

CHRISTINA WILSON BOWERS, PHD

ACADEMIC POSITIONS

Secondary Science Teacher & Science Department Chair, Meridian World School, Round Rock, TX, August 2014-present.

Assistant Professor (Adjunct), Biology Department, Southwestern University, August 2013-2014, 2017.

Visiting Research Fellow, Molecular Biology Department, Princeton University, 1999-2002.

Teaching Assistant, Microbiology Department, University of Texas Medical School, Houston, 1993-1996.

Teaching Assistant, Biology Department, College of William and Mary, 1991-1993.

EDUCATION

iTEACH Texas, standard teaching certificate, 2015.

University of Texas Graduate School of Biomedical Sciences, Doctor of Philosophy in Molecular Genetics, 1999.

College of William And Mary, Master of Arts in Biology, 1993.

Bard College, Bachelor of Arts in Anthropology, 1991.

CONTINUING EDUCATION AND PROFESSIONAL CERTIFICATIONS

Certified life science 7-12 (2015-2020).

International Baccalaureate Program

- Level 1 Middle Years Science (2014)
- Level 2 Diploma Biology (2015, 2016)

Archive Vision and Change Scholars Program, American Physiological Association (2014).

Evo101: bringing evolutionary biology to your classroom, University of Texas, Austin (2016).

Modeling the Molecular World, Milwaukee School of Engineering (2016).

TEACHING EXPERIENCE

Secondary Science Teacher, Meridian World School, Public Charter School, International Baccalaureate Program, Round Rock, TX

- 9th grade Biology (IB Middle Years Program)
- 9th grade Approaches to learning (IB study skills, Middle Years Program)
- 11th and 12th grade Biology (IB Diploma Program)

Assistant Professor (adjunct), Southwestern University, Georgetown, TX

- Cell Biology BIO50-102 (Fall 2013)
- Microbial Pathogenesis BIO50-304 (Spring 2014)
- Introductory biology laboratory BIO 50-100 (Fall 2017).

Community Outreach-Meridian World School

- Science Saturday (DNA World 2013, 2014, 2015, Neuroscience 2016)
- Bioblitz (2015)

Moderator, Bioethics Forum of Princeton University (2001)

Lecturer, Princeton University

- Social Implications of Biotechnology (Spring 2000)

High School Summer Research Mentor, University of Texas Medical School, Houston (1997-99)

Teaching Assistant, University of Texas Medical School-Houston

- Medical Microbiology Laboratory (1995-1997)
- Microbial Mechanisms of Sensing and Signal Transduction (1998)

Teaching Assistant, College of William and Mary, Williamsburg, VA.

- General Biology Laboratory (science majors) (Fall 1991, 1992)
- General Biology Laboratory (non-science majors) (Summer 1992)
- Botany Laboratory (Spring 1992, 1993)

Staff Ecologist, Maria Mitchell Science Center, Nantucket, MA. (Summer 1990)

- Nature class instructor (ages 5-8 & 9-12)

HIGH SCHOOL CLUB ACTIVITIES.

Co-sponsor: Class of 2018.

Sponsor: Science club. 2014-2018.

Mentor: MAPS Team (Modeling a Protein Story). 2017.

Facilitator: Genes in Space. 2017, 2018.

Presenter: Meridian Science Saturday Outreach. 2013, 2014, 2015, 2016.

Sponsor: NAIS 20 X 20 Global Problem-Solving Challenge: Infectious diseases. 2014-2015.

RESEARCH EXPERIENCE

Post-Doctoral: *Analysis of protein trafficking in Escherichia coli*; advisor: Thomas J. Silhavy (Genetics)

Doctoral: *Analysis of the kinetics and mechanism of transcription initiation by the sigma subunit of Escherichia coli RNA polymerase*; advisor: Alicia J. Dombroski (Molecular Microbiology)

Master's: *Phylogenetic analysis of Coralline Red Algae using tetrasporangial ultrastructure*; advisor: Joseph L. Scott (Cell Biology, Evolutionary Biology)

Undergraduate Senior Project: *Comparative analysis of the work of German ethnologist Wilhelm Emil Muhlmann before during and after the National Socialist period*. Advisor: Mario J. Bick (Historical Anthropology)

ACADEMIC SERVICE

International Baccalaureate Program, Curriculum Review Committee, Hague, Netherlands, 2016-present.

Peer reviewer, Journal of Bacteriology, Journal of Molecular Biology and Microbiology and Molecular Genetics, 1999-2000.

Grant reviewer, Graduate School of Biomedical Sciences, Houston, 1998-1999.

Representative to the Academic Affairs Committee, Graduate School of Biomedical Sciences, 1997-1998.

INVITATIONS TO SPEAK AT OTHER INSTITUTIONS

Protein Secretion in gram negative Bacteria. University of Texas-Austin, Molecular Biology Club. 2015.

SRPtitious signals and substrate secretion: directing protein traffic in *E.coli*. 2003. Oberlin College, Oberlin, OH.

Strictly sigma: the choreography of transcription initiation. 2000. Department of Biology, College of William and Mary, Williamsburg, Virginia.

Translational control of secreted proteins in *E.coli*: Characterization of a novel regulatory pathway. 2000. Molecular Biology Institute, Copenhagen University, Copenhagen, Denmark.

Peer Reviewed Publications

Wilson Bowers, C., Lau, F. and T.J. Silhavy. 2003. Secretion of LamB-LacZ by the Signal Recognition Particle Pathway of *Escherichia coli*. *J. Bacteriol.* 185(19): 5697-705.

Vuthoori, S., **Wilson Bowers, C.,** Dombroski, A.J. and D.M. Hinton. 2001. Domain 1.1 of the σ^{70} subunit of *Escherichia coli* RNA Polymerase Modulates the Formation of Stable Polymerase/Promoter Complexes. *J. Mol. Biol.* 309:561-572.

Wilson Bowers, C, McCracken, A., and A.J. Dombroski. 2000. Effects of Amino Acid Substitutions at Conserved and Acidic Residues within Region 1.1 of *Escherichia coli* σ^{70} . *J.Bacteriol.* 182(1):221-224.

Wilson Bowers, C. and A.J. Dombroski. 1999. A Mutation in Region 1.1 of σ^{70} affects Promoter DNA Binding by *E.coli* RNA Polymerase Holoenzyme. *EMBO J.* 18:709-716.

Wilson, C. and A.J. Dombroski. 1997. Region 1 of σ^{70} is Required for Efficient Isomerization and Initiation of Transcription by *Escherichia coli* RNA Polymerase. *J. Mol. Biol.* 267:60-74.

Wilson, C. Scott, J.L., and Broadwater, S. 1993. Ultrastructure and Cytochemistry of Tetrasporogenesis in Coralline Red Algae. *J. Phycol.* 29:24.

HONORS AND AWARDS

Teacher of the Year, Meridian World School, Round Rock, TX, 2017.

Tuition Scholarship, Modeling the Molecular World, Milwaukee School of Engineering, 2016.

Archive Vision and Change Scholars Program, American Physiological Association, 2014.

Department of Energy Biosciences Fellow, Life Sciences Research Foundation 2000-2003.

Presidential Fellowship, University of Texas-Houston, Health Science Center 1997.

Association for Women in Science Scholarship, Texas Gulf Coast Chapter 1997.

Student Travel Award, American Society for Microbiology 1997.

Hoshaw Travel Award, Phycological Society of America 1993.

William J. Lockwood Prize, Bard College 1991.

Helena Rubinstein Scholar for the Sciences, Bard College 1990-1991.

Heinz and Elizabeth Bertelsmann Scholarship, Bard College, 1990.

Vogt Memorial Prize in Ecology, Bard College 1990.

Heinrich Bluecher Scholar Award, Bard College, 1990.

Excellence and Equal Cost Scholarship, Bard College 1987-1991.

REFERENCES AVAILABLE ON REQUEST.