

# Report of Physics Department

(2016-17)



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[www.mcmdavcwchd.in](http://www.mcmdavcwchd.in)

**Annual Report of Department  
Session 2016-17**

1. **Name of the Department:** Physics

2. **Names of Programmes/Courses offered (UG, PG, M.Phil, Ph.D, Integrated Masters etc.)**

i. B.Sc. Non medical

ii. B.Sc. Vocational

iii. B.Sc. Physics Hons.

3. **Faculties during session 2016-17**

1. Dr. Renu Bedi(HOD)

2. Mrs. Raman Chadha

3. Mrs. Poonam Jain

4. Dr. Yogita

5. Dr. Renu Bala

6. Dr. Rajni Bansal

**FACULTY DETAILS:**

1. **Publications:**

<b>Permanent Faculty/ Contractual faculty</b>	<b>Title of Paper</b>	<b>Title of the Journal with ISSN</b>	<b>Month / Year</b>
Dr. YogitaBatra	Growth of large-area 2D MoS <sub>2</sub> arrays defined locations using stencil lithography.	Journal of Nanoscience and Nanotechnology 18(12) 1824-1832, ISSN:1533-4880,IF	2016
Dr. YogitaBatra	A low-cost, sulfurization free approach to control optical and electronic properties of Cu <sub>2</sub> ZnSnS <sub>4</sub> via precursor variation	Solar Energy Materials and Solar Cells 157,820-830. ISSN: 0927-0248, IF: 4.784	2016

Dr. Renu Bala	Study of weakly interacting trapped Bose Gas	Eur. Phys. J. B, 89: 228 (2016).	2016
Dr. Yogita Batra	Semiconductor nanophase materials: fundamental and theoretical aspects	New Horizons, Vol XIV, 143-150, 2017, ISSN 2277-5218	2017
Dr. Rajni Bansal	Study of nuclear dynamics using IQMD model	International Journal Of Applied And Pure Physics <b>13</b> , 238 (2017)	2017

**Dr. Renu Bedi:**

- 1) Member of Choice based credit system (CBCS) committee in Department of Physics, Punjab University.
- 2) Member of Board of Studies, Panjab University, Chandigarh.
- 3) Appointed paper setter for under graduate classes.
- 4) Actively involved in social work with **Handicapped Society**, Sector 12-A, Panchkula.

**Mrs. Raman Chadha**

- 1) Pursuing PhD in the field of Nanotechnology.
- 2) As a convener of medical committee, organized various medical camps and lectures by eminent doctors and medical experts in the college.

**Mrs. Poonam Jain**

- 1) Member of Choice based credit system (CBCS) committee in Department of Physics, Punjab University.
- 2) Pursuing PhD in the field of Nanotechnology.
- 3) Paper setter for University Examinations.

**Dr. Yogita**

- 1) Attended and presented a poster at a National Seminar on 'Emerging trends in Nanoscience and Naotechnology' at G.G.S.C.W., Sector 26, Chandigarh on Feb 18, 2017.

### **Dr. Renu Bala**

- 1) UGC Sponsored **one month Orientation Course** at Human Resource Development Centre (**HRDC**), Panjab University, Chandigarh from 29 November to 26 December 2016.
- 2) Attended and Presented poster in National seminar on “**Recent advances in Materials Science**” at GGSDS College, Chandigarh on **17 September 2016**.
- 3) Member of Arya Samaj, Horticulture Committee etc.

### **Books**

Teachers of the Department published following books which are strictly according to the prescribed syllabus of Panjab University

1. **Dr. Renu Bedi** “Statistical and Thermodynamics” for B.Sc II
2. **Mrs. Raman Chadha** “Quantum Physics” for B.Sc II and “Mechanics” for B.Sc I
3. **Mrs. Poonam Jain**. “Nuclear Physics” for B.Sc III
4. **Dr. Renu Bedi, Ms. Raman Chadha and Ms. Poonam Jain**” Lab Manual for Practical Physics “ B.Sc I
5. **Dr. Renu Bedi, Ms. Raman Chadha and Ms. Poonam Jain** “Lab Manual for Practical Physics B.Sc II“

### **Activities Organized by Physics Department:**

#### **Lectures**

- ✓ To create awareness of the fascinating facts and figures of the phenomenon called superconductivity among students, **Prof. Klaus Morawetz**, Professor at Munster University of Applied Sciences, Germany, delivered a lecture on the topic “Levitating trains and superconductivity” on **Feb 14, 2017**.
- ✓ **Dr. A K. Chowdhary** delivered a lecture on Lab safety on the occasion of National Science day on **Feb 28, 2017**.
- ✓ **Dr. Prem Sagar** on **20 March 2017** beautifully explained that how calendars serve as a link between cosmos and mankind in the lecture “Scientific Basis of Indian and Modern Calendars”. He talked

elaborately on Indian and international calendars.

### **Workshops**

- ✓ **Experimental Physics:** A one day workshop on ‘Experimental Physics’ was organized by Department of Physics on **March 27, 2017**.
- ✓ **Extraction of oil from mustard and almond seeds:** A one day workshop on oil extraction was organized by Department of Physics on March **28, 2017** in collaboration with BUTI pvt. Ltd.

### **Celebration of Physics fest. Eureka -2016**

With a vision to promote Physics as well as to provide the students a platform for showcasing their talent, Department of Physics instituted **PHYSICS SOCIETY** having students from all classes [B.Sc. (Non-medical and Vocational)]. A fun filled and educational event **EUREKA** was organized by Physics Society in the session 2016-17. 100 students of UG classes participated in this Physics Fest. Activities like Poster Making, Power Point Presentations, Scientific cartoons, Working Models etc were organized. Students got the chance to show-case their talents in various activities related to Physics.

### **Lecture on Levitating trains and superconductivity**

**(14 February 2017)**

Department of Physics organized a talk to create awareness of the fascinating facts and figures of the phenomenon called superconductivity among students. **Prof. Klaus Morawetz**, Professor at Munster University of Applied Sciences, Germany, delivered a lecture on the topic “Levitating trains and superconductivity” on Feb 14, 2017. He explained the phenomenon of superconductivity and regarding its applications in different fields such as medicines, particle accelerators, generators, transportation, computing, electric motors, medical, power transmission, etc. Superconductors are primarily employed for creating powerful electromagnets in MRI scanners.



## **Lecture on Scientific basis of Indian and Modern calendars**

**(20 March 2017)**

Department of Physics organized a lecture on **“Scientific basis of Indian and Modern calendars”** By **Dr. Prem Sagar Mishra** on **March 20, 2017**. This lecture was attended by the entire physics faculty and the students of B.sc II and III year. In this lecture, Dr. PremSagar beautifully explained that how calendars serve as a link between cosmos and mankind. He talked elaborately on Indian and international calendars. He also explained the three types of calendars i.e. Solar, Lunar and luni-solar calendars. His talk was very informative for the students and students really enjoyed the evolution of various type of calendar in the history of mankind.

## Workshop on Experimental Physics (27 March 2017)

**Workshop on Experimental Physics:** A one day workshop on 'Experimental Physics' was organized by Department of Physics on March 27, 2017. About 40 students and all faculty members of Department of Physics took part in the workshop. Mr. Amrajit Singh from Guru AngadDev College, Khadur Sahib, Amritsar was the resource person. Students were taught to make scientific equipments like solenoid, transformer and inductors from scratch and perform various experiments with them.

**Impact:**The activity proved extremely beneficial in imparting practical knowledge, thereby creating better understanding of the subject of electronics in students and their skill development. The main motive of the workshop was to inculcate scientific temperament in the students and teach them to make scientific equipments at low cost.



## Workshop on oil extraction (28 March 2017)

A one day workshop on oil extraction was organized by Department of Physics on March 28, 2017 in collaboration with BUTI pvt. Ltd. Demonstrations for the extraction of oils from mustard, Almond seeds were given to the students and faculty of Department of Physics.

**Impact:** This workshop helped students learn about the methodology of oil extraction from various seeds.

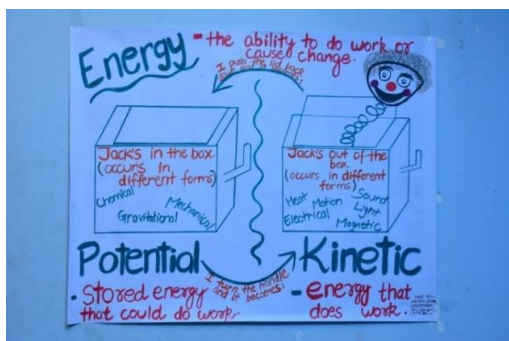


## Eureka (2016-17)

With a vision to promote Physics as well as to provide the students a platform for showcasing their talent, Department of Physics instituted **PHYSICS SOCIETY** having students from all classes [B.Sc. (Non-medical and Vocational)]. A fun filled and educational event **EUREKA** was organised by Physics Society in the session 2016-17. 100 students of UG classes participated in this Physics Fest. Following activities were organised:

- i. Poster Making
- ii. Power Point Presentations
- iii. Scientific cartoons
- iv. Working Models

**Impact:** Students got the chance to show-case their talents in various activities related to Physics.







## Visits Organized by Department

- ✓ One day visit to Central Scientific Instrumentation Organisation (CSIO), Chandigarh.
- ✓ One day visit to Institute of Nano Science and Technology (INST), Mohali.
- ✓ One day visit to Central Forensic Science Laboratory (CFSL), Chandigarh.
- ✓ One day visit to UIET Panjab University, Chandigarh.
- ✓ One day visit to Osaw Industrial Products Pvt.Ltd. (INDOSAW), Ambala.

## STUDENTS' DETAILS

- ✓ Shreya Sharma was ranked 3<sup>rd</sup> position in 3<sup>rd</sup> semester in the session 2015-16.
- ✓ Shreya Shrama qualified GATE
- ✓ Students of Department of Physics won prizes in 'Synergic Fest' held at PGGCG, Sector 11, Chandigarh on Feb 23, 2017
- ✓ Manasvi of BSc I secured 1<sup>st</sup> prize in Essay writing.
- ✓ Purnima and Deepti BSc II: 1<sup>st</sup> prize in Scientific Rangoli.
- ✓ Students of Department of Physics won following competitions in 'MCM Science Carnival' held at MCM DAV College, Chandigarh on March 25, 2017.
- ✓ Shreya Sharma of BSc III (NM) got 1<sup>st</sup> prize in Quiz

- ✓ Students of Department of Physics won following competitions in ‘Science Fest’ at PGGCG-42, Chandigarh on March 28, 2017
- ✓ Yashika of BSc II (NM) secured 2<sup>nd</sup> prize in Extempore.
- ✓ Priya Sharma, Aishwarya Khurana and Meha Saini of BSc (III) NM got 2<sup>nd</sup> prize in Caligraphy.
- ✓ 50 students participated in lecture on lab safety.
- ✓ 40 students attended the workshop on Experimental Physics.
- ✓ 100 students of UG classes participated in various activities like Poster Making, Power Point Presentations, Scientific cartoons and Working Models organized in Eureka fest.