

Centre for Research

(July 2021 to May, 2022)

Centre for Research (CFR), formally instituted in 2019, is dedicated to cater to the immense passion for research amongst our faculty and students. The major activities organized by CFR include the Summer Internship Programme (SIP), Annual Research Programme (ARP), Avlokan- The student presentation session, Student Apprenticeship Programme (SAP), Training Workshop and Equinox- The Annual International Conference. CFR also publishes a peer-reviewed, biannual, multilingual, multidisciplinary, open-access e-journal *Vantage: Journal of Thematic Analysis*.

1. From the year 2021, CFR started a new venture for students, the **Student Apprenticeship programme (SAP)**, an annual programme, to train them in various skills such as event management, data management, soft skills, social media handling etc. The first batch of students were trained from January, 2021 to December, 2021. The second batch of students for SAP 2022 started their training from January, 2022.
2. The year 2021 marked the beginning of **Equinox- The Annual International Conference**, that was organized by CFR under the aegis of *Vantage: Journal of Thematic Analysis*. **Equinox 2021** was organized on the theme “Sustainable Agriculture: Negotiating Tradition and Modernity” from **August 12-14, 2021**. The conference addressed some of the major concerns in this area which are especially relevant for India as we celebrated the **75th year of our Independence**. The conference included talks by eminent speakers such as Prof. S.P.S Beniwal (Chairman, Agri History Foundation), Dr Chandish Ballal (Former Director ICAR-NBAIR), Dr. Shaikh Tanveer Hossain (Ambassador, IFOAM Organic International and ALGOA, Tokyo, Japan), Dr Debojyoti Das (Lecturer and Global Research Associate, School of Global Studies, University of Sussex, UK), Prof. Savyasaachi (Department of Sociology, Jamia Millia Islamia), Prof. A.R Vasavi (Independent Scholar and Secretary, Punarchith Collective, Karnataka), Prof. G.K Garg (G.B Pant University of Agriculture and Technology, Pantnagar) and Dr. Nitu Goswami (University of British Columbia, Canada).
3. The student presentation session i.e. **Avlokan** was organized in **three sessions** in October, 2021. The selected projects from SIP 2020-21, carried out during May-June, 2021, were presented before an external jury. On **October 5**, in Avlokan **Session I**, project numbers SIP20-21/01, SIP20-21/02, SIP20-21/18, SIP20-21/25, SIP20-21/26, SIP20-21/27 and SIP20-21/29 were presented in front of Jury members: Dr. Suman Govil, Ex-Sr Advisor, DBT, Ministry of Science & Technology, Government of

India and Prof. Vaishali Singh, Guru Govind Singh Indraprastha University, Delhi. There were a total of 420 participants.

On October 21, in Avlokan **Session II**, project numbers SIP20-21/04, SIP20-21/07, SIP20-21/09, SIP20-21/11, SIP20-21/12, SIP20-21/13, SIP20-21/14, SIP20-21/17, SIP20-21/28 and SIP20-21/30 were presented before Jury members: Prof. Shobha Bagai from Cluster Innovation Centre, Delhi University and Prof. Paramjit from Delhi School of Economics. There were 104 participants. On October 26, in Avlokan **Session III**, project numbers SIP20-21/15, SIP20-21/16, SIP20-21/22, SIP20-21/23 and SIP20-21/24 were presented in front of Jury members - Prof. Savyasaachi from School of Social Sciences, Jamia Milia Islamia, Delhi and Prof. Anil Aneja from the Department of English, Delhi University. There were 63 participants. The projects were presented in online mode.

List of projects carried out during SIP 2020-21

S. No	Code	Title of proposal	Department	Mentors	Mentees
1	SIP20-21/01	An Insight into Application of Land Use Land Cover Analysis towards Sustainable Agriculture within Jhajjar district)	Botany	Dr. Pooja Baweja Ms. Priyadarshini Singh	Jyoti Singh, Neha, Mansi (Bot Hons 2nd yr); Isha Arya (Bot Hons 1st yr)
2	SIP20-21/02	In-silico study of Pesticides for the binding of Calyx of Bovine β -Lactoglobulin	Chemistry	Dr Lata vodwal and Dr Durgesh Kumar	Tanishka Pal, Ritika Khanna (Ls 2nd yr); Kirti, Rishika Arya (LS 2nd yr)
3	SIP20-21/03	Functionalized nano biopolymer for designing of sustainable crop protection formulations	Chemistry	Dr Gazala Ruhi, Dr Hema Bhandari and Dr Rajni Johar	Riya Nimbekar, Sakshi Maam, Sakshi Rajain, Leesha, Diksha, Rupa Adhikari (Chem Hons)
4	SIP20-21/04	Optimizing The Consumption Of Products Of Petroleum Industry: An Approach Towards Agricultural Sustainability	Commerce	Dr Sonal Babbar	Vaishnavi Rastogi, Khushi, Bhawna Saini
5	SIP20-21/05	Food Security, Sustainability and Markets: Understanding the Protest of Farmers against Laws	Commerce	Dr. Saroj Rani	Soumyata Katiyar and Shaivy Pulak (BA P 1st yr)

6	SIP20-21/06	Exploring the sustainable future of Handlooms : A dive into its raw materials market, exports, growth and prospects	Commerce	Ms. Kritika Khurana	Nandika Monga and Vani Shukla (B.com Honours, 2 nd year)
7	SIP20-21/07	WOMEN EMPOWERMENT AND SUSTAINABLE AGRICULTURE : SYNERGIES AND MISSING Links	Economics	MS. NIDHI CHAND	SEJAL SURI, AKANKSHA YADAV (Eco Hons 1st yr)
8	SIP20-21/08	Organic Farming and Sustainable Development	Economics	N. Shradha Varma	Sagarika Rastogi and Prerna Agarwal (Eco Hons 1st yr)
9	SIP20-21/09	Indigenous knowledge, new age modernism to achieve sustainable agriculture and its impact on farmers	Economics	N. Shradha Varma	Diya Nagpal and Risha Sinha(1st year- B.A Hons Economics)
10	SIP20-21/10	Implementation Gaps in Sustainable Agriculture: An Analysis of the Indian States (Uttar Pradesh and Bihar)	Economics	N. Shradha Varma	Nandini and Jigisha Sharma (Eco Hons 1st yr)
11	SIP20-21/11	<i>Rebound agriculture - Traditional techniques for contemporary needs</i>	Economics	N. Shradha Varma	Geet Nakra and Yashita Srivastava; Eco Hons 1st yr
12	SIP20-21/12	ECONOMIC CHALLENGES IN WIDE-SCALE ADOPTION OF SUSTAINABLE AGRICULTURAL PRACTICES IN INDIA	Economics	Ms Devangana Jha;	Vaanya Bhalla and Nandini Singhal (Eco Hons 1st yr)
13	SIP20-21/13	Socio - Economic Issues of Sustainable Agriculture in India	Economics + Sociology (Interdisciplinary)	Dr. Priti Mendiratta Arora and Dr. Aruna Grover	Vanshika Gulia and Laxmi Kumari Mahato (BA Prog); Pooja and Ritika Choudhary BA (H) Sociology 1st year
14	SIP20-21/14	The Impact of APMC Amendment Act on Agribusiness and Farmers' Welfare)	Economics	preeti mendiratta	Eshna Jain and Priyal Nanda
15	SIP20-21/15	Recognition of the Role of Agriculture in Assamese Society: A Study of Culture, Folklore and Cinema	English	Dr Richa Chilana	Debangi Kashyap, Pratikshya Parashar (Eng Hons 2nd yr)

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16	SIP20-21/16	Women in Premchand's Rural Settings: Negotiating Tradition and Modernity	English	Dr Richa Chilana	Riya Arora and Anjali Sharma (Eng Hons 2nd yr)
17	SIP20-21/17	Sustainable Production of Rice in West Bengal: A Mathematical Model of Rice Growth)	Maths	Dr. Neetu Arneja , Mr. Saurav Kumar	Anmoldeep, Sunidhi Chadha, Saloni, Sunanda (Maths 1st & 2nd yer)
18	SIP20-21/18	Synthesis And Testing Of Structured Water For Sustained Agriculture	Physics	Dr. Parul Yadav, Dr Shalini Lumb Talwar	Ms. Gunjan, Ms. Bhawna, Ms. Neha (Phy Hons 2nd year); Ms. Rishika Mittal (Phy Hons 1st yr)
19	SIP20-21/19	Design of Hydroponics system using Arduino to monitor physical parameters required for plants growth	Physics	Dr. Parul Yadav Dr. Mansi Dhingra,	Vishakha (Phy Hons 3rd yr); Sneha 2 , Ms. Vaishali 2 , Ms. Pranshi (Phy Hons 2nd yr)
20	SIP20-21/20	Aquaponics- A Method Towards Sustainable Agriculture	Physics	Dr. Prajwalit Shikha	Simrat Kaur (1652) : B.Sc.(H) Physics- I Year (Sem-II); Khushi Poonia and Anchal Pandey (Phy 2nd yr)
21	SIP20-21/21	Vedic Farming: A Boon to Indian Agriculture	Sanskrit	Dr Rekha Kumari;	Niharika Khurana; BA Hons Sanskrit 2nd yr
22	SIP20-21/22	Interrogating the idea of 'sustainable culture' and its impact in India	Sociology	Dr Rashi Bhargava;	Amrata Yadav and Muskan Shrestha; BA prog 2nd yr
23	SIP20-21/23	Sustainable agriculture and irrigation methods. -a case study of Kangra district, Himachal Pradesh, India.	Sociology	Mr Pawan Harsana	Sanyukti Dewan and Sneh Thappa
24	SIP20-21/24	Minimum Support Price Conundrum and Sustainable Farming: a study of the impact of socio-economic factors on sustainable agriculture	Sociology	Mr Pawan Harsana	Vanshika and Sanjana (Socio Hons 1st yr)
25	SIP20-21/25	Review Based Analysis of Modern Farming in Sustainable Agriculture)	Zoology	Dr Luni and Dr Tejendra Kumar	Megha Lakhera, priya (LS 3rd yr); Versha Aggarwal (zoo hons

					1st yr); Prashansa (LS 1st yr)
26	SIP20-21/26	Ladybird beetles as biocontrol agents: their contribution in sustainable agriculture	Zoology	Dr Meena Yadav	Anshu Rana and Garima; Zoology Hons 2nd yr
27	SIP20-21/27	To monitor the growth of plants using bio-organic approach for Sustainable agriculture	Interdisciplinary (Chemistry & Botany)	Dr. Kiran Soni , Dr. Gita Batra Narula, Dr. Alka B Vadakan, Dr. Shweta Sharma,	Prerna Notnani, Kanika Gandhi, Richa Agarwal, Urvashi Joon, Nancy Ghai, Prachi (Chem Hons 1st & 2nd yr)
28	SIP20-21/28	IoT-based smart farming for sustainable agriculture in India	Interdisciplinary (Maths & Comp Sci)	Ms. Geetan Manchanda and Dr. Shikha Badhani	Aadi Lochab and Bhumika Papnai (B.Sc (H) Maths IV Sem)
29	SIP20-21/29	“Polymeric ‘Smart Nuribots’ for Sustainable Aquaponics Agriculture”	Interdisciplinary (Chemistry**+ Botany)	Dr. Swarndeeep Kaur Sethi; Dr Kiran soni and Dr Geeta Batra Narula, Dr Pooja Baweja	Shweta Tiwari, Swarnali Panda, Charu Gupta, Shivangi Saini (chem hons 3rd yr); Divya Bisht (chem 1st yr); Padmaakshi Chakravartty, Rupika Gaba,
30	SIP20-21/30	An Integrative Approach towards Recommending Farming Solutions for Sustainable Agriculture	Interdisciplinary (Comp sci + Economics)	Dr Veena Ghuriani & Dr Jyotsna Talreja Wassan	Pragya Deolal (BA P 3rd yr); Vidushi Sharma,Dimpy Dalal, Aditi Goyal, (BA Eco 2nd yr);
	Total	30		38	89

- Two issues of **Vantage: Journal of Thematic Analysis** were published during 2021-22 i.e., the October, 2021 (<https://journalvantage-maitreyi.com/vol-2-issue-2-october-2021.php>) and April, 2022 (<https://journalvantage-maitreyi.com/vol-3-issue-1-April-2022.php>) on the theme “Sustainable Agriculture: Negotiating tradition and modernity”.
- The Annual Research Programme (ARP) January, 2022 was started from February, 2022 and following approved projects are in progress:

List of Approved Projects under ARP January, 2022

S. No.	Department	Title of Project	Mentor/s	Mentees
1	Chemistry	Development of proficient novel green synthetic approach for the construction of biologically relevant heterocycles and to carry out their molecular modelling studies.	Dr. Ankita Chaudhary, Dr. Ritu Gaba, Dr Haritma Chopra	RICHA SINGH, B.Sc. (Hons.) Chemistry, II year, 1674; TRIAMBIKA VATS, B.Sc. (Hons.) Chemistry, II year, 1671; URVASHI JOON, B.Sc. (Hons.) Chemistry, II year, 1594; ISHA CHOPRA, B.Sc. (Prog) Life Science, II year, 1728, GAYATRI PANI, B.Sc. (Prog) Life Science, II year, 1766, SHWETA ARYA, B.Sc. (Prog) Life Science, II year, 1314;
2	Economics	The challenging conundrum of bad loans: Scrutinizing the situations, before and after the pandemic	Dr Priti Mendiratta Arora	Kriti Sachdeva, BA Hons. Economics, 2nd Year, (2020/1557) Arushi Wadhwa, BA Hons Economics, 2nd Year, (2020/1707)
3	Economics	Impact of COVID on Indian real estate	Dr.Priti Mendiratta	Mehak , Ba economics hons, 2nd year , 2020/1952, Merlyn Malhotra, BA Economics Hons, 2year, 2020/1745,
4	Pol Sci	Political Side of the Global Water crisis	Dr Mithila Bagai	Saloni, (2020/374), BA Political Science (Hons)
5	Pol Sci	Role of Afghan women in peace building in Afghanistan during	Dr Mithila Bagai	Bhavishyata Mendiratta, 2020/123, BA Hons Political Science 2nd Year, Kanika Mittal 2020/475, BA Political Science 2nd year

		American Occupation		
6	Sociology	Being Transgender in a Pandemic: A Sociological Review	Ms. Bijayani Mishra	Vaanya Bhalla. B.A (Hons.) Economics, Nupur Nandini , Sociology(H), second Year
Total		6	6	15

6. On February 25, 2022, an **orientation programme** was organized by CFR and ACPG in online mode and students in large numbers participated in it (235 participants). The programme had two sessions. In session I, there was an invited talk by Prof. Savyasaachi from Jamia Millia Islamia where he talked about how self-reliance, observation and discipline are strong pillars of research. He also threw light on ethical knowledge and how one should internalize to produce reliable and dependable knowledge. In session II, the students were apprised about the various programmes of CFR and timeline of these programmes.
7. **SIP 2021-22:** The notice for the projects to be carried out under SIP 2021-22 was floated in January, 2022 and project proposals were submitted in March, 2022. The projects that were carried out from May 20, 2022 to July 20, 2022.

List of approved projects for SIP 2021-22

S. No.	CODE	DEPARTMENT	MENTOR	TITLE	MENTEES
1	SIP21-22/01	Botany	Dr Rama Sisodia, Dr Shweta Sharma	Efficacy of Selected Seed Priming Agents on Seed Germination and Plant Growth Under Salinity Stress in <i>Vigna radiata</i> and <i>Oryza sativa</i>	Vedanti Garg (B.Sc. (Prog) Life Sciences II Yr), Sonia Chauhan (B.Sc. (Prog) Life Sciences II Yr), Naiya Chauhan (B.Sc. (Prog) Life Sciences II Yr), Ishani Mallick (B.Sc. (Prog) Life Sciences II Yr),
2	SIP21-22/03	Botany	Dr Monika Heikrujam, Dr Mansi Gogna, Dr Rama Sisodia	Qualitative and quantitative analysis of plant pigment anthocyanins from selected flowering plants	Kaveri Choudhary B.Sc Life Science III Year, Riya Uniyal B.Sc Life Science III Year, Kajal Senger B.Sc Life Science III Year, Yaiveinai Ngade D B.Sc Life Science III Year, Nandini Jajoria B.Sc Life Science III Year, Hrishita Sharma B.Sc Life Science III Year

3	SIP21-22/04	Chemistry	Dr. Kiran Soni, Dr. Swarndeep Kaur Sethi, Dr. Gita Batra Narula	Exploring the role of structurally engineered nano-sized sustainable materials for remediation of contaminated water samples	Bagmita Biswas, Gitika Sharma, Isha Chopra, Pragya Narain, Priyanka Rihel (B.Sc. Life Sciences, III year), (B.Sc. Life Sciences Graduate), Taniya Kaushik (B.Sc. Life Sciences, III year)
4	SIP21-22/05	Chemistry	Dr. Swarndeep Kaur Sethi, Dr. Gita Batra Narula, Dr. Kiran Soni, Pooja Baweja	Fabricated natural hydrogels and their potential for agricultural applications	Ms. Anita Bomboriya, Ms. Isha Bedwal, Ms. Kanishka Kohli, Ms. Nancy Ghai, Ms. Prachi, Ms. Uma Rani (Department of Chemistry), Ms. Geetanshi Dang, Ms. Savina (Department of Botany)
5	SIP21-22/10	Computer Science	Dr. Manju Bhardwaj, Dr. Shikha Badhani	SENTIMENT ANALYSIS OF INDIAN TWEETS DURING COVID-19	Priya Mishra, Maulika Sharma, B.Sc Physical Sciences IV Sem
6	SIP21-22/11	Computer Science	Dr. Veena Ghuriani	Credibility Analysis of Information on Social Media Platforms using Machine Learning	Ms. Shruti Khurana, BA(P) VI Sem, Ms. Shivangi Bhatia, BA(P) VI Sem
7	SIP21-22/12	Computer Science	Ms. Rupali Ahuja	Trends of Online Degree in India: Challenges, Issues and opportunities	Rupali Ahuja (Department of Computer Science), Lavanya Bhat, Janhavi Khandelwal, Devika Ahlawar, B.A Programme (Computer Applications + Economics), First year
8	SIP21-22/13	Computer Science	Ms. Rupali Ahuja Dr. Shweta Sankhwar	An Analysis of Crime against Women in ever Expanding Digital Space	Tanya Choubey, Priyanshi Jain, Tanusha Jain, Muskan Verma, B.Sc. Physical Science with Computer Science, 3rd year
9	SIP21-22/14	Computer Science	Dr. Shweta Sankhwar, Ms. Tripti Agarwal	Analysis of Toxic Social Media Text using Deep Learning Techniques	Tripti Agrawal Computer Science, Tanya Chaudhary and Shruti Sharma from B.Sc. Physical Science with Computer Science,

					3rd year; Ruchika and Aaditri Saraswat from B.Sc. Physical Science with Computer Science, 1st year
10	SIP21-22/15	Economics	Dr Saroj Rani	IMPACT OF ARTIFICIAL INTELLIGENCE ON THE INDIAN ECONOMY AND A CASE STUDY OF CHINA	Aarushi Shanker, Riju Garg (B.A(Hons.) Economics
11	SIP21-22/19	Mathematics	Ms Rajni Gupta, Dr Khushboo Bussi	Blockchain in Research	Kritika Kanojia, Sakshi Punia, Saloni Tiwari, Srishti Uniyal All B.Sc (Hons) Mathematics III yr
12	SIP21-22/20	Mathematics	Ms. Nikita Mittal, Ms. Monika Meena	An Analysis With A Mathematical Approach - Major Reasons Behind The Crisis Of Yes Bank From The Indian Stock Market	Ms. Nikita Mittal and Ms. Monika Meena- Department of Mathematics Students: Antra Sharma, Ananya Paliwal, Shambhavi Thakur, Nandini Kapoor- BA Economics(H), Third year
13	SIP21-22/21	Physics	Dr Parul Yadav, Dr Mansi Dhingra, Dr Neha Gupta	Designing, Monitoring and Optimization of solar energy for maximum power	Ms. Bhavna, Ms. Ria Goel, Ms. Ritika, Ms. Simrat , Ms. Vaishali Bagauli, Ms. Anshita, Ms. Jeau1B. Sc. (H) Physics II year, Maitreyi College, University of Delhi last two students are from B. Sc. (H) Physics I year, Maitreyi College
14	SIP21-22/22	Physics	Dr. Prajwalit Shikha, Ritu Dhingra	Battery Capacity: Measurement and Analysis	Urvashi Sangrola, Pranshi Mathur, Astha Aggarwal, Preeti, Department of Physics, Maitreyi College University of Delhi; B.Sc.(H) Physics 3rd Year
15	SIP21-22/24	Physics	Dr. Apoorva Verma, Dr. Ritu	TO DESIGN AND BUILD A PORTABLE	Amanjot, Shiva Raj, Soumya Bajpai , Ananya Course-B.Sc physics (H)

			Dhingra,	GAUSSMETER	1st year
16	SIP21-22/25	Physics	Dr. Neelam Singh	Electromagnetics of SERS Tailored with SPR using Anisotropic Nanoparticle System near a molecule: A First Principle Account	Dhruvi Agrawal, Mansi Tewatia, B.Sc(H) Physics, IIInd year
17	SIP21-22/26	Physics	Dr Parul Yadav, Dr Shalini lumb Talwar, Dr Mansi Dhingra	Quantum computing: Introduction, fundamentals and understanding of Deutsch Jozsa Algorithm	Ms. Sharanya Renjit, Ms. Vaishali Sharma, Ms. Purnima, Ms. Sweta Singh, Ms. Rishika,
18	SIP21-22/27	Physics	Dr. Prajwalit Shikha, Dr.Sumit	Investigation of Structural and Optical Properties of Solution Grown Glycine Glutaric Acid Single Crystal	Avnika Tyagi, Bhawna Verma, Kirti Bhagia, Megha Bhardwaj, Shreya Chaturvedi, and Nimisha Sagar Department of Physics, Maitreyi College University of Delhi, New Delhi-110021, India Details of Students: Course: B.Sc. (H) Physics, Year: second
19	SIP21-22/32	Sociology	Dr. Aruna Grover	The Impact of the Polycystic Ovarian Syndrome (PCOS) on Quality of Life of Affected Women in India: A Sociological Perspective	Ms. Ria Rao BA (Hons) Sociology 2nd year, Ms. Kunika Tyagi BA (Hons) Sociology 2nd year
20	SIP21-22/34	Zoology	Dr. Luni, Dr. Tejendra Kumar	Study of hair loss as a side effect of post-COVID-19 and its vaccination	Ms. Ayushi Wadhwa [B.Sc. (Prog.) Life Sciences 3rd year] - 2020/1629. Ms. Vanshika Attrish [B.Sc. (Prog.) Life Sciences 3rd year] - 2020/1631. Ms. Gayatri Pani [B.Sc. (Prog.) Life Sciences 3rd year] - 2020/1766.

21	SIP21-22/35	Zoology	Dr Meena Yadav, Dr Brototi Roy	Knowledge, Awareness and Practice of Contraceptives among Women of reproductive age group in Delhi-NCR	Anshu Rana, Shruti Kaushik and Purva Aggarwal
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