


Krishnath College Website Information

1.	Staff name	Dr. SMRITIKANA BISWAS
2.	Designation	ASSISTANT PROFESSOR
3.	Department	PHYSIOLOGY
4.	Date of joining	03.12.2016
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7.	E-mail	Physio.smritikana2005@gmail.com
8.	Academic Qualification	MSc, PhD
9.	Area of Specialization	MICROBIOLOGY & IMMUNOLOGY
10.	Research Interest	Microbiology (Sp. Microbial Genetics) and Molecular Biology. Studies mainly involved characterization of <i>Vibrio cholerae</i> epidemic & environmental isolates and molecular analysis of their pathogenic potential. Beside this studies also involve different pathogenic bacteria and antimicrobial activity of medicinal plant. Moreover, research area also includes development of biopolymer matrices and their biological applications.
11.	Publications in Journals	(Annexure 1)
12.	Publications in books, chapters etc.	(Annexure 2)
13.	Talks/Posters/Papers presented	(Annexure 3)
14.	Research project (if any)	Yes (SERB-SURE) (Annexure 4)
15.	Recent Passport size color photo	

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16.	Any other informations	<p>Award for securing highest marks in Physiology in B.Sc Part-I Honours from Berhampore Krishnath College.</p> <p>Award for standing 1st position in B.Sc from Kalyani University.</p> <p>Award for standing 2nd position in M.Sc from Vidyasagar University</p> <ul style="list-style-type: none">• Worked as JRF (4th December 2007 -5th August 2010) under DST project entitled “<i>Identification of quorum sensing regulation on flagellum-dependent signal transduction pathway controlling biofilm formation and virulence gene expression in Vibrio cholerae</i>”
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Annexure 1

A. Research Publications:

1. Biswas S, Rani KD, Mukherjee P and Ghosh C. **Isolation, identification and biochemical characterization of pathogenic *Staphylococcus aureus* from postoperative wounds of hospitalized patients in Paschim Medinipur, West Bengal.** *Al Ameen J Med Sci* 2010, **3**:219-227.
2. Biswas S, Sen S, Dua P, Mukharjee P, Bhunia S and Ghosh C. **A study on virulence and signaling mechanism related to biofilm formation and EPS expression in certain *Vibrio cholerae* environmental isolates.** *GJMR* 2012, **12**:43-53.
3. Biswas S, Mukherjee P, Kar S and Ghosh C. **Identification of the role of *LuxS* in the regulation of motility & the expression of the flagellar structural & functional regulators in *Vibrio cholerae*.** *GJMR* 2012, **12**:9-13.
4. Mukherjee P, Karmakar A, Biswas S, De S, De S and Ghosh C. **Analysis of virulence potentials of community acquired *Staphylococcus aureus*, isolated from a slam population of West Bengal, India.** *IOSR J Pharma* 2012, **2**:5-12.
5. Biswas S, Bhowmick B and Ghosh C. **Identification of *CagA* harboring *Helicobacter pylori* from buccal swab collected from tobacco addicted women subjects.** *Int J Pharm Bio Sci* 2013, **4(2)**:(B) 165-175.
6. Biswas S, Misra SK, Mukherjee P and Ghosh C. **Effect of dietary deficiency of vitamin B6, vitamin B12 and folic acid on the development of coronary artery disease in adult Indian male patients.** *IOSR-JPBS* 2014, **9**: 30-35.
7. Biswas S, Karmakar A and Ghosh C. **Multidrug Resistant pathogenic *Staphylococcus aureus* in the pimples.** *Med Sci* 2015, **16(66)**: 41-50.
8. Biswas S, Mitra P. **Comparative studies on the antimicrobial activity of *Terminalia arjuna* and *Aloe vera* against community associated drug resistant *Staphylococcus aureus* in pus from carbuncles of adults.** *JIPBS* 2017, **4 (4)**:153-157.
9. Biswas S, Paul K. **Multidrug resistant pathogenic *Staphylococcus aureus* in pus from post-operative wounds of hospitalized patients and antimicrobial activity of natural herbs.** *IJPBS* 2017, **7(4)**:241-247.
10. Majumdar P, Biswas S. **Convenient approach to the direct synthesis of some mixed-ligand tris-chelates of MnII containing neutral N, N-donors and to study their antimicrobial activities.** *J Indian Chem soc* 2019, **96**:329-334
11. Biswas S, Mukherjee P, Manna T, Dutta K, Guchhait KC, Karmakar A, Karmakar M, Dua P, Panda AM & Ghosh C. **Quorum Sensing Autoinducer(s) and Flagellum Independently Mediate EPS Signaling in *Vibrio cholerae* Through LuxO-Independent Mechanism.** *Microb Eco* 2019, **77(3)**:616-630.

12. Biswas S, Ghosh A, Giri B. **Antibacterial and Antibiofilm Activities of Natural Herbs against Methicillin Resistant *Staphylococcus aureus* in Pus from Scabies.** *Int J Pharm. Investigation* 2022, 12(2):1-5

Annexure 2

B. Books/Reports/Chapters/General articles etc.

S.No	Title	Author's Name	Publisher	Year of Publication
1.	Book Title: Advances in Medicine and Biology (Vol-159), Chapter 2: An Insight into the Physiological Properties and Virulence of <i>Vibrio cholerae</i>	P. Dua, T. Manna, S. Biswas, P. Mukherjee, A. K. Panda and C. Ghosh	Nova Medicine and Health, New York	2020

Annexure 3

C. Poster presentation

1. **Smritikana Biswas, Swati Sen, Prithwiraj Mukharjee and Chandradipa Ghosh.** Virulence characterization and search for the signal transduction pathway for long environmental persistence in certain *Vibrio cholerae* environmental isolates. *Paper Presented (Poster) & Abstract Published in International Symposium on Fifty Years Discovery of Cholera Toxin: A Tribute to SN De, Organised by NICED, IICB & Bose Institute, Kolkata, October, 2009.*
2. **Prithwiraj Mukherjee, Smritikana Biswas and Chandradipa Ghosh.** Quorum sensing cholera autoinducer 1 (CAI-1) regulation on biofilm formation in *Vibrio cholerae* following flagellum-dependent signal transduction pathway for exopolysaccharide expression. *Paper Presented (Poster) & Abstract Published in International Symposium on Fifty Years Discovery of Cholera Toxin: A Tribute to SN De, Organised by NICED, IICB & Bose Institute, Kolkata, October, 2009.*
3. **Smritikana Biswas, Prithwiraj Mukherjee, Saugata Bhunia, Chandradipa Ghosh.** Identification of role of the quorum sensing cell signaling molecule autoinducer 2 (AI-2) for exopolysaccharide expression in the flagella-mediated signal transduction pathway in *Vibrio cholerae*. *Paper Presented (Poster) & Abstract Published in International Conference on Integrative Physiology: Modern Perspective and Platinum Jubilee Celebration of Physiological Society of India, Kolkata, November 12 - 14, 2009.*
4. **Smritikana Biswas, Prithwiraj Mukherjee, Saugata Bhunia and Chandradipa Ghosh.** Study on the involvement of quorum sensing *luxS* gene product in biofilm forming signal transduction process in *Vibrio cholerae* O139 Bengal. *Paper Presented (oral) & Abstract Published in Interational seminar organizeby the Vidyasagar Research Scholar's Association, Vaidyagar University, Paschim Medinipur on 4 th March, 2010.*
5. **Prithwiraj Mukherjee, Smritikana Biswas and Chandradipa Ghosh.** Biochemical characterization and identification of virulence potential of isolated *Staphylococcus aureus* from children with scalded skin syndrome. *Paper Presented (oral) & Abstract*

Published in Interational seminar organizeby the Vidyasagar Research Scholar's Association, Vaidyagar University, Paschim Medinipur on 4 th March, 2010.

6. **Smritikana Biswas, Ranjeeta Jha, Prithwiraj Mukherjee, Chandradipa Ghosh.** Deficiency of the development of the risk of coronary artery disease in adult Bengali males. *Abstract Published in Annual Conference of Physiological Society of India, Tripura, December 12 - 14, 2008.*
7. **Prithwiraj Mukherjee, Bithi Biswas, Swapan Chanda, Smritikana Biswas, Chandradipa Ghosh.** Effect of childhood obesity on motor quality and physiological development. *Abstract Published in Annual Conference of Physiological Society of India, Tripura, December 12 - 14, 2008.*
8. **Smritikana Biswas, Kumari Dipti Rani, Prithwiraj Mukherjee, Chandradipa Ghosh.** Pathogenic *Staphylococcus aureus* isolates from postoperative wounds of hospitalized patients. *Paper Presented (Poster) & Abstract Published in 96th Indian Science Congress, NEHU, Shilong, 03 - 07 January, 2009.*
9. **Smritikana Biswas, Swati Sen, Prithwiraj Mukharjee and Chandradipa Ghosh.** Virulence characterization and study for the signal transduction pathway for long environmental persistence in certain *Vibrio cholerae* environmental isolates. *Paper Presented (oral) & Abstract Published in National seminar organizeby the Department of Human Physiology With Community Health, Paschim Medinipur on 26 th March, 2010.*
10. **Prithwiraj Mukharjee, Smritikana Biswas and Chandradipa Ghosh.** Cholera AI-1 (CAI-1) dependent quorum sensing signaling in *Vibrio cholerae* O139 Bengal. *Paper Presented (oral) & Abstract Published in National seminar organizeby the Department of Human Physiology With Community Health, Paschim Medinipur on 26 th March, 2010.*
11. **Smritikana Biswas.** Antimicrobial activity of natural herbs against multidrug resistant pathogenic *Staphylococcus aureus* in pus from postoperative wounds of hospitalized

patients. *Paper Presented (oral) & Abstract Published in State level Seminar sponsored by Department of Higher Education Science and Biotechnology, West Bengal organized by Government General Degree College at Kaliganj, Debagram, Nadia on 30th February, 2018*

Annexure 4

D. List of Projects submitted/implemented by the Investigators

<i>Sl.No</i>	<i>Title</i>	<i>Cost in Lakh</i>	<i>Duration</i>	<i>Role as PI/Co-PI</i>	<i>Agency</i>	<i>Status</i>
1.	Preparation of composite polymer biofilms role against the virulence expressions of MRSA collected from scabies infection	21 Lakh (approx)	3 years	PI	SERB-SURE	Recommended for funding