



Shuchi Ojha  
Metallurgical Engineering & Material Science  
Indian Institute of Technology, Bombay

09011044  
UG Third Year (B.Tech.)  
Female  
DOB: 14-08-1991

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2011	8.48
Intermediate/+2	CBSE	DPS RKPuram, New Delhi	2009	94.60
Matriculation	ICSE	Villa Theresa High School, Mumbai	2007	96.57

Pursuing a Minor in Biosciences, and Honours (with CPI 10.0/10.0) in Metallurgical Engineering and Materials Science.

## SCHOLASTIC ACHIEVEMENTS

- Department **Rank 4** (out of 51 students); secured a CPI of **9.0/10.0** in **core** department courses (in 4 semesters).
- Selected amongst the **top 300** students in India, for the **Indian National Chemistry Olympiad**.
- Secured an **All India Rank of 1826** out of over 0.4 million students in the IIT-JEE, 2009 (top 0.4 %).
- Awarded the **Gold Medal** for academic excellence in intermediate studies at DPS RKPuram, New Delhi.
- Stood **third** amongst all students **in Mumbai** and was awarded a trophy for obtaining **highest percentage** in matriculation in the 75 year history of Villa Theresa High School, Mumbai.

## INTERNSHIPS

### Effect of temperature and pH on scattering spectrum of single gold nanoparticles (May-July, 2011)

Guide: Prof T.Pradeep, Department Of Chemistry, Sophisticated Analytical Instrument Facility, IIT Madras.

- Used Hyperspectral imaging to observe spectra of isolated gold nanoparticles and establish its dependence on temperature and pH changes in the surrounding environment (**First time ever** such an experiment was performed).
- Obtained significant results, now being studied to develop **single particle thermometers and pH meters**.
- Proficient in the use of the *Cytoviva Hyperspectral Imaging system* as well as the *flow cell set up* consisting of a live cell imaging chamber and peltier systems to control flow rate and temperature.

### Analytical solution for one and two dimensional Diffusion equation (December 2010)

Guide: Prof M.P.Gururajan, Department of Metallurgical Engineering and Material Sciences, IIT-Bombay.

- Used **Finite Difference technique** and Fourier Transform to solve the Diffusion equation in both 1 D and 2 D.
- Used C++ to do the coding for the same.

## WORK EXPERIENCE

### Financial Advisory Function at Deloitte (Mumbai) (May 2010)

- Worked as a summer trainee in the **Mergers and Acquisitions** department of the company.
- Did a research assignment to shortlist target companies for clients in the **FMCG sector** focussing on the Food Processing Industry, its major players and product lines.
- Proficient in the use of *merger markets*.

## KEY ACADEMIC PROJECTS UNDERTAKEN

### 'Mini National UID (Unique IDentity) for IIT campus' (Fall 2009)

Guide: Prof. Deepak B. Phatak, Department of Computer Science, IIT-Bombay

- Using C ++ converted the input grayscale image of the fingerprint, into a monotone image and subsequently used **binary skeletonization** technique to thin the fingerprint and create a text template to successfully **compare and match fingerprints**.
- Led** a batch of **40 students** as the project leader.
- This system has been introduced as an attendance and access control system in IIT-Bombay.

## Analytical Solution for Heat and Mass Transfer Problem

(Fall 2010)

Guide: Prof Nurni Viswanathan, Department of Metallurgical Engineering and Material Sciences, IIT-Bombay.

- Developed a MATLAB program to solve a heat transfer problem.

## SEMINARS AND TALKS PRESENTED

- Gave a popular lecture to over **200 students** and professors titled “**Should Bumblebees Fly?**” at the Annual Seminar Weekend in IIT-Bombay, 2011. The talk was about the flight mechanisms of the bumblebee, involving various principles of fluid mechanics.

## POSITIONS OF RESPONSIBILITY

- **Web and Publicity Nominee, Institute Cultural Council, IIT Bombay, 2010-2011**
  - Helped conduct **over 70 events** across 8 cultural genres as part of the council.
  - Designed and updated the **Cultural Website**, and other web portals including a cultural documentation blog.
  - Helped improve publicity of cultural events resulting in a massive **increase in participation** by students.
  - Was the **only sophomore member** of the 11 member council otherwise comprising third and fourth year students.
- **Convener, Pixels, The Photography Club, IIT Bombay, 2010-2011**
  - As the **head of the club**, organised technical workshops, competitions and club sessions.
  - Maintained **online archives** of the best photographs by institute students.
  - Helped increase the participation and enthusiasm for photography among students.
  - Organised **Kaladarshan**, a Photography and Arts exhibition participated in by over 500 students and professors.
- **President of the Interact Club (Rotary International), 2004-2007**
- **Head Girl, Villa Theresa High School, 2006-2007**

## EXTRA-CURRICULAR ACTIVITIES

- Awards**
- Awarded the ***Freshman of the Year*** at IIT Bombay (2009-2010) for excellence in cultural activities (given to only 2 out of 800 students).
  - Received the Hostel PAF **Special Mention** for valuable contribution in the Performing Arts Festival.

- Sports**
- Awarded the rank of Junior Sho Dan in Karate by Grand Master Goshi Yamaguchi, Japan. (**Black Belt**).
  - Awarded **2<sup>nd</sup> position** at Asia-Pacific International Karate Championships in Perth, Australia (1999).
  - **Certified Scuba Diver** by Professional Association of Diving Instructors (PADI), Australia.
  - Successfully completed the IIT-B **Swimathon** by swimming 12 hours non-stop, covering a total distance of 17.5 kms, thus becoming the **winner in the Girls Category**.
  - Avid runner, won several interschool and district level athletics events, and also successfully completed the Standard Chartered **Mumbai Half Marathon**.

- Cultural**
- Successfully completed Grade V, Speech and Drama, **Trinity College London** with *Merit*.
  - Stood **third in photography** competition held at Mood Indigo IIT-B college fest.(2009)
  - Stood first in INDIA QUIZ (broadcast in New York '05), third in National Level NTPC Quiz, first in Phede Science Quiz, was Bombay finalist in Euro-Enviro Quiz, and reach quarterfinals of BQC National Level.

## SOFTWARE SKILLS

- Operating Systems: Windows, Linux.
- Programming Languages: C, C++, HTML, CSS, JavaScript.
- Softwares: Adobe Photoshop, Adobe Dreamweaver, Microsoft Office