DR. SANJAY BHATTACHARYA

Name: Dr. Sanjay Bhattacharya
Designation: Senior Consultant, Department of Microbiology, Tata Medical Center, Kolkata, India

Work Contact Details:

Dr. Sanjay Bhattacharya
MD, DNB, DipRCPath, FRCPath, CCT (UK)
Consultant Microbiologist
Tata Medical Center
14 Major Arterial Road (E-W),
New Town, Rajarhat, Kolkata 700 160, INDIA
Tel: +91-33-6605-7751/7135; Mobile: +91-94323-44206
Email:
Sanjay.Bhattacharya@tmckolkata.com ;
drsanjay1970@hotmail.com

- **West Bengal Medical Council Registration number:** 52929
- **General Medical Council UK Registration:** 6037721

Weblinks: URL of information sources>>

- **Tata Medical Center, Kolkata, India: http://www.tmckolkata.com/**
- **Department of Microbiology, Tata Medical Center, Kolkata, India: http://www.tmckolkata.com/page.php?pid=4&page_id=93**
- **Dr. Sanjay Bhattacharya, Senior Consultant, Department of Microbiology, Tata Medical Center, Kolkata, India: http://www.tmckolkata.com/dr_details.php?pid=7&dr_id=14**

Current job description- responsibilities- experience-research projects:

A. At Tata Medical Center, Kolkata, India: (job description/responsibilities)
   a. Head of the Department of Microbiology
   b. Chairperson of the Hospital Infection Control Committee
   c. Lead trainer for Clinical Microbiology fellowship program
   d. Lead trainers for the Molecular Medical Microbiology training program with Indian Institute of Technology, Kharagpur
   e. Trainer of Diploma of Medical Laboratory Technology program

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. Member of the Ethical Committee (Institutional Review Board) of the Ramakrishna Mission Seva Pratishthan- Vivekannada Institute of Medical Sciences, Kolkata

c. **With the School for Skills- Microbiology education for medical attendants, operation theater technologists**
d. **Indian Institute of Technology, Kharagpur (IIT-KGP): Visiting Faculty and Program Coordinator in Integrated MSc-PhD program (IIT-KGP and Tata Medical Center, Kolkata) in Molecular Medical Microbiology**

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**
   b. **With Centers for Disease Control and Prevention (in association with ICMR and the All India Institute of Medical Sciences, New Delhi):**
      i. **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 in women for cervical cancer prevention**
   d. **With National Centre for Disease Control and WHO-SEARO:**
      i. **Infection Prevention and Control Guideline development**
   e. **With FISF- Fungal Infection Study Forum:**
      i. **Surveillance of Invasive Mould Infection in Indian Intensive Care Units**
   f. **With Christian Medical College Vellore:**
      i. **Study of Norovirus gastroenteritis among immunocompromised cancer patients and those with Bone Marrow Transplantation**
   g. **Editor-in-Chief: Journal of the Academy of Clinical Microbiologists: http://www.jacmjournal.org/editorialboard.asp**

D. **At the International Level: (experience)**
   a. **With WHO> Priority Pathogen List for Antibiotic Resistant Bacteria**
   a **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**
   b. **With Tata Social Internship program> Supervisor for summer internship program in Microbiology for graduate students for University of California at Berkeley, University of Cambridge, London School of Economics> https://www.tatasocial-in.com/**

Educational Qualifications

Degree	Institution	Field	Year
MBBS	North Bengal Medical College (University of North Bengal), Dist. Darjeeling (near Siliguri), West Bengal	Medical science	1994

MD	Jawaharlal Institute of Post-graduate Medical education and Research (Pondicherry University)	Microbiology	2000
DNB	National Board of Examinations (New Delhi)	Microbiology	2001
DipRCPath	Royal College of Pathologists, London, UK	Medical Microbiology	2004
FRCPath	Royal College of Pathologists, London, UK	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 aspects of Central Sterile Supply Department
6. Responsible for Bio-Medical Waste Management
7. Responsible for Clinical Microbiology and Virology consultation services

Details of Training and Experience

Specialty Training:

- Clinical Microbiology and Clinical Virology training in UK from 2002 to 2009.
- 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.

Clinical Appointments

Date	Grade and Specialty	Place held	Teaching hospital/ University
01 Oct 2011 to till date	Senior Consultant in Microbiology	Tata Medical Center, Kolkata, India	Yes
02 August 2010 to 01 Oct 2011	Associate Consultant in	Tata Medical Center, Kolkata,	Yes

	Microbiology	India	
21 June to 09 July 2010	Consultant Microbiologist (locum)	West Suffolk Hospital NHS Trust, Bury St Edmunds, UK	Yes/ Cambridge
21 Dec 2009 to 20 June 2010	Consultant Virologist (locum)	King's College Hospital NHS Foundation Trust, London, UK	Yes/London
August 2009	Consultant Microbiologist (locum)	West Suffolk Hospital NHS Trust, Bury St Edmunds, UK	Yes/ Cambridge
Sept 2007 to July 2009	Specialist Registrar in Clinical Virology	Heart of England NHS Trust, Birmingham, UK	Yes/Birmingham
Sept 2006 to Sept 2007	Specialist Registrar in Clinical Virology	University Hospital Birmingham, UK	Yes/Birmingham
March 05 to Sept 2006	Specialist Registrar in Clinical Virology	Heart of England NHS Trust, Birmingham, UK	Yes/Birmingham
April 2004 to Feb 2005	Specialist Registrar in Clinical Microbiology	City Hospital, Birmingham, UK	Yes/Birmingham
Sept 2003 to April 2004	Specialist Registrar in Clinical Microbiology	University Hospitals Coventry & Warwickshire, UK	Yes/Warwick
Sept 2002 to Sept 2003	Senior House Officer, Clinical Microbiology	University Hospitals of Leicester, UK	Yes/Leicester
April 2000 to Sept 2002	Senior Resident in Microbiology	JIPMER, Pondicherry, India	Yes/Pondicherry
April 1997 to March 2000	Junior Resident in Microbiology	JIPMER, Pondicherry, India	Yes/Pondicherry
Sept 1996 to Jan 1997	Junior Resident in Pathology	AIIMS, New Delhi, India	Yes/AIIMS
Aug 1995 to Jan 1996	House staff in Neuro-Medicine	SSKM Hospital, Calcutta, India	Yes/Calcutta
Sept 2006 to Sept 2007	Specialist Registrar in Clinical Virology	University Hospital Birmingham, UK	Yes/Birmingham
March 05 to Sept 2006	Specialist Registrar in Clinical Virology	Heart of England NHS Trust, Birmingham, UK	Yes/Birmingham

April 2004 to Feb 2005	Specialist Registrar in Clinical Microbiology	City Hospital, Birmingham, UK	Yes/Birmingham
Sept 2003 to April 2004	Specialist Registrar in Clinical Microbiology	University Hospitals Coventry & Warwickshire, UK	Yes/Warwick
Sept 2002 to Sept 2003	Senior House Officer, Clinical Microbiology	University Hospitals of Leicester, UK	Yes/Leicester
April 2000 to Sept 2002	Senior Resident in Microbiology	JIPMER, Pondicherry, India	Yes/Pondicherry
April 1997 to March 2000	Junior Resident in Microbiology	JIPMER, Pondicherry, India	Yes/Pondicherry
Sept 1996 to Jan 1997	Junior Resident in Pathology	AIIMS, New Delhi, India	Yes/AIIMS

Memberships:

- Royal College of Pathologists, UK
- Indian Association of Medical Microbiologists
- Academy of Clinical Microbiologists
- Society for India Human and Animal Mycologists (SIHAM)

Publications: 2011-2018 (June)

Journal impact factors in which articles have been published:

- Virulence: 2015 Impact Factor: **5.418** (2016 Thomson Reuters, Journal Citation Reports)
- Infection Control Hospital Epidemiology: **3.669** (2015 Thomson Reuters, Journal Citation Reports)
- European Journal of Clinical Microbiology and Infectious Disease. Impact factor**:**
  - **2.727** (2016)
- Journal of Infection and Public Health: **1.194.** Thomson Reuters Journal Citation Reports 2016
- Indian Journal of Medical Microbiology: **1.006.** Impact Factor® as reported in the 2015 Journal Citation Reports® (Thomson Reuters, 2016)
- Indian Journal of Pathology and Microbiology: **0.522.** Impact Factor® as reported in the 2015 Journal Citation Reports® (Thomson Reuters, 2016)
- Indian Journal of Cancer. **0.432.** Impact Factor® as reported in the 2015 Journal Citation Reports® (Thomson Reuters, 2016)

1. 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**

high-risk clones in carbapenemase-producing Pseudomonas aeruginosa: Multicentric molecular epidemiology report from India. Indian J Med Microbiol. 2018 Jul-Sep;36(3):344-351.

2. Bhaumik J, Mukhopadhyay A, Ghosh A, Bhattacharya S, Chakraborti B. **Postoperative infection rate and clinical outcome after oncosurgery for endometrial carcinoma in a patient population with high prevalence of multidrug-resistant organism colonization and multiple comorbidities.** Infect Control Hosp Epidemiol. 2018 Sep;39(9):1140-1141.

3. 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.

4. 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.

5. Bhattacharya S. **Why is dengue such an important public health problem in India?** J Acad Clin Microbiol 2018;20:3-4.

6. 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.

7. Agarwal N, Agarwal SK, Bhattacharya S, Datta SS, Chatterjee S, Ahmed R. **Antibiotic prophylaxis for Breast Onco-Surgery in a setting with high prevalence of multi-drug resistant bacteria: Common Sense Infection Control Measures are more important than Prolonged Antibiotics.** Infect Control Hosp Epidemiol. 2018 Feb 13:1-2. doi:10.1017/ice.2017.313. [Epub ahead of print]

8. 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.

9. Das P, Sengupta K, Goel G, Bhattacharya S. **Colistin: Pharmacology, drug resistance and clinical applications.** J Acad Clin Microbiol 2017;19:77-85.

10. Devereux S, Goel G, Sengupta K, Bhattacharya S. **Blood stream infections as a predictor of length of hospital stay and cost of care in patients with cancer.** J Acad Clin Microbiol 2017;19:118-20.

11. Tacconelli E et al WHO Pathogens Priority List Working Group. **Discovery, research, and development of new antibiotics: the WHO priority list of antibiotic-resistant bacteria and tuberculosis.** Lancet Infect Dis. 2017 Dec 21. pii: S1473-3099(17)30753-3.). (Dr. Sanjay Bhattacharya was one of the members of the WHO Pathogens Priority List Working Group)

12. Das A, Mitra S, Ghosh D, Modi SK, Roy P, Das J, Bhattacharya S, Krishnan S, Das A, Bhattacharyya A. **Vanishing Bile Duct Syndrome Following Cytomegalovirus Infection in a Child With Hodgkin Lymphoma.** J Pediatr Hematol Oncol. 2018 Jan;40(1):83-84.

13. Chandy M, Das A, Bhattacharyya A, Banerjee S, Dhar K, Goel G, Bhattacharya S. **Colistin-Resistant Klebsiella Infections Among Pediatric Oncology and Hematopoietic Stem Cell Transplantation Patients in Eastern India.** Infect Control Hosp Epidemiol. 2017 Nov 27:1-3.

14. Das P, Pandey P, Harishankar A, Chandy M,Bhattacharya S, Chakrabarti A. **Standardization of a two-step real-time polymerase chain reaction based method for species-specific detection of medically important Aspergillus species.** Indian J Med Microbiol 2017:35;381-8.

15. Goel G, Chandy M, Bhattacharyya A, Banerjee S, Chatterjee S, Mullick S, Sinha S, Sengupta K, Dhar K, Bhattacharya S, Rudramurthy S, Chakrabarti A. **Mortality associated with candidemia in non-neutropenic cancer patients is not less compared to a neutropenic cohort of cancer patients.** Eur J Clin Microbiol Infect Dis. 2017 Aug 11. doi: 10.1007/s10096-017-3078-5. [Epub ahead of print] PubMed PMID: 28801726.

16. Ravi N, Laha A, Hmar L, Chatterjee S, Goswami J, Goel G, Dhar K, Ghosh T, Chatterji S, Datta SS, Bhattacharya S. **Exploring the prescribing behaviours and the mind of**

antibiotic prescribers is critical for a successful antibiotic stewardship programme: Results of a survey from Eastern India. Indian J Med Microbiol 2017;35: 299-301.

17. Goel G, Bhattacharya S, Chandy M. **Soaps and infection control: From chemistry to microbiology.** J Acad Clin Microbiol 2017;19:66-9.

18. Raja K, Bhattacharya S, Philomina J B, Nagaraj S, Devi Sarada K L, Sathiavathy K A, Oommen S, Sangeetha A V, Sudarsana J, John R, Mathew R, Pillai A, Gopal K, Ahmed SM, Kurian S, Deepasankari T L, Madhavan A, Nair PK, Nair L, Hisham P P, Sheena K. **Comparison of antimicrobial susceptibility testing practices in 20 clinical microbiology laboratories in India.** J Acad Clin Microbiol 2017;19:5-11

19. Exner M, Bhattacharya S, Christiansen B, Gebel J, Goroncy-Bermes P, Hartemann P, Heeg P, Ilschner C, Kramer A, Larson E, Merkens W, Mielke M, Oltmanns P, Ross B, Rotter M, Schmithausen RM, Sonntag HG, Trautmann M. **Antibiotic resistance: What is so special about multidrug-resistant Gram-negative bacteria?** GMS Hyg Infect Control. 2017 Apr 10;12:Doc05. doi: 10.3205/dgkh000290.

20. Das P, Mahto R, Goel G, Chandy M, Bhattacharya S. **Relative potency of different generic brands of Piperacillin-Tazobactam: Implications for public health.** J Infect Public Health. 2017 Feb 10. pii: S1876-0341(17)30038-2.

21. Das P, Pandey P, Harishankar A, Chandy M, Bhattacharya S. **A high yield DNA extraction method for medically important Candida species: A comparison of manual versus QIAcube-based automated system.** Indian J Med Microbiol. 2016 Oct-Dec;34(4):533-535. (Brief Communication)

22. Collett S, Samarin I, Bhalchandra R, Soundaranayagam JR, Garai S, Chandy M, Bhattacharya S. **Water usage in a multi-speciality hospital and its effective management.** J Acad Clin Microbiol 2016;18:135-7. (Short Communication)

23. Basu D, Dutta SK, Bhattacharya S, Mahajan A, Ramanan VR, Chandy M. **The Economics of Autoclave-Based Sterilization: Experience from Central Sterile Supply Department of a Cancer Center in Eastern India.** Infect Control Hosp Epidemiol 2016 Apr 28:1-2. [Epub ahead of print] PubMed PMID: 27123794.

24. Roychowdhury M, Kumar J, Chakrapani A, Jayant Bhave S, Krishnan S, Thambudorai R, Bhattacharya S, Chandy M. **Low Incidence of Central Venous Catheter-Related Bloodstream Infections in Stem Cell Transplant Patients in**

Eastern India Despite High Community Burden of Multidrug-Resistant Pathogens. Infect Control Hosp Epidemiol. 2016 May;37(5):619-20.(Letter)

25. Chowdhury G, Joshi S, Bhattacharya S, Sekar U, Birajdar B, Bhattacharyya A, Shinoda S, Ramamurthy T. **Extraintestinal Infections Caused by Non-toxigenic Vibrio cholerae non-O1/non-O139.** Front Microbiol. 2016 Feb 11;7:144.

26. 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)

27. 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)

28. Bhalchandra R, Bhattacharya S, Soundaranayagam JR, Garai S, Chandy M. **Importance of Air Particle Counts in Hospital Infection Control: Insights From a Cancer Center in Eastern India.** Infect Control Hosp Epidemiol. 2015 Sep;36(9):1115-7.(Letter)

29. Das K, Bhattacharyya A, Chandy M, Roy MK, Goel G, Hmar L, Bhattacharya S, Roy P, Chakrabarti A. **Infection Control Challenges of Infrequent and Rare Fungal Pathogens: Lessons from Disseminated Fusarium and Kodamaea ohmeri Infections.** Infect Control Hosp Epidemiol. 2015; 36: 866-868. PubMed PMID: 25998614.(Letter)

30. Bhattacharya S, Goel G, Mukherjee S, Bhaumik J, Chandy M. **Epidemiology of Antimicrobial Resistance in an Oncology Center in Eastern India.** Infect Control Hosp Epidemiol. 2015 Apr 22:1-2. [Epub ahead of print] PubMed PMID: 25899762. (Letter)

31. Basu S, Goel G, Bhattacharya S. **Infection prevention in transfusion practice.** Infect Control Hosp Epidemiol. 2015 May;36(5):613-4. (Letter)

32. Basu D, Bhattacharya S, Mahajan A, Ramanan VR, Chandy M. **Sterilization indicators in central sterile supply department: quality assurance and cost implications.** Infect Control Hosp Epidemiol. 2015 Apr;36(4):484-6. (Letter)

33. Goel G, Das D, Mukherjee S, Bose S, Das K, Mahato R, Bhattacharya S. **A method for early detection of antibiotic resistance in positive blood cultures: experience from an oncology centre in eastern India.** Indian J Med Microbiol. 2015 Feb;33 Suppl:53-8.(Original article)

34. Bhattacharyya A, Krishnan S, Saha V, Goel G, Bhattacharya S, Hmar L. **Microbiology, infection control and infection related outcome in pediatric patients in an oncology center in Eastern India: Experience from Tata Medical Center, Kolkata.** Indian J Cancer. 2014 Oct-Dec;51(4):415-7.

35. Arora N, Parihar M, Mishra D, Bhattacharya S, Chakrapani A. **Candida Parapsilosis in peripheral blood.** Indian J Pathol Microbiol. 2014 Oct-Dec;57(4):645. (Letter)

36. Basu D, Bhattacharya S, Mahajan A, Ramanan VR, Chandy M. **The importance of the central sterile supply department in infection prevention and control.** Infect Control Hosp Epidemiol. 2014 Oct;35(10):1312-4. (Letter)

37. 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)

38. Bhalchandra R, Chandy M, Ramanan VR, Mahajan A, Soundaranayagam JR, Garai S, Bhattacharya S. **Role of water quality assessments in hospital infection control: Experience from a new oncology center in eastern India.** Indian J Pathol Microbiol. 2014 Jul-Sep;57(3):435-8. (Brief Communication)

39. Goel G, Hmar L, Sarkar De M, Bhattacharya S, Chandy M. **Colistin-resistant Klebsiella pneumoniae: report of a cluster of 24 cases from a new oncology center in eastern India.** Infect Control Hosp Epidemiol. 2014 Aug;35(8):1076-7. (Letter)

40. Dalen Rv, Gombert K, Bhattacharya S, Datta SS. **Mind the mind: Results of a hand-hygiene research in a state-of-the-art cancer hospital.** Indian J Med Microbiol. 2013 Jul-Sep;31(3):280-2. (Brief Communication)

41. Ahmed R, Bhattacharya S. **Universal screening versus universal precautions in the context of preoperative screening for HIV, HBV, HCV in India.** Indian J Med Microbiol. 2013 Jul-Sep;31(3):219-25. (Review article)

42. Bhattacharya S. **Early diagnosis of resistant pathogens: how can it improve antimicrobial treatment?** Virulence. 2013 Feb 15;4(2):172-84. (Review article)

43. Bhattacharya S, Das D, Bhalchandra R, Goel G. **Patient isolation in the high-prevalence setting: challenges with regard to multidrug-resistant gram-negative bacilli.** Infect Control Hosp Epidemiol. 2013 Jun;34(6):650-1. (Letter)

44. Bhattacharya S. **Economic considerations for an antimicrobial policy for patients with neutropenic fever in resource limited settings.** Journal of the Vivekananda Institute of Medical Sciences 2012;35(1): 12-25. (Review article)

45. Bhattacharya S. **Is screening patients for antibiotic-resistant bacteria justified in the Indian context?** Indian J Med Microbiol. 2011 Jul-Sep;29(3):213-7. (Review article)

Book chapters:

1. 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.

2. 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

3. 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.

4. 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.

5. Bhattacharya S. **Sterility testing.** In; Hospital Infection Control. Clinical Guidelines. Editors. Saini S and Saini R. Paras Medical Publisher, Hyderabad. 2012. Pp 10-17.

- 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:

1. Bhattacharya S. **Setting up a Molecular VirologyLaboratory.** TRICON, Kozhicode, Govt Medical College, 05 August 2017.

2. 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.

3. 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.

4. 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.

5. 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.

6. 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 grant received:

1. **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.**
2. **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. ***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. ***Capacity Building and Strengthening of Hospital Infection Control to detect and prevent antimicrobial resistance in India.***

Co-investigator in research project:

1. ***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. ***Integrated Cervical cancer prevention and treatment stratification study: systems medicine cluster approach (PI: Dr. Mammen Chandy)***
3. ***Antimicrobial Stewardship Program (AMSP)- ICMR project. PI> Dr. Sudipta Mukherjee***
4. ***Epidemiology of norovirus gastroenteritis in the immunocompromised population: a prospective 2 year study from eastern India> PI> Dr. Siddhartha Giri, CMV Vellore (Welcome Trust Lab); Dr. Jan Vinje: CDC Atlanta***

Previous Publications (2000 to 2010)

1. Swann RA, Bhattacharya S. **Vancomycin-dependent Enterococcus.** Indian J Med Microbiol. 2011 Jan-Mar;29(1):71-2.
2. Bhattacharya S. **Clinical Microbiology: should microbiology be a clinical or laboratory specialty?** Indian J Pathol Microbiol 2010;53:217-221 (Review article) PMID: 20551520
3. Bhattacharya S and Mondal AS. **Clinical microbiology in the intensive care unit: strategic and operational characteristics.** Indian Journal of Medical Microbiology 2010;28:5-10. (Review article)
4. Bhattacharya S. **Out-of hours training and banding issues in Microbiology and Virology: using solid geometry to illustrate a simple point.** Bulletin of the Royal College of Pathologists Oct 2009;(148):327. (Letter)
5. Bhattacharya S. **Laboratory to clinical Microbiology: are we ready for a transition?** Indian J Med Microbiol 2009; 27: 97-99. (Guest Editorial) PMID: 19384029
6. Bhattacharya S. **ESBL- from Petri dish to the patient.** Indian J Med Microbiol 2006; 24: 20-24. (Special article) PMID: 16505550.
7. Bhattacharya S. **Blood culture in India: a proposal for a national programme for early detection of sepsis.** Indian J Med Microbiol 2005; 23: 220-226. (Special article) PMID: 16327116.
8. Partner AM, Bhattacharya S, Scott RA, Stavrou P. **Rothia genus endophthalmitis following penetrating injury in a child.** Eye. 2006; 20; 502-503. (Letter) PMID: 15877090.
9. Bhattacharya S, Livsey SA, Wiselka M, Bukhari SS. **Fusobacteriosis presenting as community acquired pneumonia.** Journal of Infection 2005; 50: 236-9. (Case report) PMID: 15780418.
10. Shanmuganathan C, Ananthakrishnan A, Jayakeerthi SR, Kanungo R, Kumar A, Bhattacharya S, Badrinath S. **Learning from an outbreak: ESBL- the essential points.** Indian J Med Microbiol 2004; 22(4): 255-257. (Outbreak Report) PMID: 17642750.
11. Karthik S, Bhattacharya S, Harish BN, Parija SC. **Detection of slime production by coagulase-negative Staphylococcus: an assessment of two methods.** Indian J Pathol Microbiol 2004; 47(1): 85-9. (Research paper) PMID: 15471145.

12. Kanungo R, Vijayalakshmi N, Nalini P, Bhattacharya S. **Diphtheria due to non-toxigenic Corynebacterium diphtheriae: a report of two cases.** Indian J Med Microbiol 2002; 20(1): 50-52. (Case report) PMID: 17657027.
13. Kanungo R, Kumar A, Bhattacharya S, Badrinath S, Dutta TK, Das AK. **Problem of timely diagnosis of anthrax meningitis.** J Assoc Physicians India 2002; 50:913-915. (Review) PMID: 12126347.
14. Kanungo R, Padhan P, Bhattacharya S, Sriman Narayan J, Jayanthi S, Swaminathan RP. **Melioidosis- a report from Pondicherry, South India.** J Assoc Physicians India 2002; 50: 1438-9. (Case report) PMID: 12583480.
15. Sujatha S, Parija SC, Bhattacharya S, Sheela Devi C, Prabagaravarathanan, Puii JL, Kumar S. **Anthrax peritonitis: report of a rare case.** Tropical Doctor 2002; 32(4): 247-8. (Case report) PMID: 12405320.
16. Bhattacharya S, Vijayalakshmi N, Parija SC. **Uncultivable bacteria: implications and recent trends towards identification.** Indian J Med Microbiol 2002; 20(4): (Review article) PMID: 17657065.
17. Bhattacharya S, Parija SC. **Reporting trend of infectious diseases through case reports and brief reports published in Indian Pediatrics.** Indian Pediatrics 2002; 39(11): 1071-3. (Letter) PMID: 12466589.
18. Bhattacharya S, Kanungo R, Natarajan MK, Mahalakshmi VN, Srinivasan K. **Unimicrobial appendicitis due to non-vaccine serotype of *Streptococcus pneumoniae*: implications for management and prevention.** Indian J Med Microbiol 2001; 19(2): 101-102. (Case report) PMID: 17664810.
19. Karthikeyan K, Bhattacharya S, Thappa DM, Kanungo R. **Anthrax in an infant.** Indian Pediatr 2001; 38(7): 777-779. (Case report) PMID: 11463966.
20. Kumar A, Kanungo R, Bhattacharya S, Badrinath S, Dutta TK, Swaminathan RP. **Human anthrax in India: Urgent need for effective prevention.** J Common Dis 2000; 32(4): 240-246. (Review) PMID: 11668934.
21. Kanungo R, Kumar A, Bhattacharya S. **Antimicrobial resistance among common bacterial respiratory pathogens.** Indian J Med Microbiol 2000; 18 (2): 55-61. (Review article)
22. 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.
23. Bhattacharya S. **Swine influenza (novel H1N1): algorithms and common sense.** J Hosp Infect 2010;74:299-300. (Letter)
24. Bhattacharya S and Osman H. **Novel targets for antiretroviral therapy.** J Infect 2009;59(6):377-386. PubMed PMID: 19815027. (Review article)
25. 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)
26. 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)
27. 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)

28. 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)
29. 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)
30. 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.
31. 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.
32. Parija SC, Lalmuanpuii J, Bhattacharya S, Chandrasekhar S. **Parasitic Infections of the Central Nervous System.** J Parasitic Dis 2005; 29 (2): 85-96. (Review)
33. Parija SC, Bhattacharya S, Padhan P. **Thick stool smear wet mount examination: a new approach in stool microscopy.** Tropical Doctor 2003; 33(3): 173. (Research paper) PMID: 12870610.
34. Parija SC, Bhattacharya S, Padhan P, Shivaprakash MR. **Evaluation of formalin-acetone sedimentation in the concentration of stool for intestinal parasites.** Tropical Doctor 2003; 33(3): 163-4. (Research paper) PMID: 12870605.
35. Parija SC, Pradhan SC, Bhattacharya S. **Parasitic infections in travellers visiting tropical countries.** J Parasitic Diseases 2003; 27(2): 76-84. (Review)
36. Parija SC, Bhattacharya S. **The tragedy of tigers: Lessons to learn from the Nandankanan episode.** Indian J Med Microbiol 2001; 19(3): 116-118. (Article on zoonotic Trypanosomiasis) PMID: 17664812.
37. Parija SC, Bhattacharya S. ***Isospora belli* and *Cyclospora cayetanensis* as a cause of diarrhoea in an immunocompromized host.** J Assoc Physicians India 2000; 48 (12): 1192. (Pictorial CME) PMID: 11280226.

Reviewed 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;