Miranda House
UNIVERSITY OF DELHI

DS Kothari Centre for Research and Innovation in Science Education

Summer Workshop 2022

Flavour of Research: Investigative Projects in Multidisciplinary Contexts

DSKC SUMMER WORKSHOP 2022
Flavour of Research: Investigative Projects in Multidisciplinary Contexts

The six weeks Summer Workshops 2022 for Undergraduate Science Students, was held from 09 June to 21 July 2022. Approximately 219 students participated in the DSKC workshops and carried out projects in interdisciplinary fields. These research projects were not granted funds from any funding agency in the year 2022. Faculties of Six Departments mentored 58 project groups. The names of Departments, title of the projects along with the mentors and students are listed here.

BOTANY DEPARTMENT

The Department of botany conducted the following student research projects under DSKC.

Project 1:
Title of the Project: A Study on Starch
Mentor: Dr Janaki Subramanyan
Students' Names:

1. Mrinalini Gupta, B.Sc. (H) Botany II Year, Miranda House
2. Nancy, B.Sc. (H) Botany II Year, Miranda House
3. Poonam, B.Sc. (H) Botany II Year, Miranda House

Project 2:
Title of the Project: Effect of Vesicular Arbuscular Mycorrhiza on *Vigna radiata* under heavy metal stress
Mentors: Dr. Madhu Bajaj, Dr. Saloni Bahri, Dr. Somdutta Sinha Roy
Students' Names:

1. Archana Singh, B.Sc.(H) Botany I Year, Miranda House
2. Vanshika, B.Sc.(H) Botany I Year, Miranda House
3. Lenthoibi Thokchom, B.Sc.(H) Botany I Year, Miranda House
4. Tarana Sahreen, B.Sc.(H) Botany I Year, Miranda House
5. Madhu Kumari, B.Sc.(H) Botany I Year, Miranda
6. Geetansh, B.Sc. (H) Botany I Year, Hindu College

Project 3:
Title of the Project: Effect on N, P, K on growth of Allium cepa roots
Mentors: Dr. Madhu Bajaj, Dr. Saloni Bahri, Dr. Somdutta Sinha Roy
Students' Names:

1. Garima Rao, B.Sc.(H) Botany, II Year, Miranda House
2. Angel Malhotra, B.Sc.(H) Botany, II Year, Miranda House
3. Kumari khushi, B.Sc.(H) Botany, II Year, Miranda House
4. Neelakashi Goyal, B.Sc.(H) Botany, II Year, Hindu College
5. Yash Makkar, B.Sc.(H) Botany, II Year, Hindu College

Project 4:
Title of the Project: Fungi on Mars
Mentors: Dr. Madhu Bajaj, Dr. Saloni Bahri, Dr. Somdutta Sinha Roy
Students' Names:

1. Aditi Asthana, B.Sc.(H) Botany, I Year, Miranda House

Project 5:
Title of the Project: Study of the genetic makeup of *Trifolium pratense* and its medicinal effects: A review
Mentors: Dr. Madhu Bajaj, Dr. Saloni Bahri, Dr. Somdutta Sinha Roy
Students' Names:

1. Shambhavi Krishna, B.Sc. Life Science, I Year, Miranda House
2. Samriddhi Chaturvedi, B.Sc. Life Science, I Year, Miranda House

Project 6:
Title of the Project: Incorporation of plastids in animal cells: how will it help us?
Mentors: Dr. Madhu Bajaj, Dr. Saloni Bahri, Dr. Somdutta Sinha Roy
Students' Names:

1. Nishtha Khushu, B.Sc. Life Science, I Year, Miranda House
2. Sadhna, B.Sc. Life Science, I Year, Miranda House

Project 7:
Title of the Project: Role of phytochemicals and vitamins in fertility
Mentor: Dr. Renuka Agrawal
Students' Names:

1. Agrima Singh, B.Tech., Biotechnology, Semester 4, Amity University, Noida
2. Ishita Pahwa, B.Tech., Biotechnology, Semester 4, Amity University, Noida

CHEMISTRY DEPARTMENT

The Department of Chemistry conducted the following student research projects under DSKC.

Project 1
Title of the Project: Preparation of $MgZrO_3$ nanoparticles using Pechini method and its application in degradation of methylene blue dye.
Mentors: Dr Malti Sharma, Dr Mallika Pathak, Deepti Rawat
Students' Names**:**

1. Kunshi Razdan, M.Sc. Chemistry I Year, University of Hyderabad
2. Vini Sharma, B.Sc. (H) Chemistry III Year, Department of Chemistry, Miranda House
3. Kritika Gaur, B.Sc.(H) Chemistry II Year, Department of Chemistry, Miranda House
4. Divya, B.Sc. (H) Chemistry II Year, Department of Chemistry, Miranda House

Project 2

Title of the Project: Fabrication of magnetically retrievable graphene oxide/ferrite nanocomposite for removal of organic dye

Mentors: Dr Malti Sharma, Dr Mallika Pathak, Dr Deepti Rawat

Students' Names**:**

1. Aliza Hameed, B.Sc. (H) Chemistry I Year, Miranda House
2. Anandita Sharma, B.Sc. (H) Chemistry I Year, Miranda House
3. Prachi, B.Sc. (H) Chemistry I Year, Miranda House
4. Stuti Chaturvedi, B.Sc. (H) Chemistry I Year, Miranda House

Project 3

Title of the Project: Biodiesel: A Green Perspective

Mentors: Dr Sharda Mahilkar Sonkar, Dr Sujata Sengupta

Students' Names**:**

1. Bipasha, B.Sc. Chemistry I Year, Department of Chemistry, Miranda House
2. Bhama M., B.Sc. Chemistry I Year, Department of Chemistry, Miranda House
3. Tanu Yadav, B.Sc. Chemistry I Year, Department of Chemistry, Miranda House
4. Vrinda Gupta, B.Sc. Chemistry I Year, Department of Chemistry, Hindu College

Project 4

Title: The Chemistry of Curcumin: A Brief Review

Mentors: Dr Sharda Mahilkar Sonkar, Dr Sujata Sengupta

Students' Names**:**

1. Richeek Debnath, B.Sc. Chemistry I Year, Indian Institute of Science Education and Research (IISER), Berhampur, West Bengal.

Project 5

Title: To study the concentration of Particulate Matter (PM2.5µm) over Delhi

Mentors: Dr Anita Kumari, Dr Shivani

Students' Names**:**

1. Twinkle Rani, B.Sc. (H) Chemistry I Year, Department of Chemistry, Miranda House
2. Tejika Chaudhary B.Sc. (H) Chemistry I Year, Department of Chemistry, Miranda House
3. Varsha Rani, B.Sc. (H) Chemistry I Year, Department of Chemistry, Miranda House
4. Sonam Rao, B.Sc. (H) Chemistry I Year, Department of Chemistry, Miranda House

Project 6

Title: Selective Serotonin Reuptake Inhibitor (SSRI)- antidepressants in treatment of major depressive disorders

Mentors: Dr Smriti Sharma Bhatia, Dr Mamta Sethi,

Students' Names**:**

1. Shubhangi Maheshwari, B.Sc. (H) I Year, Department of Chemistry, Miranda House
2. Sai Dolly Hindoliya, B.Sc. (H) I Year, Department of Chemistry, Miranda House
3. Sneha Tigali, B.Sc. (H) I Year, Department of Chemistry, Miranda House
4. Sneha Sharma, B.Sc. (H) I Year, Department of Chemistry, Miranda House

Project 7

Title: In-silico study of a natural antifungal compound 'Curcumin' as an inhibitor of fungal cytochrome P450 sterol 14-alpha demethylase (CYP51B) from a pathogenic filamentous fungus Aspergillus fumigatus

Mentors: Dr Smriti Sharma Bhatia, Dr Mamta Sethi

Students' Names**:**

1. Divya Yadav, B.Sc. (H) III, Kirori Mal College, University of Delhi
2. Gautam Malik, B.Sc. (H) Chemistry, III year, Ramjas College, University of Delhi

Project 8

Title: Recent advances in the study Argentine haemorrhagic fever caused by the Junin Virus.

Mentors: Dr Poonam

Students' Names**:**

1. Dharna Yadav, B.Sc. Chemistry III Year, Department of Chemistry, Miranda House
2. Divya Singh, B.Sc. Chemistry III Year, Department of Chemistry, Miranda House
3. Kriti Shakya, B.Sc. Chemistry III Year, Department of Chemistry, Miranda House

Project 9

Title: Nanocapsules an important tool for controlled release of pesticides.

Mentors: Dr. Poonam

Students' Names**:**

1. R Bhuvaneshwari, B.Sc. Chemistry III Year, Department of Chemistry, Miranda House
2. Shweta, B.Sc. Chemistry III Year, Department of Chemistry, Miranda House
3. Zainab Fatima, B.Sc. Chemistry III Year, Department of Chemistry, Miranda House
4. Sejal Jain, B.Sc. Chemistry III Year, Department of Chemistry, Kirori Mal College

Project 10

Title: Solid Waste Management: A Brief Review

Mentors: Dr Anuushka Pal, Dr Yogesh Kumar Bagotia

Students' Names**:**

1. Shimona Singh, B.Sc. Chemistry I Year, Department of Chemistry, Miranda House
2. Vanshika , B.Sc. Chemistry I Year, Department of Chemistry, Miranda House
3. Isha Bhagat, B.Sc. Chemistry II Year, Department of Chemistry, Miranda House

Project 11

Title: "Synthesis and Characterization of ternary nanocomposites and their use in Photocatalytic degradation of dyes."

Mentors: Dr. Kalawati Saini, Ms. Nutan Rani

Students' Names**:**

1. Shruti Goel, B.Sc. (H) Chemistry IIIrd Year, Ramjas College, University of Delhi.
2. Mihir Khulbe, B.Sc. (H) Chemistry IIIrd Year, Ramjas College, University of Delhi.
3. Mayank Sharma, B.Sc. Physical Science with Chemistry IIIrd Year, Maharaja Agrasen College, University of Delhi.
4. Shagun Tomar, B.Sc. Physical Science with Chemistry IIIrd Year, Maharaja Agrasen College, University of Delhi.

5. Aryan Singh, B.Sc. Physical Science with Chemistry III[rd] Year, Maharaja Agrasen College, University of Delhi.

GEOGRAPHY DEPARTMENT

The Department of Geography conducted the following student research projects under DSKC.

Project 1
Title of the Project: Remote sensing with QGIS
Mentors: Dr. Priyanka Puri, Dr. Bashabi Gupta, Dr. Omjee Ranjan

Students' Names:
1. Nayanika Karan, B.A (H) Geography II Year, Miranda House

Project 2
Title of the Project: Exploring earth through remote sensing using QGIS
Mentors: Dr. Priyanka Puri, Dr. Bashabi Gupta, Dr. Omjee Ranjan
Students' Names:
1. Shivakshi, B.Sc Physical Science II Year, Sri Aurobindo College
2. Priyanshi Verma, B.Sc Physical Science II Year, Maitreyi College
3. Harshit Choubey, B.A (H) Geography II Year, Shivaji college

Project 3
Title of the Project: Spatio Temporal Analysis of Vegetation cover in Himachal Pradesh
Mentors: Dr. Priyanka Puri, Dr. Bashabi Gupta, Dr. Omjee Ranjan
Students' Names:
1. Jyotsna Yadav, B.A (H) Geography I Year, Miranda House
2. Prerna Singh Boura, B.A (H) Geography I Year Miranda House

Project 4:
Title of the Project: Exploring earth through remote sensing using QGIS
Mentors: Dr. Priyanka Puri, Dr. Bashabi Gupta, Dr. Omjee Ranjan
Students' Names:
1. Harshit Pandey, B.A (H) Geography II Year Shivaji college
2. Richa Pragya, B.A (H) Geography I Year, Miranda House

Project 5:
Title of the Project: Remote sensing with QGIS
Mentors: Dr. Priyanka Puri, Dr. Bashabi Gupta, Dr. Omjee Ranjan
Students' Names:
1. Kumud Aggarwal, B.A (H) Geography III Year, Miranda House

Project 6:
Title of the Project: Spatio Temporal Analysis of Vegetation cover in Himachal Pradesh
Mentors: Dr. Priyanka Puri, Dr. Bashabi Gupta, Dr. Omjee Ranjan
Students' Names:

1. Nancy, B.A (H) Geography II Year, Shivaji college, University of Delhi

MATHEMATICS DEPARTMENT

The Department of mathematics conducted the following student research projects under DSKC

Project 1:
Title of the Project: Irrationality in games
Mentors: Dr. Daulti Verma, Dr. Anshul Gopal, Dr. Ram Pratap, Mohd. Sarik Idrisi
Students' Names:

1. Kanhaiya Pachouri, BSc. (H) Physics II Year, Ramjas College
2. Jaya Singhal, BSc. (H) Mathematics I Year, Miranda House
3. Simran Samant, BSc. (H) Mathematics II Year, Miranda House
4. Ishika, BSc. (H) Mathematics I Year, Miranda House
5. Aditya Arora, BSc. (H) Mathematics II Year, Shiv Nadar University

Project 2:
Title of the Project: Financial Mathematics
Mentors: Dr. Daulti Verma, Dr. Anshul Gopal, Dr. Ram Pratap, Mohd. Sarik Idrisi
Students' Names:

1. Twisha Dixit, BSc. (H) Mathematics II Year, Miranda House
2. Kamini Arya, BSc. (H) Mathematics I Year, Miranda House
3. Aditi Meshram, BSc. (H) Mathematics II Year, Miranda House
4. Anurag Bharadwaj, BSc. (H) Physics II Year, Rajdhani College
5. Abhishek Sharma, BTech. Computer Science I Year, Prabhu Dayal Memorial University

Project 3:
Title of the Project: Quantum Cryptography based on lattices
Mentors: Dr. Daulti Verma, Dr. Anshul Gopal, Dr. Ram Pratap, Mohd. Sarik Idrisi
Students' Names:

1. Raksha, BSc. (H) Mathematics II Year, Miranda House
2. Neha Baliyan, BSc. (H) Mathematics II Year, Miranda House
3. Samriddhi Mishra, BSc. (H) Mathematics II Year, Miranda House
4. Anju, BSc. (H) Mathematics I Year, Miranda House
5. Anchal Sharma, BSc. (H) Mathematics I Year, Miranda House

PHYSICS DEPARTMENT

The Department of Physics conducted the following student research projects under DSKC.

Project 1
Title of the Project: Green Audit of College
Mentors: Dr. Rashmi Rakshit, Dr. Ruchi Gupta, Dr. Sandhya S.N.
Students' Names:

1. Aiswarya Prasad, Bsc Physics Hons,1st year, Miranda House College DU
2. Chanchal, Bsc Physics Hons, 1st year,Miranda House ,DU
3. Manasvee Agrawal- B.Sc. Physics Hons (1st year), Miranda House College, DU
4. Kanika Palsaniya -B.Sc. Physics Hons (1st year), Miranda House College ,DU
5. Khushi Sharma , B.Sc. Physics Hons (1st year), Miranda House College ,DU
6. Namita Pradhan, B.Sc. Physics Hons,1st year, Miranda house College ,DU
7. Helna Benny, B.Sc. Physics Hons,1 st year, Miranda House college,DU
8. Anagha Ajith , B.Sc. Physics Hons,1 st year, Miranda House college,DU
9. Neha V K, B.Sc. Physics Hons,1st year , Miranda House college ,DU
10. Nikita Joshi , B.Sc. Physics Hons,1st year, Miranda House college ,DU
11. Nidhi Malviya, B.Sc. Physics Hons,1st year, Miranda House college , DU

Project 2
Title of the Project: Ancient Wisdom v/s Modern Technology
Mentors: Dr. Rashmi Rakshit, Dr. Ruchi Gupta, Dr. Sandhya S.N.
Students' Names:

1. Nandini Chhatrawal, B.Sc.(H) Physics, 1st year, Miranda House ,DU
2. Jyoti Fageria, B.Sc.(H) Physics, 1st year , Miranda House,DU
3. Yati Gupta, B.Sc.(H) Physics 2nd year , Kalindi College ,DU
4. Kajal Jingar, B.Sc.(H) Physics, 1st year , Miranda House,DU
5. Siddharth Yadav, B.Sc Physical Science with Chemistry , 1st year, Sri Aurbindo College, DU
6. Twishum Tha , Integrated BSMS Dual degree,2nd year ,IISER Kolkata

Project 3
Title of the Project: Canteen Water and Power
Mentors: Dr. Rashmi Rakshit, Dr. Ruchi Gupta, Dr. Sandhya S.N.
Students' Names:

1. Ekta, B.Sc.(H) Physics, 1st year, Miranda House, DU
2. Arti, B.Sc.(H) Physics, 1st year, Miranda House, DU
3. Aarti, B.Sc.(H) Physics, 1st year, Miranda House, DU
4. Divya, B.Sc.(H) Physics, 1st year, Miranda House, DU

Project 4
Title of the Project: Hostel Ventilation and Light
Mentors: Dr. Rashmi Rakshit, Dr. Ruchi Gupta, Dr. Sandhya S.N.
Students' Names:

1. Hrishika P. B.Sc.(H) Physics (1st year) - Miranda House

2. Nandana M, B.Sc.(H) Physics 1st year, Miranda House
3. Hidha Shahin P K B.Sc.(H) Physics 1st year, Miranda House
4. Palak Makkar, B.Sc.(H) Physics 1st year, Miranda House
5. Niveditha R Nair, B.Sc.(H) Physics 1st year, Miranda House
6. Lekshmi Sudin, B.Sc.(H) Physics, 1st year, Miranda House, DU

Project 5:
Title of the Project: Biometric Authentication
Mentors: Dr. Nirmala Saini
Students' Names:

1. Anandita (190/2021) B.Sc. (H) Physics I year II Semester

Project 6:
Title of the Project: Brain Tumor Detection using Image Processing Techniques
Mentors: Dr. Sanju, Dr. Nirmala Saini, Dr. Sonam Singh, Dr. Raishma Krishnan
Students' Names:

1. Mahak Poonia, B.Sc. (H) Physics II Year IV Semester, Miranda House, University of Delhi
2. Ajita Tiwari, B.Sc. (H) Physics II Year IV Semester, Miranda House, University of Delhi
3. Astha Asati, B.Sc. (H) Physics II Year IV Semester, Miranda House, University of Delhi

Project 7:
Title of the Project: Orbital Elements and Satellite TLE Data
Mentors: Dr. Divakar Pathak
Students' Names:

1. Ms. Preety Khatkar, B.Sc.(H) Physics 3rd Year,Miranda House
2. Ms. Yuglesh Kumari, B.Sc.(H) Physics, 3rd Year, Miranda House
3. Ms. Pooja Chaudhary, B.Sc.(H) Physics, 3rd Year, Miranda House
4. Ms. Paridhi Goel, B.Sc.(H) Physics, 3rd Year, Miranda House

Project 8:
Title of the Project: Universality Classes of Random Matrix Theory
Mentors: Dr. Ambuj Bhushan Jaiswal
Students' Names:

1. Sri Mahaguhan S, B.Sc Mathematics, Shiv Nadar University

Project 9:
Title of the Project: LED cube (8x8x8) displaying different patterns using Arduino UNO R3
Mentors: Prof. Monika Tomar, Dr. Mallika Verma, Dr. Bilasini Neorem, Dr. Geeta Rani
Students' Names:

1. Vansh Hooda, B.Sc. (H) Physics II Year, Swami Shraddhanand College
2. Lavish Kumar, B.Sc. (H) Physics II Year, Rajdhani College
3. Nitin, B.Sc. (H) Physics II Year, Rajdhani College

Project 10:
Title of the Project: Synthesis of Zeolite for sensing NO2 gas
Mentors: Prof. Monika Tomar, Dr. Mallika Verma, Dr. Bilasini Neorem, Dr. Geeta Rani
Students' Names:

1. Ekta, B.Sc. (H) Physics II Year, Jaipur National University
2. Lavanya Sorout, B.Sc. (H) Physics II Year, Kalindi College, DU
3. Tanu Kumari, B.Sc. (H) Physics II Year, Miranda House, DU

Project 11:
Title of the Project: Growth of Antimony Telluride for cooling devices
Mentors: Prof. Monika Tomar, Dr. Mallika Verma, Dr. Bilasini Neorem, Dr. Geeta Rani
Students' Names:

1. Aditya Gupta, B.Sc. General, Jai Hind College, Mumbai University
2. Anisha Yadav, B.Sc Physical Science, Miranda House ,DU
3. Ishan, B.Sc. (H) Electronics I Year, Rajdhani College

Project 12:
Title of the Project: Automatic Shopping Cart
Mentors: Prof. Monika Tomar, Dr. Mallika Verma, Dr. Bilasini Neorem, Dr. Geeta Rani
Students' Names:

1. Aswathi M D, B.Sc. (H) Physics I Year, Miranda House, DU
2. Diksha Maurya, B.Sc. (H) Physics I Year, Miranda House, DU
3. Amanjot Kaur, B.Sc. (H) Physics I Year, Miranda House, DU

Project 13:
Title of the Project: Sensors Based Lab Experiments
Mentors: Prof. Monika Tomar, Dr. Mallika Verma, Dr. Bilasini Neorem, Dr. Geeta Rani
Students' Names:

1. Pranjal, B.Sc. (H) Physics I Year, Miranda House, DU
2. Pratibha, B.Sc. (H) Physics I Year, Miranda House, DU
3. Soumyashree S., B.Sc. (H) Physics I Year, Miranda House, DU
4. Fathima Fidha K, B.Sc. (H) Physics I Year, Miranda House, DU

Project 14:
Title of the Project: Synthesis of polymer composites for electromagnetic interference shielding.
Mentors: Prof. Monika Tomar, Dr. Mallika Verma, Dr. Bilasini Neorem, Dr. Geeta Rani
Students' Names:

1. Mahima Momaliya, B.Sc Physical Science I Year, Miranda House ,DU

Project 15:
Title of the Project: Automatic vehicle horn volume control system
Mentors: Prof. Monika Tomar, Dr. Mallika Verma, Dr. Bilasini Neorem, Dr. Geeta Rani
Students' Names:

1. Tanya Gupta, B.Sc. (H) Physics II Year , Miranda House ,DU
2. Taniya Sandhu, B.Sc. (H) Physics II Year , Miranda House ,DU

3. Prem Pal, B.Sc. (H) Physics II Year , Kirorimal College ,DU

Project 16:
Title of the Project: ZnO nanoparticle based nanogenerator
Mentors: Prof. Monika Tomar, Dr. Mallika Verma, Dr. Bilasini Neorem, Dr. Geeta Rani
Students' Names:

1. Tanya Gupta, B.Sc. (H) Physics II Year , Miranda House ,DU
2. Taniya Sandhu, B.Sc. (H) Physics II Year , Miranda House ,DU
3. Prem Pal, B.Sc. (H) Physics II Year , Kirorimal College ,DU

Project 17:
Title of the Project: Bayesian modelling in LISA data using Markov Chain Monte Carlo
Mentors: Dr. Abha Dev Habib, Dr. Nisha Rani
Students Names:

1. Deepanshi Singh, B.Sc (H) Physics, Miranda House, University of Delhi
2. Inderpreet Kaur, BSc (H) Physics , Jaipur National University
3. Anant Singh, BSc (H) Physics, Rajdhani College, University of Delhi
4. Shreyas Divakaran, BSc (H) Physics, Rajdhani College, University of Delhi

Project 18:
Title of the Project: Studying bounds on graviton mass using Bayesian approach
Mentors: Dr. Abha Dev Habib, Dr. Nisha Rani
Students Names:

1. Mehek Arora, BSc. Physical Science with Chemistry, Ramjas College, University of Delhi
2. Ishan Gupta, BSc (H) Physics, University of Delhi
3. Pulkit, BSc (H) Physics, Ramjas college, University of Delhi
4. Akanksha Patel, BSc (H) Physics, Miranda House, University of Delhi

Project 19:
Title of the Project: Constraining ΛCDM model and Dispersion Measure Of Host Galaxies Using Statistical Tools On FRBs
Mentors: Dr. Abha Dev Habib, Dr. Nisha Rani
Students Names:

1. Rashmi Sarwal, B.Sc Physical Science, Miranda House , University of Delhi
2. Aditi Sharma, BSc (H) Physics, Miranda House , University of Delhi
3. Shakshi, B.Sc Physical Science with Computer Science, Miranda House, University of Delhi
4. Nupur Rajesh Deshpande, BS-MS Dual Degree, Indian Institute of Science Education and Research, Tirupati

Project 20:
Title of the Project: Important Statistical methods in Cosmology
Mentors: Dr. Abha Dev Habib, Dr. Nisha Rani
Students Names:

1. Aruba Sultan, B.Sc (H) Physics, Miranda House, University of Delhi
2. Aditi Singh, B.Sc (H) Physics, Miranda House, University of Delhi
3. Pragya Dobhal, B.Sc (H) Physics, Miranda House, University of Delhi
4. Shamitha Shivani V, B.Sc (H) Physics, Miranda House , University of Delhi

Project 21:
Title of the Project: Variation in Muon Flux due to Supernova Explosions: An Emperical Study using Quarknet Data.
Mentors: Dr. Abha Dev Habib, Dr. Mallika Verma, Dr. Nisha Rani
Students Names:

1. Subhjeet Biswas B.Sc (H) Physics, Ramjas college, University of Delhi
2. Shikhar Agnihotri, B.Sc (H) Physics, Ramjas college, University of Delhi
3. Nikhil Philip Mathew, B.Sc (H) Physics, Ramjas college, University of Delhi

Project 22:
Title of the Project: Impact of Solar Activity on Muon Flux: A study using Quarknet Data
Mentors: Dr. Abha Dev Habib,Dr. Mallika Verma, Dr. Nisha Rani
Students Names:

1. Sagar Gowala, B.Sc (H) Physics, Hindu College, University of Delhi
2. Jiten Dhaka, B.Sc (H) Physics, Bhaskaracharya College of Applied Sciences (University of Delhi)
3. Satwik Wats, B.Sc (H) Physics, Ashoka University
4. Abhishek Prashant, B.Sc (H) Physics , Bhaskaracharya College of Applied Sciences (University of Delhi)

Project 23:
Title of the Project: Verification of Special Theory of Relativity using Quark-NET Muon Data
Mentors: Dr. Abha Dev Habib, Dr. Mallika Verma, Dr. Nisha Rani
Students Names:

1. Nishant Dahma, B.Sc (H) Physics, Ramjas college, University of Delhi
2. Kashish, B.Sc (H) Physics, Ramjas college, University of Delhi
3. Hrithik Kundu, B.Sc (H) Physics, Ramjas college, University of Delhi

Project 24:
Title of the Project: Tin Oxide thin film-based gas sensor
Mentors: Prof. Monika Tomar, Dr. Mallika Verma, Dr. Bilasini Neorem, Dr. Geeta Rani
Students' Names:

1. Kalpajit Roy, B.Sc. (H) Physics II year, Acharya Narendra Dev College, DU
2. Prahlad Sharma, B.Sc. (H) Physics II year, Acharya Narendra Dev College, DU
3. Varnika Agarwal, B.Sc. (H) Physics II year, Acharya Narendra Dev College, DU
4. Prashant Verma, B.Sc. (H) Physics II year, Acharya Narendra Dev College, DU
7. Pratham Malik, B.Sc. (H) Physics II year, Acharya Narendra Dev College, DU
8. Niharika, B.Sc. (H) Physics II year, Acharya Narendra Dev College, DU

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ZOOLOGY DEPARTMENT

The Department of Zoology conducted the following student research projects under DSKC.

Project 1
Title of the Project: Effect of medicinal plant extracts on *Drosophila melanogaster*
Mentors: Dr. Nisha Vashishta, Dr. Pooja Suman, Dr. Yasha Yadav
Students Names:

1. Ananya Singh, B.Sc. (Prog.) Life Science II Year, Kirori Mal College
2. Samayra Sharma, B.Sc. (Prog.) Life Science II Year, Ramjas College
3. Mansi Wadhera, B.Sc. (Prog.) Life Science III Year, Ramjas College
4. Priyansi Sharma, B.Sc. (Prog.) Life Science I Year, Miranda House
5. Minakshi Sharma, B.Sc. (Prog.) Life Science I Year, Miranda House
6. Nitika, B.Sc. (Prog.) Life Science I Year, Miranda House
7. Pritha Yadav, B.Sc. (Prog.) Life Science I Year, Miranda House
8. Shashi Dev Pal, B.Sc. (Prog.) Life Science I Year, Miranda House
9. Dia Kakkar, B.Sc. (Prog.) Life Science II Year, Miranda House
10. Harshita Kapoor, B.Sc. (Prog.) Life Science I Year, Miranda House
11. Khushi Porwal, B.Sc. (Prog.) Life Science I Year, Miranda House
12. Shaik Rafina,B.Sc (H) Zoology II Year, Miranda House
13. Aastha Kumari, B.Sc. (Prog.) Life Science I Year, Miranda House
14. Garima Ruhella, B.Sc. (Prog.) Life Science II Year, Miranda House
15. Pragya, B.Sc. (Prog.) Life Science I Year, Miranda House

Project 2
Title of the Project: In silico mining of late stage expressed PE/PE_PGRS family proteins of Mtb for Calcium bindings domains
Mentors: Prof. Sadhna Sharma and Dr. Monika Sharma
Students Names:

1. Sreetama Bhaduri, BS-MS Int. (5 Yrs), Life Science II Year, Indian Institute of Science Education and Research, Kolkata
2. Shikha Kadyan, B.Sc. (Prog.) Life Science II Year, Miranda House, University of Delhi

Project 3
Title of the Project: Identifying the SARS- CoV-2 proteins as superantigens
Mentors: Prof. Sadhna Sharma and Dr. Monika Sharma
Students Names:

1. Ketki Bhatia, B.Sc (H) Zoology II Year, Ramjas College, University of Delhi
2. Simran, B.Sc. (Prog.) Life Science II Year, Ramjas College, University of Delhi

Project 4
Title of the Project: In-silico analysis of PE/PE_PGRS/PPE family proteins of Mtb for mitochondria targeting sequence.
Mentors: Prof. Sadhna Sharma and Dr. Monika Sharma
Students Names:

1. Manya Vashishtha, B.Sc. (Prog.) Life Science II Year, Miranda House, University of Delhi
2. Sindhu Khanna, B.Sc. (Prog.) Life Science II Year , Miranda House, University of Delhi

Project 5
Title of the Project: Amplification, cloning and expression of a plant virus gene
Mentors: Dr. Rohit Jamaal and Ms. Saba Zulfiquar
Students Names:

1. Sakshi Lalwani, B.Sc. (Prog.) Life Science II Year, Daulat Ram College
2. Netra Ghuratia, B.Sc (H) Zoology II Year , Daulat Ram College
3. Jasleen Kaur, B.Sc (H) Zoology II Year, Daulat Ram College
4. Srishti Satija, B.Sc. (Prog.) Life Science II Year, Hansraj College
5. Harsh Vardhan, B.Sc. (Prog.) Life Science II Year, Hansraj College
6. Ifrah Sadaf, B.Sc. (Prog.) Life Science II Year, Hansraj College,
7. Nishaka, B.Sc. (Prog.) Life Science II Year, Kalindi, College,
8. Sana Khan, B.Sc. (Prog.) Life Science I Year Miranda House
9. Namitha, B.Sc. (Prog.) Life Science II Year, Miranda House
10. Ananya, B.Sc. (Prog.) Life Science I Year, Miranda House
11. Hiba Pharveen, B.Sc. (Prog.) Life Science I,Year Miranda House
12. Ambili PT, B.Sc. (Prog.) Life Science I Year, Miranda House
13. Neha Bagri, B.Sc (H) Zoology II Year, Ramjas College
14. Khushboo Nangia, B.Sc. (Prog.) Life Science II Year, SGTB Khalsa College
15. Shrishti Srivastav, B.Sc. (Prog.) Life Science II Year, SGTB Khalsa College
16. Annu Sharma, B.Sc. (Prog.) Life Science I Year, Miranda House

Project 6
Title of the Project: Understanding the role of human gut microbiome: a systematic review
Mentors: Dr. Rekha Kumari
Students Names:

1. Shubhangi Sharma, BA Program II Year, Miranda House
2. Idrees Qadir, B.Sc. (Prog.) Life Science III Year, Ramjas college

Project 7
Title of the Project: Assessment of Heavy Metal load in Yamuna River at Wazirabad site with using Atomic Absorption Spectroscopy
Mentors: Dr. Deepak and Dr. Shivani Kumari
Students Names:

1. Ashita Johri, B.Sc. (Prog.) Life Science I Year, Miranda House
2. Anushka Meena B.Sc. (Prog.) Life Science I Year, Miranda House
3. Manjari Pandey, B.Sc. (Prog.) Life Science II Year, Shri Guru Tegh Bahadur Khalsa College

DSKC, MIRANDA HOUSE
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Chief Guest

Dr. Seema Vinayak

Director, Solid State Physics Laboratory, DRDO

21 July 2022 | 11:00 am | Seminar Hall

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Teacher Mentors

Physics Department

1. Prof. Monika Tomar
2. Dr. Mallika Verma
3. Dr. Rashmi Rakshit
4. Dr. Sanju A
5. Dr. Abha Dev Habib
6. Dr. Bilasini Naorem
7. Dr. Sonam Singh
8. Dr. S. N. Sandhya
9. Dr. Divakar Pathak
10. Dr. Geeta Rani
11. Dr. Nirmala Saini
12. Dr. Ambuj Bhushan Jaiswal
13. Dr. Nisha Rani
14. Dr. Raishma Krishnan
15. Dr. Ruchi Gupta

Department of Zoology

1. Dr. Nisha Vashishta,
2. Dr. Pooja Suman,
3. Dr. Yasha Yadav
4. Prof. Sadhna Sharma
5. Dr. Monika Sharma
6. Dr. Rohit Jamaal
7. Ms. Saba Zulfiquar
8. Dr. Rekha Kumari
9. Dr. Deepak
10. Dr. Shivani Kumari

Department of Chemistry

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2. Dr Mallika Pathak
3. Dr Deepti Rawat
4. Dr Sharda Mahilkar Sonkar
5. Dr Sujata Sengupta
6. Dr Anita Kumari
7. Dr Shivani
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9. Dr Mamta Sethi
10. Dr Poonam
11. Dr Anushka Pal,
12. Dr Yogesh Kumar Bagotia
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3. Dr. Saloni Bahri,
4. Dr. Somdutta Sinha Roy
5. Dr. Renuka Agrawal

Department of Mathematics

1. Dr. Daulti Verma
2. Dr. Anshul Gopal
3. Dr. Ram Pratap,
4. Mohd. Sarik Idrisi

Department of Geography

1. Dr. Priyanka Puri (Convenor),
2. Dr. Bashabi Gupta and
3. Dr. Omjee Ranjan as Co-Convenors

Professor Bijayalaxmi Nanda
Principal

Professor Monika Tomar
DSKC Coordinator