




Faculty Details proforma for DU Web-site

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cc: director@ducc.du.ac.in)

Title	Dr (Mrs.)	First Name	Sudeshna	Last Name	Mazumdar-Leighton	Photograph
Designation		Professor				
Address		Room#18, Department of Botany, Chhattra Marg, Delhi University, Delhi-110007				
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Residence		011-28532023				
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Web-Page		www.sml-botanydu.com				
Educational Qualifications						
Degree		Institution			Year	
Ph.D.		Delhi University; Research at ICGEB, New Delhi & IRRI, Philippines			1996	
PG		University of Delhi, South Campus			1991	
UG		Miranda House, Delhi University			1989	
Career Profile						
<p>1. Post-doctoral Fellow from 1996-2000 at Department of Entomology, Cornell University, NYSAES, NY 14456, USA, worked on a NSF research project characterizing responses of lepidopteran pests to ingestion of plant anti-feedants.</p> <p>2. Research Associate from 2000-2003 at Department of Plant Pathology, Cornell University, NY14456, USA, worked on USDA funded epidemiological surveys for plant viruses in NY state; proteolytic susceptibility of transgenic PRSV coat proteins, and grape biotechnology.</p> <p>3. Reader, Associate Professor & Professor, 2003-till date, Department of Botany, Delhi University, Delhi-7, India, working as Teacher and Researcher</p>						
Administrative Assignments						
<ul style="list-style-type: none"> • Secretary, Garden Committee, University of Delhi • Warden (2003-2005) at Meghdut Hostel, University of Delhi (residence for 100 women scholars). • Faculty accompanying 5 under-graduate students to Universitas21 summer school 2010 on “Global Food Security” at University of Nottingham, Ningbo campus, China (sponsored by CSEC, University of Delhi). • Member of the Delhi University Garden Committee (2003-2011, 2017). • Member, Governing Body, Bhaskaracharyaa College of Applied Sciences, 2017; Ram Lal Anand College, 2020, 2021; Miranda House, 2020; Jesus & Mary College, 2020; University of Delhi • Member of the Delhi University Library Committee (2005-8). 						

Areas of Interest / Specialization				
Plant-Biotic Interactions; Sustainable applications in Biotechnology				
Subjects Taught				
BOT101: Plant Cell Biology; CC2004: Pathogens & Pests of Crop plants; CC2008: Plant Cell Biology; Optional courses: paper IX: Molecular Interactions of plants with ... pests; BOT407: Contemporary concepts and methods in cell biology; M. Phil. course Paper 8A: Population Biology; Selected topics in Ph. D. coursework (RM03, EL08, EL16)				
Time table of the subjects usually taught during the previous semesters/onsite mode				
S. No.	Subject	Days	Time	Classroom
1.	BOT101: Cell and Molecular Biology	(i) Tuesday (Theory & Practicals) (ii) Friday (Theory & Practicals)	Theory: 9.40-10.35am, Practicals: 10.35am- 2.15pm	Theory: Room#37, Practicals: Lab#45
2.	CC8: Pathogens & Pests of Crop Plants	(i) Monday (Theory & Practicals) (ii) Wednesday (Theory & Practicals) (iii) Friday (Practicals)	Theory: 8.45-10.35am; 3-5pm Practicals: 10.35am- 2.15pm	Theory: Room#37, Practicals: Lab#43/45
3.	BOT403: Molecular interactions of plants with pathogens and pests	(i) Friday (Theory and Practicals)	Theory: 8.40 - 10.35am, Practicals: 10.35am-2.15am	Theory: Room#208, Practicals: Lab#26
4.	BOT407: Contemporary concepts and methods in Cell Biology	(i)Tuesday (Theory and Practicals)	Theory: 8.40 - 10.35am, Practicals: 10.35am-2.15am	Theory: Room#207, Practicals: Lab#45
5	Ph. D. & M. Phil. Coursework: EL16: Population Biology RM03: Effective communication, writing EL08:Methods for microbiology and plant parasite interactions	RM03: Monday EL16: Wednesday EL08: Thursday	Time: 2-4pm	Theory: Committee Room Practical: As per location of the equipment
6.	BOT409: M. Sc. Dissertation	Friday (Tutorials) & Saturday (Meetings)	Time: 2.15pm-5pm	Office: Room#18 Laboratory: Lab#15
Research Guidance				
<ol style="list-style-type: none"> Supervision of awarded Doctoral Thesis: 10 Supervision of Doctoral Thesis, under progress: 5 +1 (submitted) Supervision of awarded M. Phil dissertations: 3 Supervision of completed M. Sc. dissertations: 28 + 1 (ongoing) Supervision of summer students/interns: 32 				

1. Sudeshna Mazumdar-Leighton, Cheerukeri Raghavendra Babu and John Bennett (2000) "Identification of novel serine proteinase gene transcripts in the midguts of two tropical insect pests, *Scirpophaga incertulas* (Wk.) and *Helicoverpa armigera* (Hb.)" *Insect Biochemistry and Molecular Biology* 30 (1): 57-68.
2. Sudeshna Mazumdar-Leighton and Roxanne M. Broadway (2001) "Identification of six chymotrypsin cDNAs from larval midguts of *Helicoverpa zea* (corn earworm) and *Agrotis ipsilon* (black cutworm) feeding on the soybean trypsin inhibitor" *Insect Biochemistry and Molecular Biology* 31 (6/7): 633-644.
3. Sudeshna Mazumdar-Leighton and Roxanne M. Broadway (2001) "Transcriptional induction of diverse midgut trypsin from larval *Helicoverpa zea* (corn earworm) and *Agrotis ipsilon* (black cutworm) feeding on the soybean trypsin inhibitor" *Insect Biochemistry and Molecular Biology* 31 (6/7): 645-657.
4. D. Shah, B. Nault, H. Dillard, S. Mazumdar-Leighton and D. Gonsalves, 2003, "Incidence and spatial patterns of viruses in New York snap beans in 2002" *Phyto-pathology*, 93: S78.
5. Nault, B.A., D. Shah, H. Dillard, S. Mazumdar-Leighton, D. Gonsalves and A. McFaul (2003) "Aphid dispersal and virus incidence in snap bean fields". In *Proceedings of the Mid Atlantic Fruit and Vegetable Convention*. Hershey, PA. Pennsylvania Vegetable Growers Association. pp. 39-41.
6. Nault, B.A., D. Shah, H. Dillard, S. Mazumdar-Leighton, D. Gonsalves and A. McFaul (2003) "Seasonal patterns of aphid movement and virus incidence in snap bean fields". In *Proceedings of the New York State Vegetable Conference*. Cornell Cooperative Extension and New York State Vegetable Growers Association. pp. 84-87.
7. DA Shah, HR Dillard, S Mazumdar-Leighton, D Gonsalves and B Nault, (2006), "Incidence, Spatial patterns, and Associations among Viruses in Snap Bean and Alfalfa in New York", *Plant Disease*, 90:203-210.
8. A Bhattacharyya, S. Mazumdar, S Mazumdar-Leighton and CR Babu, (2006), "A Kunitz proteinase inhibitor from *Archidendron ellipticum* seeds: Purification, characterization, and kinetic properties", *Phytochemistry* 67:232-241.
9. A Bhattacharyya, S Mazumdar Leighton and CR Babu, (2007), "Bioinsecticidal activity of *Archidendron ellipticum* trypsin inhibitor on growth and serine digestive enzymes during larval development of *Spodoptera litura*", *Comp. Biochem. Physiol. C. Toxicol. Pharmacol.*, 145(4):669-677.
10. A Bharadwaj, S Leelavathi, S Mazumdar-Leighton, A Ghosh, S Ramakumar and V ShivaReddy, (2008), "The critical role of partially exposed N-terminal Valine residue in stabilizing GH10 Xylanase from *Bacillus* sp. NG-27 under poly-extreme conditions", *PLoS One*, 3(8):e3063.
11. A Bharadwaj, S Leelavathi, S Mazumdar-Leighton, A Ghosh, S Ramakumar and V ShivaReddy, (2010), "The critical role of N- and C-terminal contact in protein stability and folding of a family 10 Xylanase under poly-extreme conditions", *PLoS One*, 5(6):e11347.
12. B Oppert, EN Elpidina, M Toutges and S Mazumdar-Leighton, (2010), 'Microarray analysis reveals strategies of *Tribolium castaneum* larvae to compensate for cysteine and serine protease inhibitors' *Comp Biochem Physiol Part D Genomics Proteomics*, 5(4):280-7.
13. M Saikia, YT Singh, A Bhattacharya and S Mazumdar-Leighton, (2011), 'Expression of diverse midgut serine proteinases in the sericigenous Lepidoptera *Antheraea assamensis* (Helfer) is influenced by choice of host plant species' *Insect Molecular Biology*, 20(1):1-13. Online September 2010.
14. P Singh-Pant, P Pant, SK Mukherjee and S Mazumdar-Leighton, (2012), 'Spatial and temporal diversity of begomovirus complexes in papayas with leaf curl disease' *Archives of Virology* 157:1217-1232.

15. YT Singh, S Mazumdar-Leighton, M Saikia, P Pant, S Kashung, K Neog, R Chakravorty, S Nair, J Nagaraju, CR Babu, (2012), "Genetic variation within natural populations of endemic silkmoths, *Antheraea assamensis* (Helfer) from North-East India indicates need for in situ conservation" PLoS ONE 7(11): e49972 doi:10.1371/ journal.pone.0049972.
16. U Bhardwaj, A Bhardwaj, R Kumar, S Leelavathi, V SivaReddy and S Mazumdar-Leighton (2014) "Revisiting Rubisco as a protein substrate for insect gut proteases." Archives of Insect Biochemistry and Physiology, 85(1): 13-35. Online December 2013.
17. R Kumar, U Bhardwaj, P Kumar and S Mazumdar-Leighton (2015) "Midgut serine proteases and alternative host plant utilization in *Pieris brassicae* L." Frontiers in Physiology, 6:95 doi: 10.3389/fphys.2015.00095. Published online 31st March 2015.
18. S. Mazumdar-Leighton and VK Choudhary (2017) "Metagenomics at grass roots" Resonance (Elsevier) Journal of Science Education (Indian Academy of Sciences) 22(3):291-301
19. P Kumar, T Akhter, P Bhardwaj, R Kumar, U Bhardwaj, S Mazumdar-Leighton (2021) "Consequences of 'no-choice, fixed time' reciprocal host plant switches on nutrition and gut serine protease gene expression in *Pieris brassicae* L. (Lepidoptera: Pieridae)" PLoS ONE 16(1): e0245649. <https://doi.org/10.1371/journal.pone.0245649>

Popular Articles:

- "Loktak: the largest floating lake of the world needs restoration" (2013) Current Science, 104: 10. <http://www.currentscience.ac.in/Volumes/104/01/0010.pdf>
 - "Rabha's weave" (2008) www.mugadbase.com
 - "Biotechnology: A new era for Plant Biotechnology and Plant Protection" (2000) www.apsnet.org/online/feature/Biotechnology.html
3. *Other publications (Peer reviewed Book Chapters; Edited works, Book reviews, Festschrift volumes, etc.)*
- (i) **Book Chapter: Cindy-Leigh Hamilton, Sudeshna Mazumdar-Leighton, Icolyn Amarakoon, Marcia Roye (2016) "Tomato Yellow Leaf Curl" in "Virus Diseases of Tropical and Sub-Tropical Crops" eds. P Tennant and G Fermin, CABI International Press, Oxfordshire, UK, pp. 177-188.**
 - (ii) **Book Chapter: Gustavo Fermin, Sudeshna Mazumdar-Leighton, Paula Tennant (2018) "Viruses of Prokaryotes, Protozoa, Fungi, and Chromista" in "Viruses: Molecular Biology, Host Interactions and Applications to Biotechnology" eds. P Tennant, G Fermin and J Foster, Elsevier, Academic Press, (ISBN 9780128112571), pp. 217-244.**
 - (iii) **Book Chapter: Gustavo Fermin, Paula Tennant, Sudeshna Mazumdar-Leighton (2018) "Transgenic virus-resistant papaya: current status and future trends" in "Genes, genetics and Transgenics for Virus Resistance in Plants" eds. BL Patil, Caister Academic Press, (ISBN 9781910190814), pp. 141-158**

Conference Organization/ Presentations (in the last three years)

- **Poster "Monitoring leaf curl disease complexes associated with whitefly transmitted begomoviruses infecting papaya in Delhi NCR, India: Results from a long term survey" presented at "The 9th International Geminivirus Symposium and 7th ssDNA Comparative Virology Workshop, November 3-9, 2019 at University of California, Davis, USA**
- **Lead talk on "Understanding persistence and evolution of begomoviruses infecting feral**

<p>papaya and solanaceous weeds by epidemiological screenings” and poster (PA68) at 8th International Geminivirus Symposium, November 7th, 2016, at New Delhi, India</p> <ul style="list-style-type: none"> • Poster (#426-4/1024) presented at Annual Meeting of the American Society of Agronomy, Crop Science Society of America, and Soil Science Society of America with the Entomological Society of America, 2015, Minneapolis, USA • Public lecture at India International Centre, 2015 (available as webcast) entitled “The Very Hungry Caterpillar: Plant-Insect Interactions and the Giant Silkworms of NE India” • Public lecture on “Multiple Dimensions of the Biotic Environment of Plants” at DS Kothari Centre for Research and Innovation in Science Education, Miranda House, University of Delhi, at INSPIRE Internship program, 16th December 2013 • Paper entitled “Understanding the biology of plant interactions with the biotic environment: applications to food security” at an event on “Global food security” organized by University of Nottingham, Ningbo, China, at Shanghai Expo 2010. • Public lecture entitled “On the wings of a golden silk moth” for the Delhi University Lecture Series 2010. • Paper and posters presentation at Annual Meeting of the ESA, 2007, San Diego, USA http://www.esa.confex.com/esa/2007/techprogram/paper_29147.htm http://www.esa.confex.com/esa/2007/techprogram/session_6097.htm
<p>Research Projects (Major Grants/Research Collaboration)</p> <ul style="list-style-type: none"> • PI (University of Delhi, North campus component) in multi-institutional project on papaya leaf curl disease (DBT, project 2019-2022) • Two completed Extramural projects funded by Department of Biotechnology Government of India, on: <ul style="list-style-type: none"> (1) Genetic Diversity of <i>A. assamensis</i> silk moths from NE India (P.I. collaborating with CMERTI, CSB, Assam) Output: See www.mugadbase.com (2) Restoration Ecology program for Mined areas (Co-PI) (3) Intramural DU-DST Purse Grant on crucifer pest complexes (Individual PI). See http://www.youtube.com/watch?v=AAP2v-xcbM8
<p>Awards and Distinctions</p> <ul style="list-style-type: none"> • The Distinguished Alumna Award 2017 from Miranda House Alumnae Association, Delhi University
<p>Association With Professional Bodies</p> <ol style="list-style-type: none"> 1. <i>Editing</i> <ul style="list-style-type: none"> • Co-edited special March 22nd 2017 issue of Resonance (A Journal of Science Education from the Indian Academy of Sciences, Bangalore) celebrating “Women in Science” • <i>Reviewing</i> <ul style="list-style-type: none"> • Reviewed manuscripts for Plant Molecular Biology (2017); Physiological Entomology (2017), VirusDiseases (2017); Frontiers in Physiology (2016), Euphytica (2015), Insect Science (2016), Molecular Biology Reports (2012, 2013, 2018), Physiology and Molecular Biology of Plants (2018); Woodpecker Journal of Agricultural Research (2012, 2011), African Journal of Microbiology Research (2012), Oecologia (2010), Journal of Plant Physiology (2010), Insect Biochemistry & Molecular Biology (2001, 2002), Comparative Biochemistry and Physiology (2002), Plant Science (2003), Peptides (2009), Journal of Insect Physiology (2010), Insect Molecular Biology (2011); Archives of Insect Biochemistry and Physiology (2011, 2012); African Journal of Biotechnology (2012-13), Physiology and Molecular Biology of Plants (2018, 2020), Current Science (2003- 2011).

2. *Advisory Committees and Boards*

- **Member of Scientific Advisory committee of IBSD (Institute of Biodiversity and Sustainable development), Imphal, Manipur (2010-13)**
- **Member of Project Advisory Committee, NBSFARA/NASF, ICAR (2013-16)**
- **Member, Scientific Advisory Committee, CUES, Ambedkar University of Delhi, 2015-2017.**
- **Editorial Board, Resonance, a Journal for Science and Education in India.**

3. *Life Memberships* * **Delhi University Botanical Society, Indian Virological Society**

Other Activities

- **Mentor to 34+ summer/project students from various colleges of Delhi University and other institutions (2004-2017).**

Signature of Faculty Member

- You are also requested to also give your complete resume as a DOC or PDF file to be attached as a link on your faculty page.