



Wriju Kargupta
Environmental Science & Engineering
Indian Institute of Technology, Bombay
Specialization: Environmental engineering

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M.Tech.
Male
DOB: 28.04.1988

| Examination | University | Institute | Year | CPI / % |
|---|--------------|------------------------|------|---------|
| Post Graduation | IIT Bombay | IIT Bombay | 2011 | 8.55 |
| Undergraduate Specialization: B.Tech in Biotechnology | | | | |
| Graduation | NIT Durgapur | NIT Durgapur | 2010 | 8.32 |
| Intermediate/+2 | CBSE | B.D Memorial Institute | 2006 | 78.00 |
| Matriculation | CBSE | B.D Memorial Institute | 2004 | 82.00 |

Scholastic Achievements

- Presented **Poster** in **International Conference (Global Tech Workshop Energy Research for Global Sustainability)** on **CO₂ sequestration & biofuel generation using microalgae** (Dec, 2011)
- Cleared **GATE 2010** with an **ALL INDIA RANK** of **35** (Feb, 2010)
- Consistently figured in the **top 5 students** among a batch of **50 students** at **graduate level**

Academic Projects

M.Tech Project

- Carbon dioxide sequestration and biofuel generation using microalgae**
[Supervisor: Professor Suparna Mukherji (Centre for Environmental. Science.and Engineering.) & Professor Anuradha Ganesh (Department. of Energy Science and Engineering)] (Jan, 2011 onwards)
 - Objective 1: To find the biomass and lipid productivity at various concentrations of carbondioxide (**CO₂ sequestration**) & produce biodiesel from the lipid (**Biofuel**)
 - Objective 2: To reduce green house gas (**GHG**) and to provide alternate source of renewable energy bringing **environment** and **energy** together for **double carbon foot print benefit (CDM)**
 - Objective 3: To compare the environment **life cycle analysis** on biodiesel production from algae and compare it with other bioenergy feedstock

B.Tech Project

- Treatment of wastewater from leather processing and tannery industry** (Supervisor: Professor Apurba Dey, HOD of Biotechnology, NIT Durgapur) (Jan-Jun, 2010)
 - Aim of the project was to characterize the tannery & leather waste
 - Find the existing treatment and propose the best available treatment
 - Significance of wastewater treatment in the context of climate change

Mini Projects /Term Papers

- Life cycle** analysis of a biodiesel plant (Oct 2011, onwards)
 - The calculation of **total energy efficiency ratio**(i.e total fuel energy/total energy used in production, manufacture, transportation, and distribution) and **total fossil energy efficiency ratio**
 - The comparison of overall lifecycle emission of carbondioxide, carbonmonoxide & particulate matter from **biodiesel** with **petroleum diesel**
- Term project on preparation of an **EIA** (Environmental Impact Assessment) report on **Navi Mumbai Airport** (Aug-Nov, 2011)
 - The holistic analysis of the **physical, socio-economical and biological impact** was analyzed
 - **SWOT** and **SENSITIVITY** analysis of **Navi Mumbai** site was done and compared with **Rewas-Mandwa** site
- Term project on evaluation of **water distribution system** in IIT Bombay and design of a 200 MLD (million litres per day) drinking water treatment plant (Feb-Apr, 2011)
- A mini project on setting up a cigarette filter testing centre at IIT B** as a service to Ministry of Health and Forest (2011)
 - Literature review of fabric/fibrous filter materials and their performance
 - Instrumentation for study of **particulate matter (PM)** and **volatile organic carbon (VOC)**
- Performance of water distribution system of IIT Bombay was evaluated using **EPANET** software (2011)
- Development of **Solid Waste Management plan for Chennai city** (Aug-Nov, 2010)

Practical Training/Plant Visit

- Attended the conference on “**Climate change, Oil spill and Radiation risk: New Environmental Challenges**” held at **NEERI, Mumbai** (Dec 2011)
- Industrial visit to **Common Effluent Treatment Plant (CETP)** at Vapi organized by Indian Environmental Organization (Sept, 2011)
 - Analysis of all the processes and units involved in waste water treatment
 - Gained practical knowledge and knowhow of the Common effluent treatment plant operation
- Attended a lecture on **Sustainability development** by Dr. Anju Singh faculty of **NITIE** (Aug, 2011)
 - Learnt about **Global Reporting Initiative (GRI)** Frame work, **Management performances** and **performance indicators**
 - Understanding of the interlinking between **society, economics and environment**
 - **Occupational health and safety standards** and various management policies, tools implemented in industries
 - Case study of sustainability of **NTPC Ltd**
- Summer training on **stability, multiplicity and parametric sensitivity analysis of a bio-chemical system** from Chemical engineering at **Jadavpur University** under the guidance of Professor Pinaki Bhattacharya (May-Jun, 2009)
- Visited **Drinking Water Treatment Plant** in Bhandup (Asia’s largest) (Sep, 2010)
- **Ambient air quality assessment** of two places (inside and outside IIT) using **High Volume Sampler** (2010)
- Implemented a one week training at S.E Railway Garden Reach, Kolkata (Apr, 2009)
 - Learnt about the purification system employed after collecting the water from river **Ganges**
 - Evaluated the water treatment plant and did sampling at various points to check against the water standards.

Academic Interest

- **Green Building** Practices, **LCA**, Eco-Labeling and Preventive **Environmental Management** tools
- **Clean Development Mechanisms (CDM)**, Carbon trading, **EIA** (Risk assessment and **HAZOP** study)
- **ISO 14001** ,**Sustainability Reporting**, **Environment Health & Safety**
- **Global sustainable** development issues with projects related with **energy** and **environment**

Software Skills

- Languages: Basics of C, Data structure, Bioinformatics
- Environmental Softwares: Epanet, Biowin, Lingo, Matlab

Position of Responsibility

- **Member of organizing team of alumni meet at Centre of Environmental Science & Engineering (CESE), IIT Bombay** (June-July, 2011)
 - **Worked in a team of 15 people responsible for coordinating and scheduling of various activities of alumni meet at CESE**
 - **Interacting** with esteemed alumni of CESE and convincing them to play a role in our education system
 - Engaging group discussion on several issues and trying to find a holistic and integrated way to narrow the gap between industry and academic projects
 - **Coordinated** the event efficiently which was graced by many eminent personalities in the field of environment, energy and climate
- **Teaching Assistant in water and waste water engineering course** (July, 2011 onwards)
- **Motivated & enthusiastic** member of ‘**Environmental Science and Engineering Association**’ (**ESEA**), IIT Bombay (July 2011 onwards)
- **Teaching assistant for environmental studies course** (Jan-May,2011)
 - Supervised a batch of 700 students of B .Tech and M.Sc students and assisted in solving their individual tutorials (Jan-June 2011)
- **Class representative of 2010 batch at NIT Durgapur** (2010)
- **Member of organizing committee of Aarohan, the youth cultural festival of NIT Durgapur** (2009,2010)

Hobbies

- Reading philosophical & spiritual books especially by Swami Vivekananda
- Observing Nature, Playing Table Tennis, Travelling, Swimming