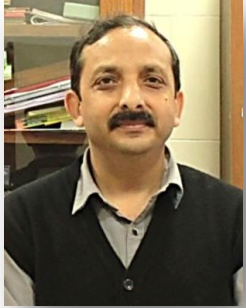




FACULTY DETAILS

| | | | | | | |
|--|------------|--|---------------|------------------|---------------|---|
| Title | Dr. | First Name | RAJESH | Last Name | TANDON |  |
| Designation | | Professor | | | | |
| Address | | Department of Botany University of Delhi Delhi – 110007 | | | | |
| Phone No Office | | - | | | | |
| Residence | | 011-25276589 | | | | |
| Mobile | | 9811998867 | | | | |
| Email | | tandon.raj@gmail.com | | | | |
| Web-Page | | - | | | | |
| Educational Qualifications | | | | | | |
| Degree | | Institution | | | Year | |
| Ph.D. | | University of Delhi | | | 1998 | |
| PG | | University of Delhi | | | 1992 | |
| UG | | University of Delhi | | | 1990 | |
| Career Profile | | | | | | |
| <ul style="list-style-type: none">• Professor: Department of Botany, University of Delhi. (From July,2009 onwards)• Associate Professor: Department of Botany, University of Delhi. (July,2006-June,2009)• Reader: Department of Botany, University of Delhi. (July,2003-June,2006)• Research Associate: Department of Botany, University of Delhi. (2002-2003)• Lecturer (Ad hoc): Department of Botany, University of Delhi. (1999-2002) | | | | | | |
| Administrative Assignments | | | | | | |
| <ul style="list-style-type: none">• Dean, Student's Welfare, University of Delhi (May, 2017- till now)• Treasurer, Delhi University Botanical Society (June, 2011-July,2014)• Secretary, Garden Committee, University of Delhi, (November, 2005 - October, 2012) | | | | | | |
| Areas of Interest / Specialization | | | | | | |
| <ul style="list-style-type: none">• Reproductive Biology of Flowering plants• Developmental Biology• Conservation Biology | | | | | | |
| Subjects Taught | | | | | | |
| <ul style="list-style-type: none">• Reproductive biology | | | | | | |

- Developmental Biology

Time table of the subjects taught during the current semester

| S.No. | Subject | Days | Time | Classroom (# Room/Lab Number) |
|-------|---|---|---|--|
| 1 | BOT 201: Developmental Biology | (i) Monday (Theory and Practical) (ii) Thursday (Theory and Practical) | Theory: 08:45 - 09:40 Practical: 10:35- 02:15 | Theory: #37 Practical: #26 |
| 2 | BOT 402: Reproductive Biology of Flowering Plants | Wednesday (Theory and Practical) | Theory: 08:45-10:35 Practical: 10:35- 04:05 | Theory: #207 Practical: #26 |
| 3 | BOT - 409 | Saturday | 10:00-01:00 | Lab #305 |
| 4 | Ph.D. Coursework GR2: Instrumentation GR3: Methods for Field Biology | (i) GR2: Tuesday (ii) GR3: Wednesday | Time: 02:00-04:00 | Theory: Committee Room Practical: As per the location of the equipment |

Research Guidance

1. Supervision of Doctoral Thesis (Awarded)

1. **Anand Sonkar** (2009). Trees of Delhi.
2. **Vikas Bhardwaj** (2009). Reproductive Biology of Two Native Medicinal Trees of India: *Azadirachta indica* (Meliaceae) and *Aegle marmelos* (Rutaceae).
3. **Renuka Aggrawal** (2011). Genome organization and diversification of allotetraploids finger millet [*Eleusine coracana* (L.) Gaertn.] ($2n = 4x = 36$) and diploid safflower [*Carthamus tinctorius* L.] ($2n = 2x = 24$), and their allied diploid and polyploid taxa: evidences from isolated repeated DNA sequences, FISH, McFISH and GISH, and DNA markers.
4. **Sapna Jain** (2011). DNA fingerprints as useful genetic markers for analysis of genetic diversity, taxa boundaries identification, and phylogenetic relationships in Himalayan *Hippophae* L. germplasm resources.
5. **Rajkumari Sanayama Devi** (2011): Fundamental and applied studies on *in vitro* conservation and cryopreservation of banana (*Musa* ABB cv. Karpura Chakkarakeli).
6. **Priaynka Khanduri** (2013): Reproductive Ecology, Developmental Biology and Phylogenetic Analysis of Some Indian Podostemaceae.
7. **Yash Mangla** (2014): Reproductive Biology and Identification of Male-specific SCAR Marker in *Hippophae rhamnoides* L.
8. **Vineet K. Singh** (2015): Reproductive ecology of two threatened tree species, *Tecomella undulata* and *Anogeissus sericea*, from arid zone of India.
9. **Divya Mohanty** (2016): Genetic manipulation via male germline in pigeonpea and evaluating the potential of BABY BOOM gene in inducing androgenesis.

10. **Kadambini** (2016): Reproductive biology and dispersal ecology of two threatened Himalayan tree species– *Pittosporum eriocarpum* Royle and *Engelhardia spicata* Leschen. ex Blume

11. **Chandan Barman** (2018): Reproductive ecology of two threatened tree species: *Wrightia tomentosa* (Roxb.) Roem. & Schult. and *Salvadora oleoides* Decne.

Under progress with tentative titles

1. **Anjali Chaudhary**: Reproductive and Developmental biology.
2. **Remya Krishnan**: Reproductive biology of Podostemaceae.
3. **Banisha Phukela**: Developmental and Reproductive biology
4. **Aditi Tailor**: Plant Physiology and Biochemistry

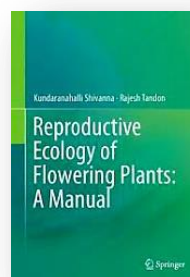
2. Supervision of awarded M.Phil. Dissertations

1. **Khoisnam Sarma Devi** (2005) Reproductive biology of a medicinally important legume, *Mucuna pruriens* (L.)
2. **Mayank Gautam** (2007) Phenology and floral biology of *Schleichera oleosa* (lour.) Oken (Sapindaceae)
3. **Shinjinee Sengupta** (2007) Ovule receptivity and seed-set pattern in some legumes
4. **Anjali Chaudhary** (2013) Female gametophyte development and incidence of single fertilization in *Zeylanidium lichenoides* (Podostemaceae).
5. **Banisha Phukela** (2013-14) In vitro recalcitrance in androgenic response among legumes and a case study.

Publications Profile

Books

- Shivanna KR, **Tandon R.** 2014. *Reproductive Ecology of Flowering Plants: A Manual*. Springer India Pvt. Ltd.



Research papers published in Refereed/Peer Reviewed Journals

- Mangla Y, Das K, Bali S, Ambreen H, Raina SN, **Tandon R***, Goel S*. 2018. Occurrence of subdioecy and scarcity of gender-specific markers reveal an ongoing transition to dioecy in Himalayan seabuckthorn (*Hippophae rhamnoides* ssp. *turkestanica*) **Heredity**. doi:10.1038/s41437-018-0084-z

- Barman C, Singh VK, Das S, **Tandon R***. 2018. Floral contrivances and specialized pollination mechanism confer strong influence to elicit mixed-mating in *Wrightia tomentosa* (Apocynaceae). **Plant Biology** 1-9. doi:10.1111/plb.12690
- Barman C, Singh VK, **Tandon R***. 2018. Reproductive Biology of *Salvadora oleoides* Decne.(Salvadoraceae). **The International Journal of Plant Reproductive Biology** 10: 69-76.
- Chaudhary A, Yadav SR, **Tandon R***. 2018. Delayed selfing ensures reproductive assurance in *Utricularia praeterita* and *Utricularia babui* in Western Ghats. **Journal of Plant Research** 1-12. doi: <https://doi.org/10.1007/s10265-018-1016-y>
- Singh VK, Barman C, Mohanty D, **Tandon R***. 2018. Relative contribution of reproductive attributes to the density-dependent effects on fruit-set. **AoB Plants** 10: 1-11.
- Das Kamal, Ganie SH, Mangla Y, Dar TH, **Tandon R**, Raina SN, Goel S*. 2017. ISSR markers reveal male sex identification and genetic composition of different populations of *Hippophae rhamnoides* growing at high altitudes in Leh-Ladakh (Jammu and Kashmir). **Protoplasma** (Published online 19/8/2016) doi.org/10.1007/s00709-016-1013-8
- Das Kadambini*, **Tandon R**, Bhatnagar A.K. 2017. Standardization of pollen germination medium for *Pittosporum eriocarpum*, an endangered tree species of Central and Western Himalayas. **The International Journal of Plant Reproductive Biology**. 9(1): 18-24. doi 10.14787/ijprb.2017 9.1.18-24
- Devi ML, Sanavar, **Tandon R**, Uniyal PL*. 2016. Features of seeds of Podostemaceae and their survival strategy in aquatic system. **Rheedia** 26:29-36.
- Devi ML, Uniyal PL, **Tandon R**. 2016. Studies on the morphology and in vitro seed germination of *Polypleurum stylosum* var. *laciniata* (Podostemaceae). **Proceedings of the National Academy of Sciences, India Section B: Biological Sciences**. doi 10.1007/s10011-015-0687-6. Published online on 07 January, 2016
- Mohanty D, Chandra A, **Tandon R***. 2016. Floral biology and reproductive attributes of six cultivated accessions of Pigeonpea. **The International Journal of Plant Reproductive Biology**. 8(2): 158-165. doi 10.14787/ijprb.2016 8.2.158-165
- Khanduri P, Sharma R, Bhat V, **Tandon R***. 2016. Isolation, expression and evolution of FERTILIZATION INDEPENDENT ENDOSPERM homologs in Podostemaceae. **Journal of Plant Research** 129: 241-250
- Mangla Y, Chaudhary M, Gupta H, Thakur R, Goel S, Raina SN, **Tandon R***. 2015. Facultative apomixis and development of fruit in *Hippophae rhamnoides*, a deciduous shrub with medicinal and nutritional uses. **AoB Plants** 7: plv098, doi: 10.1093/aobpla/plv098
- Khanduri P, **Tandon R***, Uniyal PL, Bhat V, Pandey AK. 2015. Comparative morphology and molecular systematics of Indian Podostemaceae. **Plant Systematics and Evolution** 301: 861-882
- Singh VK, Barman C, **Tandon R***. 2014. Nectar robbing positively influences the reproductive success of *Tecomella undulata* (Bignoniaceae). **PLoS ONE** 9(7): e102607. doi:10.1371/journal.pone.0102607
- Khanduri P, Chaudhary A, Uniyal PL, **Tandon R***. 2014. Reproductive biology of *Willisia arekaliana* (Podostemaceae), a freshwater endemic species of India. **Aquatic Botany** 119:57-65
- Mangla Y, **Tandon R***. 2014. Pollination ecology of Himalayan sea buckthorn (*Hippophae rhamnoides*). **Current Science** 106. 1731-1735

- Agrawal A., Sanayaima R, Singh R, **Tandon R**, Verma S, Tyagi RK. **2014**. Phenotypic and molecular studies for genetic stability assessment of cryopreserved banana meristems derived from field and in vitro explant sources. *In Vitro Cellular and Developmental Biology - Plant*. **50**: 345-356
- Chaudhary A, Khanduri P, **Tandon R***, Uniyal PL, Mohan Ram HY. **2014**. Central cell degeneration leads to three-celled female gametophyte in *Zeylanidium lichenoides* Engl., (Podostemaceae). *South African Journal of Botany*. **91**: 99 - 106
- Agrawal R, Agrawal N, **Tandon R**, Raina SN*. **2014**. Chloroplast genes as genetic markers for inferring patterns of change, maternal ancestry and phylogenetic relationships among *Eleusine* species. *AoB PLANTS* 6: *plt056*; doi:10.1093/aobpla/plt056
- Agrawal R, Agrawal N, **Tandon R**, Raina SN. **2014**. Chloroplast genes as genetic markers for inferring patterns of change, maternal ancestry and phylogenetic relationships among *Eleusine* species. *AoB Plants* doi:10.1093/aobpla/plt056; first published online on December 19, 2013
- Bhardwaj V, **Tandon R**. **2013**. Self-incompatibility and post-fertilization maternal regulation causes low fecundity in *Aegle marmelos* (Rutaceae). *Botanical Journal of the Linnean Society* (DOI: 10.1111/boj.12057).
- Agrawal R, Tsujimoto H, **Tandon R**, Rao S, Raina SN*. **2013**. Species-genomic relationships among the tribasic diploid and polyploid *Carthamus* taxa based on physical mapping of active and inactive 18S-5.8S-26S and 5S ribosomal RNA gene families, and the two tandemly repeated DNA sequences. *Gene* 521: 136-144
- Mangla Y, **Tandon R**, Goel S, Raina SN. **2013**. Structural Organization of Gynoecium and Pollen Tube Path in Himalayan Seabuckthorn, *Hippophae rhamnoides* (Elaeagnaceae) *AoB Plants*. **5**: *plt015*; doi:10.1093/aobpla/plt015
- **Tandon R**, Bhardwaj I. **2012**. Reproductive Strategies in Orchidaceae. *Journal of the Orchid Society of India*. **26** (1&2): 35-48
- Vikas, Singh VK, **Tandon R**. **2012**. Polyethylene glycol and polyamines promote pollen germination and tube growth in *Azadirachta indica* (Meliaceae). *The International Journal of Plant Reproductive Biology* 4(1): 23-29.
- Raina SN, Sehgal D, Jain S, Kumar A, Bhat V, Dar TU, Pandey V, Vaishnavi S, Bhargav A, **Tandon R**, Tewari M. **2011**. Diversity and relationships of multipurpose seabuckthorn (*Hippophae* L.) germplasm from the Indian Himalayas as assessed by AFLP and SAMPL markers. *Genetic Resources and Crop Evolution*. **59**(6):1033-1053.
- Mangla Y, **Tandon R**. **2011**. Insect facilitate wind pollination in pollen-limited *Crateva adansonii* (Capparaceae). *Australian Journal of Botany* **51**:61-69
- Vikas, **Tandon R**. **2011**. Reproductive biology of *Azadirachta indica*, a medicinal tree species of arid-zone. *Plant Species Biology* **26**: 116-123
- Sengupta S, **Tandon R**. **2010**. Assessment of Ovule Receptivity as a Function of Expected Brood Size in Flowering Plants. *The International Journal of Plant Reproductive Biology* 2(1): 51-63.
- Agrawal A, Sanayaima R, **Tandon R**, Tyagi RK. **2010**. Cost-effective *in vitro* conservation of banana using alternatives of gelling agent (isabgol) and carbon source (market sugar). *Acta Physiologiae Plantarum* **32**: 703-.
- Tyagi RK, Goswami R, Sanayaima R, Singh R, **Tandon R**, Agrawal A. **2009**. Micropropagation and slow growth *in vitro* conservation of cardamom (*Elettaria cardamomum* Maton). *In Vitro and*

Cellular Biology-Plant. 45:721-729

- Love A, **Tandon R**, Banerjee BD, Babu CR. **2009**. DNA damage in natural populations of *Cassia occidentalis* inhabiting fly ash basin of a coal-fired thermal power plant. **Ecotoxicology** 18(7): 791-801
- Vikas, Gautam M, **Tandon R**, Mohan Ram HY. **2009**. Pollination biology and breeding system of *Oroxylum indicum* in Western Himalaya. **Journal of Tropical Ecology**. 25: 93-96
- Gautam M, Vikas, **Tandon R**. **2008**. Sexual system in *Schleichera oleosa* (Lour.) Oken (Sapindaceae). **The International Journal of Plant Reproductive Biology** 1: 73-80
- **Tandon R**, Chodhury R, Shivanna KR. **2007**. Cryopreservation of oil palm pollen. **Current Science** 92:182-183
- Sarma K, **Tandon R**, Shivanna KR, Mohan Ram HY. **2007**. Snail-pollination in *Volvolvopsis nummularium*. **Current Science** 93 (6), 826-831
- **Tandon R**, Shivanna KR and Mohan Ram HY. **2003**. Reproductive Biology of *Butea monosperma* (Fabaceae). **Annals of Botany** 92 (11): 715-723.
- **Tandon R**, Shivanna KR and Mohan Ram HY. **2001**. Pollination biology and breeding system of *Acacia senegal*. **Botanical Journal of the Linnaean Society** 135 (3): 251-262.
- **Tandon R**, Manohara T N, Nijalingappa B H M and Shivanna KR. **2001**. Pollination and pollen-pistil interaction in Oil Palm, *Elaeis guineensis*. **Annals of Botany** 87(6): 831-838.
- Rangaswamy NS, Subramanya J, **Tandon R**, Bhuskute SR. **2001**. Microspore Tetrad Analysis – Can either type of microsporangium engender tetrads of all configurations? **Phytomorphology Golden Jubilee Issue**: 573-586.
- **Tandon R**, Manohara TN, Najalingappa BHM and Shivanna KR. **1999**. Polyethylene glycol enhances in vitro germination and tube growth of oil palm pollen. **Indian Journal of Experimental Biology** 37:169-172.
- Mohan Ram HY, **Tandon R**. **1997**. Bamboos and Rattans – From Riches to Rags. Proc. **Indian National Science Academy B63** (3): 245-267.

Other publications (Edited works, Book reviews, Festschrift volumes, etc.)

- Mohanty D, Chandra A, **Tandon R***. **2016**. Germline transformation for crop improvement. In: Vijay Rani, Rao, S. Rama, Raina, S.N. (eds.) *Molecular Breeding for Sustainable Crop Improvement Volume 2*. Springer, ISBN: 978-3-319-27090-6: 343-395
- Singh VK, Mohanty D, Barman C, **Tandon R**. **2016**. Nectar robbing: the hidden component of pollination mutualism. In PA Sinu and KR Shivanna (eds.) *Mutualistic interaction between flowering plants and animals*. Manipal University Press, ISBN: 978-93-82460-26-8: 34-49
- **Tandon R**, Shivanna KR, Mohan Ram HY. **2010**. Reproductive biology of some gum producing Indian desert plants. In Ramawat KG (ed.) *Biology and Biotechnology of Desert Plants*. Springer Verlag.
- Khanduri P, **Tandon R**, Uniyal P, Sehgal A, Mohan Ram H.Y. **2009**. Floral Morphology of Podostemaceae: a conspectus. In Y. Vimla (ed.) *Flower: Retrospect and Prospect*. SR Scientific Publication, Delhi.
- **Tandon R** and Mohan Ram HY. **2009**. The saga of pollination biology. In (eds.) Darwin Bicentenary

Commemoration Volume. National Academy of Sciences India, Allahabad

- Vikas, Sarma K., **Tandon R. 2006.** Plant Reproductive Biology and Conservation of Bioresources, In: Prithipal Singh (ed.) *Biodiversity, Conservation, and Systematics*, Scientific Publishers (India) Jodhpur. 151-162.
- **Tandon R,** Gupta P, Sunnichan VG, Shivanna KR, Mohan Ram HY. **2005.** Reproductive Biology of Some Indian Trees of Economic Importance. In: Chaturvedi SN, Singh KP. (eds.) *Plant Reproductive and Molecular Biology*. Avishkar Publishers, Jaipur.

Publications in the Last one year (July 2016- June 2017)

- Das Kadambini*, **Tandon R,** Bhatnagar A.K. **2017.** Standardization of pollen germination medium for *Pittosporum eriocarpum*, an endangered tree species of Central and Western Himalayas. *The International Journal of Plant Reproductive Biology*. **9(1):** 18-24. DOI 10.14787/ijprb.2017.9.1.18-24
- Das Kamal, Ganie SH, Mangla Y, Dar TH, **Tandon R,** Raina SN, Goel S*. **2017.** ISSR markers reveal male sex identification and genetic composition of different populations of *Hippophae rhamnoides* growing at high altitudes in Leh-Ladakh (Jammu and Kashmir). *Protoplasma* (Published online 19/8/2016) doi.org/10.1007/s00709-016-1013-8
- Devi ML, Sanavar, **Tandon R,** Uniyal PL*. **2016.** Features of seeds of Podostemaceae and their survival strategy in aquatic system. *Rheedia* **26:**29-36.

Conference Organization/ Presentations (in the last three years)

- Invited Speaker, *National Seminar on Changing Scenarios in Plant Sciences –Now and Then*, CCS University, Meerut. December 8-10, **2015**.
- Invited Speaker, National Seminar on “New Vistas in Plant and Microbial Sciences”, Department of Botany, Jammu University (J&K), 11-12 March, **2016**
- Resource person, Workshop on R and Ecoinformatics, Department of Animal Science, Central University of Kerala, Kasargod, Kerala, 2-3 April, **2016**
- Invited Speaker, Anthea-Miranda House Botanical Society, Delhi, 14 February, **2017**
- Invited Speaker, Department of Botany, Hansraj College Summer School Programme under DBT Star College Scheme, 29 May, **2017**
- Resource Person, Summer School-Biological Sciences for the undergraduates, Hans Raj Mahila Maha Vidyalaya, Jalandhar, 5 July, **2017**

Research Projects (Major Grants/Research Collaboration)

- DST: 2002-2005: PI: Reproductive biology of some traditional Indian medicinal plants.
- DBT: 2009-2012: Co-PI: Isolation of sex-linked genes and gender specific DNA markers in *Hippophae rhamnoides*.
- UGC: 2010-2013: PI: Reproductive biology of *Hippophae rhamnoides* and *Hippophae salicifolia*.
- DST-Purse Grant: 2009-2012: Project-Coordinator: Developmental biology and phylogenetic analysis of some endemic species of Podostemaceae.
- MoEF: 2010-2014: PI: All India Coordinated Project entitled – Reproductive Biology of RET tree species namely, *Anogeissus sericea*, *Salvadora oleoides*, *Tecomella undulata*

and *Wrightia tomentosa* of Rajasthan.

Awards and Distinctions

- Dr Y.S. Murthy Young Scientist Award (2008) by the Indian Botanical Society.

Association With Professional Bodies

1. Advisory

- Member, Executive Council, and Fellow, The Society of Plant Reproductive Biologists
- Member, Executive Council, Indian Botanical Society (2013-2017)
- Journal of Economic and Taxonomic Botany, ISSN: 2050–9768, Scientific Publishers

2. Committees and Boards

- Member, Governing Body, Delhi University Library System (2010-2011).
- Member, Purchase Committee for up-gradation of teaching infrastructure and instrumentation facilities at the Department of Botany, University of Delhi (2008 - 2011).
- Member, Program Implementation Group, DST-FIST Grant, Department of Botany, Delhi University (2011-2016).

3. Memberships

- Delhi University Botanical Society (Life Member)
- Indian Botanical Society (Life Member)
- Society of Plant Reproductive Biologists (Life Member)
- Orchid Society of India (Life Member)

Other Activities

1. Reviewer of articles published by

- Plant Systematic and Evolution
- Current Science
- Journal of Plant Biochemistry and Biotechnology
- The Palaeobotanist
- Journal of Biosciences
- Indian Journal of Plant Genetic Resources
- The International Journal of Plant Reproductive Biology
- South African Journal of Botany
- Trees- Structure and Function
- Annals of Botany

Signature of Faculty Member