

Report of Physics Department

(2018-19)



Mehr Chand Mahajan
DAV College for Women Sector-
36, Chandigarh

www.mcmdavcwchd.in

Annual Report of Department

Session 2018-19

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 2018-19

1. Dr. Renu Bedi(HOD)
2. Mrs. Raman Chadha
3. Mrs. Poonam Jain
4. Dr. Yogita
5. Dr. Renu Bala
6. Dr. Anterpreet Kaur
7. Dr. Runjun Sarma

FACULTY DETAILS:

A) Publications:

Permanent Faculty/ Contractual faculty	Title of Paper	Title of the Journal with ISSN	Month/Year
Dr. Renu Bedi, Mrs Poonam Jain, Mrs. Raman Chadha	Lab Workbook for practical physics of B.Sc III	Mohindra Publishing House, ISBN: 978-93-86558-47-3	2018
Mrs. Raman Chadha	Book on Quantum Physics for B.Sc II	ISBN : 78-93-81390-05-4, Published by Pee Vee Publications	2018

Dr. Renu Bala	Conditions where random phase approximation becomes exact in the high-density limit	Phys. Rev. B 97 , 155147 (2018).	2018
Dr. Anterpreet Kaur	Subject structures in pp collisions at LHC energies	LAMBERT Academic publishing, Germany, ISBN: 9786139851515, (2018).	2018

B) Memberships/other details:

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.

Mrs. Raman Chadha

- 1) Convener of NIRF.
- 2) Convener of Scholarship committee.
- 3) Coordinator of CII committee.
- 4) Paper setter for University Examinations.
- 5) 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) Convener of Renewable Energy committee.
- 3) Convener of Disaster management committee.
- 4) Convener of Environment committee.
- 5) Coordinator of CII committee.
- 6) Paper setter for University Examinations.

Dr. Yogita Batra

- 1) Attended refresher course on **Research methodology** conducted by HRDC, Punjab University from 31.08.18 to 19.09.18.
- 2) She is a core member of Placement Cell and coordinator of Infosys placement drive. 22 students from college got selected for Infosys and were offered placement in Infosys as operation executive.

Dr. RenuBala

1. Delivered an invited talk in PRL Ahmadabad in March, 2018.
2. Attended conference on **Technological Empowerment of Women** organized by National Academy of Sciences at VigyanBhawan, New Delhi on 8th and 9th March, 2018.
3. Attended refresher course on **Physics** from 12 Nov, 2018 to 02 Dec, 2018 at University of Allahabad.

Dr. RunjunSarma

1. Completed Certificate course on patent DL1101 under World Intellectual Property Organization, World Intellectual Property Organization (WIPO)
2. Selected as editorial board member for the journals of International Journal of Nanomaterials and Nanostructures and International Journals of Nanobiotechnology

Activities Organized by Physics Department during session 2018-19:

Lectures:

- **Dr. Vivek Kumar**, Assistant Professor, Department of Medical Physics, Panjab University, delivered a lecture on “Nuclear Medicines and Importance of Medical Physics on 4th Oct, 2018.
- **Prof. Tarlochan Kaur**(PEC, Chandigarh) delivered lecture on Development of sustainable future for India’s electricity sector on 23rd Oct, 2018.
- **Prof. Tarlochan Kaur** delivered lecture on Recent challenges in renewable energy sources and Smart grid technology on 23rd Oct, 2018.
- A lecture was delivered by **Dr. Babita Dosanjh** (Dean, Amity University) on the topic “Time management and career counseling” on 23rd Oct, 2018, sponsored by Infomaths.
- **Prof. Sandeep Sahijpal**, Panjab University, Chandigarh on the occasion of National Science Day on 25-02-19. delivered a lecture on “Origin and Evolution of Solar System”.
- **Dilpreet Sherwal**, Senior Project Manger, Infosys , Chandigarh and **Prof. Reetika Madaan**, Assistant Professor, Marketing and communication motivated the students on “Building effective resume and interviewing skills” on 25 February 2019.

➤ **Workshops:**

- Department of Physics organized workshops on Green Good Deeds where Dr. Promila Pathak from Department of Botany, Panjab University was invited as Chief Guest on 4 October 2018.
- Another two day workshop was organized on Power Sector Sustainability on 22-23rd October, 2018 sponsored by Rashtriya Uchchattar Shiksha Abhiyan (RUSA) on 22-23 October 2018.
- A two-day hands-on skill development workshop on making 9W LED bulb and energy conservation was conducted for B.Sc. students by department on 11-12 April 2019.

➤ **Experimental Demonstration:**

- **Learning with light:** The department of Physics of MCMDAV college organized experimental demonstration on phenomenon of light titled “Learning with Light” by Optical Devices & Systems Division and Photonics Department of CSIR-Central Scientific Instruments Organization on **17 November 2018**.
- **Science Fest:** On the occasion of National Science Day on **25 February 2018**, department organized a Science Fest where Prof. Sandeep Sahijpal, Panjab University, Chandigarh delivered a lecture on “Origin and Evolution of Solar System. Also in this fest, Career counseling cell organized workshop on “Communicating Science for all”. Dilpreet Sherwal , Senior Project Manager, Infosys , Chandigarh and Prof. Reetika Madaan, Assistant Professor, Marketing and communication motivated the students on “Building effective resume and interviewing skills”.

Workshop On Green Good Deeds (4 October 2018)

Department of Physics has organized Physics fest on 4th Oct, 2018 for B.Sc. II Non-Medical and Vocational students on **Theme: 'Green Good Deeds'**. This fest includes various activities like Poster Presentation, PPT Presentation and Collage Making. Dr. Promila Pathak from Department of Botony, Panjab University was invited as Chief Guest. Dr. Vivek Kumar from Department of Medical Physics, Panjab University delivered a talk on field of Nuclear Medicines and Importance of Medical Physics for UG students. Around 100 science students participated in the fest.



Two Day Workshop On Power Sector Sustainability

(22-23 October 2018)

Department organized two day workshop on **Power Sector Sustainability** on 22-23rd Oct, 2018 sponsored by Rashtriya Uchchattar Shiksha Abhiyan (RUSA). 35 students of B.Sc. III (Non-Medical and Vocational) participated.

On 1st day, Prof. Tarlochan Kaur (PEC, Chandigarh) delivered lecture on **Development of sustainable future for India's electricity sector** and Mr. Sanjeev Verma (Head of Solar Department, Multioverseas) demonstrated the technology of solar panels.

On 2nd day, Prof. Tarlochan Kaur delivered lecture on **Recent challenges in renewable energy sources and Smart grid technology**. Her students Ms. Sachpreet Kaur and Mr. Pankaj Verma discussed about Matlab and use of this technology in smart houses.

विद्यार्थियों को विद्युत क्षेत्र में वर्तमान चुनौतियों से करवाया अवगत

चंडीगढ़ 23 अक्टूबर पक के सेंटर फॉर एनर्जी स्टडीज की (पटानिया) : एम.सो.एम. में राष्ट्रीय अध्यक्ष डा. त्रिलोचन कौर ने पावर उच्चतर शिक्षा अभियान के सैक्टर सस्टेनेबिलिटी विषय सौजन्य से पावर सैक्टर पर अपने विचार सस्टेनेबिलिटी पर 2 व्यक्त किए तथा दिवसीय रिसेंट ट्रेन्ड्स इन कार्यशाला आयोजित रिन्यूएबल एनर्जी हुई। कॉलेज के फॉर पावर ज्योलॉजी एवं फिजिक्स जैनेरेशन में इस बात विभाग के संयुक्त प्रयास से पर जोर देने के साथ-साथ आयोजित इस कार्यशाला का अन्य जानकारी प्रदान की। एनर्जी मुख्य उद्देश्य विद्युत तक्षेत्र में इकोनॉमिक्स की विशेषज्ञ वर्तमान चुनौतियों से सहभागियों को अवगत करवाने के साथ-साथ प्रिंसीपल डा. निशा भागव ने को अत्यांत करवाने के साथ-साथ सोलर पॉवर जैनेरेशन एवं बिजली एक सतत भविष्य को कार्यान्वित की बचत के लिए किए जा रहे करने हेतु सुधारों के उपक्रम पर प्रयासों के संदर्भ में अवगत विचार करना था। उद्घाटन सत्र में करवाया।

बिजली बचत पर किए विचार पेश

Experts dwell on power sector sustainability

CHANDIGARH, OCTOBER 23
The MCM DAV College for Women organised a two-day workshop on 'Power Sector Sustainability'.

A joint endeavour of the Department of Zoology and Department of Physics of the college, the workshop is aimed to sensitise participants to the current challenges faced by the power sector. Besides, it is held to deliberate on reforms to chart a sustainable future.

On the inaugural day on Monday, Dr Tarlochan Kaur, Chairperson, Center for Energy Studies, PEC, delivered a talk on power sector sustainability. Sanjeev Verma, head, technical, Multi Overseas India Private Limited, gave a demonstration of solar panels.

In the first session of Day 2,

Dr Tarlochan threw light on energy crisis and importance of renewable sources of energy while talking on the recent trends in renewable energy for power generation.

She said despite having huge potential of renewable energy production, the integration of this energy into the power sector was comparatively low in the country because of various factors such as resource availability, technological appropriateness, environmental feasibility, institutional preparedness, socio-cultural acceptability and financial viability.

She added that technological innovation, mass awareness and skill development programmes were of essence in increasing renewable energy acceptance in India. — TNS



Lecture On Time Management And Career Counseling (23 October2018)

A special talk by Dr. Babita Dosanjh (Dean, Amity University) on the topic “Time management and career counseling” also has been organized which was sponsored by Infomaths on 23rdOct, 2018 in Multimedia Hall. This was interdisciplinary talk for medical and non medical students. 200 students from various disciplines participated.



Experimental Demonstration On Phenomenon Of Light (17 November 2018)

Experimental Demonstration on phenomenon of light in titled “Learning with Light” by Optical Devices & Systems Division and Photonics Department of CSIR- Central Scientific Instruments Organization has been organized by Physics department on 17th Nov, 2018 at 10.00 am. Main components of this special session were:

- Interactive talk on benefits to students members of OSA & SPIE Chapter Students from B.Sc. I & II participated in the session.
- Interactive discussion with members and students.

34 students from B.Sc. I and II (Non-Medical) participated.



Science Fest (25 February 2019)

Prof. Sandeep Sahijpal, Panjab University, Chandigarh delivered a lecture on “**Origin and Evolution of Solar System**”. He introduced the students about astrophysics: the branch of physics that deal with the physical nature of stars and other celestial bodies.

He made audience familiar with current scientific thought on the origins of the solar system and the path followed by scientists to have current understanding. He discussed the history of the solar system and told how our universe came into existence. He explained the Big bang theory which took around 13 billion years ago. He also discussed about the star formation as well as gravitational effect of dark matter on surrounding galaxies.

एमसीएम में राष्ट्रीय विज्ञान दिवस पर कार्यशाला का हुआ समापन



अंशमानी च्यु

वर्दीगढ़। एमसीएम के महान विभाग और वडीगढ़ के पंजाब स्टेट काउंसिल फॉर साइंस एंड टेक्नोलॉजी के सौजन्य से आयोजित कम्युनिकेटिव साइंस फॉर अल विषय पर आयोजित राष्ट्रीय विज्ञान दिवस समारोह का समापन हो गया। इस समारोह में विभाग के अलग अलग केंद्रों से आये प्रमुख विभागों ने इस विषय पर प्रकाश डाला। पंजाब यूनिवर्सिटी के केमिस्ट्री विभाग से डॉ. दीपक सालुंके ने डिस्कवरी ऑफ नॉवेल वैक्सिन एडजुवेंट्स पर बारीकी की। पंजाब यूनिवर्सिटी

के बी-सी विभाग के प्रोफेसर एमरिटस एस वी कुल्शर ने एडव. साइंस इन एग्री के ल्यूक पर बात करते हुये पौधे द्वारा प्राप्त होने वाले अनेक रसायनों की संश्लेषण पर विस्तृत जानकारी दी। पंजाब यूनिवर्सिटी के जूलॉजी विभाग की प्रोफेसर नैसिम और कुमार ने रीस ऑफ इनेट्स में बीछी के एवॉल्यूशन महत्व को रेखांकित किया, वडीगढ़ के विषय फरीद इन्वोकेट तीस के एम डी सौरभ कोशल ने डिजिटल कम्युनिकेशन पर अपने विचार व्यक्त किये। पीयू के खेरीक साइंस विभाग के प्रोफेसर डॉ. जगदीश राय ने सामान्य जनता में विज्ञान के प्रती रुचि जगाने हेतु कोरवन्ड के उपक्रम से छात्रों को अपनाने का

NATIONAL SCIENCE DAY AT MCM

Chandigarh: MCM DAV College for Women celebrated National Science Day here on Monday on theme 'Communicating Science for All'. Sponsored by the Punjab State Council for Science and Technology, the celebration witnessed sharing of knowledge and expertise on various topics by experts. Dr Deepak Salunke, Department of Chemistry, PU delivered a talk on 'Discovery of Novel Vaccine Adjuvants.'

एमसीएम में राष्ट्रीय विज्ञान दिवस मनाया

चंडीगढ़ (ट्रिब्यू) : एमसीएम के साइंस विभाग ने कम्युनिकेटिव साइंस फॉर अल विषय पर आयोजित राष्ट्रीय विज्ञान दिवस समारोह आयोजित किया जो पंजाब स्टेट काउंसिल फॉर साइंस एंड टेक्नोलॉजी के सौजन्य से संपन्न हुआ। पंजाब यूनिवर्सिटी के केमिस्ट्री विभाग के डॉ. दीपक सालुंके ने 'डिस्कवरी ऑफ नॉवेल वैक्सिन एडजुवेंट्स' पर बातचीत की। पंजाब यूनिवर्सिटी के बी-सी विभाग के प्रोफेसर एमरिटस एस वी कुल्शर ने 'प्लांट साइंस इन एग्रीकल्चर' पर बात करते हुये पौधों से प्राप्त होने वाले अनेक रसायनों की संश्लेषण और पर विस्तृत जानकारी दी। पंजाब यूनिवर्सिटी के जूलॉजी विभाग की प्रोफेसर नैसिम और कुमार, खेरीक साइंस विभाग के प्रोफेसर डॉ. जगदीश राय, भौतिकी विभाग के प्रोफेसर संदीप सहजपाल ने भी विचार व्यक्त किये। प्रिंसिपल डॉ. निशा भार्गव ने जनसाधारण तक विज्ञान को लेकर आने के इस पहल का स्वागत किया।



Hand-on workshop on LED Bulb Making (11-12 April 2019)

A two day hands on skill development workshop on making 9W LED bulb and energy conservation was conducted for B.Sc. students by department of physics on 11th and 12th ,April, 2019. Making LED bulb was a hand on workshop which aims to enhance the technical knowledge of students as well as enable them to assemble and repair the LED bulbs. Students successfully made 100 LED bulbs and tested successfully from the two day workshop. The objective of the workshop was to impart deep practical knowledge to the students. Workshop conducted was a great success .The LED bulb produced was exhibited and Principal Dr.NishaBhargava encouraged the students for pursuing such ventures in future.



Visits organized by the Department of Physics in the session 2018-19

Visit to Pushpa Gujral Science City (30 Sept, 2018)

113 students of B.Sc.-I visited Pushpa Gujral Science City on 30 Sept, 2018. Students got information about various projects over there. Dr. Meetika Garg, Dr. Runjun Sharma and Ms. Anterpreet kaur assisted the students.



Visit to Kurukshetra (10 Oct, 2018)

23 students of B.Sc. had been to Kurukshetra on 10 Oct, 2018. Students got information about various projects over there.



Visits to Apex institute of robotics, Mohali (20 Feb, 2019)

23 students of B.Sc. had been to Apex institute of robotics, Mohali on 20 Feb,2019. Students were given flavor of robotics and their applications.



Visit to National Fertilizers Limited Nangal Unit, Nangal, Punjab (28 March,2019)

40 students of B.Sc. had been to National Fertilizers Limited Nangal. Students got information about various projects over there.

Visit to Cream bell ice cream plant, Baddi

15 students of B.Sc. had been to ice cream plant. Students got information about various methods of preparation over there.

STUDENTS' DETAILS

University Merit Holders

University Roll Number	Name of the student	Course	University Position
16101244	Neha	B.ScHons. Physics May 2019	10 th
16101241	NavneetKaur	B.Sc. Non medical, May 2019	7 th

Placements:

Twenty Two (22) students of B.Sc.-NM III got selected through campus placement in Infosys for the post of operation executive.

National/International entrance exams

- Harleen, Roll. No. 3513574 cleared CDS (Combined Defence Service).
- Varnika Arora, Roll No. K100S65 Cracked JAM (Joint Admission test).
- Jasmine Kohli cleared GRE Physics and got admission in Northeastern University, Boston, USA for M.S. Physics.

Other Achievements

- Students of B.Sc.-II NM [Priyanka (Roll No. 303) and Sonika (Roll No. 330)] participated in inter-college football match and won bronze medal.
- Yashaswini (Roll No. 303), a student of B.Sc.-II NM achieved second position in dustbin making competition held in college premises.
- Vijayata (Roll No. 301) a student from B.Sc.-II NM participated in Declamation competition held in Sanskrit Department of College and achieved 1st position.
- Sonika (Roll No. 330) a student from B.Sc.-II NM participated in inter-college fencing competition and won two bronze medals in team game and one bronze medal in individual game.
- Vaniseth (Roll No. 316) a student from B.Sc.-II NM won 1st prize in poster making competition and 2nd prize in Rangoli making competition in Science fest and Diwali Fest respectively.
- Students successfully made 100 LED bulbs and tested successfully from the two-day workshop
- Around 200 students visited different industries and Science City.
- 34 students from B.Sc.I and II (Non-Medical) participated in the experimental demonstration on phenomenon of light titled “Learning with Light.
- 200 students from various disciplines attended the lecture on Time management and career counseling.
- Around 100 science students participated in activities like Poster making, Power Point Presentations and Collage making which were organized in the Science fest.