

FAREEHA SAADI, Ph.D.

POST DOCTORAL RESEARCH SCHOLAR, Laboratory of Professor David M Holtzman,
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EDUCATION

Integrated PhD (2014-Present)
Indian Institute of Science Education and Research Kolkata, INDIA.
Biological Sciences
Bachelor's in science (2011-2014)
Osmania University, Hyderabad, INDIA.
Biotechnology, Microbiology, Chemistry First class with distinction

TEACHING EXPERIENCE

Teaching assistant for the **Microbiology practical course**, entitled "Introduction to Biology IV-Practical", Autumn 2018, for BS-MS program, IISER-Kolkata.

Teaching assistant for the **Molecular biology practical course** entitled, "Biology laboratory lab VI", Autumn 2019, for BS-MS program, IISER-Kolkata.

PROJECT STUDENTS MENTORED

Master's Project: 2
Summer Project: 4

EXPERIENCE

(August 2016-November 2021) PhD. Project. Indian Institute of Science Education and Research Kolkata. **Supervisor:** Professor Jayasri Das Sarma.

Project Title: CD40-CD40Ligand is critical in bridging the innate and adaptive immune responses to m-CoV, Mouse Hepatitis Virus-induced neuroinflammatory demyelination.

Other Projects:

- Protective role of CD4+ T cells in m-cov-rsa59-induced neuroinflammation
- The role of iNOS in microglia/macrophage mediated myelin stripping in m-COV induced demyelination model
- Anti-oxidative host responses to m-COV-RSA59-induced neuroinflammation

(August 2015-July 2016) Master's Project. Indian Institute of Science Education and Research Kolkata. **Supervisor:** Professor Jayasri Das Sarma.

Project Title: Developing an *in vitro* neural cell-culture model to understand the mechanism of T- cell mediated cell death in Systemic Lupus Erythematosus (SLE).

(May 2013- November 2013) Undergraduate Project. Asian Institute of Gastroenterology, Hyderabad. **Supervisor:** Dr. V. V. Ravikanth.

Project Title: Assessment of promoter hypermethylation in mismatch repair gene (hMLH1 and hMSH2) in microsatellite stable and instable tumors of colorectal cancer.

PUBLICATIONS

1. Debanjana Chakravarty*, **Fareeha Saadi***, Soumya Kundu, Abhishek Bose, Reas Khan, Kimberly Dine, Lawrence C. Kenyon, Kenneth S. Shindler, Jayasri Das Sarma; *CD4 Deficiency Causes Poliomyelitis and Axonal Blebbing in Murine Coronavirus-Induced Neuroinflammation*, Journal of Virology Jul 2020, 94 (14) e00548-20; DOI: 10.1128/JVI.00548-20. ***Joint First Author.**
2. **Fareeha Saadi**, Debnath Pal, Jayasri Das Sarma; *Spike glycoprotein is central to Coronavirus pathogenesis-parallel between m-CoV and 1 SARS-CoV-2*. Annals of Neurosciences. October 2021. doi:10.1177/09727531211023755.
3. **Fareeha Saadi**, Debanjana Chakravarty, Saurav Kumar, Mithila Kamble, Bhaskar Saha, Kenneth Shindler, Jayasri Das Sarma. *CD40-CD40Ligand is critical in bridging the innate and adaptive immune responses to m-CoV, Mouse Hepatitis Virus-induced neuroinflammatory demyelination*. PLOS Pathogens 17(12): e1010059. <https://doi.org/10.1371/journal.ppat.1010059>
4. Soumya Kundu, **Fareeha Saadi**, Sourodip Sengupta, Gisha Rose Antony, Vineeth A. Raveendran, Rahul Kumar, Mithila Ashok Kamble, Lucky Sarkar, Debnath Pal, Ganes C. Sen, Jayasri Das Sarma; *DJ-1-Nrf2 axis is activated upon murine β -coronavirus infection in the CNS*, Brain Disorders, Volume 4,2021,100021,ISSN 2666-4593, <https://doi.org/10.1016/j.dsrb.2021.100021>.
5. **Fareeha Saadi**, Debanjana Chakravarty, Grishma Kastle, Jayasri Das Sarma, Neurotropic virus-induced meningoencephalomyelitis; Recent Advances in Encephalitis Research, (Book Chapter), In Press.
6. Mithila Kamble, **Fareeha Saadi**, Saurav Kumar, Bhaskar Saha, Jayasri Das Sarma. *iNOS deficiency accelerates demyelination in MHV induced demyelination model for MS. (Manuscript Under Preparation).*

<p>TECHNICAL EXPERTISE</p> <p>In vivo experimental techniques Intraperitoneal, Intracranial injections, dissection, tissue harvesting, protein and RNA isolation from organs, tissue embedding, paraffin and cry sectioning.</p> <p>Histopathology Immunohistochemistry, Haematoxylin and Eosin staining, LFB staining, Immunofluorescence on tissues.</p> <p>Primary culture techniques Establishment of mixed glial culture from neonatal mouse brain, enrichment for oligodendrocyte, astrocyte, microglia culture, and meningeal fibroblast culture.</p> <p>Cell and molecular biology Cell culture, virus infection, plaque assay, immunofluorescence, protein and RNA extraction, cDNA synthesis, Genomic DNA isolation from blood, RFLP, western blot, real-time PCR, FACS and CRISPR.</p> <p>Biostatistics SD, SEM, Two group and three group comparisons, ANOVA.</p>	<p>AWARDS AND HONOURS</p> <p>2021: Scholarship to present in the poster session in Keystone Symposia, Neuroimmune interactions in health and disease, held virtually during June 7-9, 2021.</p> <p>2019: First Prize for delivering a platform talk in the ‘Young Talent Forum’, titled, <i>Interplay between Microglia and helper T cell in understanding the cellular and molecular mechanisms of virus induced neuroinflammation</i>” in the <i>NeuroUpdate-2019</i> Meeting at Indian Institute of Chemical Biology, Kolkata. 30th November 2019.</p> <p>2019: Received the Department of Biotechnology, Government of India, Travel Award for presenting at <i>IMMUNOLOGY (American Association of Immunologists)2019</i> Conference held at San Diego, California, USA.</p> <p>2017: Won Sutti Nag prize for the Best Paper presented in the Poster session, titled, <i>“Protective function of CD40 in Mouse Hepatitis Virus (MHV)- induced demyelination”</i> in the <i>35th Annual conference of Indian Academy of Neurosciences</i>, organized by Ravenshaw University, Cuttack, Odisha, India. 29-31 October 2017.</p> <p>2016: National Eligibility Test, CSIR-UGC <u>Subject:</u> Life Sciences. All India <u>Rank:</u> 66</p> <p>2014: Joint Graduate Entrance Examination for Biology and Interdisciplinary Life Sciences (JGEEBILS) For admission into the Integrated Ph.D. course</p> <p>2013: Proficiency 1st Prize in Under graduation; SPECTRUM Prize for securing highest marks in Biotechnology theory and practical during Under graduation.</p>
<p>PERSONAL INFORMATION</p> <p>Dob: October 1, 1993 Nationality: Indian</p> <p>Marital status: Married</p>	<p>SELECTED WORKSHOPS AND CONFERENCES</p> <ol style="list-style-type: none"> Invited talk entitled, “CD40-CD40 Ligand axis in Neurotropic Mouse Hepatitis Virus-induced Neuroinflammation and Demyelination” at the XXXIX annual conference of Indian Academy of neurosciences, Neuroglia in health and disease held during December 16-19, 2021. Oral presentation entitled, “CD40-CD40L interaction is central to M-COV-RSA59 induced neuroinflammation” in the <i>bilateral INDO-US webinar on COVID biology</i> held during august 16-19, 2020. Presented a poster, titled “CD4+ T cells regulate murine Coronavirus induced activation of microglia” in the <i>CYTO virtual 2020 organised by International society for advancement of cytometry</i> held during August 4-5, 2020. Presented a poster, titled “CD4+ T cells regulate Mouse Hepatitis Virus induced activation of microglia” in the Indo-US Symposium on New Insights into the Inflammation, Immunity, and Pathobiology of Diseases, held at Post Blair, Andaman Islands, India. December 3-8, 2019. Presented a poster, titled “Microglia-helper T cell crosstalk: Insights into the molecular mechanism of Neurodegeneration” in the <i>Young Scientist Conference, India International Science Fest</i>, held at the Biswa Bangla Convention Centre, Kolkata, India. November 5-8, 2019. Presented a poster, titled “CD4+ T cells regulate Mouse Hepatitis Virus induced activation of microglia” in <i>IMMUNOLOGY 2019 conference, organized by American Association of Immunologists</i>, at San Diego Convention Center, San Diego, California, United States. May 9-13, 2019.
<p>OTHER INFORMATIONS</p> <p>Experienced in writing scientific grants.</p> <p>Experienced in writing conference proposals.</p>	