

# Curriculum vitae: Anirban Sengupta

Please visit: [www.anirbansengupta.net](http://www.anirbansengupta.net) for details and supporting documents

## Academic Degrees:

- **Doctor of Philosophy (PhD)**, Immunology Laboratory, Dept. of Zoology, Univ. of Calcutta (Thesis submitted, April, 2019)
- **Master of Science (M.Sc)** in Zoology, Cytogenetics specialization, Malulana Azad College, Univ. of Calcutta (2011)
- **Master of Science (M.Sc)** in Applied Psychology, Bharathiar University (2017)
- **Post Graduate Diploma (PG.Dip)** in Industrial Microbiology, Madurai Kamraj University (2016)
- **Diploma** in Recombinant DNA Technology, Madurai Kamraj University (2017)

## Present Positions:

- Senior Research Fellow, Immunology Laboratory, Department of Zoology, University of Calcutta
- Guest Faculty, Paper Setter & Examiner at Jadavpur University, Pharmaceutical technology Department (Aug, 2016 onwards- )
- Guest Lecturer, Dept. of Zoology, Ramakrishna Mission Vidyamandir, Belur Math.
- Freelance Biology Faculty for Medical Entrance Exam Training at Pathfinder Institution

## Past Positions:

- **Junior Research Fellow** at National Institute of Biomedical Genomics, Kalyani. Dept. of Biotechnology, Govt. of India. (Oct, 2011 to Nov, 2013)
- **Academic Consultant & Course Content Developer**, Saraswati Online.

## Research Experience and Techniques:

- **Flow Cytometry and Cell Sorting**: Cellular isolation by Fluorescence Associated Cell Sorting (FACS) and culture., In-depth flow cytometric analysis for cell surface CD markers and internal markers.
- **Gene/Protein Expression study**: Realtime Quantitative Polymerase Chain Reaction (q-PCR), Nuclear Protein isolation, Immunoblotting/ Western Blotting, Enzyme linked Immunosorbent Assay (ELISA), Immunohistochemistry (IHC), Gel Electrophoresis
- **Molecular Interaction Study**: Immunoprecipitation (IP), Chromatin Immunoprecipitation (ChIP), RNA-Protein interaction study, Pull down assay,
- **Cellular Assays**: Proteasomal Degradation assay, Adhesion assay, Phagocytosis assay, ROS measurement, cell viability assays.
- **Recombinant DNA Technology**: Protein Expression in bacteria, Molecular Cloning, RDT techniques, plasmid isolation, Transformation, Transfection.
- **Cell culture**: Primary, Secondary cell culture, Bacterial Culture.
- **Animal Model**: Mice

## THESIS TITLE: **The Impact of Autophagy in Infection-Immunology Crosstalk in Cerebral Malarial Infection**

In my doctoral research in Prof. Arindam Bhattacharyya's laboratory, I studied the immune regulation of **autophagy, pathogen processing and degradation** in cerebral malarial infection, within splenic **dendritic cell subsets** (plasmacytoid DC & myeloid DC) and splenic **macrophage subsets** (Red Pulp & Marginal Zone Macrophages). The work also focused on the pro-and anti-inflammatory pathways, cytokine imbalance induced inflammation, glial cell-mediated inflammation, and regulation of **T cells subsets** (particularly CD8T cells, Treg, Th17).

## RESEARCH PUBLICATIONS:

1. Partial impairment of late-stage Autophagic Flux in Murine Splenocytes leads to sqstm1/p62 mediated nrf2-keap1 antioxidant pathway activation and induced Proteasome-mediated degradation in Malaria; **Anirban Sengupta**, Saikat Mukherjee, Soubhik Ghosh, Tarun Keswani, Samrat Sarkar, Gargi Majumdar, Madhusudan Das, Arindam Bhattacharyya; Microbial Pathogenesis (In Press, Accepted, May 2020)
2. [Autophagic Induction modulates Splenic Plasmacytoid Dendritic Cell mediated immune response in Cerebral Malarial infection model](#); **Sengupta A**, Keswani T, Sarkar S, Ghosh S, Mukherjee S, Bhattacharyya A., Microbes Infect. 2019 Jun 8. pii: S1286-4579(19)30060-7. doi: 10.1016/j.micinf.2019.05.004
3. [Influence of autophagy, apoptosis and their interplay in filaricidal activity of C-cinnamoyl glycosides](#); Roy P\*, **Sengupta A\***, Joardar N, Bhattacharyya A, Saha NC, Misra AK, Babu SPS. Parasitology. 2019 May 20;1-38. doi: 10.1017/S0031182019000660 *\*both authors contributed equally.*
4. [Impact of autophagic regulation on splenic red pulp macrophages during cerebral malarial infection](#). **Sengupta A**, Sarkar S, Keswani T, Mukherjee S, Ghosh S, Bhattacharyya A. Parasitol Int. 2019 Aug;71:18-26. doi: 10.1016/j.parint.2019.03.008. Epub 2019 Mar 11.
5. [Differential modulation of glial cell mediated neuroinflammation in Plasmodium berghei ANKA infection by TGF  \$\beta\$  and IL 6](#). Sarkar S, Keswani T, **Sengupta A**, Mitra S, Bhattacharyya A., Cytokine. 2017 Aug 10. pii: S1043-4666(17)30226-0. doi: 10.1016/j.cyto.2017.07.026
6. [Role of TGF- \$\beta\$  and IL-6 in Dendritic cells, Treg and Th17 mediated immune response during experimental cerebral malaria](#). Keswani T, Sarkar S, **Sengupta A** and Bhattacharyya A. Cytokine. 2016 Dec;88:154-166. doi: 10.1016/j.cyto.2016.08.034. Epub 2016 Sep 12.
7. [Dendritic cells subsets mediated immune response during Plasmodium berghei ANKA and Plasmodium yoelii infection](#), Keswani T, **Sengupta A**, Sarkar S, Bhattacharyya A. Cytokine. 2015 Jun;73(2):198-206. doi: 10.1016/j.cyto.2015.02.023. Epub 2015 Mar 16.

### *Under submission:*

- ❖ Intricate autophagic balance within Splenic Marginal Zone Macrophage shapes the host immune response in Cerebral Malarial Infection Model, **Anirban Sengupta**, Saikat Mukherjee, Soubhik Ghosh, Samrat Sarkar, Tarun Keswani, Arindam Bhattacharyya

[Abstract and Full Text pdf files](#)

## PROJECTS HANDLED:

**Four Projects** ON *Host Immune response* during Cerebral Malaria Infection with special emphasis on Treg/Th17 balance, pro- and anti- inflammatory cytokine balance, autophagic regulation and dendritic cell -macrophage biology.

**One project** on Molecular Biology of *RNA - Protein Interaction* in Breast Cancer.

[For Project Details Click here](#)

## AWARDS & ACHIEVEMENTS:

**7 Awards** Including Young Investigator Award, Best Poster Presentation Awards, Best Oral Presentation Awards from Society of Free Radical Research, Indian Society of Parasitology, Indian Society of Immunology and others... **4 Travel grants** Foreign Travel Grants from CSIR, UGC, European Molecular Biology Organization (EMBO)

**3 times All India Life Science NET:** National Eligibility Test (NET) for Life Sciences, organized by Council of Scientific & Industrial Research (CSIR) and University Grants Commission (UGC) for the **Junior Research Fellowship and Lectureship** with All India Rank of **JRF 61, JRF 64 and JRF 64** in 2011, 2012 and 2013.

## ONLINE CERTIFICATION COURSES:

1. [Fundamentals of Clinical Trials](#), **Harvard University**
2. [Design & interpretation of Clinical Trials](#), **Johns Hopkins University**, (90%)
3. [Antimicrobial Stewardship: Optimization of Antibiotic Practices](#), **Stanford University**
4. [Genomics and Precision Medicine](#), **University of California, San Francisco**, (75.8%)
5. [Epigenetic Control of Gene Expression](#), **University of Melbourne**, (81.3%)
6. [Drug Discovery, Development & Commercialization](#), **University of California, San Diego**, (89.3%)
7. [Vaccine](#), **University of Pennsylvania**, (89.2%)

## Certificates

## MEMBERSHIP:

1. Psychoneuroimmunology Research Society (PNIRS) (Trainee Member)
2. International Society for Infectious Diseases (ISID), Brookline, Massachusetts, USA
3. Federation of Clinical immunology Societies (FOCIS), Student Member , ID 43378454
4. Clinical Immunology Society (CIS), USA
5. American Academy of Neurology (AAN), USA, Student Member, Membership ID: 287532
6. National Positive Psychology Association, India; Regular Member
7. Global Psychology and Language Research Association (GPLRA), Global Research & Development Services. Life member, Member ID: GPLRA- M16099

## WORK PRESENTATIONS:

### ORAL PRESENTATIONS: 10

Presentations at **Bhaba Atomic Research Centre (BARC)**, **National Institute of Mental Health and Neurosciences (NIMHANS)**, **Indian Immunological Society Meet**, **Indian Parasitology Society Meet**, **Amity University**, **University of Calcutta**, **National Institute of Biomedical Genomics (NIBMG)**, **International Conference on Healthcare and Life Science Research (ICHLSR)**, **Singapore** and others... ([Details here with presentation videos](#))

### POSTER PRESENTATIONS: 7

Work Presentations at **CSIR-Central Drug Research Institute (CDRI)**, Lucknow, **Madurai Kamraj University (MKU)**, **Indian Institute of Technology (IIT)**, Delhi; **Indian Institute of Science (IISc)**, Bangalore, **Banaras Hindu University (BHU)**, **European Molecular Biology Organization (EMBO) Meet Croatia** and others... ([Details here](#))

## WORKSHOPS & TRAININGS:

**8 Workshops and Training** from **National Institute of Biomedical Genomics (NIBMG)**, **Zoological Survey of India (ZSI)**, **Indian Institute of Technology (IIT)**, Kharagpur; **University of Kalyani**, **Indian Institute of Psychometry** and others...

With topics ranging from basic **Bioinformatics**, **Protein Folding**, **Genetic Dissection of Complex Diseases**, **Psychological Testing Workshop** and others. ([Details here](#))

## TEACHING EXPERIENCES:

1. **Guest Faculty, Paper Setter and Examiner, Dept. of Pharmaceutical Technology, Jadavpur University** for three years;
2. **Freelance Biology Faculty** for NEET Medical Entrance Examination, **Pathfinder Educational Institute**.
3. **Academic Consultant (Biology)**, **Faculty Recruitment Personnel & Course Content Developer, Saraswati Online Learning Academy**.
4. **Teaching high school underprivileged students** as volunteer at **Calcutta Social Project NGO**.

## POPULAR SCIENCE YOUTUBE LECTURE SERIES:

**Placebo** is an inactive or inert substance with no therapeutic value. Even though the treatment with placebo seems to be fake, but the disease remission is real. **Our Belief system and our psychological makeup can influence our Health with a towering magnitude.**

**Lecture 1:** Science of Sugar Pill/ Sham Surgery-How Belief can change your Life/ Health

**Lecture 2:** Placebo Science in Pain perception, Chronic, Psychosomatic & Phantom Pain

**Lecture 3:** Open Label Placebo & Immune Conditioning

**Lecture 4:** Staging Clinical Theatre- Designing the best Placebo Effect

**Lecture 5:** Role of Placebo in Drug Discovery Double Blind Clinical Trial

## BEYOND ACADEMICS:

- **Teaching Volunteer** at **Calcutta Social Project NGO.**
- First Degree in **Graphology (Handwriting Analysis)**, **Kolkata Institute of Graphology**
- **Organ Donor** at **National Organ & Tissue Transplant Organisation (NOTTO)**, Govt. of India.
- **Marathon:** Completed 10km Run in Tata Steel and IDBI Federal Kolkata Marathon.
- **Trekking:** 5 high altitude Treks including Goechala, Rupin Pass, Sandakphu.
- **Photography**
- **Times of India Passion Club member:** Participating **food-walk & survey and Photography walk**
- **Creative Writing Publications & Blogging:** *Sandesh*, a Bengali monthly magazine

[Details here](#)

## REFEREES:

1. Prof. Arindam Bhattacharyya, Immunology Laboratory, Dept. of Zoology, University of Calcutta

Email: [arindam19@yahoo.com](mailto:arindam19@yahoo.com)

2. Prof. Subir Ch. Dasgupta, Dept. of Zoology, Maulana Azad College, Univ. of Calcutta

Email: [subirdgupta@gmail.com](mailto:subirdgupta@gmail.com)

## Personal Contact information:

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**Email ID:** [online.asg@gmail.com](mailto:online.asg@gmail.com)

**Date of birth:** 12.09.1988

**Gender:** Male. **Nationality:** Indian.

**FULL WEBLINK:** [www.anirbansengupta.net](http://www.anirbansengupta.net)

I hereby declare that all statements and information provided here are true to my knowledge.

**Name:** **Anirban Sengupta**

**Date:** 30/05/2020, **Place:** Kolkata, India