98790  
Functional analysis of signaling by multiple TGF- $\beta$ /BMP ligands  
Total project period: 07/01/99 - 06/30/02  
Total costs: \$300,700 (direct), \$74,300 (indirect)

**National Science Foundation** - IBN-9604769  
Analysis of TGF- $\beta$ /BMP-mediated Signaling  
Total project period: 03/15/97 -08/31/99  
Total costs: \$129,018 (direct), \$74,161 (indirect)

**American Heart Association** - Established Investigatorship 94002580  
Functional Analysis of TGF- $\beta$  -mediated Cellular Signaling  
Total project period: 07/01/94 - 06/30/99  
Total costs: \$306,760 (direct)

**Salomon Faculty Research Award**  
TGF- $\beta$  -mediated signaling during oogenesis  
Total project period: 02/01/96 - 01/31/97  
Total costs: \$15,000 (direct)

**National Science Foundation** - IBN-9205808  
Cellular communication during Drosophila development  
Total project period: 09/01/92 - 08/31/96  
Total costs: \$181,508 (direct), \$100,492 (indirect)

**American Cancer Society** - DB-32  
TGF- $\beta$  cell signaling during development  
Total project period: 01/01/93 - 12/31/95  
Total costs: \$145,723 (direct), \$34,277 (indirect)

**NECUSE** –The New England Consortium for Undergraduate Science Education/  
The Pew Charitable Trusts  
Support for two Brown undergraduates to attend Annual Drosophila Conference  
Awarded: 12/13/93  
Total costs: \$1,690

**American Cancer Society** - Institutional Award  
Functional analysis of a TGF- $\beta$ -like gene during development  
Total project period: 08/01/91 - 06/30/93  
Total costs: \$9,000 (direct)



**Proposals submitted:**

**National Institutes of Health - 2R01 GM068118-05**

Submission date: 03/05/10

Proposed project dates: 12/01/2010 – 11/30/2015

Proposed total costs: \$1,982, 261

Role in project: PI

Title of project: Differential regulation of BMP signals in vivo

**Rothberg Institute of Childhood Diseases/Tuberous Sclerosis Alliance**

Rothberg Courage Award

Project start date: ND

Total costs: \$128,604

Role in project: PI

Title of project: Cell growth regulation: an exquisitely sensitive balancing act.

**SERVICE**

***i. Service to the University***

Graduate Council – 2009

Chair, MCB promotion and reappointment Guidelines Committee – 2008/2009

UTRA Faculty Review Committee - 2009

Chair, Faculty Affairs Committee – 2007-2008

User Group Committee Member for Leduc Bioimaging Facility, 2008- current

Chair, MCB Curriculum Committee – MCB Dept., 2006-2007

Chair, Faculty Affairs Committee – 2006-2007

Confocal Microscope Selection Committee, Member – Spring/Summer 2006

Supervisor, Drosophila Media Facility – 1999 - current

Organizer : Development Research in Progress (DRIP) meetings – 2005 – current  
Monthly meeting attended by 20-40 to discuss recent research in developmental biology.

Search Committee Member, MCB Dept. Developmental Biologist – 2005 – 2006

Chair, MCB Curriculum Committee – MCB Dept., 2004-2005

Steering Committee, T32 Molecular Cardiology Training Grant – Brown Univ. 2005  
co-Chair, MCB Graduate Program Admissions Committee – MCB Dept., 2004-2005  
Chair, Search Committee – MCB Dept., Developmental Biologist – 2003-2004  
Search Committee Member - MCB Dept., Developmental Biologist – 2002-2003 (ex officio)  
BioMed Division Strategic Planning Project – Work group member – 2001-2002  
Search Committee Member - MCB Dept., Molecular Geneticist – 2000-2001  
Search Committee Member - Dean of Faculty - 2000  
Search Committee Member - MCB Dept., Molecular Geneticist – 1999-2000  
MCB Graduate Program Curriculum Committee Member - 1999, 2000  
MCB Graduate Admissions Committee Co-Chair - 1996  
MCB Graduate Admissions Committee Member - 1993, 1994, 1995, 2000, 2001  
Mentor and Affinity Group Leader for WISE, Biology/Human Biology - 1993, 1998, 1999, 2000, 2001, 2002  
Lecturer and Lab Demonstration - NE Biology Teacher's Conference – 1993

***ii. Service to the profession***

Member: National Institutes of Health – Center for Scientific Review - DEV2 Study Section, Beginning October 2009  
Chair, Development I session of FASEB meeting: TGF- $\beta$  and Development, July 2009  
Temporary member: National Institutes of Health – Center for Scientific Review - DEV2 Study Section, June 7-8, 2007  
Organizer, The Notch Signaling Pathway: Molecules and Progeny (a symposium in honor of Spyros Artavanis-Tsakonas), Harvard Faculty Club, Cambridge, MA Oct. 28, 2006.  
Temporary member: National Institutes of Health – Center for Scientific Review SEP, ZRG1 BDA-A (02), March 22, 2006  
Panel member: Academy of Finland, Biosciences panel, Helsinki, Sept. 18 - 21, 2005  
Panel member: American Cancer Society – Peer Review Committee on Development, Differentiation and Cancer, Jan. 1, 2001 – Dec. 31, 2005

Session chair: Swiss Drosophila Meeting, University of Geneva, Switzerland, March 29, 2003

Visitor at Bay Paul Center, Marine Biological Laboratories, Woods Hole, MA, August, 2001, 2002

Program project reviewer: National Institutes of Health - "Regulation of Developmental Signaling" University of California, Irvine, Dr. Arthur Lander. Site visit: Nov. 3-4, 1999.

Ad hoc reviewer: National Science Foundation - Developmental Biology Program (1992, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006)  
Neurosciences Program (1995)  
Division of International Programs (1994)  
American Cancer Society – Genetic Mechanisms of Cancer (2000)

Meeting organizer: 1993 Northeast Regional Developmental Biology Conference, MBL, Woods Hole

Session chair: 1998 Annual Drosophila Conference, Washington, D.C.  
Session on Imaginal Disc Patterning

Session co-chair: 2000 Northeast Regional Developmental Biology Conference, Woods Hole Session on Late Embryonic Development/Morphogenesis

Moderator: 2001 Genetic Influences on Human Behavior and Development Conference, Brown University, April 5-7

Reviewer: *Cell*, *Developmental Cell*, *Development*, *Developmental Biology*, *Genetics*, *Mechanisms of Development*, *Molecular and Cellular Biology*, *Science Signaling*

Memberships: Genetics Society of America, Sigma Xi, Society of Developmental Biology

## **8. ACADEMIC HONORS, FELLOWSHIPS, SOCIETIES**

2005	Elizabeth Leduc Award for Excellence in Teaching in the Life Sciences Brown University
2003	Manning Assistant Professor, Brown University
1994-99	Established Investigatorship, American Heart Association Brown University
1988-91	NIH NRSA postdoctoral fellowship, Harvard University

1987	EMBO Short Term Fellowship, IMBB, Crete, Greece
1986-87	Sessil B. Anonymous Fellowship, Yale University
1982-86	NIH NRSA training grant in Genetics, Yale University

## 9. TEACHING

### *Regular courses*

**Bio 32** (Vertebrate Embryology): 2002, 1999, 1998  
Students enrolled: 36-42.

**BIOL0500** (Cell and Molecular Biology): Spring 2008  
Students enrolled: 225

**BIOL1310/2310** (Analysis of Development): Spring 2009  
Lecture and laboratory  
Students enrolled: 14.

**Bio 131/231** (Analysis of Development): Guest lecturer: 1991-1994  
Fall 1996-2001, 2003-2005  
Spring 2007-2008  
Lecture and laboratory  
Students enrolled: 17-38

**Bio 195 &196:** Independent Study and Undergraduate Honors Theses (1 in 1992, 2 in 1993, 4 in 1994, 3 in 1995, 2 in 1998, 3 in 1999, 1 in 2000, 1 in 2001, 2 in 2002, 2 in 2003, 2 in 2005, 2 in 2006, 1 in 2007, 2 in 2008, 2 in 2009)

**BIOL2320** (Genetics of Cell Fate Specification): Fall 2008, 2009  
Seminar course for undergraduate and graduate students.  
Students enrolled: 10

**Bio 232** (Genetics of Cellular Signaling): 2000  
Students enrolled: 7

**Bio 232** (Cell Interactions and Morphogen Modulations): 2001  
Students enrolled: 3

**Bio 232** (Signal transduction and points of regulation): Spring 2006  
Students enrolled: 9

**Bio 233** (Molecular Basis of Cell-cell Recognition): Fall 2006  
Students enrolled: 10

## ***Advising and mentoring***

### ***Faculty Mentoring***

Faculty mentor for MCB junior faculty member: Mark Johnson 2004-current

Faculty Teaching mentor for MCB junior faculty member: Mark Zervas 2009-current

### ***Independent Study***

#### *Undergraduate students:*

1992-93 Rachel Mitchell, Melissa Ralph, Duncan Brown, Miriam Laufer

1993-94 Jane Kaufman, Rami Najjar

1994-95 Nicholas Priest, Aarti Sekhar

1995-96 Rachel Fox, Aarti Sekhar

1999-00 Pari Shah, Erin Smith

2000-01 Mitch Psozka

2003-04 Chelsea Loughan

2006-07 Cain McClary

2006-07 Gus Crothers

2007-2008 Jana Jarolimova (won Biology Prize 2008)

2008-2009 Tanya Khan, Bhuvic Patel

2009-2010 Bhuvic Patel, Trevor Tivey

#### *Graduate students:*

1996 (summer) - 1997 - Sabrina Santiago

1997 (summer) – Althea Fischer, Natalie Courant

1999 (spring) - Wen Xie

2000 (spring) - Pooja Agarwal

2000 (summer) - Umut Sahin

2001 (spring) - Filippo Maria Cernilogar, University of Bologna, Italy  
Brown/University of Bologna Exchange Program

2005 (fall) – Susanne DiSalvo

2006 (spring) – Maryanna Aldrich

2007 (fall) – Viet Le

### **Honor Theses**

Kathy de Castro (1994) “Molecular mapping and mutagenesis in the region of the *60A* gene: A TGF- $\beta$ -like gene in *Drosophila melanogaster*”

Emily Borod (1996) “Analysis of the TGF- $\beta$ -related *60A* gene during oogenesis and embryonic gut morphogenesis in *Drosophila melanogaster*”

Karina Bozzuto (1996) “The role of *M* during oogenesis and embryogenesis in *Drosophila melanogaster*”

Deborah Phillips (1996) “A functional analysis of TGF- $\beta$  signaling in *Drosophila* development”

Rhoda Wynn (1996) “Molecular genetic analysis of *peter pan* (*ptr*), a potential TGF-beta signaling pathway component”

Keith Blechman (1999) “Altering the levels of expression of a *Drosophila* BMP-related gene at various times during development”

Kate Madden (1999) “Isolation and genetic characterization of new alleles of the BMP-related gene *glass bottom boat*”

Sarah Burke (2000) “BMP signaling during midgut morphogenesis in *Drosophila* embryos”

Sarah Bowman (2002) “Role of *gbb* in growth”

Melissa Duan (2003) “The role of *gbb* in the *Drosophila* “Stem Cell Niche”

Nzovu Ulenga (2003) “Exploring the role of dSmad2 in TGF- $\beta$  signaling in *Drosophila* by screening for dSmad2 null mutations”

Jamie Weaver (2006) “The spatial role of *gbb* in *Drosophila* ovarian somatic tissue as visualized using virtual reality.”

Juliane Kellner (2006) “BMP-mediated modulation of *dpp* transcription in the *Drosophila* wing imaginal disc.”

Jana Jarolimova (2008) “Fatty acid metabolism and the roles of BMP and TOR signaling in the *Drosophila melanogaster* fat body.”

### **Master's Theses**

Jung-Won Yoon (1995-97; MS 1997)

### **Ph.D. Theses**

Ongkar Khalsa (1995-2000; Ph.D. 2000) “Participation of the *Drosophila* TGF- $\beta$ /BMP gene, *glass bottom boat-60A*, in development.”

Caroline Savery (1998 – 2004; Ph.D. 2004) “Distribution and regulation of signaling by bone morphogenetic proteins (BMPs) during *Drosophila* gut development.”

Erdem Bangi (1999 – 2005; Ph.D. 2005) “Genetic analysis of BMP activity gradient formation in the *Drosophila* wing imaginal disc.” Won the Barry Jay Rosen Memorial Award for a PhD thesis of exceptional merit.

Lorena Soares (1999 – 2006; Ph.D. 2006) “Role of BMP signaling in notum patterning and transcriptional regulation of *dpp*.”

Shannon Ballard (2001-2007; Ph.D. 2008) “Regulation of *Drosophila* larval growth and metabolism by BMP signaling.”

### **Academic advising**

Sophomore advisor – 1998

Biology ScB Advisor –1997- 2000 (8 students/yr), 2001-2006 (14 students/yr), 2007-current (10 students/yr)

Thesis Committees for MCB Graduate Program - 5 students currently, 21 students total

### **Postdoctoral fellows**

Robert Ray (1998-2002)

Rochele Yamamoto (2002)

Cornelia Bentley (2001)

Takuya Akiyama (2007-current)