



Metallurgical Engineering and Materials Science
Indian Institute of Technology, Bombay
Specialization: Ceramics & Composites

Dual Degree (B.Tech+M.Tech.)
Female
DOB: 26/09/1988

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2012	8.92
Intermediate/+2	Maharashtra State Board	Fergusson College, Pune	2006	89.67
Matriculation	Maharashtra State Board	Bal Shikshan Mandir, Pune	2004	91.60

ACADEMIC ACHIEVEMENTS

- Currently ranked **2nd** in the Department, in the dual degree batch of 38 students
- Received Institute **Academic Excellence Award** for outstanding academic performance [2009, 2010]
- Secured a perfect Semester Performance Index of **10.0** in Autumn '08
- Awarded **Minor** in Computer Science and Engineering after successful completion of 5 courses
- Recipient of the **National Talent Search Scholarship** [2004]
- **Gold medal** in the Ganit Pradnya (Mathex) examination [2002]

INTERSHIPS

University of New Brunswick, Canada [May-Jul 2010]

Nanocomposite Multifunctional Fibers

- One of the 75 students selected from all over India, under **MITACS** Globalink Program, 2010 to pursue research and attend conferences and project management workshops in Canada
- Manufactured and carried out systematic analysis of Spandex-**Carbon Nanotube** composite fibers
- Determined **optimum** loading ratio for highest thermal conductivity, for applications in **sportswear** fabric
- Received **2** awards- '**Best Non-Technical Article**' on advanced materials all over **Canada**, and '**Best Non Technical Article**' in The University of New Brunswick for a non technical article based on the research

National Chemical Laboratory, Pune [May-Jul 2009]

Co-crystal Formation and Analysis

- Synthesized Co-crystals of water insoluble **pharmaceutical drugs**, with water soluble organic compounds, for **easy dissolution** of the drug in water; analyzed various pairs of organic compounds for their solubilities
- Experimentally determined ratio of the 2 compounds to be co-crystallized for **maximum solubility**

KEY ACADEMIC PROJECTS

MEMS based Cantilever Bio-Sensors (Dual Degree Dissertation) [Jul 2011-present]

- Currently analyzing various developments in the field of piezoresistive **cantilever MEMS devices**
- Working on the fabrication of a cantilever based Microelectromechanical System device that can be used as a **bio-sensor**, by detecting changes in the **resonant frequency** of the cantilever beam
- Employing methods such as Low Pressure Chemical Vapour Deposition, Photolithography, Spin coating etc in order to fabricate the device
- Plan to apply the same in the detection of **excess glucose** and cancerous tissues in the human body

Size and Shape controlled Nanoceramics (Junior Thesis) [Jan-Apr 2010]

- Conducted an extensive literature survey to analyze various techniques of **size and shape** controlled synthesis of various metal oxide nanoparticles
- Studied the applications of nanoceramics in day-to-day life and delivered a talk on the same

Industrial Production of low-cost Dye Sensitized Solar Cells (Business Plan) [Jul-Nov 2009]

- Developed a business model for the **low cost** manufacturing and distribution of Dye Sensitized Solar Cells (**DSSC**) as **alternative** sources of energy in remote locations

Manufacturing Processes (Seminar)

[Jul-Nov 2010]

- Conducted extensive **literature survey** to analyze the principle, working and potential applications of Reactively Coupled Ion Induced Plasma Etching technique and presented a talk on the same

Electronic Voting (Course Project, Computer and Network Security)

[Jan-Apr 2011]

- Analyzed the principles and requirements for a **secure e-voting** system, studied the challenges involved
- Studied various models proposed for the implementation of a successful e-voting system

POSITIONS OF RESPONSIBILITY

Cabinet Member, Student Mentorship Program (SMP)

[2011-present]

- Part of the 7-member cabinet team that provides support and guidance to the SMP coordinators
- Ensuring smooth functioning of the *Department Academic Mentorship Program (D-AMP)* for the **Aerospace** and **Metallurgical** Engineering Departments
- Conceptualized and drafted, for the **first** time, the **D-AMP charter**, a formal document that defines the structure of the D-AMP
- Advising a team of **14** mentors working to provide guidance and counseling to academically **weak** students
- Proposed and implemented **effective** teaching and **evaluation methods** and initiated **curriculum review**, in collaboration with the Academic Council and the faculty members, to promote academic vigor

Chief Editor, Dhatuki

[2009-10]

Official magazine of the Department of Metallurgical Engineering and Materials Science

- Led an **execution panel** of **20** members towards the successful release of **2 editions** of the magazine
- Interviewed faculty members to portray the ongoing cutting edge research activities in the department
- Designed and published a *Department Placement Newsletter*, for the **first** time ever in the department

Music Incharge, Performing Arts Festival

[Mar 2011]

- Led the Music team comprised of **16** members to win the **Best Music Trophy** in PAF 2011
- Composed the main background score and 4 **original** music tracks
- Coordinated the synchronization of entirely **live music** belonging to 4 entirely different genres

Institute Student Mentor & Department Academic Mentor

[2010-11]

- Counseled **9** freshmen and **5** underperforming 2nd & 3rd year students to strike a good **balance** between academics and other activities and cope with academic pressure

SOFTWARE SKILLS

EXTRA CURRICULAR ACTIVITIES

- Proficient in C, C++, MATLAB, PYTHON, GNU OCTAVE

Awards

- Award for **exceptional performance** as the Music Incharge, for exemplary coordination of the music team and conceptualization of an **on-stage** live band for the **first time** in PAF ('10), declared as '**Gem of the PAF**'
- Hostel **Cultural Colour** ('09) Award for representing the hostel in inter-hostel cultural competitions
- Hostel **Technical Special Mention** ('09) for active participation in technical competitions and **mentoring** hostel freshmen in technical events

Music

- Completed 4 years of formal training in Indian Classical Vocal Music for 4 years, with distinction
- Was the Lead Vocalist in:
 - **Institute Cultural Night** ('09), opening for performances by **Bhupinder Singh** and **Mohit Chauhan**
 - **Surbahaar** ('07, '08, '09, '10 and '11), the largest and most popular musical concert of IITB
 - PAF ('09, '10 & '11), inter-hostel General Championships and Western Music Concerts in the institute

Others

- Professionally trained in **Bharatnatyam** for **10 years** having completed the basic course with **distinction**
- Completed Basic **French** Communication Course Module 1, by **Alliance Française**
- Won **1st Prize** in Materials Quiz at Padarth ('10), technical festival of the Metallurgical Engg. Department