



Miranda House
UNIVERSITY OF DELHI

**DS Kothari Centre for Research and Innovation in
Science Education**

Summer Workshop 2017

**Flavour of Research:
Investigative Projects in Multidisciplinary Contexts**



**D S Kothari Centre for
Research and Innovation in Science Education**
Miranda House, University of Delhi

Flavour of Research
Investigative Projects in
Multidisciplinary Contexts

Summer Workshop
(June – July 2017)

Orientation Program
Date: 5 June 2017

Physics Lab II (261)
10:00 am



Summer Workshop 2017

Flavour of Research: Investigative Projects in Multidisciplinary Contexts

Summer Workshop, an extension activity of DS Kothari Centre, gives opportunity to undergraduate students of not only Miranda House but across colleges and universities to get an exposure to research. It aims at promoting independent and critical thinking, self-study and library work. The projects under Summer Workshop are largely experimental hands-on projects for which funding is provided by the College and the Star scheme of DBT.

In the Summer Workshop 2017, over 180 students participated in the opening session held on 5 June 2017. In the 6-weeks long Summer Workshop 2017, from 05 June to 19 July 2017, 114 students completed their projects successfully. These projects were mentored by 19 faculty members of Miranda House.

Projects under Summer Workshop 2017

A comparative study of antioxidant content in naturally extracted and different brands of *Aloe vera* gel

Megha Anand, B.Sc. (Hons) Botany, IV Semester, Miranda House

Kajal Yadav, B.Sc. (Hons) Botany, IV Semester, Miranda House

A comparative study of natural and synthetic antacids

Mehga Singh, B.Sc. (Hons) Botany, IV Semester, Miranda House

Neetu Kumari, B.Sc. (Hons) Botany, IV Semester, Miranda House

A comparative study of antioxidant content in different brands of green tea

Indu Singh, B.Sc. (Hons) Botany, IV Semester, Miranda House

Tannu Ruhil, B.Sc. Life Sciences, VI Semester, Miranda House

Morphogenetic Studies on Cowpea Seeds

Kavita Devi, B.Sc. (Hons) Botany, II Semester, Miranda House

Pallapothula Devi Akilandeshwari, B.Sc. (Hons) Botany, II Semester, Miranda House

Priya Jha, B.Sc. (Hons) Botany, VI Semester, Miranda House

Shreshtha Yadav, B.Sc. (Hons) Botany, VI Semester, Miranda House

Parul Kashiv, B.Sc. Life Sciences, II Semester, Miranda House

Velaga J.S.D.A. Chandra Sekhar, B.Sc. (Hons) Botany, IV Semester, Miranda House

Antimicrobial textile finishing using eco-friendly natural compounds

Vartika Srivastava, B.Sc. (Hons) Zoology, II Semester, Miranda House

Chandrika Bhatt, B.Sc. (Hons) Zoology, II Semester, Miranda House

Rama Rajpoot, B.Sc. (Hons) Zoology, II Semester, Miranda House

Anubhuti Krishna, B.Sc. (Hons) Zoology, II Semester, Miranda House

Vibhuti Bhat, B.Sc. (Hons) Zoology, II Semester, Miranda House

Prerna Aggarwal, M.Sc. Genetics, II Semester, Department of Genetics, University of Delhi

Gunjan Gupta, M.Sc. Biotechnology, II Semester, Manav Rachna International University, Faridabad

Anmol Singh, Environmental Engineering, IV Semester, Delhi Technological University

Unnati Mittal, B.Sc. Life Sciences, IV Semester, Hansraj College

Metagenomic analysis of soil samples for the presence of pesticide degrading genera.

Malika Saini, B.Sc. Life Sciences, II Semester, Miranda House
Aakanksha Yadav, B.Sc. Life Sciences, II Semester, Miranda House
Yukta Suwasia, B.Sc. Life Sciences, II Semester, Daulat Ram College
Rishabh Jain, B.Sc. (Hons) Zoology, II Semester, Hansraj College

Mining of DOSR Regulator of Mycobacterium Tubererculosis for finding Potential Vaccine Candidates using Immunoinformatics.

Vidhi Yadav, B.Sc. (Hons) Zoology, IV Semester, Miranda House
Garvita Goyal, B.Sc. (Hons) Zoology, IV Semester, Miranda House
Palvi Gotra, B.Sc. (Hons) Zoology, IV Semester, Miranda House
Shruti Acharya, B.Sc. (Hons) Zoology, IV Semester, Miranda House
Kopal Dixit, B.Sc. (Hons) Botany, IV Semester, Miranda House
Shambhavi Dwivedi, B.Sc. (Hons) Zoology, IV Semester, Gargi College
Anusha Panwar, B.Sc. (Hons) Zoology, IV Semester, Gargi College
Anjali Verma, B.Sc. (Hons) Zoology, IV Semester, Gargi College
Paritosh Jaiswal, M.Sc. Molecule & Human Genetics, II Semester, BHU Varanasi
Shivakshi Malik, B.Sc. (Hons) Botany, IV Semester, Hansraj College
Pooja Yadav, B.Sc. (Hons) Zoology, IV Semester, Daulat Ram College
Muskan Saini, B.Sc. (Hons) Botany, II Semester, Miranda House

Build a Smart Garden using Arduino

Priyanka Rajwani, B.Sc. (Hons) Physics, II Semester, S.G.T.B. Khalsa College
Jaya Shivangani Kashyap, B.Sc. (Hons) Physics, II Semester, S.G.T.B. Khalsa College
Rakshita Sharma, B.Sc. (Hons) Physics, II Semester, S.G.T.B. Khalsa College
Binant Kaur, B.Sc. (Hons) Physics, II Semester, S.G.T.B. Khalsa College
Laxmi Gupta, B.Sc. (Hons) Physics, IV Semester, Miranda House College

Itachi

Amit, B.Sc. (Hons) Physics, IV Semester, Hindu College
Akriti, B.Sc. (Hons) Physics, IV Semester, Hindu College
Yash Choudhary, B.Sc. (Hons) Physics, IV Semester, Ramjas College

Exploring Light Spectra: Introductory Studies in Spectrophotometry

Ankita, B.Sc. (Hons) Physics, IV Semester, Miranda House
Pratibha, B.Sc. (Hons) Physics, IV Semester, Miranda House

Orbital Trajectories in Gravity Wells using 3D Printing Technology

Anshumali, B.Sc. (Hons) Physics, IV Semester, Miranda House
Athira Vijayan, B.Sc. (Hons) Physics, VI Semester, Miranda House
Manisha, B.Sc. (Hons) Physics, IV Semester, Miranda House
Chinkey, B.Sc. (Hons) Physics, IV Semester, Miranda House

A Prototype of the Smart Quadcopter Drone

Khushboo Gupta, B.Sc. (Hons) Physics, II Semester, Miranda House
Nikita Gahlawat, B.Sc. (Hons) Physics, II Semester, Miranda House
Bharti, B.Sc. (Hons) Physics, II Semester, Miranda House
Ashi Jain, B.Sc. (Hons) Physics, II Semester, Miranda House
Komal Verma, B.Sc. (Hons) Physics, II Semester, Miranda House

Mahesh, B.Sc. (Hons) Electronics, IV Semester, A.R.S.D College
Aklant Srivastava, B.Sc. (Hons) Electronics, II Semester, A.R.S.D College

Arduino based Automatic Car Parking System

Sheetal Meena, B.Sc. (Hons) Physics, IV Semester, Ramjas College
Sonam, B.Sc. (Hons) Physics, II Semester, Miranda House
Anu Verma, B.Sc. (Hons) Physics, II Semester, Miranda House
Prashant Kumar, B.Sc. (Hons) Physics, II Semester, Hindu College
Komal, B.Sc. (Hons) Physics, II Semester, Miranda House

Designing a Music Car

Ajith B, B.Sc. (Hons) Physics, II Semester, Ramjas College
Amrinder Pal Singh, B.Sc. (Hons) Physics, II Semester, S.G.T.B. Khalsa College

Synthesis of copper/copper oxide nanoparticles and their applications

Ekta, B.Sc. (Hons) Chemistry, IV Semester, Miranda House
Divya Mahajan, B.Sc. (Hons) Chemistry, IV Semester, Miranda House
Swati Jain, B.Sc. (Hons) Chemistry, IV Semester, Miranda House
Amishi Tewari, B.Sc. (Hons) Chemistry, IV Semester, Miranda House

Synthesis of zinc oxide nanoparticles and its applications

Priyanka Jain, B.Sc. (Hons) Chemistry, II Semester, Miranda House
Asha Pandey, B.Sc. (Hons) Chemistry, II Semester, Miranda House
Sakshi Antil, B.Sc. (Hons) Chemistry, II Semester, Miranda House
Nidhi, B.Sc. (Hons) Chemistry, II Semester, Miranda House

Analysis of Miranda House Campus Soil

Priyanka, B.Sc. (Hons) Chemistry, II Semester, Miranda House
Khushboo Varshney, B.Sc. (Hons) Chemistry, II Semester, Miranda House
Varsha Verma, B.Sc. (Hons) Chemistry, II Semester, Miranda House
Neha Patheja, B.Sc. (Hons) Chemistry, II Semester, Miranda House
Nishtha Bhatia, B.Sc. (Hons) Chemistry, II Semester, S.G.T.B. Khalsa College

Analysis of Miranda House Campus Soil

Astha Parihar, B.Sc. Life Sciences, IV Semester, Miranda House
Nitesh Meena, Department of Chemistry II Year, Miranda House
Sanjana, Department of Chemistry II Year, Miranda House
Pooja Gakhad, Department of Chemistry I Year, Miranda House
Rashmi, B.Sc. Life Sciences, IV Semester, Miranda House
Ritika Bharti, B.Sc. Life Sciences, IV Semester, Miranda House

Computational Chemistry

Surbhi Sharma, B.Sc. (Hons) Chemistry, II Semester, Miranda House
Tiya, B.Sc. (Hons) Chemistry, II Semester, Miranda House

Estimation of iron in vitamin tablets/syrup

Kajal Garg, M.Sc.. Applied Chemistry, II Semester, Amity University
Vaishali Chandel, M.Sc.. Applied Chemistry, II Semester, Amity University
Sakshi, M.Sc.. Chemistry, II Semester, MDU, Rohtak

Bharti, M.Sc.. Applied Chemistry I Year, Amity University

Arduino programmed Self-balancing Robot

Ananya Kumari, B.Sc. (Hons) Physics, IV Semester, Miranda House

Khushbu, B.Sc. (Hons) Physics, IV Semester, Miranda House

Isha, B.Sc. (Hons) Physics, IV Semester, Miranda House

Anukool Yadav, B.Sc. (Hons) Physics, IV Semester, Miranda House

Ningthanpuilu Thaimai, B.Sc. (Hons) Physics, IV Semester, Miranda House

QUARKNET: Detection of cosmic ray muons and time correlation analysis

Shubhangi, B.Sc. (Hons) Physics, IV Semester, Miranda House

Srishty Aggarwal, B.Sc. (Hons) Physics, VI Semester, Miranda House

Rajdeep Kaur, B.Sc. (Hons) Physics, IV Semester, Miranda House

Bhawna, B.Sc. (Hons) Physics, IV Semester, Miranda House

Buildind a Cloud Chamber

Aparna, B.Sc. (Hons) Physics, IV Semester, Miranda House

Sunita Khod, B.Sc. (Hons) Physics, IV Semester, Miranda House

Morphogenetic Studies on Cowpea Seeds

Kavita Devi, B.Sc. (Hons) Botany, II Semester, Miranda House

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Priya Jha, B.Sc. (Hons) Botany, VI Semester, Miranda House

Shreshtha Yadav, B.Sc. (Hons) Botany, VI Semester, Miranda House

Parul Kashiv, B.Sc. Life Sciences, II Semester, Shivaji College

Velaga J.S.D.A. Chandra Sekhar, B.Sc. (Hons) Botany, IV Semester, Hansraj College

Purification of grey water by “*Alternanthera phyloxeroides* (Mart.) Griseb”

Rajni Yadav, B.Sc. (Hons) Botany, IV Semester, Miranda House

Himanshi Lather, B.Sc. (Hons) Botany, II Semester, Ramjas College

Ayushi Khokhar, B.Sc. (Hons) Botany, II Semester, Ramjas College

Harshita Priyadarshani, B.Sc. (Hons) Botany, IV Semester, Miranda House

Milk- The White Liquid A Study

Kajal Tyagi, B.Sc. (Hons) Mathematics, IV Semester, Shivaji College

Parul Chhabra, B.Sc. (Hons) Mathematics, IV Semester, Shivaji College

Kirti, B.Sc. (Hons) Mathematics, IV Semester, Shivaji College

Teacher Mentors

Botany Department

Dr. Saloni Bahri
Dr. Neetu Chaudhary
Dr. Janaki Subramanyan
Dr. Somdutta Sinha Roy

Zoology Department

Dr. Jyoti Arora
Dr. Simran jit
Dr. Rekha Kumari
Dr. Monika Sharma
Dr. Sadhana Sharma

Mathematics Department

Dr. Ritu Gupta
Dr. Meetu Bhatia Grover
Dr. Durvesh Verma

Chemistry Department

Dr. Bani Roy
Dr. Kalawati Saini
Dr. Smriti S.Bhatia
Ms. Nutan Rani
Dr. Deepti Rawat

Physics Department

Dr. Mallika Verma
Dr. Monika Tomar
Dr. Diwakar Pathak
Dr. Geeta Rani
Dr. S.N. Sandhya

Support Staff

Botany Department

Mr. Vijay Kumar
Mr. Dinesh Sharma
Mr. Sonu Giri
Mr. Satish Chander Bhardwaj
Mr. Binod Kumar Mahto
Mr. Rohit Tank
Mr. Dinesh Giri

Physics Department

Mr. Cherian Daniel
Mr. Naveen Chandra Bhatt
Mr. Rajkumar Rana
Mr. Jay Prakash
Mr. Vinod Kumar
Mr. Sachin Singhal
Mr. Himanshu

Chemistry Department

Mr. Ravi Kumar
Mr. Vijay Kumar
Mr. Vikash Kaner
Mr. Shashi Mohan Shah
Mr. Rajender Kumar
Mr. Sanjeev Kumar
Mr. Harkesh Meena

Zoology Department

Mr. Ramesh Sharma
Mr. Rakesh Kumar
Mr. Sanjay Dutt
Mr. Mukesh Manik
Mr. Uday Chaudhary
Mr. Puneet Ranga
Mr. Suresh Prajapati
Mr. Chandra Shekhar

Dr. Pratibha Jolly
DSKC Coordinator / PI

Dr. Mallika Verma
Programme Coordinator