

NAIRIT SARKAR

**Junior Research Fellow,
20RS089**

Department of Earth Sciences
Indian Institute of Science
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Kolkata



Sex: - Male

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RESEARCH INTEREST

■ Climate Change ■ Meteorology ■ Agroclimatology ■ Data Analysis

WORK EXPERIENCE

(1) Junior Research Fellow (JRF), Department of Earth Sciences, Indian Institute of Science Education and Research Kolkata

Joining Date: - 25th August, 2020.

Supervisor: - Dr. Sujata Ray (Department of Earth Sciences, IISER-Kolkata)

Topic: - Positive Feedback Loop Between Climate Change and Agriculture in the Ganges Basin

(2) MS Project (2019-2020), Indian Institute of Science Education and Research Kolkata

Thesis Guide: - Dr. Sujata Ray (Department of Earth Sciences, IISER-Kolkata)

During my MS thesis, my research topic was *Correlating Precipitation and Anthropogenic activities in Ajay River basin with groundwater level*. Quantile Perturbation Method has been used to analyse the perturbation in Extreme climatic events in the Ajay River basin. Climatic and Anthropogenic variable are compared with the groundwater level decrease to determine the dominant factor affecting the groundwater level in that basin.

(3) Summer Project 2018, Indian Institute of Science Education and Research Kolkata

14th May, 2018 – 6th July, 2017

Supervisor: - Dr. Sujata Ray (Department of Earth Sciences, IISER-Kolkata)

Project Title: - *Trends in multidecadal oscillations in precipitation extremes of Indian Cities*

For the Tier 1 and Tier 2 cities, Temperature and Precipitation extremes have been analysed using Quantile Perturbation Method. Trends in the anomaly curve have been studied using Bootstrapping and Mann-Kendall Method.

(4) Summer Project 2017, Indian Institute of Science Education and Research Kolkata

21st May, 2017 – 30th September, 2017

Supervisor: - Dr. Sujata Ray (Department of Earth Sciences, IISER-Kolkata)

Project Title: - *Trends and multidecadal oscillations in rainfall extremes*

I studied the oscillation pattern in rainfall extremes along with the other members in my lab in this project. I used MATLAB to sort, analyse and plot data. I stick to mainly Quantile perturbation method

during this study. We are still continuing this work. This time we are trying Peak Over Threshold and Bootstrapping method for better understanding.

(5) Summer Project 2016, Indian Institute of Science Education and Research Kolkata

19th July,2016 – 17th August,2016

Supervisor: - Dr. Sujata Ray (Department of Earth Sciences, IISER-Kolkata)

Project Title: - *Trends in Human Exposure to Pesticides in India*

During this project I worked on ‘*Pesticide (Pyrethroids) Concentration in Human Breast Milk*’ in BRICS countries where I extracted and analysed the data from research papers. I used MATLAB and EXCEL to analyse and plot data and study the differences in concentrations in those countries from 1996 to 2012.

EDUCATION

- 5-year Integrated BS-MS Dual Degree Course, Indian Institute of Science Education and Research Kolkata, India

Majoring in Geology (**Departmental Rank: - 2**)

| SEMESTER | SGPA | CGPA |
|------------------|------|-------------|
| 1 st | 8.33 | 8.33 |
| 2 nd | 8.22 | 8.28 |
| 3 rd | 8.96 | 8.49 |
| 4 th | 8.33 | 8.45 |
| 5 th | 9.17 | 8.59 |
| 6 th | 9.17 | 8.68 |
| 7 th | 9.17 | 8.75 |
| 8 th | 9.0 | 8.78 |
| 9 th | 9.17 | 8.82 |
| 10 th | 9.0 | 8.84 |

- Ph.D. Coursework

| | | |
|----------------------|-----------|--------------------|
| Research Methodology | SGPA = 10 | CGPA = 10.0 |
|----------------------|-----------|--------------------|

- Secondary and Higher Secondary result-

| EXAMINATION | YEAR | MEDIUM | SCHOOL | PERCENTAGE |
|-------------------------------------|------|---------|--------------------------------|----------------|
| Secondary (10 th) | 2013 | Bengali | Gopal Nagar M.S.S. High School | 92.71 % |
| Higher Secondary(12 th) | 2015 | Bengali | Dinhata High School | 90.8% |

SCHOLARSHIPS

(1) **Prime Minister’s Research Fellowship (PMRF), 2021 May**

(2) **MS to PhD Switchover Scholarship**

For completing BSMS with excellence.

- (3) **Innovation in Science Pursuit for Inspired Research (INSPIRE) Scholarship**
For excellence in science (Higher Secondary) and ranking amongst first 1% student in my board.
- (4) **Swami Vivekananda Scholarship**
For excellence in Secondary Examination (10th)
- (5) **Suhash Talukdar Smriti Medha Britti**
Both after Secondary and Higher Secondary Examination for excellence in both of the examinations.
- (6) Also Eligible for INSPIRE PhD Fellowship.

COMPUTATIONAL SKILLS

| | | |
|-----------------------------|-----------------------------|------------------|
| MATLAB | Origin Pro 9 | Microsoft Office |
| Python | Gnuplot | R Programming |
| Seismic Analysis Code (SAC) | Stereonet Plotting Software | SPSS |

ONLINE COURSES

- (1) Course Name: *Problem Solving Using Computational Thinking*
Authorization: **University of Michigan** (April, 2021)
- (2) Course Name: *Code Yourself! An Introduction to Programming*
Authorization: **The University of Edinburgh and Universidad ORT Uruguay** (May, 2021)
- (3) Course Name: *Population Health During a Pandemic: Contact Tracing and Beyond*
Authorization: **University of Houston** (May, 2021)
- (4) Course Name: *Population Health During a Pandemic: Contact Tracing and Beyond*
Authorization: **University of Houston** (May, 2021)
- (5) Course Name: *Communicating During Global Emergencies*
Authorization: **Emory University** (May, 2021)

CONFERENCE

- Water and Air Research Initiative for Societal Health (WaARISH 2021)**
An Indo-US Bilateral Virtual Workshop
24th – 25th August, 2021.
- VIJYOSHI CAMP 2015**, Organized by Kishore Vaigyanik Protshahan Yojana [KVPY] in association with the INSPIRE program, DST and IISER Kolkata
16th – 18th December, 2015; Venue: - Eastern Zonal Cultural Centre, Kolkata
- MATLAB Webinar 2020, Organized by MathWorks**
Topic: Analyzing Experimental Data and Making Pretty Plots in MATLAB

4. MATLAB Webinar 2020, Organized by MathWorks

Topic: Advanced Statistics and Optimization

TEACHING EXPERIENCE

(1) **Teaching Assistant**, Spring Semester 2021

Course: *Introduction to Environmental Sciences (ES2202)*

(2) **Teaching Assistant**, Autumn Semester 2021

Course: *Hydrology and Geodynamics (ES2102)*

(3) **Teacher in Ek Pehal**, 2015-2019

Taught Science group from class 5 – 10 in Ek Pehal initiative, free of cost.

ACHIVEMENTS

(1) Secured 9th rank in District in Bigyan Abhiksha Examination

(2) Academic Science Camp and Promotion Society [ASCPS] in 6th standard - A grade

(3) Took part in Sarbasiksha Mission Somonwita Diarrhoea Protirodh Pokkho Quiz Contest

(4) Took part in Sarbasiksha Mission Quiz Competition on Personal Hygiene, Sanitation & Related Issues { Won 2nd Prize }

(5) Took part in Inquivesta 2016 (Science Fest)

(6) Talent Search Test on Geography Exam in 8th standard - B+ grade

(7) Talent Search Test on Geography Exam in 9th standard - A+ grade

LANGUAGE SKILLS

Fluent in Bengali (Mother tongue), and English

COMMUNITY SERVICES

I love to teach students from 5th standards to 10th standards. I am a volunteer in Ek Pehal group. We provide free education to the unprivileged students of the locality.

OUT REACH ACTIVITY

With my **Ek Pehal** group, I have visited the local villages to spread education-awareness, distributed warm cloths to the poor peoples in the winter, distributed free reading materials to the local children.

REFERENCES

➤ *Dr. Sujata Ray*

Associate Professor, Department of Earth Sciences

Indian Institute of Science Education and Research Kolkata