

## Placements:

Students are carrying out research in many renowned research institutions in India and Abroad including Oxford, Cambridge, Harvard and Caltech. Others join teaching as a career. Many join the Armed forces and other companies including...



Tech  
Mahindra



TATA CONSULTANCY SERVICES

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Apart from PG courses we are also a recognized Research Centre in Physics with recognized research guides. The department has many ongoing projects funded by BCUD, ISRO, BRNS, DST, UGC, and other funding agencies. At present department is having research projects worth Rs. 68 lacs.

We are National Graduate examination in Physics (NGPE) centre for the past 20 years. We are also IUCAA Node for Astronomy & Astrophysics Development INAAD centre involved in popularizing the subject.

## Academic and Research Linkages:

International collaboration: Cork Institute of Technology- CIT, Ireland

**TARA Project:** Fergusson college, Autonomous Robotic telescope (to be linked to Blackrock Observatory, Ireland and San Francisco, USA)



## Other Linkages for Research and students projects within the country:

- \*National Chemical Laboratory (NCL), Pune.
- \*National Center for Radio Astronomy (NCRA), Pune
- \*Indian Institute for Astrophysics (IIA), Bangalore
- \*Inter University Center for Astronomy & Astrophysics (IUCAA), Pune
- \*Center for Electronics Materials (C-MET), Pune
- \*Bhabha Atomic Research Center (BARC), Mumbai
- \*Indian Institute of Tropical Meteorology (IITM), Pune
- \*Savitribai Phule Pune University (SPPU), Pune
- \*Defense Institute of Advanced Technology (Deemed University) (DIAT), Pune
- \*Indian Institute of Science Education and Research (IISER), Pune



**Fergusson College,  
(Autonomous) Pune – Est.1885**

**Department of Physics (Est.1903)**



**INFORMATION BROCHURE  
YEAR 2017-18**

## Programs offered:

- Undergraduate
- Postgraduate Grant-in-aid
- Postgraduate Self Finance
- Ph. D. Research Center

**DEPARTMENT HISTORY:** The department of Physics is the largest and oldest department in Fergusson College as per the number of teaching faculty members and students. It was founded in 1903 and the Post Graduation centre was established in 1969.

**CURRICULUM:** M.Sc. in Physics is a Two Year Post Graduate course with Grantable and Non-Grant divisions. The course has been designed according to the Choice Based Credit System (CBCS) under Autonomous structure. This enables our students to develop a strong base in applied and experimental Physics. Our department offers all core courses along with the Elective Courses mainly in two specialized branches of Materials Sciences and Astronomy & Astrophysics.

## Salient Features of Credit System:

P.G. Course in Physics is of 100 credits.

### Semester I (25 Credits):

Classical Mechanics, Mathematical Methods in Physics, Atoms, Molecules and Solids, Electronics, Physics Practical Laboratory – I, Physics Practical Laboratory – II, Self Learning: Lasers

### Semester II (25 Credits):

Electrodynamics, Solid State Physics, Quantum Mechanics, Statistical Mechanics, Physics Laboratory III, Physics Laboratory IV, Self Learning: Energy Studies

### Semester III (25 credits):

Experimental Techniques in Physics Vacuum Science and Technology, Physics of Nano materials, Basic Materials Science, Astronomy and Astrophysics I, Atmospheric Science, Physics Laboratory V, Physics Laboratory VI, Self learning: Analytical techniques.

### Semester IV (25credits):

Nuclear Physics, Physics of Semiconductor Devices, Thin Film Physics and Technology Materials Synthesis, Processing & Applications, Astronomy & Astrophysics II, Instrumentation techniques, Physics Laboratory VII, Physics Laboratory VIII, Self learning: General Relativity and Gravitation

## Additional Compulsory Courses:

### M.Sc.– I

Introduction to Cyber Security I (1-Credit) Introduction to Cyber Security II (1-Credit) Human Rights I (1-Credit) Human Rights II (1-Credit)

### M.Sc.-II

Introduction to Cyber Security III (1-Credit) Introduction to Cyber Security IV (1-Credit) Skill Development I (2-Credit) Skill Development II (2-Credit)

## Association Activities:

### ➤ Astro Club Activities:

Guest lectures by renowned speakers, problem solving sessions, National Seminar-Frontiers in Physics, star gazing, meteor shower observations & exhibitions.

The Astro Club has discovered six main belt Asteroids till date through International Asteroid Hunt program.

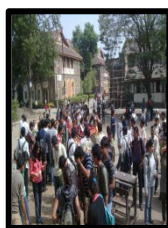


### ➤ Physics Forum Activity :

Annual Physics Exhibition-Gravity, white board and wall paper activity, talks.

### ➤ Indian Physics Association (IPA) Activities:

Physics Quiz competitions Poster & Paper presentation competitions.



## Our Alumni includes....

\***Hon. V.P. Singh:** Former, Prime Minister of India

\***Prof. Ram Takwale:** Former Vice-chancellor of three Universities: Pune University, Pune, Yashwantrao Chavan Maharashtra Open University, Nashik and Indra Gandhi National Open University, New Delhi

\***Padmashree Prof. Pramod Kale:** Former Director, ISRO Ahmedabad

\***Prof. M.G. Takawale:** Former Vice-chancellor of Shivaji University, Kolhapur

\***Prof. R.R. Kelkar:** Former Director General, IMD, New Delhi

\***Dr. Vivek Sharma** (LHC Higgs analysis co-ordinator)

\***Prof. Sanjiv Dhurandhar,** Scientist, IUCAA, team member in the detection of the Gravitational waves.

\***Adv. Vandana Chavan** - Hon. Rajya Sabha member

\***Lt. Vikrant Deshmukh** – Kirti Chakra winner 2011

\***Dr. Varun Bhalerao** - Won Two Golds and One Bronze medal for India, at three consecutive International Astronomy Olympiads

\***Dr. Poornima Lalwani,** Software Div. Motorola USA

\***Shri. Suresh Menon,** Vice-President, TCS

\***Dr. Medha Khole**, Deputy Director (Weather Forecasting) of Indian Meteorological Department (IMD), Pune

## Science Education Initiative:

Initiated by past students. This activity has gained momentum over the past two years undergraduate students work as interns in 30+ municipal corporation schools in Pune and the results are astonishing.

