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Designation: Senior Consultant, Department of Microbiology, Tata Medical Center, Kolkata,

India

Contact details:



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Google Scholar:

https://scholar.google.co.in/citations?user=rpUwbWIAAAAJ&hl=

en

Publication Metrics:

	Overall
Citations	8126
h-index	23
i10- index	57
Publications	166

Last updated: 14th December 2024

• West Bengal Medical Council Registration number: 52929

Weblinks: URL of information sources>>

- Tata Medical Center, Kolkata, India: http://www.tmckolkata.com/
- Department of Microbiology, Tata Medical Center, Kolkata, India: https://tmckolkata.com/in/microbiology/

Current job description-responsibilities- experience-research projects:

A. At Tata Medical Center, Kolkata, India: (job description/responsibilities)

- a. Tata Medical Center employee ID: 10023
- b. Head of the Department of Microbiology
- c. Chairperson of the Hospital Infection Control Committee
- d. Member Secretary of the Institutional Bio-Safety Committee- 2021 onwards
- e. Lead trainer for Clinical Microbiology fellowship program

CV- Dr. Sanjay Bhattacharya, Consultant Microbiologist, Tata Medical Center, Kolkata, India

- f. Visiting Faculty and Program Coordinator: Molecular Medical Microbiology (IIT-KGP and Tata Medical Center, Kolkata): joint MSC- PhD program
- g. Former Visiting Faculty and MSc-PhD Program Coordinator: Molecular Medical Microbiology (IIT-Kharagpur+Tata Medical Center, Kolkata)
- h. Trainer of Diploma in Medical Laboratory Technology (DMLT) courseaffiliated to State Medical Faculty- at Tata Medical Center, Kolkata
- Trainer of MSc course in Medical Laboratory Science and Technology MLSTaffiliated to Ramakrishna Mission Vivekananda Educational and Research Institute (RKM VERI) at Tata Medical Center, Kolkata
- j. Member of Research Support Directorate
- k. Member of Doctoral Advisory Committee
- I. Member of Staff Health Advisory Committee
- m. Member off Drugs and Therapeutics Committee
- n. Member of Antimicrobial Stewardship sub-committee
- o. Former Member of the Scientific Research Committee

B. At Regional Level within the State of West Bengal, India: (experience)

- a. With the Institute of Health and Family Welfare, Government of West Bengal on Standard Treatment Guidelines for common Infectious Diseases
- b. Good Clinical Laboratory Practice lecture sessions at IHFW, West Bengal Govt- on Biomedical Waste segregation and management

C. At the National Level within India: (experience)

- a. With Indian Council of Medical Research
 - i. Standard Treatment guidelines
 - ii. Bacteriology Standard Operating Procedure
 - iii. Antimicrobial Resistance Surveillance
 - jjj. Antimicrobial Stewardship programs

b. With Centers for Disease Control and Prevention (in association with ICMR and the All India Institute of Medical Sciences, New Delhi):

- Surveillance of Health Care Associated Infections in Intensive Care Units
- c. With the Department of Biotechnology (DBT):
 - i. Real-time PCR development for Aspergillus and Candida
 - ii. Human Papilloma Virus screening (HPV) screening and genotyping in women for cervical cancer prevention

d. With National Centre for Disease Control and WHO-SEARO:

- Infection Prevention and Control Guideline development
- AMSP guideline development
- Treatment guideline development for Central Nervous System infections

e. With FISF- Fungal Infection Study Forum:

- i. Surveillance of Invasive Mould Infection in Indian Intensive Care Units
- f. **Former Editor-in-Chief:** Journal of the Academy of Clinical Microbiologists
- g. National Council of Science Museums: part of advisory group of NCSM initiative on "Superbug- The end of Antibiotics" exhibition (2019-2020); Vaccine exhibition

D. At the International Level: (experience)

- With WHO> Priority Pathogen List for Antibiotic Resistant Bacteria
- With WHO> On implementation strategies for the WHO Guidelines for the prevention and control of Carbapenem-Resistant Organisms> working group member of Environmental Cleaning and Disinfection
- With WHO> participant as an expert in the Technical Consultation on In Vitro Diagnostics for AMR 27-28 March 2019, WHO HQ, Geneva
- With the UK-PHRST CLEAN Workshop: 21st 22nd June 2022 on Research questions in Environmental Cleaning and Disinfection of Healthcare Organizations > The workshop was convened by the UK Public Health Rapid Support Team (UK-PHRST) in partnership with Stellenbosch University. The UK Public Health Rapid Support Team is funded by UK Aid from the Department of Health and Social Care and is jointly run by UK Health Security Agency and the London School of Hygiene & Tropical Medicine.
- With Tata Social Internship program> Supervisor for summer internship program in Microbiology for graduate students for University of California at Berkeley, USA; University of Cambridge, UK; London School of Economics, UK> https://www.tatasocial-in.com/

Contributions in the field of Medical Microbiology:

- Started Clinical Microbiology Fellowship program for post MD/DNB Microbiology doctors in India at Tata Medical Center, Kolkata
- 2. Started MSc-PhD course in Molecular Medical Microbiology at Tata Medical Center in Kolkata with Indian Institute of Technology at Kharagpur, India
- 3. Facilitated the development, validation and clinical use of several low cost molecular tests in Diagnostic Microbiology at Tata Medical Center, Kolkata
- 4. Author of about 150 scientific papers in peer reviewed journals including 15 book chapters.

Educational Qualifications

Degree	Institution	Field	Year
MBBS	North Bengal Medical College (University of	Medical	1994
	North Bengal), Dist. Darjeeling (near Siliguri), West Bengal	science	
MD	Jawaharlal Institute of Post-graduate Medical education and Research (Pondicherry University)	Microbiology	2000
DNB	National Board of	Microbiology	2001

	Examinations (New Delhi)		
DipRCPath	Royal College of	Medical	2004
	Pathologists, London, UK		
		Microbiology	
FRCPath	Royal College of	Virology	2009
	Pathologists, London, UK		
Certificate of		Medical	
Completion	Education and Training	Microbiology	
of Training	Board (United Kingdom)	and Virology	2009

Operational responsibilities:

- 1. Consultant and head of Microbiology at Tata Medical Center, Kolkata
- 2. Diagnostic responsibilities in Bacteriology, Virology, Mycology, Parasitology
- 3. Chairman of the Hospital Infection Prevention and Control Committee
- 4. Responsible for Environmental Microbiology Services
- 5. Responsible for quality and administrative aspects of Central Sterile Supply Department
- 6. Responsible for Clinical Microbiology and Clinical Virology consultation services
- Lead consultant for the following training programs: Fellowship in Clinical Microbiology for doctors with postgraduate experience in Medical Microbiology; Molecular Medical Microbiology MSc/PhD course

Details of Training and Experience

Specialty Training:

- Certificate of Completion of Training in Medical Microbiology and Virology from the United Kingdom Postgraduate Medical Education and Training Board:
- DipRCPath in Microbiology (2005) and FRCPath in Virology in 2009.
- Worked as a Senior House Officer in Clinical Microbiology at University Hospitals of Leicester, and then as a Specialist Registrar in Clinical Microbiology at University Hospitals of Coventry and Warwickshire, City Hospital (Birmingham), and subsequently as Specialist Registrar in Clinical Virology University Hospital Birmingham and at Health Protection Agency laboratory at Birmingham Heartlands Hospital (West Midlands Virology Reference Laboratory).
- Senior Resident in Microbiology at JIPMER Pondicherry: April 2000 to Sept 2002
- > Junior Resident in Microbiology at JIPMER, Pondicherry: April 1997 to March 2000.

Clinical Appointments

Date	Grade and Specialty	Place held	Teaching hospital/ University
01 Oct 2011 to till	Senior Consultant		Yes
date	in Microbiology	Center, Kolkata,	
		India	

02 August 2010 to	Associate	Tata Medical	l Yes l
01 Oct 2011	Consultant in	Center, Kolkata,	
	Microbiology	India	
21 June to 09 July	Consultant	West Suffolk	Yes/ Cambridge
2010	Microbiologist	Hospital NHS	
20.0	(locum)	Trust, Bury St	
	(locality	Edmunds, UK	
		Editiulius, OK	
21 Dec 2009 to 20	Consultant	King's College	Yes/London
June 2010	Virologist (locum)	Hospital NHS	
	5 \ ,	Foundation Trust,	
		London, UK	
August 2009	Consultant	West Suffolk	Yes/ Cambridge
	Microbiologist	Hospital NHS	32, 33 3 38
	(locum)	Trust, Bury St	
	(10 00.11)	Edmunds, UK	
Sept 2007 to July	Specialist	Heart of England	Yes/Birmingham
2009	Registrar in	NHS Trust,	1 63/2
	Clinical Virology	Birmingham, UK	
	Chritcal virology	University	
Sept 2006 to Sept	Specialist Registrar		
2007	in Clinical Virology	Birmingham	Yes/Birmingham
	<u> </u>	Hospital	
	Specialist	Heart of England	
March 2005 to	Registrar in	NHS Trust,	
Sept 2006	Clinical Virology	Birmingham, UK	Yes/Birmingham
·	Specialist	<u> </u>	
	Registrar in		
April 2004 to Feb	Clinical	City Hospital,	
2006	Microbiology	Birmingham, UK	Yes/Birmingham
	Specialist	University	
	Registrar in	Hospitals of	
Sept 2003 to April	Clinical	Coventry and	
2004	Microbiology	Warwickshire, UK	Yes/Warwick
Cont 2002 to Cont	Senior House	University	
Sept 2002 to Sept	Officer in Clinical	Hospitals of Leicester, UK	Vas/Laicastar
2003 April 2002 to Sept	Microbiology Senior Resident in	JIPMER,	Yes/Leicester
2002 to 3ept	Microbiology	Puducherry, India	Yes, Pondicherry
April 1997 to	Junior Resident in	JIPMER,	1 35, 1 51141611611
March 2000	Microbiology	Puducherry, India	Yes, Pondicherry
Sept 1996 to Jan	Junior Resident in	AIIMS, New Delhi,	
1997	Pathology	India	Yes, AIIMS
		SSKM Hospital	
Aug 1995 to Jan	House Staff in	(IPGMER),	Van Cala III
1006	Neuro-Medicine	Calcutta, India	Yes, Calcutta

Memberships:

- Royal College of Pathologists, UK; membership number: 10032774
- Indian Association of Medical Microbiologists; membership number: 2012
- Academy of Clinical Microbiologists: membership number: LM- 181/2011
- Indian Society of Medical Mycologists> membership number: LM-355
- British Society for Antimicrobial Chemotherapy; membership number: 102887
- Clinical Infectious Disease Society (of India): Membership number 420
- ISHAM (International Society for Human and Animal Mycology): MM5377 (2022-August)
- European Society of Clinical Microbiology and Infectious Diseases (ESCMID): membership number: 134641
- Society for Healthcare Epidemiology of America (SHEA). Membership number: 2813

Publications: ORCID ID: https://orcid.org/0000-0003-4139-1039

Virology:

- 1. SYMEC Research Group (Sureka K, Harisjamkar A, Mandal S, Roy S, Kar A, Ghosh B, Sarkar Ghosh S, Mukhopadhyay A), Mukhopadhyay A, Mathai S, Bhaumik J, Bhattacharya S, Chandy M. Nested Multiplex Endpoint Polymerase Chain Reaction: An Alternative Method for Human Papilloma Virus Genotyping in Resource-limited Settings. J Acad Clin Microbiol 2024;26(1):1–6.
- 2. Bhattacharya S, Chatterji S, Chandy M, Mahajan AY, Goel G, Mishra D, Vivek P, Das P, Mandal S, Chugani A, Mittal A, Perumal RC, Ramprasad VL, Gupta R. Molecular epidemiology of SARS-CoV-2 in healthcare workers and identification of viral genomic correlates of transmissibility and vaccine break through infection: A retrospective observational study from a cancer hospital in eastern India. Indian J Med Microbiol. 2022 Oct 13:S0255-0857(22)00183-9. doi: 10.1016/j.ijmmb.2022.09.010.
- 3. Bhattacharyya A, Das A, Dalvi-Mitra S, Goel G, Bhattacharya S, Chowdhury S, Saha V. Surveillance and caregiver vaccination prevent varicella outbreaks in a residential care facility for children with cancer. Pediatr Blood Cancer. 2022 May;69(5):e29631. doi: 10.1002/pbc.29631. Epub 2022 Mar 2. PMID: 35234331.
- 4. Sahoo S, Mandal S, Das P, Bhattacharya S, Chandy M. **An analysis of the standard curve parameters of cytomegalovirus, BK virus and hepatitis B virus quantitative polymerase chain reaction from a clinical virology laboratory in eastern India. Indian J Med Microbiol. 2022** Jan-Mar;40(1):81-85. doi: 10.1016/j.ijmmb.2021.09.007.
- 5. Das P, Mondal S, Pal S, Roy S, Vidyadharan A, Dadwal R, Bhattacharya S, Mishra DK, Chandy M. COVID diagnostics by molecular methods: A systematic review of nucleic acid based testing systems. Indian J Med Microbiol. 2021 Jul;39(3):271-278.
- 6. Bhattacharya S, Iyer R, Raja K, Joy VM, Bijulal SR, George K, Goel G, Santosh S, Madhavan A, Ardra M, Dash D, Oommen S, Joe G, Shetty AK, Gupta YK, Prabhakar M S, Vengilat DH, Philomina J B, Sujatha S R, Hotta S, Gandhi C, Sehgal R, Kirupa S,

- Sampath S, Mamtora DK, Kalyani M, Koppad M, Ashish J, Santhi M, Nair S, Sinha KK, Neetha T R. A survey of practices to diagnose, manage, prevent and control COVID-19 from 28 centres. J Acad Clin Microbiol 2020;22:5-11.
- 7. Bhattacharya S, Vidyadharan A, Joy VM. Inconclusive SARS-COV-2 reverse transcription-polymerase chain reaction test reports: Interpretation, clinical and infection control implications. J Acad Clin Microbiol 2020;22:59-61.
- 8. Mishra DK, Goel G, Arora N, Krishnan S, Bhattacharya S, Mathur P, Walia K, Chandy M. The importance of intra- and inter institutional networks for capacity building in severe acute respiratory syndrome coronavirus 2 reverse transcription polymerase chain reaction services: experience from an oncology centre in eastern India. Indian J Med Microbiol 2020;38:9-17.
- 9. Bhattacharya S, Sengupta K, Goel G. Limitations of the 2016 National AIDS Control Organization guidelines regarding Human Immunodeficiency Virus testing in India. J Acad Clin Microbiol 2018;20:57-9.
- 10. Bhattacharya S. Why is dengue such an important public health problem in India? J Acad Clin Microbiol 2018;20:3-4.
- 11. Bhattacharya S, Goel G, George K, Shamsundar R, Lancy J, Sudarsana J, Devi S R, Sangeetha S, Kant K, Sathiavathy K A, Sarada Devi K L, Rejitha K, Shailaja T S, Raveendran G, John AP, Sohanlal T, Varghese G, Madhavan A, Sen B, Suseela K V, Ahmed SM, Mathew R, Pulikkottil SK, Philomina J B, Chinnan JP, Rani S, Iyer R, Maiti S, Nath SR, Balakrishnan SM, Raja K. Laboratory tests and clinical management of dengue in 26 healthcare institutions in India. J Acad Clin Microbiol 2018;20:5-13.
- 12. Kumar M, Roychowdhury M, Kumar J, Harishankar A, Sinha S, Bhave SJ, Chakrapani A, Radhakrishnan V, Nair R, Bhattacharya S, Chandy M. Cytomegalovirus reactivation and disease amongst patients with allogeneic haematopoietic stem cell transplantation in Eastern India: Epidemiology, outcome and healthcare cost. Indian J Med Microbiol. 2018 Jan-Mar;36(1):49-53.
- 13. Harishankar A, Chandy M, Bhattacharya S. **How to develop an in-house real-time quantitative cytomegalovirus polymerase chain reaction: Insights from a cancer centre in Eastern India.** Indian J Med Microbiol. 2015 Oct-Dec;33(4):482-90. (Special/review article)

- 14. Goel G, Laha A, Sarkar De M, Bhattacharya S, Mahajan A, Ramanan VR, Chandy M. The Economics of a Chickenpox Outbreak in an Oncology Center in Eastern India. Infect Control Hosp Epidemiol. 2015 Nov;36(11):1370-2. (Letter)
- 15. Bhattacharya S, Chatterjee S, Goel G, Mahajan A, Ramanan VR, Chandy M. Epidemiology of sharps injury and splash exposure in an oncology care center in eastern India. Infect Control Hosp Epidemiol. 2014 Sep;35(9):1201-3. (Letter)
- 16. Ahmed R, Bhattacharya S. Universal screening versus universal precautions in the context of preoperative screening for HIV, HBV, HCV in India. Indian J Med 17. Micgobiol. 2013 Jul-Sep;31(3):219-25. (Review article)
- 18. Bhattacharya S, Osman H. **BinaxNOW**® an immunochromatographic test for the diagnosis of human influenza viruses: comparison with viral culture and polymerase chain reaction. Indian J Med Microbiol. 2011 Jan-Mar;29(1):19-21.
- 19. Bhattacharya S. **Swine influenza (novel H1N1): algorithms and common sense.** J Hosp Infect 2010;74:299-300. (Letter)
- 20. Bhattacharya S and Osman H. **Novel targets for antiretroviral therapy.** J Infect 2009;59(6):377-386. PubMed PMID: 19815027. (Review article)
- 21. Bhattacharya S, Ijaz S, Ratnaraja N, Smith S, Osman H, Boxall E. **Hepatitis B virus** reactivation in a large haemodialysis unit: virological and infection control issues. J Clin Virol. 2009;46(1):101-3. PMID: 19560397. (Case report)
- 22. Smit E, Bhattacharya S, Osman H, Taylor S. Increased frequency of HIV-1 viral load blip rate observed after switching from Roche Cobas Amplicor to Cobas Taqman assay. J Acquir Immune Defic Syndr. 2009; 51(3):364-5. PMID:19553776. (Original article)
- 23. Bhattacharya S, Paneesha S, Chaganti S, Lovell R, Slocombe G, Milligan D, Osman H. "Viral" myocarditis in a patient following allogenic stem cell transplant: diagnostic dilemma and management considerations. J Clin Virol. 2009; 45(3): 262-4. PMID: 19501546. (Case report)
- 24. Bhattacharya S, Price N, Boxall E, Adu D, Lipkin G, Smith S, Osman H. **Holiday** haemodialysis and imported hepatitis C virus infection: a series of sixteen cases in two large haemodialysis units. J Clin Virol. 2009; 45(4): 296-9. PMID: 19451020. (Case series)
- 25. Bhattacharya S, O'Donnell K, Dudley T, Kennefick A, Osman H, Boxall E, Mutimer D. Ante-natal screening and post-natal follow-up of hepatitis B in the West Midlands of England. QJM. 2008;101(4):307-12. PMID: 18281704. (Original article)

- 26. Bhattacharya S, Badrinath S, Hamide A, Sujatha S. **Seroprevalence of Hepatitis C** virus in hospital based general population in South India. Indian J Med Microbiol 2003; 21(1): 43-45. (Research paper) PMID: 17642973.
- 27. Bhattacharya S, Badrinath S, Hamide A, Sujatha S. **Co-infection with Hepatitis C virus and Human Immunodeficiency Virus among patients with Sexually Transmitted Diseases in Pondicherry, South India.** Indian J Pathol Microbiol 2003; 46(3): 495-497. (Research paper) PMID: 15025322.

Bacteriology:

- Malik S, Shirvankar CM, Jacob RK, Adhya DG, Sinha S, Bhattacharya S, Walia K, Bhattacharya SD. A systematic review and meta-analysis to develop a landscape map of antibiotic resistance for six WHO priority pathogens in east and north-east India from 2011 to 2022. Indian J Med Microbiol. 2024 Sep 25;52:100732. doi: 10.1016/j.ijmmb.2024.100732.
- 2. Bhattacharya S. Low Minimum Inhibitory Concentration of an Antibiotic Does Not Necessarily Imply a Better Antibiotic: Other Clinical and Pharmacological Factors Need Consideration for Antibiotic Selection. J Acad Clin Microbiol 2024;26(1):27–28.
- 3. Kuruwa S, Zade A, Shah S, Moidu R, Lad S, Chande C, Joshi A, Hirani N, Nikam C, Bhattacharya S, Poojary A, Kapoor M, Kondabagil K, Chatterjee A. **An integrated method for targeted Oxford Nanopore sequencing and automated bioinformatics for the simultaneous detection of bacteria, fungi, and ARG. J Appl Microbiol. 2024** Feb 1;135(2):lxaeo37. doi: 10.1093/jambio/lxaeo37. PMID: 38346849.
- 4. Mukherjee S, Bhattacharya S, Goel G, Sarkar Dey M, Bhattacharyya A. **High Proportion of Mucosal Barrier Injury- Laboratory Confirmed Bloodstream Infection Among Paediatric Oncology Patients in a Cancer Centre in Eastern India, Journal of the Pediatric Infectious Diseases Society** 2023; 12 (S1): S17-S18. https://doi.org/10.1093/jpids/piad070.035
- 5. Bhattacharya S. Are we looking towards an early demise of ceftazidime/avibactam (CAZ/AVI) as an antibiotic? Indian J Med Microbiol. 2023 Sep 4;46:100472. doi: 10.1016/j.ijmmb.2023.100472. Epub ahead of print. PMID: 37672876.
- 6. Pyne A, Bhattacharya S. Option appraisal of matrix-assisted laser desorption ionisation time of flight systems for a diagnostic microbiology laboratory. J Acad Clin Microbiol 2023;25:8-15
- 7. Ghosh S, Bhattacharya S, Goel G, Deshmukh RA, Javed R, Roychowdhury M, Sinha S, De MS, Nag A, Kumar J, Bhave SJ, Nair R, Chandy M. Hematopoietic stem-cell transplantation in a zoo of multidrug-resistant organisms: Data from a cancer center in eastern India. Transpl Infect Dis. 2023 Jun 1:e14072. doi: 10.1111/tid.14072.
- 8. Mukherjee S, De MS, Goel G, Bhattacharyya A, Mallick I, Dabkara D, Bhaumik J, Roy MK, Majumdar PB, Chatterji S, Mukherjee S, Bhattacharya S, Chandy M. **Multi-drug resistant**

- (MDR) and extensively drug-resistant (XDR) bacteraemia rates among cancer patients in an oncology hospital in eastern India: an 11-year retrospective observational study. Infect Prev Pract. 2023 Feb 18;5(2):100275. doi: 10.1016/j.infpip.2023.100275. PMID: 36915471; PMCID: PMC10006829
- 9. Bakthavatchalam YD, Elangovan D, Jaganathan SV, Subburaju N, Shankar A, Manokaran Y, J S, Devi R, Baveja S, Devi S, S J, Bhattacharya S, S M R, Yesudhason B, Shetty V, Mutreja A, Manesh A, Varghese GM, Marwick CA, Parcell BJ, Gilbert IH, Veeraraghavan B. *In Vitro* Activity of Two Cefepime-Based Novel Combinations, Cefepime/Taniborbactam and Cefepime/Zidebactam, against Carbapenemase-Expressing Enterobacterales Collected in India. Microbiol Spectr. 2023 Feb 27:e0492522. doi: 10.1128/spectrum.04925-22.
- 10. Raja K, Mukhopadhyay C, Shetty AK, Chinnan JP, Sudarsana J, Jose RA, Saritha N, Ravindranath C, Goel G, Valsan C, Sundaramoorthy S, Joy S, Sagila S G, Jakribettu RP, Sarada Devi K L, Ponnambath DK, Jithendranath A, Dinesh KR, Berry R, Iyer RN, John AP, Bhattacharya S. **Detection and reporting of Carbapenemase producing Gram negative bacilli in Clinical Microbiology: A survey of practices in laboratories across India. J Acad Clin Microbiol 2022**;24:55-62
- 11. Sharma M, Gangakhedkar RR, Bhattacharya S, Walia K. **Understanding complexities in the uptake of indigenously developed rapid point-of-care diagnostics for containment of antimicrobial resistance in India. BMJ Glob Health. 2021** Sep;6(9):e006628. doi: 10.1136/bmjgh-2021-006628.
- 12. Vijay S, Bansal N, Rao BK, Veeraraghavan B, Rodrigues C, Wattal C, Goyal JP, Tadepalli K, Mathur P, Venkateswaran R, Venkatasubramanian R, Khadanga S, Bhattacharya S, Mukherjee S, Baveja S, Sistla S, Panda S, Walia K. **Secondary Infections in Hospitalized COVID-19 Patients: Indian Experience. Infect Drug Resist. 2021** May 24;14:1893-1903.
- 13. Das S, Roy S, Roy S, Goelv G, Sinha S, Mathur P, Walia K, Bhattacharya S. Colistin susceptibility testing of gram-negative bacilli: Better performance of vitek2 system than E-test compared to broth microdilution method as the gold standard test. Indian J Med Microbiol. 2020 Jan-Mar;38(1):58-65. doi: 10.4103/ijmm.IJMM_19_480.
- 14. Vijayakumar S, Wattal C, Oberoi JK, Bhattacharya S, Vasudevan K, Anandani S, Walia K, Veeraraghavan B. Insights into the complete genomes of carbapenem-resistant Acinetobacter baumannii harbouring bla OXA-23, bla OXA-420 and bla NDM-1 genes using a hybrid-assembly approach. Access Microbiology. 05 June 2020 https://doi.org/10.1099/acmi.0.000140
- 15. Roy S, Das P, Das S, Roy S, Pal S, Joy VM, Mukherjee S, Bhattacharyya A, Goel G, Bhattacharya S, Mathur P, Walia K, Chandy M. Detection of the emergence of mcr-1-mediated colistin-resistant Escherichia coli and Klebsiella pneumoniae through a hospital-based surveillance in an oncology center in eastern India. Infect Control Hosp Epidemiol. 2020 Jan 9:1-2. doi: 10.1017/ice.2019.363.

- 16. Vijayakumar S, Anandan S, Ms DP, Kanthan K, Vijayabaskar S, Kapil A, Ray P, Sistla S, Bhattacharya S, Wattal C, Thirunarayan, Deotale V, Mathur P, Walia K, Ohri VC, Veeraraghavan B. Insertion sequences and sequence types profile of clinical isolates of carbapenem-resistant A. baumannii collected across India over four year period. J Infect Public Health. 2019 Dec 21. pii: S1876-0341(19)30361-2. doi: 10.1016/j.jiph.2019.11.018.
- 17. Das S, Roy S, Roy S, Goel G, Walia K, Mukherjee S, Bhattacharya S, Chandy M. Rapid and economical detection of eight carbapenem-resistance genes in Enterobacteriaceae, Pseudomonas spp, and Acinetobacter spp directly from positive blood cultures using an internally controlled multiplex-PCR assay. Infect Control Hosp Epidemiol. 2019

 Jun;40(6):737-739.
- 18. Das A, Bhave SJ, Pal B, Arun I, Goel G, Bhattacharya S, Sen S, Das J, Bhattacharyya P. **Brucellosis Complicated by Kikuchi-Fujimoto Disease and Doxycycline-Induced Intracranial Hypertension. Indian J Pediatr. 2019** Apr 3. doi:10.1007/s12098-019-02937-0.
- 19. Bennett Z, Dhar R, Dhar K, Das K, Harishankar A, Bhattacharya S, Chandy M. The economics of managing tuberculosis in cancer patients in an oncology center in eastern India. Infect Control Hosp Epidemiol. 2019 Jan;40(1):122-124.
- 20. Pragasam AK, Veeraraghavan B, Anandan S, Narasiman V, Sistla S, Kapil A, Mathur P, Ray P, Wattal C, Bhattacharya S, Deotale V, Subramani K, Peter JV, Hariharan TD, Ramya I, Iniyan S, Walia K, Ohri VC. Dominance of international highrisk clones in carbapenemase-producing Pseudomonas aeruginosa: Multicentric molecular epidemiology report from India. Indian J Med Microbiol. 2018 Jul-Sep;36(3):344-351.
- 21. Bhaumik J, Mukhopadhyay A, Ghosh A, Bhattacharya S, Chakraborti B.

 Postoperative infection rate and clinical outcome after onco-surgery for
 endometrial carcinoma in a patient population with high prevalence of multidrugresistant organism colonization and multiple comorbidities. Infect Control Hosp
 Epidemiol. 2018 Sep;39(9):1140-1141.
- 22. Muennichow CE, Goel G, Bhattacharyya A, Nair R, Chandy M, Bhattacharya S. Clinical Outcome, Healthcare Cost and Length of Hospital Stay Among Patients With Bloodstream Infections and Acute Leukemia in a Cancer Center in Eastern India. Infect Control Hosp Epidemiol. 2018 Jun 18:1-2.
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- George, B & Bhattacharya, S. (2021). Infections in Hematopoietic Stem Cell Transplantation (HSCT) Patients. 10.1007/978-3-319-64938-2_7-1. In the book: Chandy M et al. Contemporary Bone Marrow Transplantation. (Book Chapter)
- 3. NATIONAL GUIDELINES FOR INFECTION PREVENTION AND CONTROL IN HEALTHCARE FACILITIES. National Centre for Disease Control, Directorate General

of Health Services. Ministry of Health and Family Welfare, Government of India. January 2020. Dr. Sanjay Bhattacharya of Tata Medical Center, Kolkata was one of the contributors and reviewers.

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- 4. **TECHNICAL CONSULTATION ON IN VITRO DIAGNOSTICS FOR AMR**. 27–28 March 2019, WHO headquarters, Geneva. Meeting report. WHO/MVP/EMP/IAU/2019.08. Dr. Sanjay Bhattacharya was a participant.
- 5. Bhattacharya S. Antibiotic **Resistance**. *Dearth of Data*. Down to Earth. Centre for Science and Environment. New Delhi. ISBN 978-81-941339- 2-6. Pages 122-124.
- 6. Ghosh A., Bhattacharya S. (2020) **Fungal Outbreak Investigations**. In: Chakrabarti A. (eds) Clinical Practice of Medical Mycology in Asia. Springer, Singapore. 2019. DOIhttps://doi.org/10.1007/978-981-13-9459-1_14. Print ISBN 978-981-13-9458-4. Online ISBN 978-981-13-9459-1
- Standard Operating Procedures. Bacteriology. Antimicrobial Resistance Surveillance and Research Network 2nd Edition, 2019. Indian Council of Medical Research (ICMR), New Delhi. https://main.icmr.nic.in/sites/default/files/guidelines/Bacteriology_SOP_2nd_Ed_2019.pdf
- 8. Chandy M and Bhattacharya S. Prophylaxis and treatment in Hematopoietic Stem Cell Transplantation (HSCT). Infections in Immunocompromised Host. In: Treatment Guidelines for Antimicrobial Use in Common Syndromes. Indian Council of Medical Research 2019. New Delhi. 2nd Edition. Page 126 to 132. https://www.icmr.nic.in/sites/default/files/guidelines/Treatment_Guidelines_2019_Final.pdf
- 9. Implementation manual to prevent and control the spread of carbapenem-resistant organisms at the national and health care facility level. Interim practical manual supporting implementation of the Guidelines for the prevention and control of carbapenem-resistant Enterobacteriaceae, Acinetobacter baumannii and Pseudomonas aeruginosa in health care facilities. WHO, 2019. https://apps.who.int/iris/handle/10665/312226
- 10. Bhattacharya S, Das S, Dhar K, Roy A. When to Suspect and How to Detect Carbapenemase Production? A Review. Book title "Critical Care Update 2019". Chapter 32. Indian Society of Critical Care Medicine. Jaypee Brothers Medical Publishers, New Delhi. Pages 155-160.

- 11. Bhattacharya S, Dhar K, Ghosh T, Das S. **Utility of Bacterial Surveillance Culture in the Intensive Care Unit for Choosing Empirical Antibiotic Therapy** for the book title "**Critical Care Update 2018**". Editors: Todi SK, Zirpe K, Kulkarni AP, Mehta Y. Chapter 35. Indian Society of Critical Care Medicine. Jaypee Brothers Medical Publishers, New Delhi. Pages 167-170.
- 12. Chandy M, Bhattacharya S, Chawla T. **Antimicrobial Guidelines for prophylaxis and treatment of Infections in Bone Marrow Transplant settings**. In: ICMR guideline on: Treatment Guidelines for Antimicrobial Use in Common Syndromes. Indian Council of Medical Research, Department of Health Research, New Delhi, India, 2017. Pages 20-32. http://www.icmr.nic.in/guidelines/treatment%20guidelines%20for%20antimicrobial.pdf
- 13. Bhattacharjee S, Bhattacharya S, Dutta SS. **Effects of Intellectual Property Rights on Innovation and Development.** Chapter 4. In: Roy K and Dutta SS (editors). Ethical Practice in Medicine: Contemporary Commentaries. Kolkata Network for Promotion of Ethics in Medicine. 1st edition 2016, Kolkata, India. Pp 34-52.
- 14. Bhattacharya S, Bhalchandra R, Goel G, Hmar L. **Microbiological Assessment before Surgical Intervention. In: Microbiology for Surgical Infections. Diagnosis, Prognosis, Treatment.** Editors, Kon K and Rai M. Elsevier. London, 2014. Pp 19-40.
- 15. Bhattacharya S. **Sterility testing.** In; Hospital Infection Control. Clinical Guidelines. Editors. Saini S and Saini R. Paras Medical Publisher, Hyderabad. 2012. Pp 10-17.
- 16. Participated as a **Working Group member of the WHO Priority Pathogens List (PPL).**Publication: **Prioritization of pathogens to guide discovery, research and development of new antibiotics for drug resistant bacterial infections, including tuberculosis.** WHO reference number: WHO/EMP/IAU/2017.12. Publication date:
 September 2017. Pages 88. Accessible at:
 http://www.who.int/medicines/areas/rational_use/prioritization-of-pathogens/en/
 (last accessed on 20th October 2017)

Conference Abstracts:

- Bhattacharya, S., Das, P., Goel, G., Mukherjee, S., Ghosh, P., Singh, R., . . .
 Chakrabarti, A. (2020). Candida auris Infection Among Patients With Cancer in an Oncology Center in Eastern India. Infection Control & Hospital Epidemiology, 41(S1), S146-S147. doi:10.1017/ice.2020.664 (Conference Abstract)
- 2. Mathur, P., Malpiedi, P., Walia, K., Malhotra, R., Srikantiah, P., Katoch, O., . . . Guleria, R. (2020). Surveillance of Healthcare-Associated Bloodstream and Urinary

Tract Infections in a National Level Network of Indian Hospitals. Infection Control & Hospital Epidemiology, 41(S1), S398-S399. doi:10.1017/ice.2020.1043 (Conference Abstract)

- 3. Bhattacharya S. **Setting up a Molecular Virology Laboratory.** TRICON, Kozhicode, Govt Medical College, 05 August 2017.
- 4. Chandy M, Bhattacharya S. **Viral infections in patients with hematopoietic stem cell transplantation: experience from an oncology center in eastern India.** CMC Vellore, National Virology Conference, 22 July 2017.
- 5. Bhattacharya S, Bhattacharyya A, Goel G, Das P, Chandy M. Effect of standard precautions without patient isolation on bacteraemia rates among pediatric cancer patients in a setting with high prevalence of multi-drug resistant organisms. ESPID 2017. Abstract number: ED08. 25th May 2017.
- 6. Das P, Bhattacharya S, Goel G, Dhar K, Chandy M. A comparative evaluation of relative potency of different brands of fosfomycin available in india by agar diffusion method: implications for clinical management. ESPID 2017. Abstract number: AE02b . 24th May 2017.
- 7. Bhattacharya S, Bhattacharyya A, Goel G, Das A, Chandy M. Epidemiology of colistin resistant Klebsiella infections among pediatric oncology and hematopoietic stem cell transplantation patients in eastern India. ESPID 2017. Oral presentation. 25th May 2017.
- 8. Harishankar A, Banerjee S, Mishra DK, Bhattacharya S, Chandy M. Correlation Between Human Leukocyte Antigen And Cytomegalovirus Reactivation In Stem Cell Transplant Recipients- Data From A Tertiary Cancer Centre In Eastern India. 65th Annual Conference of IAPM and Annual Conference OF IAP-ID. 01-04 Dec 2016, BM Birla Auditorium, Jaipur, India. Oral Presentation: OP80.
- 7. Das P, Chandy M, Bhattacharya S. **Application of 16S rDNA based sequencing for identification of unidentified ambiguous bacteria: Experience from a cancer center in eastern India.** Abstract number: MR 001. Oral presentation. Molecular/Rapid techniques and Immunology. MICRCON 2016, PGIMER, Chandigarh, India. 40th Annual Conference of the Indian Association of Medical Microbiologists. 23-27th Nov 2016.
- 8. Goel G, Chandy M, Roy MK, Gupta S, Mullick S, Sengupta K, Bhattacharya S. **Emergence of Colistin Resistant Klebsiella pneumoniae in an Oncology Center in Eastern India. Abstract ID: 4994.** Federation of Infection Societies, UK; 6-8 November, EICC, Edinburg, UK.
- 9. Bhattacharyya A, Das A, Gogoi M, Krishnan S, Harishankar A, Goel G, Bhalachandra R, Saha V, Bhattacharya S. **Spectrum of respiratory viral infections in children with**

- cancers: experience from a tertiary cancer centre in eastern India. Abstracts / Pediatric Hematology Oncology Journal 1 (2016) S1eS33. TM_SC-1_V1.13.
- 10. Chakraborti B, Ghosh A, Bhaumik J, Mukhopadhyay A, Bhattacharya S. **INFECTION**PROFILE AMONG PATIENTS WITH ENDOMETROID CARCINOMA IN AN ONCOLOGY
 CENTRE IN EASTERN INDIA. 4th Biennial Meeting of Asian Society of Gynecologic
 Oncology (ASGO 2015). 12-14th November 2015, Seoul, South Korea. Poster no:
 OR 601, Category: Endometrium.
- 11. Anusha H, Bhalchandra R, Das P, Bhattacharya S, Chawla Sarkar M, Chandy M, Bhattacharyya A. **Epidemiology of Respiratory Viral Infections at a tertiary cancer center in Eastern India.** Microcon, 2015. JIPMER, Puducherry. Virology-I, 225. 25-29th Nov 2015. (Oral presentation)
- 12. Sahu M, Sengupta K, Goel G, Bhattacharya S. **Are MIC Values Important in Routine Microbiology/ Bacteriology Reports? Results Of a Survey From a Cancer Hospital in Eastern India.** Microcon, 2015. JIPMER, Puducherry. AMR-II, 236. 25-29th Nov 2015. (Oral presentation)
- 13. Das P, Bhattacharya S, Harishankar A, & Chandy M. (2015, October). Standardization of a two step real-time PCR based method for species specific detection of medically important Aspergillus sp. In MYCOSES (Vol. 58, pp. 189-189). 111 RIVER ST, HOBOKEN 07030-5774, NJ USA: WILEY-BLACKWELL.
- 14. Bhalchandra R, Goel G, Hmar L, Sengupta K, Bhattacharya S. **PROFILE OF INFECTIONS CAUSED BY Acinetobacter spp.** CIDSCON 2015, New Delhi, 21-23 August 2015.
- 15. Bhattacharya S, GoelG, Bhaumik J, Chandy M. **EPIDEMIOLOGY OF ANTIMICROBIAL RESISTANCE IN AN ONCOLOGY CENTRE IN EASTERN INDIA.** Federation of Infection Societies, UK: Harrogate 24-26 Nov 2014. FIS 2014-Abstract No. 0229; Poster no: 0043-Category: Public Health and Epidemiology.
- 16. Das P, Harishankar A, Chandy M, Bhattacharya S. **Standardization of efficient method for DNA extraction from** *Candida* **sp. in a medical laboratory setup.** International Conference of Fungal Infections Study Forum (FISF) MYCOCON 14th-16th November, 2014, Kolkata, India.
- 17. Chakrapani A, Chandy M, Bhattacharya S, Mishra D. MDRO infection the" major hurdle to acute myeloid leukemia induction therapy" experience of a tertiary care comprehensive cancer center from India. HAEMATOLOGICA 2014; 99, 307-307.
- 18. Pandey P, Anusha H, Chandy M, Bhattacharya S. **Insight into DNA extraction of Candida sp: Comparison of an automated & a manual system.** SIHAM 2014, Coimbatore, India. Jan 10-12, 2014. (Abstract number; OP-11, page 34) (selected for European Confederation of Medical Mycology Travel award)

- 19. Radhakrishnan VS, Chandy, M, Bhattacharya S, et al. **Microbiology in Patients Undergoing Stem Cell Transplantation in the First Year of a Tertiary Care Comprehensive Cancer Centre From India.** Poster 316. BMT Tandem Meetings.
 Salt Lake City, Utah (USA), Feb 13-17, 2013.
 https://bmt.confex.com/tandem/2013/webprogram/Paper2001.html
- 20. Radhakrishnan VS, Goel G, Das D, Ravichandran S, Khushoo V, Bhave SJ, Chakrapani A, Nair R, Bhattacharya S, Chandy M. Prevalence of antibiotic resistant strains in fecal surveillance cultures of patients from a new tertiary care cancer center in eastern part of India. JOURNAL OF CLINICAL ONCOLOGY 2013;31 (15).

Research grants received:

- 1. DBT grant: Application of real-time PCR for the diagnosis of invasive candidiasis and aspergillosis in immuno-compromised patients in an oncology center. Department of Biotechnology, India. No.BT/PR4884/MED/29/394/2012-Rs. 61,47,400). Investigators: Bhattacharya S, Chandy M, Chatterjee S, Bhattacharyya A, Roy P, Sen S.
- FISF grant: Invasive mould infections in Indian ICUs descriptive epidemiology, management and outcome (FISF multi-centric study). IRB reference number: EC/PHARMA/16/16. Rs. 3,12,000
- 3. ICMR grant: Regional Centre for Antimicrobial Resistance Surveillance Network. Indian Council of Medical Research. Ref no: AMR/RC/63/2014-ECD-II (Rs. Rs. 20,09,280/-for year 1)
- 4. CDC grant: Capacity Building and Strengthening of Hospital Infection Control to detect and prevent antimicrobial resistance in India.
- 4. ICMR grant: Expansion of antimicrobial stewardship program (AMSP) and infection prevention & control program (IPC) of ICMR in secondary care hospitals

Co-investigator in research project:

- 1. DBT grant: Pharmacokinetics of voriconazole in neutropenic patients with hematologic malignancy. Effect of cytochrome P450 2C19 polymorphisms on drug metabolism in a population from eastern India. Ref no: BT/PR8367/MED/12/700/2015. Rs. 97,94,800. Chakraborty S et al.
- 2. DBT grant: Integrated Cervical cancer prevention and treatment stratification study: systems medicine cluster approach (PI: Dr. Mammen Chandy)
- 3. ICMR grant: Antimicrobial Stewardship Program (AMSP)- ICMR project. PI> Dr. Sudipta Mukherjee

Reviewed of research papers for Scientific Journals

- British Medical Journal
- British Journal of Ophthalmology
- Post-graduate Medical Journal
- Quarterly Journal of Medicine

- Indian Journal of Pathology and Microbiology
- Indian Journal of Medical Microbiology

Awards:

- Tim Weller Prize for best oral presentation at West Midlands Microbiology meeting, Stratford upon Avon, 2008;
- ➤ JIPMER Microbiology alumni medal for MD Microbiology degree examination of Pondicherry University held during March 2000;
- Uday-Somnath-Ashoke memorial medal for securing highest marks in 2nd professional MBBS examinations 1992 conducted by University of North Bengal;
- > Dr. Amulya Kumar Ghosh memorial medal for securing highest marks in Pathology examination 1992 conducted by University of North Bengal
- University Medal from University of North Bengal for securing second highest marks in MBBS examinations 1994
- Local, regional and East-zonal prize all India Paediatric Quiz organized by the Indian Academy of Paediatrics-1993-1994;

Extra-curricular activities

• Creative writing. Book published: **KOLKATA DREAMS**. A collection of short stories, translations and essays. INSC International Publishers. Chikkamagaluru, Karnataka, India, 2021.

Vision for the future:

- Contribute towards the development of India
- Support family and friends so that they can live a happy and productive life and reach their true potential

Declaration:

I declare that the above information is true to the best of my knowledge and understanding.

Dr. Sanjay Bhattacharya

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