

CURRICULUM VITAE

SOUMYA KUNDU

UGC-Senior Research Fellow (5th year)
Under Professor Jayasri Das Sarma
Neuroimmunology and Neurovirology lab
Department of Biological Sciences
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FAMILY

Father: Atanu Kundu
Mother: Shilpi Kundu
Spouse: Anindita Dey

STATEMENT OF PURPOSE

Application for Post Doctoral Position.

RESEARCH INTERESTS

- ✓ Cell biology
- ✓ Neurobiology
- ✓ Virology
- ✓ Immunology

LANGUAGES

- ✓ English *****
- ✓ Bengali *****
- ✓ Hindi ****

SKILLS

- ✓ Excellent oratory and presenting skills
- ✓ Good conceptual and analytical skills
- ✓ Apt leadership and teamwork skills

SOFTWARE

- ✓ ImageJ ****
- ✓ Graphpad Prism *****
- ✓ Microsoft Office *****
- ✓ Adobe Photoshop ****
- ✓ PyMOL ***
- ✓ CoreIDRAW ***

PERSONALITY

- ✓ Communicative
- ✓ Punctuality
- ✓ Creativity
- ✓ Organized
- ✓ Pro-active
- ✓ Responsible

EDUCATIONAL QUALIFICATIONS

Qualifying degree	Academic Institution	Year of Completion	CGPA/ Percentage
M. Sc. in Biotechnology (5 years Integrated)	St. Xavier's College	June, 2014	CGPA- 7.99 (First Class under Calcutta University)
I.S.C.E (10+2)	St. Xavier's Collegiate School	2009	Percentage- 92%
I.C.S.E. (10)	St. Xavier's Collegiate School	2007	Percentage- 93.4%

RESEARCH EXPERIENCES

- Currently pursuing Doctoral Degree on “Neurotherapeutic Role of DJ-1 Protein in Viral Induced Demyelination and Axonal Loss.” under Professor Jayasri Das Sarma, Department of Biological Sciences, Indian Institute of Science Education and Research Kolkata (IISER Kolkata) from 26th December 2014.
- Dissertation Project on “An *in vitro* Analysis of the binding of Heat Shock Factor 1 to its DNA Recognition Sequence Elements: Evidence of Regulatory Role of RNA in the Interaction” under Dr. Mahadeb Pal, Department of Molecular Medicine, Bose Institute, Kolkata for a period of 9 months in 2014.
- Summer Project on “Plant Extract Analysis of Two Species of Sundarban Mangroves and checking for its Anti-bacterial and Antifungal Activity” under Dr. Arup Kumar Mitra, Microbiology Department, St. Xavier’s College, Kolkata for a period of 4 months in 2013.
- Hands-on Training on “Plant Tissue Culture: *in vitro* Culture of plants and their observations in various Plant Growth regulators” under Dr. Dipankar Chakrabarty, Biotechnology Department, St. Xavier’s College, Kolkata for a period of 1 month in 2010.
- Attended a 3-day workshop on Flow Cytometry and Fluorescence-Activated Cell Sorting (FACS) organized by BD Bioscience at Centre for Research in Nanoscience and Nanotechnology, University of Calcutta in 2015.

PUBLICATIONS

- **Soumya Kundu**, Fareeha Saadi, Gisha Rose Anthony, Vineeth A. Raveendran, Rahul Kumar, Sourodip Sengupta, Mithila Kamble, Lucky Sarkar, Debnath Pal, Jayasri Das Sarma. Interplay of stress response protein, DJ-1 and XBP1 co-operative cyto-protection in Coronavirus infection (Manuscript under preparation)
- **Soumya Kundu**, Afaq Hussain, Manmeet Singh, Jayasri Das Sarma. Regulation of DJ-1 expression and activation in Arsenite-induced Nephrotoxicity. (Manuscript under Preparation)
- **Soumya Kundu**, Gisha Rose Antony, Jayasri Das Sarma. Oxidative stress and DJ-1: possible role in Parkinson’s Disease. (Manuscript under Preparation)
- Debanjana Chakravarty*, Fareeha Saadi*, **Soumya Kundu**, Abhishek Bose, Reas Khan, Kimberly Dine, Lawrence C Kenyon, Kenneth S Shindler, Jayasri Das Sarma. Functional significance of CD40 in the progression of neurotropic virus infection in the central nervous system. (Manuscript under preparation, *- Equal Contribution)
- Saurov Sett, **Soumya Kundu**, Sneha Das, Abhijit Mitra, Anindita Banerjee and Arup Kumar Mitra. Screening for the Total Phenolic Content of selected Mangrove species collected from Sundarban Mangrove Forest. International Journal of Pharma and BioScience. January 2014; 5(1): (B) 1157-1163. (URL: http://www.ijpbs.net/cms/php/upload/3193_pdf.pdf)
- Afaq Hussain, Vineeth A. Raveendran, **Soumya Kundu**, Tapendu Samanta, Raja Shunmugam, Debnath Pal, Jayasri Das Sarma. Mechanisms of Arsenic-induced toxicity with special emphasis on arsenic-binding proteins. IntechOpen April 2018. DOI: 10.5772/intechopen.74758 (URL: <https://goo.gl/DfjRrT>)
- Saurov Sett, Sneha Das, **Soumya Kundu**, Abhijit Mitra, Anindita Banerjee and Arup Kumar Mitra. Sundarban biodiversity: Is it a possible clue towards agricultural sustainability? Reported in University Grant Commission (UGC) India Yearbook.

- Manmeet Singh, Saurav Saswat Rout, Soumya Kundu, Abhinoy Kishore, Jayasri Das Sarma. Insertion of extra proline in fusion peptide of RSMHV2 can intensify its neuropathology but not demyelination. (Manuscript under preparation)

TECHNICAL SKILLS

TECHNIQUES	DESCRIPTION
MOUSE MODEL	Animal Breeding, Gastric gavage feeding, clinical scoring, intraperitoneal and intracerebral inoculation, mouse dissection and tissue harvesting, tissue processing and fixation (both paraffin as well as cryofixation), Histopathology- Hematoxylin & Eosin Staining, Luxol Fast Blue Staining.
PRIMARY CELL CULTURE	Primary Astrocyte and Microglia from neonatal mouse brain.
ANIMAL CELL CULTURE	Cell thawing, media preparation, media change, cell splitting, cell treatment, cell harvesting, MTT Assay, DCFDA Assay, Annexin-PI staining, transfection (both transient as well as stable transfection).
VIROLOGY	Viral titre, virus amplification, virus infection.
BACTERIAL CULTURE	Bacterial inoculation, streak culture, spread culture, stab culture, transformation, IPTG induction, cell harvesting and lysate preparation.
MOLECULAR BIOLOGY TECHNIQUES	RNA and protein isolation from tissues and cells, cDNA preparation, semi-quantitative and real time PCR, agarose gel electrophoresis, Ni-NTA affinity purification, SDS-PAGE, flow-cytometry. cytoplasmic-nuclear extract preparation, molecular cloning. γ P ³² labelling of DNA, EMSA.
IMMUNOLOGICAL TECHNIQUES	Western blot, ELISA, immunohistochemistry, immunofluorescence, immunoprecipitation

ACHIEVEMENTS

- Was selected for Oral Presentation at the Indo-US Symposium on New Insights into the Inflammation, Immunity and Pathobiology of Diseases in December 2019.
- Achieved the ACS Neuroscience “Best Poster” Award at the 43rd Indian Biophysical Society Meeting 2019 at IISER Kolkata in March, 2019.
- Achieved the Professor S.S. Parmar Research Foundation Award at the XXXV Annual Meeting of Indian Academy of Neurosciences (IAN) at Ravenshaw University, Cuttack in October 2017.
- Was selected for Oral Presentation in the Weekly Presentation Series at University of Pennsylvania, USA in July 2017.
- Achieved the best poster award at the Cell Signaling Network (CeSiN) at IICB, Kolkata in December 2016.

- Was selected for Oral Presentation at the Indo-US Symposium on Central Nervous System Virus Infection and its Therapy in November 2016.
- Qualified and cleared the all-India graduate entrance test- JGEEBILS (Joint Graduate Entrance Examination for Biology and Interdisciplinary Life Sciences) organized by National Centre for Biological Sciences (NCBS), Bangalore and Tata Institute of Fundamental Research (TIFR), Mumbai in December 2014.
- Secured UGC rank 11 in the All India CSIR-UGC NET (Council of Scientific and Industrial Research-University Grant Commission National Eligibility Test) examination in June 2014.
- Won the first prize in IEEE sponsored paper presentation event “Eureka” in the annual-techno fest “Kshitij” organized by Indian Institute of Technology (IIT) Kharagpur in February, 2014.
- Was selected in Student Exchange Program between University of Manitoba, Canada, and St. Xavier's College from St. Xavier's College, Kolkata in October, 2010.
- Was selected for Oral Presentation on Familial Exudative Vitreoretinopathy (FEVR) at the Modern Trends in Microbiology Seminar organized by the Department of Microbiology, St. Xavier's College in September 2010.

POSTER PRESENTATION

- **Soumya Kundu**, Rahul Kumar, Vineeth A. Raveendran, Jayasri Das Sarma. DJ-1 Regulation in Viral Induced Oxidative stress in Neural cells. Advances in Life Sciences, IISER Kolkata. January 2017.
- Saurov Sett, **Soumya Kundu**, Sneha Das, Abhijit Mitra, Anindita Banerjee and Arup Kumar Mitra. Biochemical diversity encompassing advanced sustainable development. UGC sponsored State Level Seminar at Vivekananda College. March 2014.
- Saurov Sett, **Soumya Kundu**, Sneha Das, Abhijit Mitra, Anindita Banerjee and Arup Kumar Mitra. Sundarban biodiversity: Is it a possible clue towards agricultural sustainability? IEEE sponsored annual techno-fest “Kshitij” organized by IIT Kharagpur. February 2014.
- Saurov Sett, **Soumya Kundu**, Sneha Das, Abhijit Mitra, Anindita Banerjee and Arup Kumar Mitra. Sundarban biodiversity: Is it a possible clue towards agricultural sustainability? UGC sponsored State Level Seminar at St. Xavier's College. December 2013.
- **Soumya Kundu** and Semantee Raha. Biomedical Devices and Implants to Improve Healthcare Systems in India- A Novel Idea. International Conference on Biomaterials and Implants: Prospects and Possibilities in the New Millennium (BIO 2011) at Central Glass and Ceramic Research Institute (CGCRI). July 2011.

STUDENTS MENTORED

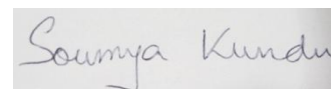
Name	Project	Project Title	Year
Shraddha Menon	IAS Summer Research Fellowship	Cloning of PARK7 gene in Pet28a vector	2015

Gisha Rose Anthony	IISER-K BS-MS Dissertation Programme	Cell-specific Regulation of DJ-1 Protein upon Mouse Hepatitis Virus Infection as a Viral Model for Multiple Sclerosis	2015-16
Lucky Sarkar	IISER-K integrated PhD Dissertation Programme	Neuroprotective Role of DJ-1 in Viral- Induced Oxidative Stress	2015-16
Avantika Bhagat	St. Xavier's College BS-MS Dissertation Programme	Cell-specific regulation of DJ-1 Protein in oxidative stress upon Mouse Hepatitis Virus Infection as a Viral Model for Multiple Sclerosis	2016
Sawani Bedekar	IISER-K Summer Research Fellowship 2016	Oxidative stress induced cellular mechanism elicited by viral infection in neural cells	2016
Rahul Kumar	IISER-K BS-MS Dissertation Programme	Differential Expression of DJ-1 in Demyelinating Strain Versus Non-demyelinating Strain of Mouse Hepatitis Virus (MHV) Infection	2016-17
Anurag Banerjee	IISER-Kolkata Summer Internship	Determination of cell cycle doubling time of cervical cancer cells like Hela, SiHa and C33a	2018
Debshruti Biswas	IISER-Kolkata Winter Internship	DJ-1 is differentially activated upon increasing concentration of Sodium Arsenite treatment in HEK293 cell line	2018
P. Anil Sasikumar Menon	IAS Summer Internship	Engendering DJ-1 expressing stable transfected astrocytoma cell line.	2019

Additionally, I had done Teaching Assistantship for 3 years under Professor Jayasri Das Sarma for the Molecular Cloning Laboratory course in IISER Kolkata.

EXTRA CURRICULAR ACTIVITIES

- Won Bronze Award in the 28th International Children's Art Exhibition in 1998.
- Was selected in a seminar on Sunita Williams held at the American Centre, Kolkata representing St. Xavier's Collegiate School in 2008.
- Represented IISER-Kolkata in ISHAN VIKAS Programme- an outreach program initiated by the Ministry of Human Resource Development (MHRD), National Institute of Technology (NIT), Indian Institute of Technology (IIT) and Indian Institute of Science Education and Research (IISER) to provide exposure to students of 10+2 level to the various aspects of science and research.
- Has been working as a painting teacher under the designation of "Hobby Teacher" at Pidilite Industries Ltd. for 10 years.
- Has been a founding as well as core committee member of Agomoni Cultural Fest, IISER-Kolkata for 3 years.
- Passed 6th year in Fine Arts.



(SOUMYA KUNDU)