PRATHAMESH PATIL 16D110012

Metallurgical Engineering and Material Science UG Second Year

Indian Institute of Technology Bombay Male

DOB : 27/05/1998

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| **Examination** | **University** | **Institute** | **Year** |
| Graduation | IIT Bombay | IIT Bombay | 2017 |
| Intermediate/+2 | MSBSHSE | SP College, Pune | 2016 |
| Matriculation | MSBSHSE | Sinhagad Spring Dale School, Pune | 2014 |

Currently pursuing a **Bachelors degree** in Metallurgical Engineering and Material Science with a **Masters degree** in Ceramics and Composites as part of dual degree program at IIT Bombay

**ACADEMIC ACHIEVEMENTS**

* Secured **AIR 3248** in IIT JEE Advance among 0.2 Million candidates (2016)
* **99.6 percentile** in JEE Mains among 1.2 Million people (2016)
* In **top 1 percentile** in the state wise conducted National Standard Exam in Chemistry(2015)
* **Won** Prof. Brahm Prakash memorial materials quiz organized by IIM, Pune Chapter (2015)
* Represented the Pune chapter and **Semi Finalist** in Prof. Brahm Prakash memorial **materials quiz** conducted by Indian Institute of Metals, Kalpakkam (2015)
* **Runners up** in the **Astronomy Quiz** conducted by Jyothirvidya Parisanstha, Pune (2015)
* **Second Runners Up** in 100 teamsin the **Science quiz** conducted by IUCAA, Pune (2013)

**COURSES UNDERTAKEN**

**Additional Courses** (sit through/out of interest)

* **Thermoelectric Materials**
* Thermoelectric Effects : **Seebeck** and Peltier Effects
* **Semiconductor Physics** : Conduction processes, energy spectrum, transport equations, charge carriers and phonon scattering, Drude model, Sommerfeld Model
* **Band Theory** : Band formation, doping and effects of doping on band structure.
* Direct and indirect **Measurement** of thermoelectric properties.
* Choosing and optimizing materials :**Thermoelectric Systems** and applications.
* **Modeling** of thermoelectric transport using **MATLAB**
* **Critic review** of a research paper related to a topic covered in the course

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| **Core Courses** | **Practical and other courses** |
| * Structure of Materials * Thermodynamics of Materials * Data analysis and Interpretation * Materials and Technology | * Experimental and Measurement Lab * Introduction to Electrical and electronic circuits * Computer programming and Utilization * Engineering Drawing and Graphics |

**SKILLS**

* **Programming Skills**: C++, MATLAB and/or GNU Octave, HTML
* **Software Skills :** MATLAB, Octave, Wolfram Mathematica, Stellarium, AutoCAD, SolidWorks, Origin, MS: Word, Excel, Powerpoint, Access, Adobe Premier Pro.
* **Languages known :** English, German, Hindi, Marathi.

**PROJECTS**

* **Motorizing a Telescope using RaspberryPi**
* To motorize a telescope such that it automatically shows an object at desired location in the sky with minimum human efforts using stepper motor and RapberryPi
* To interface the telescope with computer and operate it remotely
* **Modeling a Galaxy using Wolfram Mathematica**
* Finding out the trajectory and velocity profile of a star around the galaxy
* Using real data to and trying to explain it using our model

**POSITIONS OF RESPONSIBILITY HELD**

* **Convener at Materials Club, IIT Bombay**
* Created awareness about Material Science in the student community
* Kept posting about a new material or a phenomenon related to material science
* Circulated projects for undergraduates to get them interested in material science
* Created a platform for people interested in Material Science to discuss about it
* **Volunteer at Astronomy Club, IIT Bombay**
* Organized a quiz on Astronomy for nearly 60 people
* Mentored newcomers to the club and taught them to use various concepts in Astronomy
* Taught a group of people to use Telescope and basics of sky observation
* Conducted overnight sky gazing sessions focused on constellations and Messier objects in the night sky which entertained around 100 people every time
* **Coordinator at Mood Indigo, IIT Bombay**
* Conducted competitions in which saw a participation of more than 1000 participants
* Helped conduct the Multicity tour which took place in 7 cities all over India
* Organized a Casino over a period of 3 days which catered more than 2000 people
* Conducted Choreonite, the biggest student Dance competition Finals in India

**EXTRA CURRICULAR ACIVITIES**

* Playing sports: represented school and college in sports like Football, Volleyball, Hockey
* Doing Astronomical Observations. Have completed a half Messier Marathon
* Reading books on fictional and non fictional topics, reading and writing poetry