School of Physical Sciences

Banasthali Vidyapith

FIVE YEAR ACCOMPLISHMENT

LABORATORIES DEVELOPED

❖*Material Synthesis Lab*

- Fume Hood
- Photocatalytic Reactor
- Slot die Coater
- Dip Coater
- Ultra probe Sonicator
- UV-Ozone Cleaner
- Vacuum oven

❖ *Material Characterization lab*

- Field Emission Scanning Electron Microscope
- Micro Raman Imaging Spectrometer
- Spectroscopic Reflectrometer

❖*Device Fabrication and characterization Lab*

- DC/Pulsed DC/RF Sputtering System for thin film deposition
- Thermal Vacuum coating unit
- Glove box
- Differential Scanning Calorimetry
- Solar simulator
- Source Meter for I-V measurement
- Tube furnace

- ***VLSI Design Lab***
- ***Antenna design Lab***
- ***Advanced Communication Engineering Lab***

Thrust areas of Research

- Energy harvesting
- Optoelectronic devices
- Material Science
- Polymer Technology
- MEMS Technology
- Microwave Electronics
- Image Processing
- Communication System
- VLSI design

PROJECTS

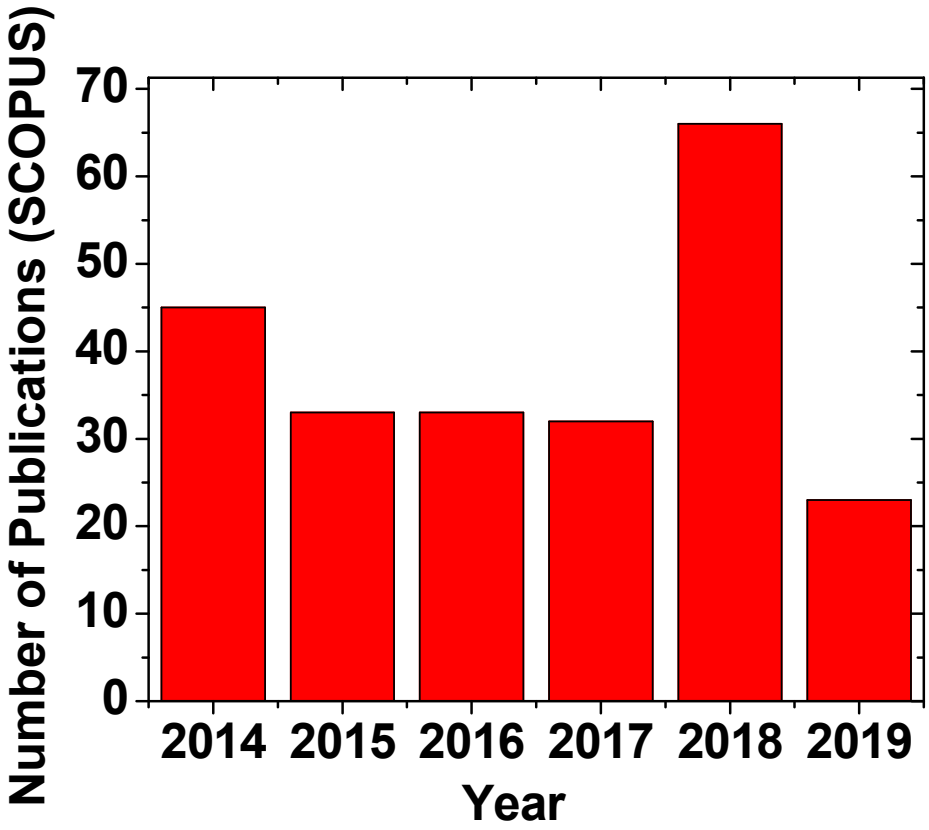
- **UGC Project (2)**
- **UGC-DAE CRS (1)**
- **DST-TARE (1)**
- **DST-SERB (1)**

60 Lakhs

- ***Institutional Project***
  - **DST-CURIE (3 Phases)**
  - **MHRD-FAST**

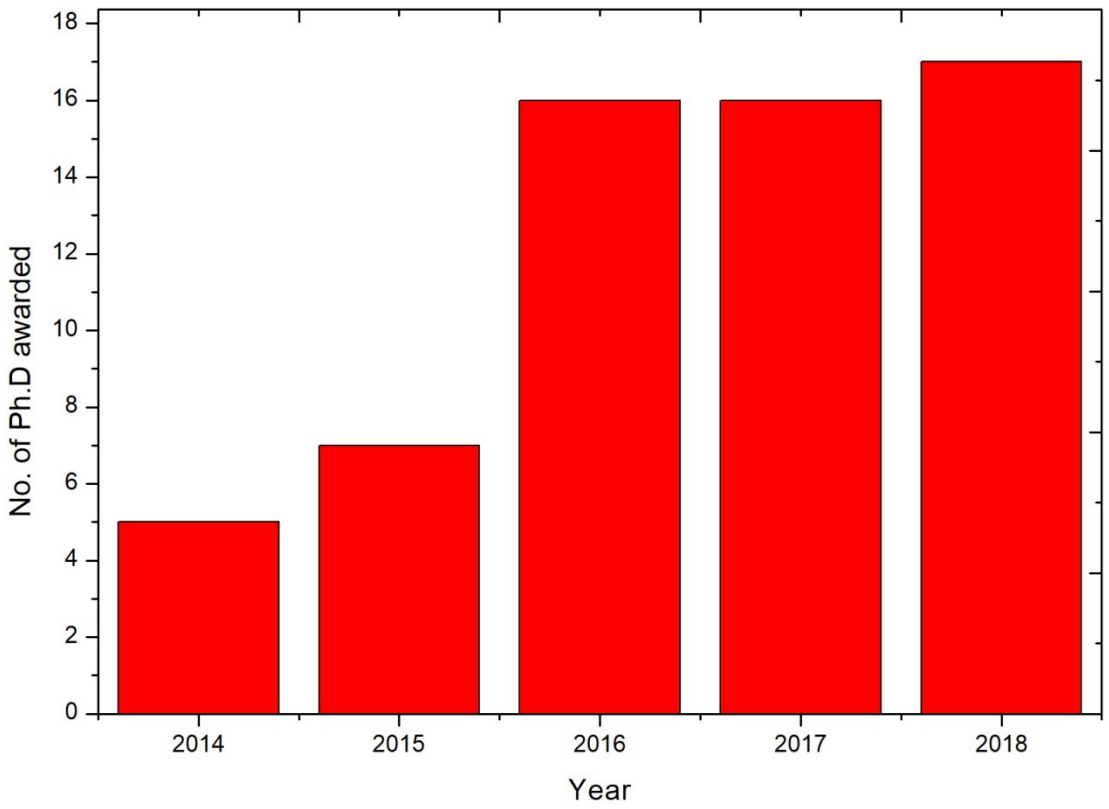
Research Outcome

- Faculty members of the School of Physical Sciences published more than 200 research articles listed in Scopus.



Research Outcome…..

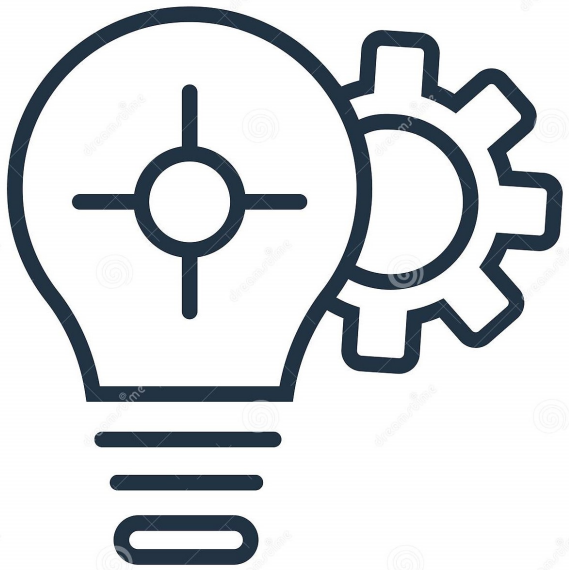
- Ph.D. Awarded during 2014-18



FIVE YEAR PLAN (2019-24)

STRATEGIC OBJECTIVES

- *Enrich and advance Teaching/Learning*
- *Improve research reputation of the School*
- *New Courses*
- *New centre of Excellence*



Commitment (2020-24)

`	2020-21	2021-22	2022-23	2023-24
Publications	100	110	125	150
Ph.D. Enrolment	20	22	25	30
Project Submission	5 (60 Lakhs)	6 (80 Lakhs)	7 (1 crore)	10 (1.5 crore)
Patent	2			3

❖ *Enrich and advance Teaching/Learning*

- Impart life-long self-learning skills that utilize fundamental concepts to solve problems.
- Provide hands-on practice opportunities.
- Through promote active learning.
- Provide ample opportunities for undergraduate research participation.

❖ *Improve research reputation of the School*

- Pursue research in core Electronics, Physics and related interdisciplinary areas to enhance quality of life and to develop fundamental knowledge (e.g. understand long terms problems) and enabling technologies that serve society and address the most pressing global challenges.

❖ *Improve research reputation of the School*

- To continue to focus on a few important areas of excellence (***Photonics, Polymer technology, Communication systems, Image processing, Devices & Technology***) that will create outstanding programs of research and innovation.

Cont…….

- New Emerging areas of Research:

  - To be aggressive and opportunistic in pursuit of **emerging areas** of Electronics and Physics (***semiconductor optoelectronics, Energy Harvesting, Flexible Electronics, RF and Microwave, Antenna design, and MEMS***).

  - Arrange weekly meeting/discussion/presentation among the members of the research group.

  - Grow departmental resources & optimize their use to support goals in education, research, and service.

  - LAB Development

- **Fund Raising:**

  Actively seek funding from state, central and industry especially with a view to establish a national centre (Planning to submit at least **4 proposals** in next academic year)

- **Publications:**

  Encourage to submit the manuscript only in the Science citation indexed (SCI) journals. (commit to publish at least **90 papers** in next academic year)

- **Patent:**

  Transfer **knowledge into products and processes. Encourage to submit more than one patent within 2 years.**

New Centre of Excellence

Photonics

Flexible electronic devices

Nanotechnology

Thank you