PRATHAMESH PATIL
Metallurgical Engineering and Material Science
Indian Institute of Technology Bombay

16D110012
UG Second Year
Male
DOB : 27/05/1998

| 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 teams in 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

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