



Miranda House

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Name: MADHU BAJAJ

Department: Botany

Current Designation: Associate Professor

Email id: madhu.bajaj@mirandahouse.ac.in

Academic Qualifications:

- **Ph. D. 1989** Department of Botany, University of Delhi
- **M. Sc. 1983** Department of Botany, University of Delhi
- **B. Ed. 1981** Department of Education (CIE), University of Delhi
- **B. Sc. (Honours) Botany 1980** SGTB Khalsa College, University of Delhi

Research Degree (reverse chronological order):

- **Ph. D. 1989** Department of Botany, University of Delhi

Field of Specialization under the Subject/Discipline:

- **Research:** Reproductive Biology of higher plants; Studies on Molecular Basis of Self-incompatibility Recognition.
- **Courses taught:** Embryology of angiosperms, plant physiology, plant metabolism, cell biology, cell and molecular biology, genetics, plant anatomy, and plant biotechnology

Total Teaching Experience: 30 years

Teaching at Miranda House since: 1991

List of Publications (reverse chronological order):

(Articles in referred/peer-reviewed/UGC Care journals/ Books/Book Chapters)

- **Bajaj M, Cresti M & Shivanna K R.** 1993. Effects of high temperature and humidity stresses on tobacco pollen and their progeny. In: Ottaviano E, Mulcahy D L, Sari-Gorla M & Mulcahy G B (eds). Angiosperm Pollen and Ovules: Basic Applied Aspects. Springer-Verlag, New York: 349-354.



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- **Bajaj M** & Shivanna K R. 1992. Self-incompatibility: some recent developments. In: Malik C P (ed) *Advances in Pollen Spore Research*, Vol.19: 65-80. Today and Tomorrow's Printers & Publishers, New Delhi.
- **Bajaj M** & Shivanna K R. 1991. Isolation of a lectin from pollen grains of *Petunia hybrida*. *Acta Botanica Neerlandica* 40: 125-132.
- **Bajaj M** & Shivanna K R. 1986. Treatment of stigma with lectins and of pollen with sugars overcomes self-incompatibility in *Brassica campestris*. *Cruciferae Newsletter* No. 11: 73-74
- Sharma N, **Bajaj M** & Shivanna K R. 1985. Overcoming self-incompatibility through the use of lectins and sugars in *Petunia* and *Eruca*. *Annals of Botany* 55: 139-141.

Educational Resource Material Developed (reverse chronological order):

For Bridge Courses organized by DSKC (D.S. Kothari Central Inter-Disciplinary Research Facility; formerly D.S. Kothari Centre for Research and Innovation in Science Education) and Department of Botany, Miranda House, University of Delhi

- Contributed the exercise **Preparation of Solutions** (pp. 35-38) in the Laboratory Manual for the Bridge Course '**Basic Laboratory Techniques**' for students of B.Sc. Life Sciences I Year from 08-09 August 2019 and for students of B.Sc.(H) Botany I Year from 05-06 August 2019.
- Contributed the exercise **Preparation of Solutions** (pp. 36-39) in the Laboratory Manual for the Bridge Course '**Basic Laboratory Techniques**' for students of B.Sc. Life Sciences I Year from 06-07 September 2018 and for students of B.Sc.(H) Botany I Year from 27-28 August 2018.
- Contributed the exercise **Preparation of Solutions** (pp. 41-44) in the Laboratory Manual for the Bridge Course '**Basic Laboratory Techniques**' for students of B.Sc. Life Sciences I Year from 07-08 September 2017 and for students of B.Sc.(H) Botany I Year from 05-06 September 2017.
- Contributed the exercise **Preparation of Solutions** (pp. 32-35) in the Laboratory Manual for the Bridge Course '**Basic Laboratory Techniques**' for students of B.Sc. Life Sciences I Year from 07-08 September 2016 and for students of B.Sc.(H) Botany I Year from 05-06 September 2016.
- Contributed the exercise **Preparation of Solutions** in the Laboratory Manual for the Bridge Course '**Basic Laboratory Techniques**' for students of B.Sc. Life Sciences I Year from 26-30 October 2015 and for students of B.Sc.(H) Botany I Year from 12-16 October 2015.

For INSPIRE Internship Programme (an initiative of the Department of Science and Technology, Government of India), organized by DSKC, Miranda House

- Contributed to the preparation of Laboratory Manual for the Workshop **DNA: Close Encounters** (pp. 19-23) for Senior Secondary School Students from 18-22 December 2017 during the Inspire Internship Program 2017.



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- Contributed to the preparation of Laboratory Manual for the Workshop **DNA: Close Encounters** for Senior Secondary School Students from 15-20 December 2013 during the Inspire Internship Program 2013.
- Contributed to the preparation of Laboratory Manual for the Workshop **DNA: Close Encounters** for Senior Secondary School Students from 16-20 July 2012 during the Inspire Internship Program 2012.
- Contributed to the preparation of Laboratory Manual for the Workshop **DNA: Close Encounters** for Senior Secondary School Students from 11-15 July 2011 during the Inspire Internship Program 2011.
- Contributed to the preparation of Laboratory Manual for the Workshop **DNA: Close Encounters** for Senior Secondary School Students from 12-16 July 2010 during the Inspire Internship Program 2010.

For Workshops organized under the DBT Star College Project

- Contributed to the preparation of Laboratory Manual for the Exercise **Isolation of Genomic DNA from Cauliflower by Spooling Method** for Chemistry students as part of the Workshop **Nature at Work: Studying Biomolecules** organized by Department of Chemistry on 25 September 2013.
- Jointly prepared (with Dr. Renuka Agrawal) the Laboratory Manual for the Workshop on **Molecular Cloning** organized for students of B.Sc. (Honours) Botany III Year by DSKC, Miranda House, University of Delhi, 30 January-1 February 2013.
- Jointly prepared (with Dr. Rashmi Shakya and Dr. Renuka Agrawal) the Laboratory Manual for the Workshop on **PCR and Blotting Techniques** organized for students of B.Sc. (Honours) Botany III Year by DSKC, Miranda House, University of Delhi, 17-19 January 2012.

For other Workshops

- Contributed to the preparation of Laboratory Manual for the Workshop for Senior Secondary School Teachers on **Building Concepts in Science with Hands-on Activities** organized by D.S. Kothari Centre for Research and Innovation in Science Education, Miranda House, University of Delhi, 25-27 May 2011.
- Contributed the chapters **Variation in Chromosome Structure and Number** and **Karyotype Analysis** in the Manual of the Workshop for teachers of the Biology Laboratory Course (LS 206), B.Sc. Programme II Year organized by Institute of Lifelong Learning, University of Delhi and D. S. Kothari Centre for Research and Innovation in Science Education, Miranda House, University of Delhi, 24-26 September 2008.

Research Projects (reverse chronological order):

- **Project under DBT Star College Scheme 2020:**



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Title of the project: “**Cytotoxic Effect of Antibiotic on Plant Root Meristem Cells**” (work pending completion due to the Covid 19 pandemic)

Mentors: Dr. Madhu Bajaj and Dr. Renuka Agrawal

Period: January-March 2020

- **DSKC summer project 2020:**

Title of the project: "**SARS-Cov2: A Survey based Study**"

Mentors: Dr. Madhu Bajaj and Dr. Renuka Agrawal

Period: 30 June-9 August 2020

Membership of Professional Bodies:

- Life Member: Delhi University Botanical Society

Administrative Responsibilities (reverse chronological order):

- Convenor, B.Sc. Life Sciences, September 2021 to date
- Member, Garden Committee: August 2018 to date
- Member IQAC, 2018-2020
- Teacher -in-charge, Department of Botany, 16 August 2016- August 2018
- Member, Extended Admission Committee for B. Sc. (H) Botany, June-July 2018
- Deputy Superintendent for conduct of Theory examinations, November-December 2016
- Convenor, Garden Committee, 16 August 2016- August 2018
- Member, Extended Admission Committee for B. Sc. (H) Botany, June-July 2017
- Member, Departmental Screening Committee for screening of Applications for two Assistant Professors and assigning API scores, May 2016
- Member, Departmental Screening Committee for Screening of Applications and verification of API score of candidates for the posts of Assistant Professor in Botany, May-June 2015
- Member, Extended Admission Committee for B. Sc. Life Sciences (1st admission list only), June 2014
- Member, Garden Committee, May 2014-August 2016
- Member, Extended Admission Committee for B. Sc. (H) Botany, June-July 2013



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- Member, Extended Admission Committee for B. Sc. (H) Botany, June-July 2012
- Deputy Coordinator, Centralised Evaluation Centre, December 2010-January 2011
- Member, Hostel Committee, May 2010-April 2014
- Member, Extended Admission Committee for B. Sc. Life Sciences, June-July 2009
- Staff Advisor, Fine Arts Society, May 2009-April 2011
- Member, Extended Admission Committee for B. Sc. Life Sciences, June-July 2008
- Convenor, B.Sc. Life Sciences, May 2008-April 2010
- Staff Advisor, Botanical Society, May 2008-April 2009
- Member, Diamond Jubilee Committee, 2008-2009
- Member, Golden Jubilee Award Committee, 2007-2009
- Member, Archival Committee, 2007-2009
- Teacher Member, Governing Body, Miranda House, 11 September 2006-10 September 2008
- Staff Advisor, Botanical Society, May 2005-April 2006
- Member, Extended Admission Committee for B. Sc. (H) Botany, June-July 2004
- Member, Extended Admission Committee for B. Sc. (H) Botany, June-July 2003
- Teacher -in-charge, Department of Botany, 31 August 2002-30 August 2004
- Member, Extended Admission Committee for B. Sc. (H) Botany, June-July 2000
- Member, Garden Committee, May 2000-April 2002
- Member, Extended Admission Committee for B. Sc. General Group B, June-July 1999
- Member, Extended Admission Committee for B. Sc. General Group B, June-July 1998
- Staff Advisor, B.Sc. General Group B Society, May 1998-April 2000
- Convenor, NCC, May 1997-April 2000
- Member, Archival Committee, May 1997-July 1999
- Staff Advisor, NCC, November 1996-April 1997
- Member, Time Table Committee, March 1996-July 1997
- Staff Advisor, Botanical Society, May 1993-April 1998



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Resource person:

For Bridge Courses organized by DSKC and Department of Botany, Miranda House

- Resource Person for the exercise **Preparation of Solutions** in the Bridge Course '**Basic Laboratory Techniques**' for students of B.Sc.(H) Life Sciences I Year from 08-09 August 2019 and for students of B.Sc.(H) Botany I Year from 05-06 August 2019.
- Resource Person for the exercise **Preparation of Solutions** in the Bridge Course '**Basic Laboratory Techniques**' for students of B.Sc. Life Sciences I Year from 06-07 September 2018 and for students of B.Sc.(H) Botany I Year from 27-28 August 2018.
- Resource Person for the exercise **Preparation of Solutions** in the Bridge Course '**Basic Laboratory Techniques**' for students of B.Sc. Life Sciences I Year from 07-08 September 2017 and for students of B.Sc.(H) Botany I Year from 05-06 September 2017.
- Resource Person for the exercise **Preparation of Solutions** in the Bridge Course '**Basic Laboratory Techniques**' for students of B.Sc. Life Sciences I Year from 07-08 September 2016 and for students of B.Sc.(H) Botany I Year from 05-06 September 2016.
- Resource Person for the exercise **Preparation of Solutions** in the Bridge Course '**Basic Laboratory Techniques**' for students of B.Sc. Life Sciences I Year from 26-30 October 2015 and for students of B.Sc.(H) Botany I Year from 12-16 October 2015.

For INSPIRE Internship Programme (an initiative of the Department of Science and Technology, Government of India), organized by DSKC, Miranda House

- Mentor for the Workshop **DNA: Close Encounters** for Senior Secondary School Students during the Inspire Internship Programme 2017 from 18-22 December 2017.
- Mentor for the Workshop **DNA: Close Encounters** for Senior Secondary School Students during the Inspire Internship Programme 2013 from 15-20 December 2013.
- Mentor for the Workshop **DNA: Close Encounters** for Senior Secondary School Students during the Inspire Internship Programme 2012 from 16-20 July 2012.
- Mentor for the Workshop **DNA: Close Encounters** for Senior Secondary School Students during the Inspire Internship Programme 2011 from 11 -15 July 2011.
- Mentor for the Workshop **DNA: Close Encounters** for Senior Secondary School Students during the Inspire Internship Programme 2010 from 12-16 July 2010.



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For other Workshops organized by DSKC, Miranda House

- for the session '**Preparation of Solutions**' (on 31 January 2018) in the Workshop for Laboratory Staff: **Laboratory Techniques and Instrumentation**, organized by Internal Quality Assurance Cell (IQAC), Miranda House, University of Delhi, 31 January-07 February 2018.
- Mentor for the exercise **Isolation of Genomic DNA from Cauliflower by Spooling Method** for Chemistry students as part of the Workshop **Nature at Work: Studying Biomolecules** organized by Department of Chemistry on 25 September 2013.
- Mentor for the exercise **Isolation of Genomic DNA from Cauliflower by Spooling Method** in the Workshop for Senior Secondary School Teachers on **Building Concepts in Science with Hands-on Activities**, 25-27 May 2011.
- Facilitator and Mentor in the **Experimental Workshop for Undergraduate Science Students 'Real-Time Computer-based Science Experiments'** from 18 May-17 June 2009.

Conferences/Workshops/Lectures/Webinars Organised (reverse chronological order):

Coordinator for the Workshop

- **Evolving Face of Microscopy: Magnifying Lens to Nanoscope.** Workshop for Teachers of Botany organised by Department of Botany, Miranda House, under the aegis of DBT Star College Scheme in collaboration with Department of Botany, University of Delhi from 11-12 December 2019.
- for Laboratory Staff: **Laboratory Techniques and Instrumentation**, organized by Internal Quality Assurance Cell (IQAC), Miranda House, University of Delhi, on 31 January and 07 February 2018.
- **Rubisco: From Sequence to Protein Expression** for B.Sc. (H) Botany III Year students by Prof. Sudeshna Mazumdar-Leighton, Department of Botany, University of Delhi, organized by Department of Botany and DSKC Life Sciences Laboratory, Miranda House, University of Delhi from 20-21 March 2017.
- **From Symptom to Identification: Diagnosing Viral Disease in Plants** for B.Sc. (H) Botany III Year by Prof. Sudeshna Mazumdar-Leighton, Department of Botany, University of Delhi, organized by Department of Botany and DSKC Life Sciences Laboratory, Miranda House from March 31- April 1, 2016.
- **Training the Trainers: IPR Workshop** organized by Miranda House under the aegis of DBT Star College Scheme in collaboration with MHRD IPR Chair (Technical), University of Delhi, on 15 January 2016.
- **Molecular Cloning** organized for students of B.Sc. (Honours) Botany III Year under the DBT Star College Project at D. S. Kothari Centre for Research and Innovation in Science Education, Miranda House, University of Delhi, from 30 January to 1 February 2013.



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- **PCR and Blotting Techniques** organized for students of B.Sc. (Honours) Botany III Year under the DBT Star College Project at D. S. Kothari Centre for Research and Innovation in Science Education, Miranda House, University of Delhi, from 17 to 19 January 2012.

Coordinator for the Bridge Courses organized by DSKC and Department of Botany, Miranda House

- **‘Basic Laboratory Techniques’** organized for students of B.Sc.(H) Life Sciences I Year from 08-09 August 2019 and for students of B.Sc.(H) Botany I Year from 05-06 August 2019.
- **‘Basic Laboratory Techniques’** for B.Sc. Life Sciences I Year students, 06-07 September 2018 and for B.Sc. (Honours) Botany I Year Students, 27-28 August 2018.
- **‘Basic Laboratory Techniques’** for students of B.Sc. Life Sciences I Year from 07-08 September 2017 and for students of B.Sc.(H) Botany I Year from 05-06 September 2017.
- **‘Basic Laboratory Techniques’** for students of B.Sc. Life Sciences I Year from 07-08 September 2016 and for students of B.Sc.(H) Botany I Year from 05-06 September 2016.
- **‘Basic Laboratory Techniques’** for students of B.Sc. Life Sciences I Year from 26-30 October 2015 and for students of B.Sc.(H) Botany I Year from 12-16 October 2015.

Coordinator for Lecture/Webinar

- **Stem cells in Development and Regeneration** by Dr. Jyotsna Dhawan, Emeritus Scientist, Centre for Cellular and Molecular Biology, Hyderabad, organized by Tricord, Life Sciences Society, Miranda House, 8 November 2021.
- The webinar **Discover Your Calling...**, under the lecture series **Career Counselling: Way Forward**, organized by The Internal Quality Assurance Cell (IQAC), Miranda House, in collaboration with Antheia, the Botanical Society of Miranda House, University of Delhi, 19 July 2021.
- The webinar **Tinkering with Plant Genomes** by Prof. Akhilesh Tyagi, JC Bose National Fellow, Professor, Department of Plant Molecular Biology, University of Delhi South Campus, organized by Department of Botany, 6 July 2020.
- The colloquium **Characterization of the Activity of Anther-specific Promoter of Rice** by Dr. Reema Mishra, Assistant Professor, Gargi College, University of Delhi, 9 August 2018.
- The colloquium **Hydrological Modeling for the ecological Restoration of Loktak Lake**, Northeast India by Ms. Khwairakpam Eliza, Research Scholar, Department of Environmental Studies, University of Delhi, 2 August 2018.
- 19th Manasi Ram Memorial lecture **Integrated Water Resources Management** by Dr. V.K. Verma, Joint Director, Environment Protection Division, Shriram Institute for Industrial Research, New Delhi, organized by Department of Botany, Miranda House, University of Delhi on 8 February 2018.
- **Microalgae Cultivation and Education for Sustainable Biofuels, Biofeeds, Biofoods and Biotechnology** by Prof. Ira Levine Professor of Natural and Applied Science, Fulbright Scholar, University of Southern Maine, USA, 3 February 2017.
- **A Drink, Some Snuff and A Whiff of Perfume** by Prof. Rajesh Tandon, Department of Botany, University of Delhi, as part of Koshika, the annual festival of Antheia, the Botanical Society, 14 February 2017.



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- **Ecological Restoration-A Science for the Future of Environment** by Prof. C.R. Babu, Professor Emeritus, Centre for Environmental Management of Degraded Ecosystem (CEMDE) and former Pro-Vice Chancellor, University of Delhi, 27 September 2016.
- 18th Manasi Ram Memorial Lecture **Molecular Framework of Light Perception and Signalling in Plants** by Professor J. P. Khurana, Director, University of Delhi South Campus and Interim Vice-Chancellor, University of Delhi, organized by Department of Botany, Miranda House, University of Delhi on 24 August 2016.
- **Plant Viruses & Engineering Resistance against them in Crop Plants** by Prof. Indranil Dasgupta, Department of Plant Molecular Biology, University of Delhi South Campus, 10 february 2010.
- **Biotechnology—What is India Doing?** by Dr. S. Natesh, Advisor, Department of Biotechnology, Govt. of India, 28 January 2004.
- 6th Manasi Ram Memorial Lecture **Seeds & Civilization** by Prof. HY Mohan Ram, Department of Botany, University of Delhi, 9 December 2003.
- 5th Manasi Ram Memorial Lecture **Health Scenario in Developing Societies** by Prof. Indira Nath, Department of Biotechnology, All India Institute of Medical Sciences, 2002.
- **Designer Crops by Plant Technology** by Prof. Paramjit K Khurana, Department of Plant Molecular Biology, University of Delhi South Campus, 18 September 2002.

Member, Organizing Committee, for

- the Workshop **Air Pollution Mitigation: Species to Communities** organized by Department of Botany, Miranda House, University of Delhi, under the aegis of DBT Star College Scheme, 17 February 2020.
- the Workshop on **Herbarium Techniques** organized by Department of Botany, Miranda House, University of Delhi, under the aegis of DBT Star College Scheme, 20 January 2020.
- **DST INSPIRE Scholars Science Conclave 2019: Research on the Frontiers**, D.S. Kothari Centre for Research and Innovation in Science Education, Miranda House, University of Delhi, 16-18 January 2019.
- **The Bonsai Workshop**, organized by Department of Botany and Indian Bonsai Association, Miranda House, University of Delhi, under the aegis of DBT Star College Scheme, 22 March 2018.
- **Indian Science and Engineering Fair Regional Fair (Delhi)** organized by Miranda House, University of Delhi, on 13 October 2017.
- National Symposium **Science of Life: The New Horizon**, organized by Miranda House, University of Delhi, 21-23 November 2007.
- **Life Sciences Festival ‘Jeevan Vigyan’**, organized by Miranda House, University of Delhi, 28-29 January 2004.
- **Science Festival ‘Vigyan Vichitra’**, organized by Miranda House, University of Delhi, 20-22 November 1997.



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Seminars/Workshops/Conferences/Symposia attended (reverse chronological order):

Conferences attended

- Online International Conference **Genetics and Genomics Technologies for Crop Improvement** organized jointly by Department of Botany, Hansraj College & International Maize and Wheat Improvement Center (CIMMYT), Mexico in collaboration with Mahatma Hansraj Faculty Development Centre (MHRFDC), Hansraj College, University of Delhi, 1-3 August, 2021.
- Online **International Conference on Omics of Plant-Pathogen Interaction with their Implication** organized by National Institute of Technology, Rourkela, Odisha, 16-18 November 2020.
- **Biodiversity Conclave: Biodiversity for Everyone's Life**, organized by Miranda House, University of Delhi, and Institute of Bioresources and Sustainable Development (IBSD), Manipur, 31 August 2018.
- National Conference on **Plant Science Research: Looking Beyond 21st Century for Environmental and Agricultural Revolution** organized by Department of Botany, University of Delhi, 5-7 February 2016.

Symposia attended

- **Indo-Hungarian Symposium on Recent Trends in Biology and Chemistry** organized by The Department of Chemistry, Miranda House, along with the Department of Pharmaceutical Chemistry, University of Debrecen, Hungary, 11 December, 2017.
- National Symposium **Frontiers & Avenues in Plant Sciences** organized by Department of Botany, Shivaji College, University of Delhi, 20-21 January 2011.
- National Symposium **Science of Life: The New Horizon** organized by Miranda House, University of Delhi, 21-23 November 2007.
- National Symposium **Biotechnology: Expanding Horizons** organized by Acharya Narendra Dev College, University of Delhi, 17-18 October 2003.
- Symposium on **Wildlife Conservation in Urban Environments** organized by Centre for Environmental Management of Degraded Ecosystems, School of Environmental Studies, University of Delhi, 6 October 2000.

Workshops attended

- **Online IQAC Workshop on NAAC Accreditation: A changed Perspective** organized by IQAC, Miranda House, University of Delhi, 1-3 July 2021.



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- **Online Workshop (equivalent to Faculty Development Program) on Intellectual Property Right** organized by IQAC, Deen Dayal Upadhyaya College, University of Delhi, under the aegis of DBT Star College Scheme and MoE-Institution Innovation Council DDU Chapter, 09-13 February 2021.
- Online Webinar cum Workshop on **Development and Use of Molecular Markers for Crop Improvement** organized by Department of Zoology, Kirori Mal College, University of Delhi, under the aegis of IQAC and DBT Star College Scheme and hosted by Genomics-assisted Breeding Laboratory, National Institute of Plant Genome Research (NIPGR), New Delhi, 26 November 2020.
- Online Workshop on **Design of Experiment (DoE) using statistical tools** organized by Phytomics, The Botanical society of Bhaskaracharya College of Applied Sciences, University of Delhi, 06-07 November 2020.
- National Virtual Workshop on **Create Your Own Garden** organized by Garden Committee, Gargi College, University of Delhi, 05-07 November 2020.
- Online Workshop on **Online Licensing and Open Educational Resources** organised by Automation and Digitization Committee (under the aegis of IQAC, BCAS and DBT Star College Scheme), Bhaskaracharya College of Applied Sciences, University of Delhi, 28 October 2020.
- Workshop on **DNA Barcoding and Metagenomics** organized by Kirori Mal College, University of Delhi, 19-20 September 2019.
- **IQAC -Interactive Workshop** organized by IQAC, Miranda House, University of Delhi, 28 August 2019.
- Workshop “**Gardening: Cultivate, Learning and Living**”, organized by SGTB Khalsa College, University of Delhi, 20 September 2017.
- Workshop on **Active Learning as A Transformational Tool for the University Classroom** organized by D. S. Kothari Centre for Research and Innovation in Science Education, Miranda House, 15 May 2017.
- **National Workshop on Medicinal Botany and Drug Discovery** organized by Ramjas College, University of Delhi, 30-31 January 2017.
- **National Workshop on Ethnobotany** organized by department of Botany, Hansraj college in collaboration with Institute of Lifelong Learning, University of Delhi, 16-17 September 2016.
- **Training the Trainers: IPR Workshop** organized by Miranda House under the aegis of DBT Star College Scheme in collaboration with MHRD IPR Chair (Technical), University of Delhi, on 15 January 2016.
- Workshop **Reproductive Biology of Angiosperms** organized by Dyal Singh College and Institute of Life Long Learning, University of Delhi, 16-17 March 2015.
- Workshop on **Biology and Technology of Cultivable Mushrooms** organized by Institute of Life Long Learning, University of Delhi South Campus, 18-19 February 2014.



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- **Computational Biology: A Workshop for Science Teachers** organized under DBT Star College Project by DSKC, Miranda House, University of Delhi, 9-11 January 2012.
- **Indo-US Workshop on Application of Molecular Marker Technology for Rapid Development & Delivery of New Crop Varieties for Enhancing Food and Nutritional Security** organized by The Energy Resources Institute (TERI), India & Michigan State University (MSU), USA, at TERI University, New Delhi, and BeejoSheetal Bioscience Foundation, Jalna, Maharashtra, India, 3-9 December 2011.
- Workshop on **Fundamentals of Bioinformatics** organized by Ramjas College and Institute of Life Long Learning, University of Delhi, 26-30 September 2011.
- **National Workshop Evolutionary Perspectives in Modern Biological Teaching and Research** organized by Institute of Life Long Learning & Centre for Science Education and Communication and Acharya Narendra Dev College, University of Delhi, 9-10 May 2011.
- **Basic Training Workshop in Drosophila Genetics** organized by Drosophila Stock Center, Department of Zoology, University of Delhi, 13-14 November 2010.
- Workshop **The Fascinating World of e-Resources for Teaching Biology to Undergraduate Students** organized by Pearson Education India and Daulat Ram College, University of Delhi, 8 March 2010.
- National Workshop on **Art and Science of Paper Recycling** organized by MH Vatavaran, Miranda House, University of Delhi, 22-23 January 2010.
- **ILLL Workshop for Capacity Building of Delhi University Faculty Tier II**, Institute of Life Long Learning, University of Delhi and Miranda House, University of Delhi, 11-16 January 2010.
- Workshop on the **Use of E-Resources and WWW in Teaching and Research** organized by Ramjas College and Delhi University Library System, University of Delhi, 27 January 2009.
- **Workshop for Teachers of the Biology Course (LS-206) of B. Sc. Programme II Year** organized by Institute of Life Long Learning and DSKC, Miranda House, University of Delhi, 24-26 September 2008.
- **Hands on Training Workshop on Genetics, Genomics and Biotechnology** organized by Departments of Botany and Zoology, University of Delhi, 14-15 December 2006.
- Workshop on **Genetics, Molecular Biology and Biotechnology** organized by Department of Botany, University of Delhi, 14-16 January 2006.
- National Workshop in Bioinformatics and Computational Biology organized by Department of Biochemistry, Sri Venkateswara College, University of Delhi, 18-22 April 2005.
- **Solar Cooker Promotion Camp** organized by Delhi University Energy & Environment Group, Centre for Science Education and Communication, University of Delhi, 26 April 1997.

Webinars/Seminars attended

- **Online Launch of DU eLibrary and Orientation of the DU eLibrary (Web and Mobile App)**, organized by Delhi University Library System, 03 December 2021.



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- National Webinar on **Genome Editing for Food, Nutrition & Environmental Sustainability** organised by Department of Botany, Shivaji College, University of Delhi under the aegis of DBT Star College Scheme on 09 July 2021.
- **New Education Policy 2020: Transformational Features and Challenges** organised by IQAC, Kalindi College, University of Delhi, 11 December 2020.
- **Redefining Gardening from Hobby to Enterprise: Urban Gardening: Series 4 (Mushroom Farming and Introduction to Commercial Vertical Hydroponics Farming)**, organized by Garden Committee, Daulat Ram College, University of Delhi, 25 November 2020.
- **Redefining Gardening from Hobby to Enterprise: Urban Gardening: Series2 (Garden Types and its Benefits; Gardening: A Wonderful Hobby and a Promising Career Option)**, organized by Garden Committee, Daulat Ram College, University of Delhi, 11 November 2020.
- **Sustainable Development and Sustainability: Myths and Realities** organized by Bloom, The Botany Society, Ramjas College, University of Delhi, 28 October 2020.
- National Webinar on **Cybercrimes: Prevention and Mitigation in the Digital Era** organized under by Short Term Courses Committee, Maitreyi College, University of Delhi, 22 October 2020.
- National Webinar on **Wasteland Management Through Aromatic Plant Cultivation** organized by Eco Club-PRAKRITI, Maitreyi College, University of Delhi, 16 October 2020.
- National webinar on **Restoring Biodiversity for Environment Sustainability & Seasonality of Gardens** India organized by Kalindi College, University of Delhi, 15 October 2020.
- **National Education Policy & Open Digital Education** organized by Institute of Lifelong Learning, University of Delhi, 12-13 October 2020.
- National Webinar on **‘Developing a potent vaccine against the SaRs-CoV2: Feasibility & Challenges’** organized by Maitreyi College, University of Delhi, under the aegis of Science Setu, 7 October 2020.
- National Webinar on **Cyber Hygiene For Virtual Teaching Platforms** organized by Department of Botany, Maitreyi College, University of Delhi, under the aegis of Internal Quality Assurance Cell (IQAC), 3 October 2020.
- Webinar on **Woman, Educator, Scientist, Entrepreneur: Future is Yours** organised by Vigyan Prasar, an autonomous organisation under the Department of Science & Technology, Govt. of India, 29 September 2020.
- **National Webinar on Learnings from the Corona Pandemic** organised by Department of Chemistry, Miranda House, University of Delhi, 24-25 September 2020.
- Webinar on **The Splendour of Orchids** organized by Department of Botany, Maitreyi College, University of Delhi, 25 September 2020.
- **International Webinar on The Importance of Historical Ecology for Interpreting Processes of Evolution in Plants of Oceanic Islands** organized by Department of Life sciences, Mansarovar Global University and The National Academy of Sciences, India (Bhopal Chapter), 11 September 2020.



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- **Colors in Nature** organized by Department of Botany, Kirori Mal College, University of Delhi, 22 August 2020.
- Webinar on **Bio-Waste Management** organized by Mahatma Gandhi Institute for Combating Climate Change, Delhi, 18 August 2020.
- **Floriculture & Terrace Gardening** organized by Mahatma Gandhi Institute for **Combating Climate Change**, Delhi, 07 August 2020.
- **International Webinar on Environment Gender and Climate Change** organized by Department of Botany, Shivaji College, University of Delhi, 28 July 2020.
- **National Webinar on Legume Diversity in India** organized by the Society for Ecological Research and Natural Resources Management (SERNRM), 30 June 2020.
- **National Webinar on Web Content Licencing – An Overview** organized by the Internal Quality Assurance Cell (IQAC), The Bhopal School of Social Sciences, NAAC Re-accredited Autonomous College, 26 June 2020.
- **Corona Mahamari mein Divyangon ki Chhunautian** organized by Women Cell and National Service Scheme (NSS), Fateh Chand College for Women, Hisar (Haryana) India, 25 June 2020.
- **Medicinal Plants: Eternal Source of Health and Wellness** organized by Department of Botany, Swami Shraddhanand College, University of Delhi, 17 June 2020.
- **Role of Chromosome in Plant Taxonomy** organized by Department of Botany and Internal Quality Assurance Cell (IQAC), Late Shri. Vishnu Waman Thakur Charitable Trust's Bhaskar Waman Thakur College of Science, Yashvant Keshav Patil College of Commerce, Vidhya Dayanand Patil College of Arts, VIVA College, 15 June 2020.
- **National Webinar on Biodiversity and Conservation (NWBC 2020)** organized by Department of Botany, Daulat Ram College, University of Delhi, under the aegis of Internal Quality Assurance Cell (IQAC), 08 June 2020.
- **Biodiversity and Man** organized by Department of Botany, Dyal Singh College, University of Delhi, in collaboration with Society for Ecological Research and Natural Resources Management (SERNRM), 05 June 2020.
- **National Webinar on Entrepreneurship Aspects on Biodiversity Conservation and Indigenous Healing Practices of Northeast India** organized by IBSD Centre, Kalindi College, University of Delhi, 02 June 2020.
- **New Opportunities in Medicinal Plants Sector for Farmers and Entrepreneurs** organized by Department of Life sciences, Mansarovar Global University, 24 May 2020.
- **Plant Biology: A Journey from Earth to Space** organized by the Department of Botany, Ramjas College, University of Delhi, 22-23 May 2020.
- **Biodiversity and Public Health** organized under the aegis of Internal Quality Assurance Cell (IQAC) by Eco Club, Shivaji College, University of Delhi, in collaboration with Society for Ecological Research and Natural Resources Management (SERNRM), 19 May 2020.



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- **National Webinar on E-Content: Design and Delivery** organized by Atma Ram Sanatan Dharma College, University of Delhi, under the aegis of Internal Quality Assurance Cell (IQAC), 15 May 2020.
- **Myths and truths of fitness and corrective exercises for various body deformities** organised by Mahatma Hansraj Faculty Development Centre Under Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNTT), Hansraj College, University of Delhi, 12-13 May 2020.
- **Evolution of Science seen from historical perspective** organized by Department of Botany, Deshbandhu College, University of Delhi, under the aegis of IQAC, 12-13 May 2020.
- **Covid 19: Challenges and Road Ahead** organised by Mahatma Hansraj Faculty Development Centre Under Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNTT), Hansraj College, University of Delhi, 07-09 May 2020.
- **Strengthening the Immune System with Naturopathy** organized by Department of Botany and Internal Quality Assurance Cell (IQAC), Hansraj College, University of Delhi, 06 May 2020.
- **Online Teaching and Learning Technology** organized by Atma Ram Sanatan Dharma College, University of Delhi, under the aegis of Internal Quality Assurance Cell (IQAC), 27 April 2020.
- **Training for "Moodle"- An Open Source Learning Management System. Webinar Series** organized under the DBT Star College Scheme by Miranda House, University of Delhi, 22-23 April 2020.
- National Seminar on **Genetically Modified Organisms – Biosafety Aspects** organized by Delhi University Botanical Society, Department of Botany, University of Delhi, 10-11 March 2005.
- Seminar on **Biodiversity & Environmental Management** organized by Department of Botany, Kirori Mal College, University of Delhi, 2-4 December 1998.
- National Symposium on **Microbes in Plant Improvement and Environmental Protection** organized by Department of Botany, University of Delhi, 23-24 December 1997.

Capacity Building/Skill Updation (reverse chronological order):

Faculty Development Programmes

- Five Days **Online International Workshop on Intellectual Property Right (Equivalent to Faculty Development Program)** jointly organized by MoE-Institution Innovation Council (IIC) DDU Chapter (under the aegis of DBT Star College Program) and IQAC, Deen Dayal Upadhyaya College, University of Delhi, 09-13 February 2021.
- National One Week Online Faculty Training Program **Pedagogical Training for Effective Online Teaching & Learning** organized by Deen Dayal Upadhyaya College, University of Delhi in association with K.T.H.M. College, Nashik, Maharashtra, 03-10 August 2020.



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- Online Faculty Development Programme “**Advanced Concepts for Developing MOOCs**” organised by the Teaching Learning Centre of Ramanujan College, University of Delhi, 2-17 July 2020.
- **Two days FDP on Agriculture, Health & Society** organized by Department of Botany and Mahatma Hansraj Faculty Development Centre, Hansraj College, University of Delhi, 15-16 March 2019.

Orientation and Refresher Courses

- **Refresher Course in Life Sciences**, Academic Staff College, Jawaharlal Nehru University, New Delhi, 29 December 2003-23 January 2004.
- **Refresher Course in Biotechnology**, Academic Staff College, Jawaharlal Nehru University, New Delhi, 8 April-3 May 2003.
- **Refresher Course in Life Sciences ‘Current Trends in Microbiology’**, Centre for Professional Development in Higher Education, University of Delhi, Delhi, 28 March-18 April 1996.
- **Orientation Course OR-27 (General & Subject Specific)**, Centre for Professional Development in Higher Education, University of Delhi, Delhi, 19 May-15 June 1995.

Training Courses/ Program

- Three hours training program in **Holocaust Studies from Yad Vashem** organized by Overseas Education and Training Department, International School for Holocaust Studies, Yad Vashem, 3 February 2022.
- Two-days online training course for teaching faculty of Universities and Colleges on ‘**Conservation Issues in India**’ organized by Central Academy for State Forest Service, Dehradun, Uttarakhand under the Government of India Ministry of Environment, Forest and Climate Change, 19-20 July 2021.
- **D-LITE (Digital Literacy and Innovation for Tomorrow’s Education) Course (UKIERI)**, Campus of Open Learning, University of Delhi, and Edinburgh College, U.K. under UK-India Education and Research Initiative (UKIERI), 18-21 November 2013.
- **Training Course on Windows 95, MS Word & PowerPoint**, Delhi University Computer Centre, University of Delhi, 8-22 May 2000.
- **Training Course on Windows 95, Internet Concepts & EMail**, Delhi University Computer Centre, University of Delhi, 24-28 April 2000.

Synergy (work with other organizations outside the college):

- Member, Delhi University Garden Committee, 6 June 2019 to date.
- Reviewed the M.Sc. Botany CBCS Syllabus of University of Delhi, June 2018.
- Coordinator, Committee for preparing the Guidelines for Theory and practical of Genetics (LOCF) paper, October-November 2020.



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- Participated in the meeting to discuss the modalities of teaching the B.Sc. Life Sciences Syllabus (CBCS), July 2017.
- Participated in the Workshop on **The New Botany Syllabus —Challenges Ahead** for the development of new syllabi for B.Sc. Botany (H) and B.Sc. Life Sciences (Annual system) organized by Centre for Science Education and Communication, University of Delhi, 29 March -8 April 2004.
- Member, Core Committee (Botany), for the development of course structure for Botany stream under the Four Year Undergraduate Programme, February-July 2013.