### **CURRICULUM VITAE**

Name and Designation : Dr. Surajit De Mandal, Ph.D

Postdoctoral Fellow (PDF)

Date of Birth : 14-06-1985

Contact Details : Key Laboratory of Bio-Pesticide Innovation

and Application of Guangdong Province,

College of Agriculture,

South China Agricultural University (SCAU),

Guangzhou 510642, China

E-Mail: <a href="mailto:surajit\_micro@yahoo.co.in">surajit\_micro@yahoo.co.in</a>

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### PRESENT POSITION:

Postdoctoral Researcher at South China Agricultural University

## **EDUCATIONAL QUALIFICATIONS:**

Ph.D. [Biotechnology] (2011-2016): Specialization: Microbial Metagenomics

Mizoram University, Aizawl, India

### **RESEARCH INTERESTS:**

- Microbial Metagenomics
- Gut microbiome

### **JOURNALS REVIEWER**

- 1. Access Microbiology
- 2. Frontier in Microbiology
- 3. Scientific Report
- 4. Journal of Pure and Applied Microbiology
- 5. Heliyon (Advisory Board member)
- 6. Data in Brief
- 7. Osong Public Health and Research Perspectives

# Published manuscript as First or Co-author

- 1. Frontiers in Microbiology
- 2. Frontier in physiology
- 3. Microbial pathogenesis
- **4.** Genomics.
- **5.** AMB Express (3)
- **6.** BMC Microbiology
- 7. DNA Barcodes
- **8.** AMB Express
- **9.** Genome announcement

- **10.** Metagene
- 11. Advances in Microbiology
- 12. Big Data Analytics
- 13. Mitochondrial DNA (3)
- **14.** Genome announcements
- **15.** Genomics data (6)
- **16.** Peer J Pre Prints
- 17. Journal of Botanical Sciences
- 18. EC Agriculture
- 19. Journal of food science and technology
- **20.** Biocatalysis and Agricultural Biotechnology (2)
- 21. Journal of Medical Bacteriology
- 22. Archives of insect biochemistry and physiology (2)
- 23. Environmental Monitoring and Assessment
- 24. International Journal of Biological Macromolecules
- 25. Environmental Science and Pollution Research
- **26.** Antimicrobial resistant and infection control
- 27. Arabian Journal for Science and Engineering
- **28.** Antonie van Leeuwenhoek

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### **PUBLICATIONS**

- Wang C, Jin F, <u>De Mandal S</u>, Zeng L, Zhang Y, Hua Y, Hong Y, Zhao C, Li J, Li D, Xu X. Insights into the venom protein components of the egg parasitoid Anastatus japonicus (Hymenoptera: Eupelmidae).2020, Pest Management Science.[Joint First Author] IF: 3.255 SCI 1
- 2. <u>Surajit De Mandal</u>, Boda Lin, Miaojun Shi, Yapeng Li, <u>Xiaoxia Xu</u>\*, <u>Fengliang Jin</u>\* iTRAQ-Based comparative proteomic analysis of larval midgut from the beet armyworm, *Spodoptera exigua* (Hübner) (Lepidoptera: Noctuidae) challenged with the entomopathogenic bacteria *Serratia marcescens*. **Front. Physiol. Invertebrate Physiology. 2020**, DOI: 10.3389/fphys.2020.00442 **IF: 3.201 SCI 2**
- 3. Xu X, Zhong A, Wang Y, Lin B, Li P, Ju W, Zhu X, Yu J, <u>De Mandal S</u>, Jin F. Molecular Identification of a Moricin Family Antimicrobial Peptide (Px-Mor) From Plutella xylostella With Activities Against the Opportunistic Human Pathogen Aureobasidium pullulans. Frontiers in microbiology. 2019;10.[Joint Corresponding Author] IF: 4.259 SCI 2
- **4.** Zhang Z, Kong J, <u>De Mandal S</u>, Li S, Zheng Z, Jin F, Xu X. An immune-responsive PGRP-S1 regulates the expression of antibacterial peptide genes in diamondback moth, Plutella xylostella (L.). **International journal of biological macromolecules**. **2020** Jan 1;142:114-24. **IF: 4.784 SCI 2**
- 5. Karthi S, Vinothkumar M, Karthic U, Manigandan V, Saravanan R, Vasantha-Srinivasan P, Kamaraj C, Shivakumar MS, <u>De Mandal S</u>, Velusamy A, Krutmuang P. Biological effects of Avicennia marina (Forssk.) vierh. extracts on physiological, biochemical, and antimicrobial activities against three challenging mosquito vectors and microbial pathogens. Environmental Science and Pollution Research. 2020 Feb 18:1-4. IF: 2.914 SCI 3

- **6.** <u>De Mandal S</u>, Mazumder TH, Panda AK, Kumar NS, Jin F. Analysis of synonymous codon usage patterns of HPRT1 gene across twelve mammalian species. **Genomics**. **2020** Jan 1;112(1):304-11. **IF: 3.160 SCI 3**
- 7. Manpoong C, <u>De Mandal S</u>, Bangaruswamy DK, Perumal RC, Benny J, Beena PS, Ghosh A, Kumar NS, Tripathi SK. Linking rhizosphere soil biochemical and microbial community characteristics across different land use systems in mountainous region in Northeast India. Meta Gene. 2020 Feb 1;23:100625.
- **8.** Sumi Das Purkayastha1, Mrinal Kanti Bhattacharya, Himanshu Kishore Prasad, Maloyjo Joyraj Bhattacharjee, <u>Surajit De Mandal</u>, Vabeiryureilai Mathipi and Nachimuthu Senthil Kumar Probiotic and Cytotoxic Potential of Vaginal *Lactobacillus* Isolated from Healthy Northeast Indian Women **J. Pure Appl. Microbiol.**, **2020**, **14** (1): 205-214.
- 9. <u>De Mandal S</u>, Mathipi V, Muthukumaran RB, Gurusubramanian G, Lalnunmawii E, Kumar NS. Amplicon sequencing and imputed metagenomic analysis of waste soil and sediment microbiome reveals unique bacterial communities and their functional attributes. Environmental Monitoring and Assessment. 2019 Dec 1;191(12):778. IF: 1.959 SCI 3
- 10. <u>De Mandal S</u>, Shakeel M, Prabhakaran VS, Karthi S, Xu X, Jin F. Alternative splicing and insect ryanodine receptor. <u>Archives of Insect Biochemistry and Physiology</u>. 2019 Nov 1;102(3). <u>IF</u>: 1.198 SCI 4
- 11. Selvin J, Lanong S, Syiem D, <u>De Mandal S</u>, Kayang H, Kumar NS, Kiran GS. Culture-dependent and metagenomic analysis of lesser horseshoe bats' gut microbiome revealing unique bacterial diversity and signatures of potential human pathogens. **Microbial pathogenesis**. 2019 Dec 1;137:103675. **IF: 2.581 SCI 3**
- **12.** Shakeel M, Xu X, <u>De Mandal S</u>, Jin F. Role of serine protease inhibitors in insect-host-pathogen interactions. **Archives of insect biochemistry and physiology**. 2019 Nov;102(3):e21556. **IF: 1.198 SCI 4**
- **13.** Chellapandi K, Ralte L, <u>De Mandal S</u>, Kumar NS, Dutta TK, Sharma I. Diffusely Adherent E. coli Burden in Low Socio-Economic Pediatric Population. **Journal of Medical Bacteriology**. 2019 Sep 8;8(5, 6)):44-55.
- **14.** Ghosh S, <u>De Mandal S</u>, Nath N, Kaipeng DL, Rahaman L, Nachimuthu SK, Sharma BK. Isolation and Partial Evaluation of a Potential Indigenous Yeast Strain Pichia kudriavzevii from a Traditional Rice Beer—"Gora" Prepared by the Koloi Tribes of Tripura. **Advances in Microbiology**. 2019 Sep 3;9(9):824-41.
- **15.** Singh, S.S., <u>De Mandal, S.</u>, Lalnunmawii, E. and Kumar, N.S., **2018**. Antimicrobial, antioxidant and probiotics characterization of dominant bacterial isolates from traditional fermented fish of Manipur, North-East India. **Journal of food science and technology**, 55(5), pp.1870-1879. **IF: 1.85 SCI 3**
- **16.** Singh, S. S., <u>De Mandal, S.</u>, Mathipi, V., Ghatak, S., & Kumar, N. S. (2018). Traditional fermented fish harbors bacteria with potent probiotic and anticancer properties. **Biocatalysis and Agricultural Biotechnology**, 15, 283–290. https://doi.org/10.1016/j.bcab.2018.07.007
- **17.** <u>De Mandal, S.</u>, Singh, S. S., & Kumar, N. S. (2018). Analyzing plant growth promoting Bacillus sp. and related genera in Mizoram, Indo-Burma biodiversity Hotspot. **Biocatalysis and Agricultural Biotechnology**, 15, 370–376.
- **18.** <u>De Mandal, S.,</u> Singh, S. S., Muthukumaran, R. B., Thanzami, K., Kumar, V., & Kumar, N. S. (2018). Metagenomic analysis and the functional profiles of traditional fermented pork fat "sa-um" of Northeast India. **AMB Express**, 8(1). **IF: 2.226 SCI 3**

- 19. <u>De Mandal S</u>, Chatterjee R, Senthil Kumar N. (2017) Dominant Bacterial phyla in Caves and their imputed functional roles in C and N cycle' BMC Microbiology 17(1): 90. IF: 3.287 SCI 3
- **20.** Laha RC, <u>De Mandal S</u>, Ralte L, Ralte L, Kumar NS, Gurusubramanian G, Satishkumar R, Mugasimangalam RC and Kuravadi NA, (2017) Meta-barcoding in combination with palynological inference is a potent diagnostic marker for honey floral composition. **AMB Express** 7: 1-9.[equal first author] IF: 2.226 SCI 3
- **21.** Karuppasamy Chellapandi, Tapan Kumar Dutta, Indu Sharma, <u>Surajit De Mandal</u>, Nachimuthu Senthil Kumar, Lalsanglura Ralte. (2017). Prevalence of Multi Drug Resistant diffusely adherent Escherichia coli associated with diarrhoea in paediatric patients. **Antimicrobial resistant and infection control. IF: 3.224 SCI 3**
- **22.** Panda, A.K., Bisht, S.S., Kaushal, B.R., <u>De Mandal, S.</u>, Kumar, N.S. and Basistha, B.C., **2017**. Bacterial diversity analysis of Yumthang hot spring, North Sikkim, India by Illumina sequencing. **Big Data Analytics**, *2*(1), p.7.
- 23. Chhakchhuak, L., <u>De Mandal</u>, S., Gurusubramanian, G., Sudalaimuthu N, Gopalakrishnan C., Mugasimangalam RC., Vanramliana & Nachimuthu, S. K. complete mitochondrial genome of the Indian honey bee, Apis cerena cerana (Hymenoptera: Apidae: Apinae). Mitochondrial DNA 2016 DOI 10.3109/19401736.2015.1106492. .[equal first author] IF: 3.5
- **24.** <u>De Mandal, Surajit</u>, Zothan Sanga, and Nachimuthu Senthil Kumar. "Metagenome sequencing reveals Rhodococcus dominance in Farpuk Cave, Mizoram, India, an Eastern Himalayan **Genome announcement**
- 25. <u>De Mandal S.</u> Panda AK, Bisht SS, Kumar NS. MiSeq HV4 16S rRNA gene analysis of bacterial community composition among the cave sediments of Indo-Burma biodiversity hotspot." Environmental Science and Pollution Research (2016): 1-11. IF: 2.914 SCI 3
- **26.** Panda A.K, Bisht S.P.S, **De Mandal S.** N. Senthil Kumar (2016) Geochemistry and diversity of microbial mat from two hot water springs of North-east India. **AMB Express. IF: 2.226 SCI 3**
- **27.** Panda AK, Bisht SP, Panigrahi AK, <u>De Mandal S</u>, Kumar NS. Cloning and In Silico Analysis of a High-Temperature Inducible Lipase from Brevibacillus. **Arabian Journal for Science and Engineering. 2016** Jun 1; 41(6):2159-70. **IF: 1.518 SCI 4**
- **28.** Chhakchhuak, L., **De Mandal, S.,** Gurusubramanian, G & Nachimuthu SK. (2016). The near complete mitochondrial genome of the Giant honey bee, Apis dorsata (Hymenoptera: Apidae: Apinae) and its phylogenetic status **Mitochondrial DNA** Part A 27(5) 3483-3484. **IF: 3.5**
- **29.** Vanlalruati, C., **Mandal, S. D.**, Gurusubramanian, G., & Senthil Kumar, N. (2016). Complete mitochondrial genome of Chocolate Pansy, Junonia iphita (Lepidoptera: Nymphalidae: Nymphalinae). **Mitochondrial DNA** Part A, 27(4), 2468-2469. **IF: 3.5**
- **30.** Chhakchhuak, L., <u>De Mandal, S.,</u> Gurusubramanian, G., Sudalaimuthu, N., Gopalakrishnan, C., Mugasimangalam, R. C., & Senthil Kumar, N. (2015). Complete mitochondrial genome of the Himalayan honey bee, Apis laboriosa. **Mitochondrial DNA** 1-2. **IF: 3.5**

- 31. <u>De Mandal S</u>, Amrita Kumari Panda, Satpal Singh Bisht and Nachimuthu Senthil KumarlMicrobial ecology in the era of Next generation sequencing Journal of Next Generation Sequencing & Applications. S1http://dx.doi.org/10.4172/S1-001
- **32.** Panda, A.K., Bisht, S.S., Kumar, N.S. and <u>De Mandal</u>, S., 2015. Investigations on microbial diversity of Jakrem hot spring, Meghalaya, India using cultivation-independent approach. **Genomics data**, 4, pp.156-157.
- 33. Panda, Amrita Kumari, Satpal Singh Bisht, Nachimuthu Senthil Kumar, and <u>Surajit De Mandal</u> Report from the 10th International Congress on Extremophiles. 3 (2015) Genomics data.
- **34.** <u>De Mandal, Surajit</u>, et al. Illumina-based analysis of bacterial community in Khuangcherapuk cave of Mizoram, Northeast India. **Genomics data** 5 (2015): 13-14
- **35.** <u>De Mandal S</u>, Sanga Z, Panda A K, Bisht SS, Senthil Kumar N. First report of bacterial community from a Bat Guano using Illumina next-generation sequencing **Genomics Data** 4 (2015) 99–101
- **36.** <u>De Mandal S.</u> R Lalmawizuala1, M Vabeiryureilai, Nachimuthu Senthil Kumar1 and Esther Lalnunmawii1 An Investigation of the Antioxidant Property of Carica papaya Leaf Extracts from Mizoram, Northeast India **Journal of Botanical Sciences** 4 (2) 2015.
- **37.** <u>De Mandal S</u>, Ajit Kumar Passari, Souvik Ghatak, Vineet Kumar Mishra, Nachimuthu Senthil Kumar and Bhim Pratap Singh Total Phenol Content, Antioxidant and Antimicrobial Capability of Traditional Medicinal Plants of Mizoram, Eastern Himalayas, Northeast India **EC Agriculture** 2.3 (2015) 350-357.
- **38.** <u>De Mandal, Surajit</u>, H. T. Lalremsanga, and Nachimuthu Senthil Kumar. Bacterial diversity of Murlen National Park located in Indo-Burman Biodiversity hotspot region: A metagenomic approach. **Genomics data** 5 (2015): 25-26.
- **39.** Vanlalruati, C., <u>De Mandal, S.,</u> Guruswami, G., & Nachimuthu, S. K. Illumina based whole mitochondrial genome of Junonia iphita reveals minor intraspecific variation. **Genomics data** (2015): 280-282.
- **40.** Panda, A. K., Bisht, S. S., <u>De Mandal</u>, S., Kumar, NS., Gurusubramanian, G., & Panigrahi AK. Brevibacillus as a biological tool: a short review. **Antonie van Leeuwenhoek**, (2014): 623-639. **IF: 1.934**
- **41. De Mandal S**, Sanga Z, Nachimuthu SK. Metagenomic analysis of bacterial community composition among the cave sediments of Indo-Burman biodiversity hotspot region. **Peer J Pre Prints** 2014 <a href="http://dx.doi.org/10.7287/peerj.preprints.631v1">http://dx.doi.org/10.7287/peerj.preprints.631v1</a>
- **42.** Mandal, Surajit De, et al. Mitochondrial markers for identification and phylogenetic studies in insects—A Review. **DNA Barcodes** (2014).2.1

### **Book Chapter**

1. Panda, A.K., Bisht, S.S., Rana, M., <u>De Mandal, S.</u> and Kumar, N.S., 2018. Biotechnological Potential of Thermophilic Actinobacteria Associated With Hot Springs. In New and Future Developments in Microbial Biotechnology and Bioengineering (pp. 155-164)

- 2. Panda, A. K., Bisht, S. S., <u>De Mandal, S.</u>, & Kumar, N. S. (2019). Microbial Diversity of Thermophiles Through the Lens of Next Generation Sequencing. In Microbial Diversity in the Genomic Era (pp. 217-226). Academic Press.
- **3.** Román MP, Mantilla NB, Flórez SA, <u>De Mandal S</u>, Passari AK, Ruiz-Villáfan B, Rodríguez-Sanoja R, Sánchez S. Antimicrobial and Antioxidant Potential of Wild Edible Mushrooms. **An Introduction to Mushroom 2020 Jan 17**. **Intech Open.**

#### **Awards**

- 1. Received **Junior Scientist Award** in 12th Annual Convention of Association of Biotechnology and Pharmacy (ABAP) & International Conference on Biodiversity, Environment and Human Health: Innovation and Emerging Trends (BEHIET 2018) to be held during 12-14th November, 2018 organized by Department of Biotechnology, Mizoram University and Association of Biotechnology and Pharmacy (ABAP), India
- 2. Revived **International Award for Young Scientist** in the field of Genomics in "2<sup>nd</sup> world conference on innovations in management, science and engineering" held during 29-30 December, 2019 in KHLONG TOEI, BANGKOK, THAILAND under the Aegis of Ministry of Micro, Small & Medium Enterprises (MSME), Government of India.

## **Invited resource person**

- 1. Acts as a resource person in Workshop on "Technique in molecular biology and bioinformatics" held during 26-31st January, 2014 organized by DBT state biotech hub and Bioinformatics Infrastructure Facility (BIF), Department of Biotechnology, Mizoram University
- 2. Acts as a resource person in the workshop on "Microbial Genomics and Informatics" organized by state biotech hub, Department of Biotechnology, Mizoram University attended for 7 days (2nd Dec -9 th Dec, 2015).
- 3. Acts as a resource person in the National workshop on "Hands on training on DNA barcoding and Phylogenetics" during the period 20-25th March at Advanced state biotech hub, Department of Biotechnology, Mizoram University
- 4. Acts as a resource person in the national Workshop on "Application of NGS in Microbial Ecology" held during 30 Oct to 2nd Nov. 2017 organized by Bioinformatics Infrastructure Facility (BIF), Department of Biotechnology, Mizoram University.
- 5. Acts as a resource person in the workshop on Some modern techniques in life science and bioinformatics

## Conference and seminar presentation

- 1. Poster presentation in national seminar on 'Environment, Biodiversity, Veda and traditional system' on 10-12 April, 2012 on "Antimicrobial and antioxidant activity of traditional medicinal plant of Mizoram"
- 2. Participated in the 5th interactive meeting on Northeast Bioinformatics Centers Networks, organized by Mizoram University, India from 11-12 Oct, 2012.
- 3. Participated in India-UK Scientific Seminar on "Structural Elucidation of Microbial Natural Products: Opportunities and Challenges" organized by Department of Biotechnology, Mizoram

- University, India jointly funded by DST, New Delhi and The Royal Society, London, UK from 22nd -24th January, 2014.
- 4. Presented poster in 57th Annual Conference of AMI & International Symposium on "Microbes and Biosphere: What's New What's Next" on 24th 27th November, 2016 organized by Association of Microbiologists of India (AMI) & University of Guwahati.
- 5. Presented oral in National Seminar in Biodiversity, Conservation and Utilization of Natural resources with reference to Northeast India during 30-31st March, 2017 organized by Department of Botany, Mizoram University, India.
- 6. Presented poster in International conference (GATC-2018) in Guwahati, Assam, India during January 07-13, 2018
- 7. Presented poster on in the 12th Annual Convention of Association of Biotechnology and Pharmacy (ABAP) & International Conference on Biodiversity, Environment and Human Health: Innovation and Emerging Trends (BEHIET 2018) to be held during 12- 14th November, 2018 organized by Department of Biotechnology, Mizoram University and Association of Biotechnology and Pharmacy (ABAP), India

### Workshop/ Training attended

- 1. Training course of "Bioinformatics-Proteins and their Structure Prediction" Sponsored by Department of Biotechnology, Ministry of Science and Technology, Government of India, Mizoram University, 23-24thNovember, 2011.
- 2. Training course of "Recombinant protein expression and purification" organized by Department of Biotechnology, PSG college of technology, Coimbatore-6410004, 28th May-8 th June 2012.
- 3. UGC short term course on Applied statistics" organized by Academic staff college, Mizoram University From 23 to 28th July, 2012.
- 4. UGC short term course on "Instrumentation in science" organized by Academic stuff college, Mizoram University From 23 to 28th July, 2012.
- 5. Attended as a member of organizing committee in "5th Interactive Meeting of North East Bioinformatics Center Network (NEBInet)" from 11-12thOctober, 2012.
- 6. Attended as a participant in the "Molecular phylogeny and evolution" from November 26-28, 2012 at DBT-BIF Centre, Department of Biotechnology, Mizoram University.
- 7. Attended as a participant in the "Structure Determination of Macromolecules" from March 26-28, 2013 at DBT-BIF Centre, Department of Biotechnology, Mizoram University.
- 8. Attended as a Resource Person in the "A Primer in Bioinformatics and Biotechnology to School Students" from June 08, 2013 at DBT-State Biotech HUB, Department of Biotechnology, Mizoram University.
- 9. Attended as a participant in the "Next generation sequencing: bioinformatics and data analysis" from March 17-21 June, 2013 at conducted by the Bioinformatics Centre, north eastern hill university, Shillong.
- 10. Attended as a participant in the "Microbial diversity and bioremediation technology" from 11-13th September, 2013 at conducted by the Dept of biology, NIT Rourkella, Odisha.
- 11. Attended as a participant in in the "Workshop on technique in molecular biology and bioinformatics" from January 26-31, 2014 at DBT state biotech hub and bioinformatics infrastructure facility, Department of Biotechnology, Mizoram University.
- 12. Attended as a participant in in the "India-UK Scientific Seminar" from January 14-15, 2014 at Department of Biotechnology, Mizoram University. Attended as a participant in the "Biostatistics using sigma plot" from 27th June, 2014 at conducted by the DBT, Mizoram university.
- 13. Attended as a participant in the workshop "Advances in Cancer Genomics" from May 30 –

- 31, 2014 Organized jointly by Mizoram State Cancer Institute and Department of Biotechnology, Mizoram University, Aizawl, Mizoram.
- 14. Attended as a participant in the "Workshop on Capacity Building in Effective Management of Intellectual Property Right (IPRs)" from August 27 28, 2014 at Mizoram University, Aizawl and Mizoram.
- 15. Attended as a participant in the "Molecular docking and virtual screening" from 2-4 th October 2014 at DBT-Bioinformatics infrastructure facility, Department of Biotechnology, Mizoram University and Schrodinger Bangalore.
- 16. Attended as a participant in the "Cancer Mutations Detection and Analysis" from April 17
  18, 2015 at DBT-State Biotech HUB, Department of Biotechnology and Mizoram University.
- 17. Attended as a participant in the "Browsing genome with Ensemble and UCSC genome browser" from 30th May, 2015 at DBT-State Biotech HUB, Department of Biotechnology and Mizoram University.
- 18. Attended as a participant in the "Workshop on Microbial identification and preservation" from 05 to 9thth January, 2015 at MCC Pune
- 19. Attended as a participant in the "NGS and data analysis" from 26 to 30thth May, 2015 at AUKBC research center and VClinoBio, Chennai
- 20. Attended as a participant in the "Northeast autumn school on Human genetics technique and data analysis" from 8-11 Sept 2015 organized by ISI Kolkata and Mizoram University
- 21. Attended as a participant in the NGS workshop in Guwahati University, Assam, India during January 07-13, 2018
- 22. Attended as a participant in the "Northeast autumn school on Human genetics technique and data analysis" from 8-11 Sept 2015 organized by ISI Kolkata and Mizoram University
- 23. Attended as a participant in the "Statistical methods in biological research" from 3-5 th Nov 2017 organized by Bioinformatics Infrastructure Facility, Mizoram University

# **Technical expertise**

- 1. Molecular Biology and Biochemistry
  - i. Microbial pure culture techniques.
  - ii. Antimicrobial testing against human causes pathogen
  - iii. Antibiotic Susceptibility Testing
  - iv. Gene cloning (Preparation of competent cells, Plasmid isolation, Restriction digestion, Gel elution).
  - v. Enzymes assays.
  - vi. Extraction of Bio molecules (DNA, RNA, Protein).
  - vii. Agarose gel electrophoresis.

### 2. Instruments Handled

- i. Gel electrophoresis
- ii. PCR machines
- iii. DNA Sequencer
- iv. Biosafety Cabinet-2
- v. Colony counters
- vi. Gel documentation system
- vii. UV-VIS spectrophotometer,
- viii. Sonicator,
- ix. Different grades of centrifuges,
- x. Laminar air flow,

- 3. Bioinformatics tools & Software's:
  - i. Sequence alignment
  - ii. BLAST,
  - iii. Bio-Edit,
  - iv. Clustal W,
  - v. Sigma-plot,
  - vi. SPSS etc.
  - vii. Molecular Phylogeny (Mr. Bayes, PAUP, BEAST etc.)
  - viii. Next Generation Sequence Analysis

## PERSONAL INFORMATION

Date of Birth: 14th June 1985

Sex : Male

Marital status : Single Nationality : Indian

Languages known: Bengali, English, Hindi. Others activity /Hobby: Playing cricket.

**Declaration:** I hereby declare that all the information mentioned above is true to the best of my

knowledge and belief. I will be solely responsible if any of the information is found wrong.

Place: SCAU, Guangzhou Date: 18-04-2020

Surajit De Mandal