

**MIRANDA HOUSE, UNIVERSITY OF DELHI
DELHI 110 007**

ANNUAL REPORT 2019-2020

Major activities and achievements during the period:

Miranda House was awarded All India Rank One amongst colleges under the National Institutional Ranking Framework (NIRF) 2020 for the fourth consecutive year. It was also ranked amongst the top five college in the Science Stream and Arts & Humanities Stream in the India Today Best College Survey 2020. This strengthened its reputation as a college accredited with A+ by NAAC and granted the Star College status by the Department of Biotechnology. Established on 7 March 1948, the college celebrated seven decades of sustained excellence.

Various events organized during this year: MirandaXChangemakers series included interactive sessions with academicians, eminent researchers, policy makers and scientists; AuthorSpeak; DBT Star College Scheme sponsored Students Workshop on An Insight into Development of Zebra Fish; Workshop on Biofertilizers was organized under the aegis of DBT Star College Scheme; Miranda House hosted International Girl Child Day with the theme “GirlForce: Unscripted and Unstoppable” in collaboration with UNESCO Delhi. The College won the Vice Chancellor’s Cup at the 62nd Annual Flower Show and swept Seven other awards consecutively for the third year.

Honours/ Distinctions:

Dr. Sadhna Sharma was awarded with Bill and Melinda Gates Foundation Global Health Travel Award, January 2020.

Dr. Poonam was selected as CAPES Fellow at Federal Rural University of Pernambuco-UFRPE in Recife, Pernambuco, Brazil, 15-30 November 2019.

Dr. Monika Sharma was awarded with EMBO Travel Grant for attending and presenting a paper at EMBO Workshop held in Crete, Greece, 06-09 October 2019.

Dr. Shweta Sachdeva Jha was awarded the Dr. Amba Wadia Archive Fellowship (2019-2020), SNDT University, Mumbai.

Students with Distinctions (Selected few)

Radhika Chhapolia, B.A. (H) Economics III Year, secured I position in the University.

Vaibhav Sakshi, B.A. (H) Music III Year, secured I position in the University.

Vinita Kumari, B.A. (H) Geography III Year, secured I position in the University.

Bhavya Gautam, B.A. (H) Sociology III Year, secured I position in the University.

Shreen Manocha, B.A. (H) Political Science III Year, secured I position in the University.

Aanchal Singh, M.A. (F) Philosophy, secured I position in the University.

Antara Bhattacharya, M.A. (F) Music, secured I position in the University.

Publications (Selected few)

Publications: 94 Journals; Scopus: 96.

Books 06; Articles in magazine 05.

Sarkar, Anindita (2019), ‘The role of new ‘Smart technology’ to provide water to the urban poor: A case study of water ATMs in Delhi, India’, *Energy, Ecology and Environment*, 4(4), pp. 166-174. DOI-10.1007/s40974-019-00119-4.

Upadhyay, C., Monika, Oliveira, R. N. de, Kempaiah. P., Poonam & Rathi, B. 2020. Therapeutic perspectives of fluorinated small molecules impacting antimalarial drug discovery. *Expert Opin Drug Dis*, ISBN/ISSN 1746-0441.

Singh, S., El-Sakkary, N., Skinner, D., Sharma, P. P., Otilie, S., Antonova-Koch, Y., Kumar, P., Winzeler, E., Poonam, Caffrey, C. R. & Rathi, B. 2020. Synthesis and bioactivity of phthalimide analogs as potential drugs to treat schistosomiasis, a neglected disease of poverty. *Pharmaceuticals*, 13(25):1-20. doi:10.3390/ph13020025, ISBN/ISSN 1424-8247.

Singh, S., Rajendran, V., He, J., Singh, A.K., Achieng A.O., Vandana, Pant, A., Nasamu, A.S., Pandit, M., Singh, J., Quadri, A., Gupta, N., Poonam, Ghosh, P.C., Singh, B.K., Latha, N., Kempaiah, P., Chandra, R., Dunn, B.M., Pandey, K.C., Goldberg, D.E., Singh, A.P. & Rathi, B. 2019. Fast-Acting Small Molecules Targeting Malarial Aspartyl Proteases, Plasmepsins, Inhibit Malaria Infection at Multiple Life Stages. *ACS Infect Dis.* 5(2):184-198. doi:10.1021/acsinfecdis.8b00197, ISBN/ISSN: 0022-1899.

Gupta, R., Gupta, V. & Tomar, M. 2019. Structural and dielectric properties of PLD grown BST thin films. *Vacuum*, 159:69-75.

Paliwal, A., Tomar, M. & Gupta, V. 2019. Refractive Index sensor using long-range surface plasmon resonance with prism coupler. *Plasmonics*, 14 (2):375-381.

Ganguli. S. (2019). *Aguner parashmoni*, Kristi, ISSN: 23488468, pp 37-43.

Budhiraja, N., Sapna, Kumar, V., Tomar, M., Gupta, V. & Singh, S.K. 2019. Investigation on physical properties of Sn-modified cubic Cu₂O nanostructures. *J. Supercond. Nov. Magn.*, 32 (6):1671-1679.

Singh, M., Bhatt, P., Sharma, M., Varma-Basil, M., Chaudhry, A. & Sharma, S. 2019. Immunogenicity of late stage specific peptide antigens of *Mycobacterium tuberculosis*. *Infect Genet Evol.*, 74:103930.

Singh, S., Sharma, M., Chaudhry, A. & Sharma, S. 2019. Rv2626c and Rv2032 activate TH1 response and downregulate regulatory T cells in peripheral blood mononuclear cells of tuberculosis patients. *Comparative Immunology, Microbiology and Infectious Diseases*, 62: 46-53.

Journals/ Magazines Published by the College

Each department brings out its own creative journal/ magazine that has an Editorial Board with adequate representation of students and faculty. These include well researched contributed as well as invited articles, papers and news items. These are:

Pehchan, Department of Hindi	Quisqualis, Department of Botany
Aapoorti, Department of Economics	Vignite, Society for Life Sciences Programme
Geographica, Department of Geography	Mathletics, Department of Mathematics
Mulakhab, Department of History	Dimensions, Department of Physics
VoxPopuli, Department of Political Science	Evolvere – the Unfolding, Department of Zoology
Light House, Department of Sociology	Miranda, the College Magazine
Rasayani, Department of Chemistry	Grimoire, the Hostel Magazine
Adazine, Department of Computer Science	Santulan, The Consumer Club

Research Projects

Projects: 11 ongoing with total grants of about Rs. 8 Crore (Rs. 794.25 lakh).

Dr. Monika Tomar. Fabrication of Lamb Wave Devices on SiO₂/Si Membrane for strategic applications [ERIP/ER/201706006/M/01/1749]; DRDO; March 2019-2022; Rs. 428.03 Lakh.

Dr. Monika Sharma. A study of macrophage apoptosis and mitochondrial integrity in response to PE/PE_PGRS family proteins of *Mycobacterium tuberculosis*; DST; March 2018-2021; Rs. 68 Lakh.

Dr. Poonam. Development of Nanoantenna Sensors for Infrared Detection. [DST/TDT/DDP-14/2018]; DST; (2019-2021); Rs. 63 Lakh.

Dr. S. Sharma -Coordinator with Co-coordinators from other science department. Star College Scheme 102/IFD/SAN/3819/2016-17; DBT; February 2017-2019; Rs. 53 Lakh.

Dr. Monika Tomar. Realization of MEMS-based Dual Energy Harvester using ferroelectric and ferromagnetic thin film layered structures; DST; (2019-2022); Rs. 51.48 Lakh.

Dr. Poonam. Sustainable route for pesticide management using nano based efficient pesticide formulation technique to enhance crop productivity. [DST/TDT/AGRO-54/2019]; DST; 2019-2021; Rs. 49.5 Lakh.

Dr. Monika Tomar. Development of Ferroelectric thin film based photovoltaic cells [EMR/2017/000194]; DST, July 2017-2020; Rs. 31.54 Lakh.

Dr. Jayashree Pillai, Dr. Sonali Chitalkar. Inter-regional aspirations in Jammu and Kashmir; ICSSR; 2017-2019; Rs. 18.7 Lakh.

Dr. Bijayalaxmi Nanda, PD, 'Declining Child Sex Ratio and Violence Against Women: Examining Girl-Child Discrimination in India'; ICSSR - CSDS; 2018-2020; Rs. 15 Lakh.

Dr. Bhupinder Kaur. Access of Institutional Credit to Small and Marginal Farmers and its Impact on their Livelihood; Indian Council of Social Science Research; 2017-2019; Rs. 8 Lakh.

Dr. Kalawati Saini, Ms. Nutan Rani, Dr. Smriti Sharma Bhatia. To Establish a Pollution Monitoring Station Across road over the Nala at Kingsway Camp and determine effects of pollutants and Air quality on the public health and microflora/microfauna; DBT; 2018-2019; Rs. 8 Lakh.

Patent Filed/ Granted

Dr. Monika Tomar filed for grant of two patents:

1. Indian Patent: A novel, highly sensitive and reliable LRSPR biosensor for detecting uric acid and fabrication thereof, Vinay Gupta, Monika Tomar, Ayushi Paliwal, Surbhi Jain (Application No. 201911006783).
2. Indian Patent: Electric field assisted low power consuming conducto-metric gas sensor, Vinay Gupta, Monika Tomar, Anjali Sharma, Avneet Singh (Application No. 201811006329).

Dr. Poonam filed for grant of one patent:

1. International patent (provisional filed EFS ID: 35137507): Hydroxyethyl amine based piperazine compounds and methods of producing and using the same for treating disease. Rathi, B., Singh, S., Mounce, B., Poonam, Kempaiah, P., Singh, A.P. & Durvasula, R., Application number: 62804927, confirmation number: 4661.

Seminars Organized (Selected few)

More than 85 lecture seminars were organized including about 15 International speakers.

Department of Political Science organized a seminar on the topic "Exploring Women's Experiences While Travelling in India". The speakers included Dr. Caroline Bradbury, Dr. Louise Ishan and Ms. Dana Summut from University of Birmingham.

Department of Physics organized a seminar on the topic "Astrophysical Sources of Gravitational Waves" and "Renewable Energy and Energy Harvesting." The speakers included Professor Patrick Das Gupta, Department of Physics and Astrophysics, University of Delhi and Prof. Vinay Gupta, Department of Physics and Astrophysics, University of Delhi.

Department of Elementary Education organized a seminar on the topic "Perspectives and Challenges in Mental Health". The speakers included Prof. Rachana Johri (School of Human Studies, Ambedkar university Delhi), Dr. Geeta Menon (Educationist and Independent professional associated with early learning and elementary education) and Dr. Raqib Ali (Clinical Psychologist and Psychotherapist).

Department of Geography organized an international seminar on the topic "Himsamvad: Sustainable Development in the Indian Himalayan Region: Partnership for Sustainable Development Goal from Himalayan Perspective" supported by the ICSSR.

Department of Sociology organized a seminar on urban life and living with emphasis on death of community living and Hashtags and Social Impact. The speakers included Dr. Peter Doak (an urban sociologist and professor at the University of Leeds), accompanied by Prof. Katusho Bento.

Conferences organized (Selected few)

Department of Chemistry conference/ symposium on *Bonding to Create Future Leaders in Sciences—GWB2020* as a part of the Centenary Celebration of the International Union of Pure and Applied Chemistry (IUPAC).

Department of Zoology organized a conference / colloquium on Medical Biotechnology Colloquium- Tailoring Medical Treatments.

Department of Chemistry organized a conference / workshop on Nano Road Show-2020 at Miranda House, University of Delhi, Delhi.

The Department of Elementary Education organized a two-day pop-up conference entitled 'ELT Professional Development Conference: Field –Tested Practical Activities for the Classroom' in partnership with Regional English Language Office (RELO) of the U.S. Embassy.

Department of Sanskrit organized a conference on Upanishads in Present Scenario.

Seminar /Conferences Presentations (Selected few)

Shampa Roy presented paper “Female, Guilt Desire and Transgressions in late 19th Century Bangla crime writing, University of Sussex, UK, 4th June, 2019.

Shampa Roy presented paper “Translating 19th century Bangla /Bengali Crime writings about female guilt, desire and transgressions, University of East Anglia, U.K, 6th November, 2019.

Malabika Pal presented paper Land Acquisition for Economic Development: A Comparative Analysis of some landmark US and Indian court judgments, at the Annual Conference of the Law and Development Research Network, Humboldt University of Berlin, 25-27 September, 2019.

Gupta B (2019): Paper entitled "Emergent Opportunities Under Globalisation For Indian Diaspora In Europe" at International Conference on Diaspora in Foreign Policy and International Relations Under Globalisation organised by The Institute of Ethnic Studies, National University of Malaysia (KTA-UKM); Institute of Chinese Studies, University of Malaya (ICS-UM); Kingsley Strategic Institute for Asia Pacific Kuala Lumpur and Institute of International Harmony and Sustainable Development (IIHSD Hong Kong at ICS, (KTA-UKM, Kuala Lumpur, Malaysia on 13th September 2019.

Madhu presented a paper “Dalit autobiographies as a way of knowing the Dalit ‘Self’” at the Scholars of Colour conference at Temple University, Philadelphia, USA, 12-13 April, 2019.

Dr. Kalawati Saini delivered an invited talk “Determination of cellular structure of *Azadirachta indica* and *Ficus religiosa* by using Foldscope Microscopy and Scanning Electron Microscopy”, in National Workshop on Advances in Microscopy and Foldscope, organized by Department of Biotechnology, MNNIT, Allahabad, 15-16 March 2019.

Dr. Mallika Pathak, Dr. Malti Sharma and Ms. D. Sharma presented a poster in the International Summit on Women in STEM: Visualizing the future: New Skylines, jointly organised by International Centre for Genetic Engineering and Biotechnology(ICGEB), New Delhi, India Habitat Centre, 23-24 January 2020.

National/ International MoUs

International: These include MoUs with Hoge School Utrecht University of Applied Sciences the Netherlands; Lynchburg College, USA; University of Birmingham; University of Guelph.

National: These include MoUs with Rama Devi Women’s University, Bhubaneswar, Odisha; Use google apps for education; Weekendr (Mobiquel); Dhananjayrao Gadgil College of Commerce, Satara, Maharashtra; Civil Society Magazine; Stree Shakti – The Parellel Force.

Other Inter-Institutional Collaborations

Miranda House has linkages with a vast network of academic institutions, social organisations; corporate entities and eminent citizens at large. This year college hosted those from Institutions cited above. The highlight was the visit of a delegation from University of York and University of Cambridge.

Students under Exchange Programmes

Utrecht Business School on Strategic Management and Culture from 27 January – 1 February 2020 12 students and one faculty member comprised the team from UBS, 13 students from MH and 17 from SRCC participated.

Placement Details

Miranda House Placement Cell had a very active and fruitful year. Companies which include ZS associates, DE Shaw Co., TresVista, NIIT, White Panda, ICICI, Oberoi Groups, Accenture, McKinsey & Co., etc held a recruitment drive; more than 400 students appeared for the process, 28 students were finally deemed to be placed through the Miranda House Placement Cell. The Placement Cell managed to bring a total of 37 internships to the student community of Miranda House. The Placement Cell, Miranda House, organised the Education and Career Fair. About 30 companies visited the fair to employ bright students across plethora of fields.

Extension and Outreach activities

Miranda House encourages all students to participate in extension work, community engagement and outreach.

Policy Centre and Gender Lab: Seminar on 'Collaborative Research to meet Global Challenges' with Dr Jill Steans, (University of Birmingham). Other seminars were conducted in collaboration with University of Guelph and Oxford like 'Capacity building and Youth action on Sustainable goals'.

Unnat Bharat Abhiyan: At the first stage the UBA team at Miranda House identified the five villages, out of which four- Burari (CT), Badarpur Majra Burari, Model Town (Dhirpur) and Jagatpur Ilaqua are in Delhi and Anantpur is in Rajasthan.

Clean Environment Drive: SwachhtaPakhwara(Cleanliness Fortnight) was celebrated by MH Vatavaran in collaboration with NSS, Miranda House in August. During this drive, students took an oath to keep their surroundings, including the College campus, clean. Several cleanliness drives were organised for three consecutive days.

An anti-plastic campaign, #IAmAgainstPlastic, was organised, under which, 'Carry Your Own Cup' was a drive in which all members of the MH community – students, faculty and non-teaching staff – were requested to carry their own cups so that they do not need to use plastic cups. More than one thousand students participated in the campaign.

MH Vatavaran: During the month of August, WWF-India collaborated with MH Vatavaran for taking the *UN Tide Turner Challenge*. For this programme, WWF-India organized a workshop on 'The Young Leaders Plastic Challenge'.

SPIC MACAY: The society then organised a folk recital by Shri Anwar Khan Langa and troupe on 9th January, 2019 as a part of the Virasat series. The artistes in the troupe included Shri Barkhat Khan on the dholak, Shri Tekchand and Shri Farooq Khan for vocals, Shri Yasin Khan on the harmonium, Master Mohsin (vocals), and Mohammad Rafi ji on the Khartal.

Laskshita, the Enabling Society: An awareness drive: The enabling units of a lot of DU colleges came together on the annual fortnight of Eye Donation Drive to participate in a rally organised by Mr. Lalit Kumar, Saksham. The Self Defense workshop was organized in collaboration with the American India Foundation. The students learned the techniques with great enthusiasm and the training served its purpose of boosting the self-confidence of the attendees.

Queer Collective: This is the first year of Miranda House Queer Collective operating as a formalised society in Miranda House. Society has worked tirelessly to create a safe space in Miranda House for all individuals across genders to exist and find support, holding several meetings to allow our members to find their community.

Adventure Club: The society accomplished another landmark through a trek in Bir Billing in Kangra district of Himachal Pradesh, world's second highest paragliding site.

Library Development

The total sanctioned Library Budget was Rs. 18,08,000/-. In the academic year 2019-2020 766 volumes of books were added.

Faculty Strength

Permanent: 132, Temporary: 02, Ad hoc: 76

Financial Allocation and Utilization

Grant sanction in 2019-20: ~ Rs. 60 Crore (Rs. 60,04,00,000)

Utilization 2019-20: ~ Rs. 65 Crore (Rs. 65,31,98,337)

Other Significant Information

No. of faculty who are Ph.D. guides is 17; students registered for Ph.D. under them is 33. This promotes research culture. Students have been selected for internships in the best institutes. More than 350 students involved in student research projects. Summer Workshops for Undergraduate Science Students, Flavour of Research: Investigative Projects in Multidisciplinary Contexts. More than 100 students participated in these DSKC workshops and carried out projects in interdisciplinary fields.

Of the graduating class, 21 students have received admissions in well recognized universities abroad with scholarships.

Books written by faculty

Purkayastha, S. & Roy, S., Sengupta, S. (ed). 2019. 'Bad' Women of Bombay Films: Studies in Desire and Anxiety, Palgrave Macmillan, London.

Pal, M. 2020. *Economic Analysis of Tort Law: The Negligence Determination*, Routledge, UK.

Singh, P. coedited. 2019. *Comparative Government and Politics*, Sage Publications, N. Delhi.

Sengupta, S. & Sonkar, S. 2019. *Green Chemistry: An Introduction*, Prestige Publication, Delhi.