

Mousumi Goswami, M.S.

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Education:

- M. S. (08/1997 - 05/2000), Biology and Biochemistry, University of Houston, GPA 3.32/4.00
Thesis: Regulation of MAP Kinase activity by BMP-4 Signaling pathway in *Xenopus* Embryos.
Courses: Advanced Cell Biology, Molecular Genetics, Cellular and Molecular Neuroscience, Cell Signaling, Cell Biology Seminars.
- M. S. (08/1996 - 05/1997), Cell and Molecular Biology, University of Texas, Dallas, GPA 3.40/4.00
Courses: Topics in Biochemistry I, Topics in Biochemistry II, Macro-molecular Physical Chemistry.
Note: Program discontinued because of family relocation to Houston.
- M. Phil. (12/1992 - 03/1994), Department of Zoology, University of Burdwan, West Bengal, India.
Performance: Grade A, First Class
Dissertation: Studies on morphology and affinities of two avian nematodes.
- B. Ed. (06/1992 - 12/1992), Katwa College, University of Burdwan, West Bengal, India.
Taught High School students as part of the program. Degree discontinued after getting admitted to M. Phil.
- M. Sc. (03/1990 - 04/1992), Department of Zoology, University of Burdwan, West Bengal, India.
Performance: First Class
- B. Sc. (08/1986 - 11/1989), Department of Zoology, Katwa College, University of Burdwan, West Bengal, India.
Performance: Honors, Second Class

Scholarship:

National Scholarship 1984 for securing 78th rank among more than 500,000 students at the State Level High School Examination.

Employment:

- Adjunct Faculty: (08/2009 – present), Dept. of Life Sciences, Houston Community College.
Courses: General Biology I and II, Introduction to Biology, Microbiology, Anatomy and Physiology Lab II
- Adjunct Faculty: (08/2007 – 12/2007), Division of Life Sciences, Wharton County Junior College
Courses: Anatomy and Physiology I
- Senior Research Assistant: (06/2003 – 07/2005), Department of Microbiology and Molecular Genetics, University of Texas Medical Center, Houston.
- Research Assistant II: (07/2000 – 06/2003), Department of Microbiology and Molecular Genetics, University of Texas Medical Center, Houston.

- Research Assistant/Teaching Assistant/Laboratory Coordinator: (09/1997- 05/2000), University of Houston.

Teaching Experience:

- Taught different Biology Courses for college credits in several HCC campuses.

List of courses taught until Fall 2021:

- General Biology I (BIOL 1406) 14 classes
 - General Biology I Lecture (BIOL 1306) 7 classes
 - General Biology I Lab (BIOL1106) 8 classes
 - Introduction to Biology (BIOL1308) 19 classes
 - Introduction to Biology Lab (BIOL1108) 15 classes
 - General Biology II (BIOL1407) 1 class
 - Microbiology Lecture (BIOL 2320) 5 classes
 - Microbiology Lab (BIOL 2120) 2 classes
 - Anatomy and Physiology II Lab (BIOL2102) 1 class
- Taught Biology Course at Wharton County Junior College (2007)
 - Anatomy and Physiology I (BIOL 2401)
 - Taught Labs to college students as a part of Teaching Assistance during graduate studies at the University of Houston (1997-2000)
 - General Biology I (BIOL 1431) lab 2 times
 - General Biology II (BIOL1432) Lab 3 times
 - Cell Biology Lab (BIOL4172) 1 time
 - Taught biology and mathematics to high school students in India for several weeks as a part of the B. Ed. Program (1992)

❖ ***Nominated for Academic Teaching Excellence Award at Houston Community College System (Spring 2017)***

Training and Development:

Completed training courses from the Center for Teaching and Learning Excellence at HCC:

- HCC online Learning Certificate Training July 2020
- Flex Campus training Nov 2020
- Adjunct Academy Training 2019 -2020
- Eagle Online for Canvas Training Dec 2018
- Learner-Centered Instructional Feb 2013
- Improving Student Learning Feb 2013
- Eagle Online Faculty Training Jan 2013
- Classroom Strategies Apr 2011
- Implementing Learner-Centered Apr 2011
- Creating Rubrics from Assessment Mar 2011
- Writing Learning Outcomes Feb 2011
- Creating Effective Assessments Nov 2010
- Blackboard Vista Online Jan 2010

- ❖ **Participated in the module training from Quality Enhancement Plan and implemented in General Biology 1406 teaching.**
- ❖ **Participated in the Fall 2019 Adjunct Rigor Institute on November 22, 2019.**
- ❖ **Participated in 2021 Rigor Summit on February 26, 2021.**
- ❖ **Participated in Summer Adjunct Rigor Workshop on June 25, 2021.**
- ❖ **Participated in Dual Credit Rigor Workshop on August 3, 2021.**

Research Experience:

- Five years of research at the University of Texas Medical Center, Houston:
 - Sub-cloning and knocking-out genes in *Dictyostelium discoideum*.
 - Looking for developmental abnormalities, β -galactosidase assay
 - Fluorescent microscope study
 - Northern blot
 - Western Blot
 - Isolation of protein
 - Binding assays (in Ammonium Sulphate and Phosphate Buffer)
 - RNA isolation and RT-PCR
 - Calcium influx
- Three years of research at the University of Houston:
 - Molecular Biology: plasmid preparation, *in vitro* transcription, RNA isolation, Reverse Transcriptase Polymerase Chain Reaction (RT-PCR), *in situ* hybridization.
 - Protein Biochemistry: Western blot, SDS-PAGE, Protein isolation and MAP Kinase assays.
 - Cell Culture and Sterile Techniques: Taught senior level Cell Biology laboratory as teaching assistant to culture and maintain human fibroblast and lymphocyte cell lines. Also learnt about sterile techniques and making sterile culture media during laboratory rotation project.
 - Microinjection and Microsurgery: Two years of experience in microinjection and microsurgery of *Xenopus* embryos. Also experienced microsurgery of retina from *Xenopus* eye during laboratory rotation project.
 - Handling of animals: Experienced in handling *Xenopus*.
- Four years of research at the University of Burdwan
 - Extensively used scanning electron microscope.
 - Light, phase contrast, scanning electron microscope.
 - Histological sectioning of animal tissues and chick embryos by microtome.
 - Making double (eosine/haematoxylin) and triple (Mallory) stained permanent slides.
 - Dissections and microsurgery.

Publications:

Journals:

- [1] **M. Goswami**, A. R. Uzgare, and A. K. Sater, "Regulation of MAP Kinase by BMP-4/TAK1 pathway in *Xenopus* ectoderm," *Developmental Biology* (2001)236;259-270.

- [2] A. K. Sater, H. M. El-Hodiri, **M. Goswami**, T. B. Alexander, O. Al-Sheikh, Etkin L.D., and J. A. Uzman, "Evidence for antagonism of BMP-4 signal by MAP Kinase during *Xenopus* axis determination and neural specification," *Differentiation* (2003)71;434-444.
- [3] M. Zhang, **M. Goswami**, and D. Hereld, "Constitutively Active G Protein-coupled Receptor Mutants Block *Dictyostelium* Development", *Molecular biology of the cell* (2005)16;562-572.
- [4] M. Zhang, **M. Goswami**, S. Sawai, E. C. Cox and D. Hereld, "Regulation of G protein-coupled cAMP receptor activation by a hydrophobic residue in transmembrane helix 3", *Molecular microbiology* (2007)65(2);508-20.
- [5] C. Liu, **M. Goswami**, J. Talley, P. L. Chesser-Martinez, C. H. Lou, and A. K. Sater, "ETAK1 promotes BMP4/Smad1 signaling via inhibition of erk MAPK: A new link in the FGF/BMP regulatory network," *Differentiation* (2012)83;210-219.

Conferences:

- [1] A. K. Sater, A. R. Uzgare, H. M. El-Hodiri, **M. Goswami** and J. A. Uzman, "Antagonistic interactions between MAP Kinase and BMP-4 pathways during *Xenopus* neural specification," *58th Annual meeting of Developmental Biology*, Virginia, 1999.
- [2] A. K. Sater, A. R. Uzgare, H. M. El-Hodiri, **M. Goswami** and J. A. Uzman, "Interaction between MAP Kinase and BMP-4 signaling pathways in *Xenopus* neural specification," *Southwest Regional Developmental Biology Meeting*, Austin, 1999.
- [3] **M. Goswami**, A. R. Uzgare and A. K. Sater, "Inhibition of MAP Kinase by BMP-4 signaling via its effector TAK1 (TGF- β activated kinase) in *Xenopus* embryos," *Southwest Regional Developmental Biology Meeting*, Houston, 2000.
- [4] **M. Goswami**, T. B. Alexander and A. K. Sater, "Potential interaction of the BMP-4 and MAP Kinase signaling pathways through Smad1 in *Xenopus* neural development," *Southwest Regional Developmental Biology Meeting*, Houston, 2000.
- [5] **M. Goswami**, M. Zhang, and D. Herald, "Identification of a novel family of RGS domain-containing proteins in *Dictyostelium*", *International Dictyostelium Conference*, La Jolla, California, 2001 July 22-26.
- [6] J. M. Rall, M. Zhang, **M. Goswami** and D. Hereld, "Strategies for identifying adaptation mechanisms in eukaryotic chemotaxis", *Lost Pine Conferences*, UTMB Anderson Cancer Center, Science Park, Smithville Texas, 2003. Oct 24-26.
- [7] M. Zhang, **M. Goswami** and D. Hereld, "Activation of a G protein-coupled cAMP receptor is regulated by a hydrophobic patch at the cytoplasmic end of the receptor's third transmembrane helix," *Sensory Transduction in Microorganisms*, Gordon Research Conference Ventura, CA, January 11-16, 2004.
- [8] **M. Goswami**, M. Zhang, and D. Hereld, "Dominant-negative cAR1 mutants impair pulse-induced gene expression and cause constitutive adaptation of the cAR1-ERK2 pathway," *International Dictyostelium Conference*, Sainte-Adele, Quebec, Canada, 2004 August 15-20.

Other Presentations:

- [1] **M. Goswami**, M. Zhang and D. Hereld, "Isoleucine104 in the third membrane domain of cAR1 is important for receptor activation in *Dictyostelium*", University of Texas, Microbiology and Molecular Genetics Departmental Retreat (2003).
- [2] B. Lerman, **M. Goswami** and D. Hereld "Identification and characterization of RGS proteins in *Dictyostelium*", University of Texas, Microbiology and Molecular Genetics Departmental Retreat (2003).