

Curriculum Vitae

William F. Hanna, Ph.D.



INFORMATION

Work Address

Biology Department
Massasoit Community College
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Brockton, MA 02302
(508) 588-9100 (extension 1626)

Online

<i>E-mail</i>	massasoit.bio@mac.com
<i>Homepage</i>	http://massasoit-bio.net
<i>Twitter</i>	@massasoitbio
<i>Skype</i>	massasoit.bio

EDUCATION

Ph.D., Biochemistry and Molecular Biology (July 2002)

Department of Biochemistry and Molecular Biology
Bloomberg School of Public Health
Johns Hopkins University
Baltimore, MD 21205

Thesis topic: The role of Lewis X-terminating oligosaccharides in murine sperm-zona pellucida binding and induction of the sperm acrosome reaction.

B.A., Biology (May 1995)

Colby College
Waterville, ME 04901

WORK EXPERIENCE

Biology Department, Massasoit Community College

2004 – 2008	Instructor
2008 – 2010	Assistant Professor
2010 – present	Associate Professor

► *Courses Taught:*

Biological Principles I ¹	4 cr	BIOL121	last: Fall 2009
Biological Principles II ¹	4 cr	BIOL122	current
Human Genetics ¹	3 cr	BIOL136	current
Human Genetics Laboratory ¹	1 cr	BIOL137	current
Anatomy & Physiology I ^{1,2}	4 cr	BIOL201	current
Anatomy & Physiology II ¹	4 cr	BIOL202	current

¹ Traditional, face-to-face format. ² Hybrid (blend of online and traditional learning).

Faculty and Instruction, Massasoit Community College

2009 – present Administrator on Duty for Sunday courses

RESEARCH EXPERIENCE

- Summer 2007 Faculty research advisor (Principal Investigator: Craig Almeida, Ph.D.)
Biology Department
Stonehill College
- 2002 – 2003 Postdoctoral fellow (Principal Investigator: Victor R. Ambros, Ph.D.)
Department of Genetics
Dartmouth Medical School
- 1995 – 2002 Predoctoral fellow (Principal Investigator: William W. Wright, Ph.D.)
Division of Reproductive Biology
Department of Biochemistry and Molecular Biology
Bloomberg School of Public Health
Johns Hopkins University
- 1994 – 1995 Research assistant (Principal Investigator: Arthur K. Champlin, Ph.D.)
Department of Biology
Colby College
(in conjunction with the Jackson Laboratory)

ADDITIONAL TEACHING EXPERIENCE

► *Johns Hopkins University, Krieger School of Arts and Sciences*

Teaching assistant, Reproductive Physiology. Course for advanced undergraduate biology majors. Fall 1997.

Guest lecturer, Reproductive Physiology. Gave lectures on mammalian fertilization. Fall 1997, 1999 and 2000.

- ▶ *Johns Hopkins University, Bloomberg School of Public Health*
Teaching assistant, Introductory Reproductive Biology. Required course for graduate students enrolled in the Department of Population Dynamics. Fall 1997.
- ▶ *Colby College*
Laboratory teaching assistant in Introductory Biology 1 & 2 (Fall 1992 – Spring 1994), Bacteriology and Immunology (Fall 1994), Electron Microscopy (January 1995) and Genetics (Spring 1995).
- ▶ *Advanced Studies Program, Project Contemporary Competitiveness Bridgewater State College (Bridgewater, MA)*
Teaching assistant in a Human Physiology course for advanced high school students. Summers 1992-1994.

ADMINISTRATIVE EXPERIENCE

- ▶ *CONNECT Collaborative Leadership Development Program (CLDP)*
Attended monthly professional development workshops at participating CONNECT colleges. October 2009 – present.
- ▶ *Student Judicial Board*
Served as chairperson in hearings involving issues of student conduct. March 2010 – present.

PUBLICATIONS, ABSTRACTS, and PRESENTATIONS

- ▶ *Publications*

W.F. Hanna, C. Kerr, J. Shaper and W. Wright (2004). Lewis X-containing neoglycoproteins mimic the intrinsic ability of zona pellucida glycoprotein ZP3 to induce the acrosome reaction in capacitated mouse sperm. *Biol Reprod* 71: 778-89.

C. Kerr, W.F. Hanna, J. Shaper and W. Wright (2004). Lewis X-containing glycans are specific and potent competitive inhibitors of the binding of ZP3 to complementary sites on capacitated, acrosome-intact mouse sperm. *Biol Reprod* 71: 770-7.

C.L. Kerr, W.F. Hanna, J.H. Shaper and W.W. Wright (2002). Characterization of zona pellucida glycoprotein 3 (ZP3) and ZP2 binding sites on acrosome-intact mouse sperm. *Biol Reprod* 66(6): 1585-95.

► *Abstracts*

W.F. Hanna and V.R. Ambros. Identification of genes involved in the early heterochronic genetic circuit via RNAi-by-feeding. 14th Biennial International *C. elegans* Conference. University of California – Los Angeles. June 2003.

W.F. Hanna, C.L. Kerr, J.H. Shaper and W.W. Wright. Neoglycoproteins containing Lewis X glycans mimic ZP3 by inducing the mouse sperm acrosome reaction in a physiologically-relevant manner. Fertilization and Activation of Development Gordon Research Conference. The Holderness School, Plymouth, NH. July 2001.

C.L. Kerr, W.F. Hanna, J.H. Shaper and W.W. Wright. Fluorescently-labeled murine ZP3 and ZP2 glycoproteins bind to distinct sites on sperm in a calcium-, capacitation-, and maturation-dependent manner. 34th Annual Meeting of the Society for the Study of Reproduction. University of Ottawa, Ottawa, Ontario. July 2001.

C.L. Kerr, W.F. Hanna, J.H. Shaper and W.W. Wright. Lewis X-containing neoglycoproteins bind to zona pellucida receptors on murine sperm. 33rd Annual Meeting of the Society for the Study of Reproduction. University of Wisconsin, Madison, WI. July 2000.

W.F. Hanna, C.L. Kerr, J.S. Folmer, J.H. Shaper and W.W. Wright. The oligosaccharide Lewis X plays a functional role in mouse sperm-zona pellucida binding and induction of the sperm acrosome reaction. Northeast Regional Meeting of the Society for Developmental Biology. Marine Biological Laboratory, Woods Hole, MA. March 2000.

W.F. Hanna, C.L. Kerr, J.S. Folmer, J.H. Shaper and W.W. Wright. The carbohydrate structure Lewis X plays a functional role in mouse sperm-zona pellucida binding and induction of the sperm acrosome reaction. Fertilization and Activation of Development Gordon Research Conference. The Holderness School, Plymouth, NH. July 1999.

► *Presentations*

2010 “Teaching a Hybrid Course: Beyond the LMS.” Teaching with Technology: A Celebration of Best Practices. Massasoit Community College, Brockton, MA.

2009 “Transferability and the Two-Year College Student” (co-presenter with Dr. Linda Kollett and Professor Marc Simmons). 3rd Annual Conversations About Teaching Biology, New England Biology Association of Two-Year Colleges (NEBATYC). Springfield Technical Community College, Springfield, MA.

2007 “Helpful Hints for Teaching Histology.” 1st Annual Conversations About Teaching Biology, New England Biology Association of Two-Year Colleges (NEBATYC). Quinsigamond Community College, Worcester, MA.

- 2006 “Using Molecular Modeling to Demonstrate Diversity in Protein Structure and Function” (co-presenter with Professor Frances McCutcheon and Dr. Kendra Twomey). DNA and Health Conference (NIH SEPA II). Bridgewater State College, Bridgewater, MA.
- “Stem Cells” (co-presenter with Professor Frances McCutcheon. Massachusetts Educational Opportunity Program (MEOP). Massasoit Community College, Brockton, MA.
- 2001 “Lewis X glycans stimulate mouse sperm to undergo the acrosome reaction in a carbohydrate structure-dependent manner.” Fertilization and Activation of Development Gordon Research Conference. The Holderness School, Holderness, NH.
- “Lewis X-containing neoglycoproteins induce the mouse sperm acrosome reaction in a glycan-specific and physiological manner.” 14th Annual Mid-Atlantic Reproductive Biology Conference. University of Virginia.
- 2000 “The role of Lewis X-terminating glycans in the mouse sperm acrosome reaction.” 3rd Annual Maryland Reproductive Biology Retreat. Benjamin Banneker Historical Park and Museum, Oella, MD.
- 1999 “Fucose residues in the context of Lewis X structures are present on mouse ZP3 and when clustered on a polypeptide induce the acrosome reaction.” 12th Annual Mid-Atlantic Reproductive Biology Conference. Johns Hopkins University.
- “The role of carbohydrates in mammalian fertilization.” The Johns Hopkins University Glycobiology Interest Group. School of Medicine, Johns Hopkins University.
- 1998 “Fucose residues are present on the mouse zona pellucida and participate in the acrosome reaction.” 1st Annual Maryland Reproductive Biology Retreat. University of Maryland Donaldson-Brown Conference Center, Port Deposit, MD.

ADDITIONAL REGIONAL & NATIONAL MEETINGS ATTENDED

- 2010 Mastering Leadership Conference (hosted by Pearson Education)
The Ritz-Carlton, Dove Mountain
Marana, AZ

- 2009 Strategies for Success Workshop (hosted by Pearson Education)
Quinsigamond Community College
Worcester, MA
Massachusetts Colleges Online (MCO) Annual Best Practices Meeting
Framingham State College
Framingham, MA
- Massachusetts Board of Higher Education Student Transfer Symposium
Boston Museum of Science
Boston, MA
- 2008 Annual Conversations About Teaching Biology, New England Biology Association
of Two-Year Colleges (NEBATYC)
Middlesex Community College
Bedford, MA
- Biology Leadership Conference V (hosted by Pearson Education)
Wild Dunes Resort
Isle of Palms, SC
- 2007 Strategies for Success (hosted by Pearson Education).
Massachusetts Bay Community College
Wellesley Hills, MA
- 2006 Biology Leadership Conference III (hosted by Pearson Education)
Fairmont Southampton
Southampton, Bermuda
- Massachusetts Association of Biology Teachers Conference
Clark University
Worcester, MA
- 20th Annual Meeting of the Human Anatomy and Physiology Society (HAPS)
Marriott at the Capitol and the University of Texas at Austin
Austin, TX
- 2004 Massachusetts Association of Biology Teachers Two-Year College Conference
Mount Wachusett Community College
Gardner, MA
- 2000 166th National Meeting of the American Association for the Advancement of
Science.
Washington, DC
- 1998 27th Annual Meeting of the Society for Glycobiology
Baltimore, MD

TEXTBOOK REVIEWS

Mader, Sylvia S. *Essentials of Biology* (1e). McGraw-Hill.
Brooker, Robert J., *et al.* *Biology* (2e). McGraw-Hill.
Campbell, Neil and Jane Reece. *Biology* (8e and 9e). Pearson Education.
Heitz, Jean. *Practicing Biology: A Workbook* (2e). Pearson Education.
Taylor, Martha. *Biology: A Student Study Guide* (7e). Pearson Education.

AWARDS

2008 Excellence Award
National Institute of Staff and Organization Development (NISOD)

COLLEGE SERVICE

▶ Appeals Committee	Member	1/2004 – 10/2005
▶ Massachusetts Community College Council	Delegate	5/2004 – 5/2009
▶ Biological Principles Lab Manual	Editor	6/2004 – 9/2008
▶ NEASC Accreditation 2006 Self-Study; Physical and Technological Resources	Chair	9/2004 – 9/2006
▶ Appeals Committee	Chair	10/2005 – 5/2007
▶ Honors Program Committee	Member	10/2005 – present
▶ Biology CONNECT Group	Member	12/2006 – present
▶ Strategic Planning, Academic Programs	Co-Manager	4/2007 – present
▶ Massasoit Professional Association	Grievance Coordinator	5/2008 – 5/2009
▶ Technology Committee	Member	9/2008 – 5/2010
▶ Advising Task Force	Member	9/2008 – present

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| ▶ New England Biology Association for Two-Year Colleges (NEBATYC) | Webmaster | 3/2009 – present |
| ▶ Management-Association Committee on Employee Relations (MACER) | Member | 9/2009 – 5/2010 |
| ▶ Curriculum Committee | Member | 9/2010 – present |