

CURRICULUM VITAE
Department of Medical and Molecular Sciences

SUBHASIS (SAM) B. BISWAS

Professor
Department of Medical Laboratory Sciences
College of Health Sciences
University of Delaware
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EDUCATION:

Stanford University School of Medicine Stanford, CA (Dr. Arthur Kornberg Lab)	1981-1984	<u>Molecular Biology</u> American Cancer Society Postdoctoral Fellow, <u>Biophysical Chemistry</u> Ph.D.
University of Washington, Seattle, WA (Dr. Yeshaya Pocker Lab)	1976-1981	<u>Biophysical Chemistry</u> Ph.D.
University of Calcutta, Calcutta India	1972-1974	<u>Organic Chemistry</u> M.Sc.
University of Calcutta, Calcutta India	1968-1971	<u>Chemistry</u> B.Sc.(Hons.)

Employment and Positions Held:

Professor (CT), Department of Medical & Molecular Sciences, College of health Sciences, University of Delaware, Willard Hall, Newark, DE 19761. 2017-Present

Professor (Tenured), Department of Molecular Biology, Rowan University/UMDNJ School of Osteopathic Medicine (formerly University of Medicine and Dentistry of New Jersey), Stratford, NJ 08084. 1995-2017

Associate Professor (Tenured), Division of Endocrinology, University of Maryland School of Medicine, Baltimore, MD 21201. 1991-1995

Assistant Professor (Tenure-track), Division of Endocrinology, University of Maryland School of Medicine, Baltimore, MD 21201. 1984-1991

American Cancer Society Postdoctoral Fellow, Department of Biochemistry, Stanford University School of Medicine, Stanford, CA 1981-1984

Teaching and Research Assistant, Department of Chemistry; University of Washington, Seattle, WA 98195. 1976-1981

Major Administrative Responsibilities:

2017-Present:

Research Committee, College of health Sciences, UDEL
Diversity & Inclusion Committee, College of health Sciences, UDEL
Promotion & Tenure Committee, Medical and Molecular Sciences-UDEL
Emerging Educational Initiatives (EEI) Committee. Medical and Molecular Sciences-UDEL

Space Committee, Medical and Molecular Sciences-UDEL
Tenure-track Faculty Search Committee, Medical and Molecular Sciences-UDEL
1995-2017:

Rowan University Technology Committee

Faculty Affairs (Promotion & Tenure Committee) Rowan/UMDNJ

School of Medicine Research Committee, Rowan/UMDNJ

School of Medicine Student Affairs Committee, Rowan/UMDNJ

Graduate School Admission Committee, University of Maryland at Baltimore

School of Medicine Research Committee, University of Maryland at Baltimore

Faculty Search Committees, University of Maryland at Baltimore

Rowan/ UMDNJ-GSBS MS & Ph.D. Admission Committees

Rowan/ UMDNJ-GSBS MS Biomedical Science Curriculum Development

Rowan/ UMDNJ-GSBS MS Biomedical Science Course Development

Rowan/ UMDNJ-Medical School Student Affairs Committee

Peer Reviewed Publications (2009-2020):

1. Ngozi D.-C., Biswas-Fiss EE, & **Biswas SB** (2020).A systematic review of Human papillomavirus genotypes among women with normal cervical cytology. In preparation
2. *Cevik, S. , Wangtiraumnuay, N., Van Schelvergem, K., Korth, J. , Tsukikawa, M., Capasso, J, Subhasis B. Biswas, Biswas-Fiss, E., Boydt, B, Levin, A.V.*_(2021) Bioinformatic Analysis of ABCA4 Protein in Ocular Genetic Disease, *Manuscript under review*
3. *Patel, M. J., Biswas S. B., & Biswas-Fiss, E.E.* (2020) Integrated approaches to understanding novel genetic variants identified through molecular diagnostic testing. *ASCLS Today*, 34(4).
4. Patel MJ, **Biswas SB**, Biswas-Fiss EE. Functional significance of the conserved C-Terminal VFNFA motif in the retina-specific ABC transporter, ABCA4, and its role in inherited visual disease. (2019) *Biochem Biophys Res Commun.* **519**, 46-52.
5. Meera J. Patel, Gulden Yilmaz, Lavesh Bhatia, Esther Biswas-Fiss, & **Subhasis B. Biswas** (2020) Site-specific fluorescence double-labeling of proteins and analysis of structural changes in solution by Fluorescence Resonance Energy Transfer (FRET). *MethodsX.* **5**, 419-430. doi: 10.1016/j.mex. 2020.03.006
6. Gulden Yilmaz, Esther Biswas-Fiss, & **Subhasis B. Biswas** (2020) Genetic Variations in the DNA Replication Origins of Human Papillomavirus (HPV) Family Correlate with Their Oncogenic Potential. *Biochimica et Biophysica Acta*, **1862**, 979-990.
7. Meera J. Patel, Lavesh Bhatia, Gulden Yilmaz, Esther Biswas-Fiss, & **Subhasis B. Biswas** (2017) Multiple Conformational States of DnaA Protein Regulate Its Binding to DnaA Boxes in the Initiation of DNA Replication. *Biochimica et Biophysica Acta*, **1861**, 2165-2174.
8. **Esther E. Biswas-Fiss**, Albtoul Alturkestani, Jazzlyn Jones, Joscelyn Korth, Subhasis B. Biswas. (2017) "ABCA Transporters" in *Encyclopedia of Signaling Molecules*, 2nd Ed., Choi, S. Editor, Invited Review, Springer Science Publishers. **2017**, pp 1-15. doi:**10.1007/978-1-4614-6438-9_166-1**

9. Rotoli, S. M., Esther E. Biswas-Fiss, & **Biswas, S. B.** (2012) Quantitative Analysis of the Mechanism of DNA Binding by *Bacillus* DnaA Protein. *Biochimie*, **94**, 2764-2775
10. Biswas-Fiss E. E., Kukiratirat, J., & **Biswas, S. B.** (2012) Thermodynamic analysis of DNA Binding by a Bacillus Single Stranded DNA Binding Protein. *BMC Biochemistry*, 2012, **13**:10. PMID: 22698072
11. **Biswas-Fiss E.E.**, Affet S., Ha M., Biswas S. B. (2012) Retinoid binding properties of nucleotide binding domain 1 of the Stargardt disease-associated ATP binding cassette (ABC) transporter, ABCA4. *J. Biol. Chem.* **287**, 44097-44107 PMID: 23144455
12. **Biswas-Fiss EE**, Kurpad DS, Joshi K, Biswas S. B. (2010) Interaction of extracellular domain 2 of the human retina-specific ATP-binding cassette transporter (ABCA4) with all-trans-retinal. *J. Biol. Chem.* **285** 9372-9383. PMID: 20404325
13. Biswas, S.B, *Shankar, D., Clark, J. & Biswas, E. E.* (2009) Bacterial Replicative DNA Helicases, Invited Book Chapter, in "DNA Helicases", Edited by Frank Columbus, Nova Publishers Inc., Hauppauge, NY
14. **Biswas, S.B.**, *Wydra, E., & Biswas, E. E.* (2009) Mechanisms of DNA binding and Regulation of Bacillus anthracis DNA primase. *Biochemistry*. **48**, 7373-7382 PMID: 19583259
15. Aiello D, Barnes MH, Biswas EE, **Biswas SB**, Gu S, Williams JD, Bowlin TL, Moir DT. (2009) Discovery, characterization and comparison of inhibitors of Bacillus anthracis and Staphylococcus aureus replicative DNA helicases. *Bioorg. Med. Chem.* 17(13):4466-76. PMID: 19477652
16. Biswas EE, Barnes MH, Moir DT, **Biswas SB.** (2009) An essential DnaB helicase of Bacillus anthracis: identification, characterization, and mechanism of action. *J. Bacteriol.* 191(1):249-60. PMID: 18931108

SERVICE TO THE COMMUNITY:

- Mentor, Undergraduate Summer Pre-Medical Research and Education (PREP) Program for Under-Represented Students, 1996-2017
- Mentor, Summer Undergraduate Research Experience (SURE), 1996-2017
- Member, Thomas Jefferson University Biotechnology Board 2004-2016
- Consultant, Microbiotix Inc., Worcester, MA. 2004-2012

Services to the University/College/School on Committees/Councils/Commissions:

College of Health Sciences

1. CHS College Research Committee
Member
Fall 2020-Present
2. CHS College Diversity Committee
Member
Fall 2020-Present
3. CHS MMS Department P & T Committee
Member

- Spring 2020-Present
4. CHS MMS Department Emerging Educational Initiative Committee
Co-Chair
Fall 2017-Present
 5. CHS MMS Department Space Committee
Member
Fall 2017-Present
 6. CHS MMS Department TT Faculty Recruitment Committee
Co-Chair
Fall 2017-Present

Grant Activity:

Current Research Support

Agency: Limelight Bio

Project: Biologic testing contract research – NDA in place

Scope of Work: Functional analysis of bio-therapeutic proteins for use in treatment of visual disease

Role: CoPI

Agency: Delaware Bioscience CAT

Title: A Novel Low-Cost Expression System for the Production of Complex Viral Proteins

Scope of Work: Large scale production of SARS-V2/COVID-19 proteins for diagnostic assay platforms and vaccine development

Role: PI

Proposals Under Review

Agency: NIH/NEI

Project: “Molecular Genetic Analysis of ABCA4 Genetic Variations and Their Role in Age Related Macular Degeneration.”

Scope of Work: Assess the structural and functional consequences of genetic variation in the *ABCA4* gene that lead to age related macular degeneration utilizing computational and biological approaches.

Role: CoPI

Agency: NIGMS

Project: Bridge to the Baccalaureate at the University of Delaware

Scope of Work: Multifaceted training program aimed at increasing the transfer and academic success of students from local community colleges to the University of Delaware Biotechnology and Medical Laboratory Science programs.

Role: CoPI

Agency National Institutes of Health

Role: PI

Project: STTR Phase I: A High-Throughput Expression System for the Production of HPV Surface Antigens in Virus-Like Particles (VLPs) with Frontier Bioscience LLC

Work: Development of a new generation of HPV vaccines using low-cost, high yield production platforms.

Teaching Responsibilities

Fall 2020

Semester: Fall 2020
Course Prefix: MMSC
Course Number: 425
Section: 010/020L
Course Title: BASIC MOLECULAR TECHNIQUES

Semester: Fall 2020
Course Prefix: MMSC
Course Number: 625
Section: 010/020L
Course Title: BASIC MOLECULAR TECHNIQUES

Semester: Fall 2020
Course Prefix: MMSC
Course Number: 466
Section: 010
Course Title: Independent Study

Semester: Fall 2020
Course Prefix: MMSC
Course Number: 436
Section: 010L
Course Title: CLINICAL PHYSIOLOGICAL CHEM II

Semester: Fall 2020
Course Prefix: MMSC
Course Number: 490
Section: 194
Course Title: CLINICAL & MOLECULAR CELL BIOL

Semester: Fall 2020
Course Prefix: MMSC
Course Number: 690
Section: 194
Course Title: CLINICAL & MOLECULAR CELL BIOL

Semester: FALL 2020
Course Prefix: MMSC
Course Number: 868
Section: 000
Course Title: Research

Summer 2020

Semester: Fall 2020
Course Prefix: MMSC
Course Number: 490
Section: 194
Course Title: CLINICAL & MOLECULAR CELL BIOL

Semester: Fall 2020
Course Prefix: MMSC
Course Number: 690
Section: 194
Course Title: CLINICAL & MOLECULAR CELL BIOL

Spring 2020

Semester: Spring 2020
Course Prefix: MMSC
Course Number: 450
Section: 010
Course Title: MEDICAL BIOCHEMISTRY

Semester: Spring 2020
Course Prefix: MMSC
Course Number: 650
Section: 010
Course Title: MEDICAL BIOCHEMISTRY

Semester: Spring 2020
Course Prefix: MMSC
Course Number: 480
Section: 010
Course Title: SENIOR SEMINAR II

Semester: Spring 2020
Course Prefix: MMSC
Course Number: 451
Section: 010
Course Title: CELL & TISSUE CULTURE LABORATORY

Semester: Spring 2020
Course Prefix: MMSC
Course Number: 651
Section: 010
Course Title: CELL & TISSUE CULTURE LABORATORY

Semester: Spring 2020
Course Prefix: MMSC
Course Number: 611
Section: 010
Course Title: ADVANCED PRACTICUM I

Semester: Spring 2020
Course Prefix: MMSC
Course Number: 614
Section: 010
Course Title: ADVANCED PRACTICUM IV