



**Fergusson College (Autonomous), Pune**  
**Internal Quality Assurance Cell**  
**Best Practices**

**Best Practice-I**

**1. Title of Practice: Fostering Active Learning Strategies in Teaching-Learning**

**2. Goal**

- To equip students with techniques/ use of technology.
- To instil sense of research in undergraduate and post graduate students through project- based learning.
- To equip students with interdisciplinary knowledge and enhance their knowledge base.
- To promote interaction with subject experts, scientists, academicians and industry experts.
- To make students employable and industry ready.

**3. The Context**

Higher education demands overall growth of the students and provide them learning opportunities and make them employable. It is not always possible to enrich curricula with all the knowledge and expertise needed for their academic progression and move towards internships and lead to placement opportunities. Hence, additional efforts by the higher educational institutes are essential to equip students and make them aware of new technologies and hands on experiments. Interdisciplinary learning is also needed to cater to industry needs.

**4. Practices**

The College/ departments organizes Hands on training sessions with the help of industries and research institutes and other higher educational institutes which help students in increasing their knowledge horizons and in a way equips them new techniques. Project based learning has been practised by the college over a long period of time in both the faculties, which has promoted sense of research among the students. Workshops on interdisciplinary areas especially on learning new techniques/software's/technologies has provided an edge for our students and resulted in better placement opportunities. Learning and interacting with meritorious alumni and few sessions with present students has helped in grooming of students and helped in understanding new avenues/requirements in industries, research institutes and also in International Universities.

**5. Evidence of Success**

The overall impact of above -mentioned efforts has helped students and teachers to go beyond the curriculum and learn beyond the scope of the curriculum. Regular interactions with experts, scientists have helped students in widening their scope of learning. Apart

from this, Career Summits and Sectorial Summits conducted in collaboration with recruiters and industries and industry HRs has paved way for both students as well as teachers in understanding industry needs and bridging the gap between academia and industries. Hands on training sessions especially for undergraduate students has equipped them in practically doing certain experiments/ techniques used in research institutes as well as in industries. Project based learning has given students an opportunity to do research, write papers and publish and in many cases, present their work in conferences.

Learning of softwares/programmes

like ‘R’ programming, ‘PYTHON’ programming for life students has helped them to analyse data generated through research projects and provided an understanding of presentation of scientific data.

## **Best Practice-II**

### **1. Title of the Practice: Diversification of Social Outreach Activities and Fostering Social Responsibility**

#### **2. Goal**

- To instill a sense of social responsibility in students.
- To engage the students in meaningful service that meets community needs.
- To equip the students with skills, attitude and knowledge to work with the disadvantaged sections of society.
- To diversify social and outreach activities and reach school education
- To foster reciprocal learning where both the students and the recipients of service benefit from the activity.
- To encourage a lifelong ethic of service in students.

#### **3. The Context:** The purpose of education is not just preparing the students for a livelihood but also to make them good citizens and above all good human beings. Values of caring and sharing with the less privileged are one of the important elements of such education. It is our collective responsibility to empower the underprivileged to become self-reliant so that they can live with respect and dignity. It is our duty to uphold the human rights of all disadvantaged sections of society. Our college encourages a lifelong ethic of community service.

#### **4. Practices**

The college has a Social Outreach & Enabling Centre (SOEC) which gives an opportunity to the students to work with various civil society organizations. There are around 8 active organizations working under SOEC. They work for different causes and have different mottos. There are organizations working for blind students specifically and working for learning disabilities like Ankur and Prism. There are organizations working to educate the children from Below Poverty Line families like Doorsteps. There are multitasking organizations like Sevashayog working for more varied causes like women emancipation, menstrual hygiene and education. Muse, which is situated out of Pune, actively works through video calls.

Apart from the above, the College has been awarded with DBT STAR College Scheme. Eleven science departments are beneficiaries under this scheme. Every department carries out atleast one outreach activity under this scheme. The outreach activities carried out vary from

poster exhibitions for general public, exhibitions on Scientist like Dr. APJ Kalam, Statistics in Army/ War/ How Alan Turing used Statistics and German's Lost, Big Data Analysis (How Statistics is used in Internet.), Workshops for school teachers teaching Biology and Geography introducing teachers to Earth and Solar System, Evolution of the Earth and Topography and Landforms, hands-on training on Maps and Toposheet reading and on minerals, rocks, fossils and rock thin sections, workshop on 'Introduction to the Exciting World of Microbiology' for high school student, where the number of students benefitted is more than 200, workshop on 'Understanding life-style diseases using Clinical biochemistry for high school teachers' and Three-day programme on 'Popularization of Science' which included lectures by eminent scientists on various topics and hands-on session on the use of scientific toys made from simple daily use objects to demonstrate the principles of Science were conducted.

5. **Evidence of Success:** This has helped the College in reaching out to the community which needs education, help rendered by our student volunteers has been solicited by the NGOs and Inclusive Schools. The press has given coverage to the work done by the social outreach and enabling centre. This has also helped in significant number of NGOs approaching the College/ SOEC to get support in the form of student volunteers and now the College is entering into formal MoU's with these NGOs/Schools. The students volunteering such outreach activities are awarded extra credits for participating in SOEC activities and their work is getting evaluated as well as appreciated.

### **Best Practice-III**

1. **Title of the Practice: Efforts for Differently abled students – SAATHI Enabling Center**

2. **Goal**

- To help and support students with blindness
- To equip these students with skills needed for their academic and career progression.
- To help them evolve and bring them in main stream on par with their counterparts.

3. **The Context:** SAATHI Enabling centre has been established in the College. The objectives of this Center are to promote and help disabled students especially those with blindness. The center works for disabled students in their study and personality development. SAATHI also helps in identifying their skills, quality and abilities in them. As a part of their activities specifically for developing their academic abilities, the Center organizes various programmes and activities which include workshops, lectures by eminent persons for their overall development. SAATHI also provides study material for these blind students in form of recording of books prescribed in their curriculum. SAATHI provides writers for their exam and assigns student volunteers (called as peers) who help them in their office related work and their routine movements in the college campus. SAATHI also organizes local trips in nearby areas, which help them to build a friendship bond with other students.

4. **Practices**

The SAATHI Enabling Center conducts following activities and programmes for students with blindness.

- Computer training classes with dedicated computers with JAWS software.
- Painting Exhibitions for blind students- ‘Closed Eyes and Open Minds’.
- Sports competition like Chess.
- Scholarship for blind students – Given by Chennai Foundation
- Celebration of ‘Braille Day’
- Trips to nearby areas like Junnar, Shivneri Fort, Kolaba Fort, Kankeshwar Temple, hri Ballaleshwar Ganpati Temple, Pali and Akshi Beach, Alibaug.
- Guest lectures and programmes like “LAKSHYA” for orienting blind students for competitive examinations.
- Virtual Study Circle, is an ongoing activity between student volunteers/peers and blind students where they engage themselves every week in academic discussions from exam point of view.
- A new initiative called, “Let's Record”, [the first Audiobooks' Website of SAATHI, [www.vargshikshak.com](http://www.vargshikshak.com)] has been started when a countrywide lockdown was announced in India, It allows people from all around to record books for the blind students to help them pass their time during the period of lockdown and after knowing the importance of our Initiative, it was covered by well-known Times of India Group on 30 May 2020, in their issue.

#### 5. Evidence of Success:

All these activities have helped blind students to learn in academics as well as in their routine life and has created a sense of belongingness in them. The center has provided a conducive environment to promote the overall development of these students. Few achievements are, SAATHI, was awarded Drushti Sanman Puraskar" by Drushti NGO on 16th Feb, 2018.our students, Aniket Bende (TYBA) has won gold medal in international Olympiad of Performing Arts organised by Akhil Bhartiya Sanskrutik Sangha at Dubai. Laxmikant got selected as probation officer in State Bank of India, Sanjeet Hoskoti (TYBA) wrote his own book named ‘My experiences and feelings of a dog’ in English.

### Best Practice – IV

#### 1. Title of the Practice: Frontiers in Physics - A National Student Seminar

#### 2. Goal

- To develop leadership qualities in students
- To provide a platform for students to interact with world renowned physicists working in different areas of research.
- To promote academic collaboration between the college and researchers.

#### 3. The Context

Frontiers in Physics is a two to three-day National event organized by the students for the students. The event was conceptualized by student's in 2008 when we had the 1<sup>st</sup> Frontiers in Physics inaugurated by the founding Director of the Max Plank Institution Germany late Prof. Jurgen Ehlers. Participation for this event is from various institutions in India. The event exposes students to event management and organizational skills and interacting

with eminent scientists. The seminar includes invited talks by eminent scientist and directors from various national as well as International institutions, poster presentation by students on their project work, panel discussion on various topics like careers and opportunities in physics followed by star gazing session at night. The seminar usually has registered participants between 150 to 200 each year. The entire event is managed by undergraduate students which includes:

- (a) Designing Team: Designing the advertisement posters, banners, souvenirs, schedule, invitations, mementoes and certificates.
- (b) Technical Team: Managing the stage mikes, projectors, lights, etc.
- (c) Stage Committee: Comparing, introducing the speakers, escorting the speakers from their office / residence, transport etc.
- (d) Food Committee: Deciding the menu for High Tea and Lunch, according to the available budget and tea / lunch arrangements.
- (e) Registration and poster presentation team: Managing registrations, Funds and poster presentation arrangements.

The event is funded by nominal registration fee from students and teachers and funds from IUCAA, DBT and sometimes individuals or companies sponsors. Since 2008 till date, we have had 15 years of Frontiers in Physics the latest one was held this year on 12<sup>th</sup> and 13<sup>th</sup> May 2022 and inaugurated by Prof. Deepak Dhar, IISER, Pune and the only Indian to have won the Boltzman medal.

#### 4. **Practices**

Frontiers in Physics is conducted every year and the seminar includes:

- (a) Lectures by eminent physicists in India and abroad.
- (b) Poster Competition for students.
- (c) Panel discussion and interaction with students.
- (d) Some of the notable speakers were: Prof. Brian Schmidt, 2011, Nobel Laureate in Physics and Vice Chancellor of the Australian University, Topic - "Frontiers in Physics", Prof. Atish Dabholkar, Dir. International Center for Theoretical Physics, ICTP Italy, "Quantum Black Holes: An encounter between Hawking and Ramanujan"., Prof. Dhurb Saiki, Founding Vice Chancellor, Cotton University. "Extracting Energy from Gravity", Dr. Sudha Rajaramni, IISER, Pune, "Astrobiological narrative of life's origin", Prof. Sanjeev Dhurandhar, IUCAA, Pune - "Gravitation an Enigma: Newton, Einstein and beyond", Prof. Somak Raychoudhary, Dir. IUCAA, Pune, Prof. Pierluigi Monaco, University of Trieste, Italy, Dr. Aru Beri University of Southampton, UK and Dr. Abhilash Mishra Caltech, USA and Prof. Deepak Dhar, IISER Pune, Only Indian to have Won of Boltzman medal, "Geometrical phase transitions."

#### 5. **Evidence of Success**

Frontiers in Physics has helped students to enhance their knowledge in physics and allied areas and more over it has created strong knowledge ecosystem for all students to know more about physics, research in physics, opportunities for internships and collaborative work, where they can look forward and support from world's best physicists.

