

Kumaun University, Nainital

Curriculum Vitae

Name : Dr. Tapan K. Nailwal
Designation : Professor and Head
Department : Biotechnology
Contact Information
• Email Address : tapannailwal@gmail.com
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Scopus ID :

Vidwan ID :

Educational Qualification

| Degree | University | Subjects | Year |
|--------|--------------------|--|------|
| BSc | Kumaun University | Zoology, Botany, Chemistry | 1999 |
| MSc | GBPUA&T, Pantnagar | Plant Physiology | 2002 |
| PhD | GBPUA&T, Pantnagar | Plant Physiology (Major), Biochemistry and Biotechnology | 2005 |

Work Experience

| Position | Department | University/Organization | Year |
|---|---------------|-------------------------|-----------|
| Asst. Professor and Associate Professor | Biotechnology | Kumaun University | 2005-2023 |
| Professor and Head | Biotechnology | Kumaun University | 2022-2023 |
| | | | |

Administrative Responsibilities

| S/N | Chairman/Member/Secretary | Committee/Board | Year (From-To) |
|-----|---------------------------|---|----------------|
| 1 | Member Secretary | Institutional Biosafety Committee, of Kumaun University Nainital | 2016 onwards |
| 2 | Member | Commission for Scientific and Technical Terminology, GOI (Biotechnology, English to Hindi Dictionary) | 2013 onwards |

| | | | |
|---|-------------------|---|-----------------|
| 3 | Warden | Babu Jagjivan Ram Boys Hostel, Bhimtal Campus, Kumaun University Nainital | 2016-18 onwards |
| 4 | Programme Officer | National Service Scheme (NSS) | 2006-2009 |
| 5 | Member | Flying Squad | 2006-2009 |

Research Interests

(List your research interests and areas of expertise in 1-3 lines)

Plant and Nano Biotechnology, Plant tissue culture for conservation and improvement of medicinal plants of IHR

Publications (start from recent publications)

a) Research Papers

1. Saumya, Khushboo Dasauni, **Tapan Kumar Nailwal**, Bhavani Prasad Nenavathu. Facile synthesis of Ca doped CuO nanoparticles and their investigation in antibacterial efficacy. *Biologia*(2023). 78(3), 903-911.(**IF-1.65**)
2. Aishwarya Singh, Khushboo Dasauni, **Tapan Kumar Nailwal**, Bhavani Prasad Nenavathu. Formulation of dual functional gCN/TeO₂-ZnO nanocomposites as a controlled release nanofertilizer and antibacterial agent. *Nanotechnology* (2023). 34(15), 155602. (**IF-3.9**)
3. Vishwajeet jadun, Prateeksha Prateeksha **Tapan K Nailwal** Brahma Nand Singh, Antioxidant activity and simultaneous estimation of four polyphenolics in different parts of *Carica papaya* L. by a validated high-performance thin-layer chromatography method. *JPC - Journal of Planar Chromatography - Modern TLC*(2023) 36(1) (**IF-1.6**)
4. Ojo Michael Oseni, **Tapan K. Nailwal**, Veena Pande. Callus induction and multiple shoot proliferation from nodal explants of *Mansonia altissima*: confirmation of genetic stability using ISSR and RAPD markers. *In Vitro Cellular & Developmental Biology – Plant* (2022). <https://doi.org/10.1007/s11627-021-10249-2>1054-5476 / 1475-2689 (**IF=2.25**)
5. Aishwarya Singh, Bhavani Prasad Nenavathu, Khushboo Dasauni · **Tapan Kumar Nailwal**. ROS-Mediated Aquaculture Wastewater Remediation Using TeO₂-Deposited ZnO Nanotubes Water Air Soil Pollut (2022) 233:192, <https://doi.org/10.1007/s11270-022-05668-9>(**IF=2.9**)
6. Ojo Michael Oseni, **Tapan K. Nailwal**, Veena Pande. Assessment of somaclonal variation occurrence in micropropagated *Mansonia altissima* (A. Chev.) A. Chev. using molecular marker. *South African Journal of Botany*, 2022, 149(1): 511-515 (**IF=3.11**)
7. Swati Sinha and **Tapan Kumar Nailwal**. Quality assessment and evaluation of *Oroxylum indicum* through HPLC fingerprint and QAMS for important flavonoid components. *Eurasian Chemical Communications* (2021). 3(1), 45-55
8. Sneha Bhandari &**Tapan K. Nailwal**. Role of brassinosteroids in mitigating abiotic stresses in plants. *Biologia* (2020). DOI 10.2478/s11756-020-00587-8. Springer
9. Ojo Micheal Oseni, **Tapan Kumar Nailwal** and Veena Pande. Germination of *Mansonia altissima* (A. Chev.) A. Chev. Var. *altissima*: An endangered valuable timber species in Africa. *Acta Scientiarum Biological Sciences* (2020). 42

(ManuscriptURL:

<http://periodicos.uem.br/ojs/index.php/ActaSciBiolSci/author/submission/47448>)

10. Neelaxi Pandey, Satpal Singh Bisht, Mahendra Rana, **Tapan Nailwal**, Vinay Singh. Antibiotic potential of few wild edible fruits of family Rosaceae (2019). *Bulletin of Environment, Pharmacology and Life Sciences*.8 (2): 55-59
11. Urvashi Verma and **T. K. Nailwal**. Phytochemical characterization, *in-vitro* antioxidant and antimicrobial efficacy of *Piceas mithiana* (Himalayan Spruce) needles from Kumaun Himalaya (2019). *European Journal of Biomedical and Pharmaceutical Sciences* 6 (1): 407-417
12. Swati Sinha, Kajal Sandhu, Neema Bisht, **Tapan Kumar Nailwal**, Ishan Saini and Prashant Kaushik. Ascertaining the paradigm of secondary metabolism enhancement through gene level modification in therapeutic plants (2019). *J Young Pharm* 11(4):337-343
13. Ojo Micheal Oseni, Veena Pande and **Tapan Kumar Nailwal**. A review on plant tissue culture: A technique for propagation and conservation of endangered plant species (2018). *International Journal of Current Microbiology and Applied Sciences*. 7 (07): 3778-3786
14. Majumder B., Pandey A. K., Oksanen E., **T. K. Nailwal**, Pandey V. Evaluation of impact of tropospheric ozone on gladiolus cultivars using ethylene diurea (2018). *Journal of Emerging Technologies & Innovative Research*. 5(7): 31-41. 35
15. Lalit M. Tewari, Brij M. Upreti, Geeta Tewari, Manoj K. Singh and **Tapan Nailwal**. Comparative *in vitro* activity of extracts of aerial parts of *Ginkgo biloba* L. from Kumaun Himalaya (2017). *World J. of Pharmaceutical Research*. 6 (13): 654-666
16. Manoj Kumar Singh, Pravesh Mishra, Ruchika Sharma, **Tapan Kumar Nailwal**. Antimicrobial potential of wild and micro-propagated *Meizotropis pellita*- an endemic and endangered plant of Kumaun Himalayas (2017). *International journal of advance research in science and engineering*.6 (03): 106-111
17. Ravi Shekhar Kumar, Charu Joshi, and **Tapan Kumar Nailwal**. Callus induction and plant regeneration from leaf explants of Apple (*Pyrus Malus l.*,) cv. Golden Delicious (2016). *International Journal of Current Microbiology and Applied Science* 2: 502-510
18. Charu Joshi, Ravi Shekhar Kumar and **Tapan Kumar Nailwal**. Effect of gibberellic acid, potassium nitrate and chilling on seed germination response of Apple (*Pyrus Malus L*) cv. red delicious (2016). *International Journal of Advance Research*. 4: 1141-1155
19. M. K. Singh, Charu Joshi, Neelu Joshi, Ruchika Sharma, Latika Brijwal, Ravi Shekhar Kumar, **Tapan K. Nailwal**. Scrutinizing the antioxidant potential of *Prunella vulgaris* L.: A medicinal plant from central Himalayan region. (2015). *International Journal of Fundamental and Applied Science* .4(1): 1-8.
20. Geeta Tewari, Brijmohan, Lalit Tewari, Kamal Kishor, **Tapan K. Nailwal** and Manoj Singh. Comparative phytochemical composition and antimicrobial potential of leaf and twig extracts of *Ginkgo biloba* L. from India. (2015). *G- Journal of Environmental Science and Technology*. 2(6)
21. Geeta Tewari, Brij Mohan, Kamal Kishor, Lalit M. Tewari, and **Tapan K. Nailwal**. Volatile constituents of Gingo Biloba L. Leaves from Kumaun : a source of (E)-nerolidol and phytol. (2015). *J. Indian Chem. Soc.*, 92(1583-1586)
22. M. Dhaka and **Tapan K Nailwal**. High efficiency macropropagation of potato (*Solanum tuberosum* L.) cv. Kufriyoti in Kumaun Hills. (2015). *Journal of Plant Breeding and Crop Science*, 7(7): 203-210

23. Sandeep Sharma, Syed Atif Ali, Alok Khare and **Tapan Kumar Nailwal**. Genetic diversity of *Urtica parviflora* in Uttarakhand Himalayas by RAPD marker (2015). *Journal of Biotechnology & Biomaterials*. 5 (2): 183
24. Shweta Mishra, **Tapan K. Nailwal**, Sashi Bhusan Agrawal. Study on Individual and Interactive effects of supplemental UV-B radiation and heavy metals on *Spinacea oleracea*. (2014). *Journal of Environ Biol*. 35(2): 333-340 **IF: 0.68**
25. Shweta Nailwal, Md. Shahbaz Anwar, Kamal Kant Budhani, Amit Verma, **Tapan K. Nailwal**. *Burkholderia* sp. from rhizosphere of *Rhododendron arboretum*: Isolation, identification and plant growth promontory (PGP) activities. (2014). *Journal of Applied and Natural Science*. 6(2): 473-479
26. Pankaj, **Tapan K. Nailwal**, Lalit Singh and Amit Panwar. Isolation and characterization of rhizobial isolates from rhizospheric soil of an endangered plant *Meizotropis pellita*(2014). *Asian Jr. of Microbio. Biotech. Env. Sc.*16(2): 301-306
27. Mohammad Shahbaz Anwar, Mohammad Tahir Siddique, Amit Verma, Yalaga Rama Rao, **Tapan K. Nailwal**, Mohammad Wahid Ansari and Veena Pande. Multitrait palnt growth promoting (PGP) rhizobacterial isolates from *Brassica juncea* rhizosphere, keratin degradation and growth promotion. (2014). *Communicative and Integrative Biology* 7 (1): e72683; 1-9 **IF: 1.6**
28. Neelu Joshi, Alok Shukla, **Tapan K. Nailwal**. Taxonomic and phytomedicinal properties of *O. indicum* (L.) Vent: A wonderful gift of nature. (2014). *Journal of Medicinal Plant Research*. 8(38): 1148-1155.
29. Aseem Kerketta, Vijay Sirohi and **Tapan K. Nailwal**. Antioxidant activity of *Meizotropis pellita*: A critically endangered and endemic plant of Himalayan region. (2014). *Indian J. Sci. Res.*4(1): 140-144
30. Shweta Nailwal, **Tapan K. Nailwal**, Meenakshi Sharma and Shivangi Garg. Physico-chemical characterization of algal oil (oilgae) of Kumaun Himalayan origin for potential biofuel application. (2013), *J Applied Phytotechnology in Environ Sanitation* 2(4): 91-98 **IF 0.605**
31. Shweta Mishra, **Tapan K. Nailwal**, Ramesh Chandra Pant *In vitro* study of role of ethylene during tillering in sugarcane (*Saccharum officinarum* L.). (2013), *Sugartech*. 16 (3):255-263 **IF: 1.873**
32. Lalit Singh, **Tapan K. Nailwal**, Lalit Tewari.. An *in Vitro* Approach for the Conservation of *Meizotropispellita*: An Endangered and Endemic Plant. (2013). *American Journal of Plant Sciences*. 4:1233-1240 **IF: 1.19**
33. Shweta Nailwal and **Tapan K. Nailwal**. Evaluation of antioxidant capacity and total phenolic content of selected microalgae of Kumaun Himalayan region (2013). *International Journal of Pharma and Bio Sciences*. 4(3): 344-355 **IF: 0.888**
34. Vineeta Pandey, **Tapan K. Nailwal**, Rachana Bajpai, Geeta Tewari, Kamal Kishor and Lalit M. Tewari. Studies on Morphological, Chemical and Molecular Aspects of *Ocimum* species from Central Himalaya, India. (2013). *Report and Opinion*. 5 (9): 31-35
35. Renu Singh, Manoj Kumar Singh, Lovy Raj Chandra, Deepa Bhat, Manmeet Singh Arora, **Tapan K. Nailwal**, Veena Pande. *In vitro* antioxidant and free radical scavenging activity of *Macrotyloma uniflorum* dal from Kumaun region. (2012), *Int. J. Fundam Appl Sci*. 1(1): 9-11
36. Chirag Goel, Pankaj Verma, Naseer Ahmad, **Tapan K. Nailwal**. Molecular characterization of the Nettle Plant (*Urtica parviflora*) based on RAPD marker. (2011). *J. of Pharmaceutical and Biomedical Sciences*. 5(21)

37. A.G. Krishnan, **Tapan K. Nailwal**, Alok Shukla, and Ramesh Chandra Pant. Mango (*Mangifera indica* L.) malformation an unsolved mystery. (2009). *Researcher*. 1(5): 20-36
38. Priti Kumari, Lalit M. Tewari, **Tapan K. Nailwal**, Lalit Singh, Geeta Tewari and Bibbesh K. Singh. Chromosomal abnormalities arising under the action of antibiotics in *Pisum sativum*. (2009). *Nature and Science*. 7(3): 104-112
39. Mamta Rani, Y.P.S. Pangtey, Lalit M. Tewari, Sanjay Kumar, Jeeven Singh Jalal, Anita Martolia, Kanchan Upreti and **Tapan K. Nailwal**. Taxonomic studies on the family Pteridiaceae Ching and Pteridaceae Ching (Pteridophyta) in Uttarakhand. (2009). *Researcher*. 1(4):15-41
40. Manmohan S. Khanka, Lalit M. Tewari, Sanjay Kumar, Lalit Singh and **Tapan K. Nailwal**. Extraction of high quality DNA from *Diplonema Butyracea*. (2009). *Researcher*. 1(3): 33-35
41. Rohit Joshi, **Tapan K. Nailwal**, Lalit M Tewari and Alok Shukla. Exploring biotechnology for conserving Himalayan biodiversity. (2009). *Researcher*. 1(3): 36-45
42. Lalit M. Tewari, Geeta Tewari, **Tapan K. Nailwal** and Y.P.S. Pangtey. Bark factors affecting the distribution of epiphytic ferns communities. (2009). *Nature and science*.7(5): 76-81
43. Manisha Pant, **Tapan K. Nailwal**, Lalit M. Tewari, Sanjay Kumar, Priti Kumari, Hemlata Kholia and Geeta Tewari. Molecular characterization of *Valeriana* species with PCR, RAPD and SDS PAGE. (2009). *Nature and Science*. 7(7): 41-49
44. Prabhat Singh, Anand Singh, Arvind K. Shukla, Lalit Singh, Veena Pande, **Tapan K. Nailwal**. Somatic embryogenesis and *in vitro* regeneration of an endangered medicinal plant Sarpagandha (*Rauwolfia serpentina* L.). (2009). *Life Science Journal*. 6(2):55-60 IF: **0.165**
45. M.W. Ansari, **T.K. Nailwal**, G. Bains, A. Shukla, U.S. Singh and R.C. Pant. Effect of ethrel on germination of spores of *Fusarium* sp. from *Mangifera indica* L. (2008). *Pantnagar J Research*. 6(2)
46. **T.K. Nailwal**, K. Anitha Gomathi, Gurdeep Bains, N.K. Sand, Alok Shukla and R.C. Pant. Mango (*Mangifera indica* L.) malformation: role of stress ethylene and cyanide. (2006). *Physiol. Mol. Biol. of Plants*. 12(2): 163-165 IF: 3.44
47. K. Anitha Gomathi, **Tapan Kr. Nailwal**, Gurdeep Bains, Alok Shukla and R.C. Pant. A rapid and efficient protocol for isolation of high-quality genomic DNA from mango (*Mangifera indica* L.). (2005). *Physiol. Mol. Biol. of Plants* 11(2): 169-171. IF: 3.44
48. M.W. Ansari, **T.K. Nailwal**, A. Gomathi, A.K. Singh, G. Bains, A. Shukla, H.S. Chaube, U.S. Singh and R.C. Pant. Mangiferin (1,3,6,7-tetrahydroxyxanthone-C₂-B-D-glucoside), a phenolic metabolite of mango (*Mangifera indica* L.), affects germination of spore of *Fusarium* sp. (2005). *J. Plant Biol*. 32(3): 155-159. IF: 2.659
49. **T. K. Nailwal**, V.K. Gupta, N.K. Sand and R.C. Pant. Role of ethylene in tillering of sugarcane (*Saccharum officinarum* L.). (2004). *Physiol. Mol. Biol. of Plants*. 10(1): 127-130. IF: 3.44

b) Patents (start from recent publications)

| Authors name | Title of the patent | Patent no (Granted or filed) | Year |
|--------------|---------------------|------------------------------|------|
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c) Books (start from recent publications)

| Authors name | Title of the book | Publisher | ISBN | Year |
|--------------|-------------------|-----------|------|------|
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d) Book chapters (start from recent publications)

| Authors name | Title of the book | Publisher | ISBN | Year |
|--------------|--|--|---|------|
| S/N | Author(s) | Title | Publisher | |
| 1. | Khushboo Dasauni, Divya and Tapan Kumar Nailwal | Endophytes based nanoparticles: A novel source of biological activities | Endophytic Association: What, Why and How <u>10.1016/B978-0-323-91245-7.00010-9</u> (Elsevier) | 2023 |
| 2. | Khushboo Dasauni, Divya and Tapan Kumar Nailwal (2022) | In: An Innovative Approach of Advanced Oxidation Processes | Advanced oxidation process in waste water reuse ISBN: 978-1-68507-235-3 (Nova Science) | 2023 |
| 3. | Sneha bhandari, swati Sinha, Tapan K. Nailwal and Devarajan Thangadurai | Nanotechnology: An Approach for Enhancement of Plant System in Terms of Tissue Culture | Publishers- Biogenic Nanomaterials | 2022 |
| 4. | Khushboo Dasauni, Divya and Tapan Kumar Nailwal | Advanced oxidation process in wastewater reuse | An Innovative Approach of advanced oxidation process in waste water treatment Publisher- Nova Science Editor: Maulin P. Shah ISBN978-1-68507-235-3 | 2022 |
| 5. | Khushboo Dasauni and Tapan Kumar Nailwal | Current developments in nanotechnology for the growth of different industrial sectors: 2010-20 | Nano- enabled agrochemicals in agriculture Editor- mansourGhorbanpour Muhammad Adnan Shahid Academic press, Elsevier ISBN: 9780323910095 | 2022 |
| 6 | Khushboo Dasauni, Divya and Tapan | Removal of Contaminants by | Biochar and its application in bioremediation Publisher- Springer | |

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|---|--|---|---|------|
| | Kumar Nailwal | Modified Biochar-Based Material | Editors: Riti Thapar Kapoor, Helen treichel, Maulin P. Shah ISBN-9789811640582 | |
| 7 | Khushboo Dasauni, Divya, Priyanka Mathpal and Tapan Kumar Nailwal | Polymeric nanoparticle-based insecticide: A critical review of agriculture production | Nano-enabled agrochemicals in agriculture Editor- mansourGhorbanpour Muhammad Adnan Shahid Academic press, Elsevier ISBN: 9780323910095 | 2022 |

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|-----|--|---|--|------|
| 8. | Khushboo Dasauni and Tapan Kumar Nailwal | Nano-delivery system: In the agriculture sector | Nano-enabled agrochemicals in agriculture Editor- Mansour, Ghorbanpour Muhammad Adnan Shahid Academic press, Elsevier ISBN: 9780323910095 | 2022 |
| 9. | Khushboo Dasauni, Deepa Bisht, and Tapan K. Nailwal | Rhizosphere Modelling and Nanotechnology: New Outlooks in Sustainable Agriculture | Microbiological activity for soil and plant health management Publisher- springer Editors-R. Soni, DC Suyal, P. Bhargava, R. Goel ISBN-978981162911 | 2022 |
| 10. | Khushboo Dasauni, Divya and Tapan Kumar Nailwal | Water Reuse and Recycling: The great rejuvenation to the environment | Removal of refractory pollutants from wastewater treatment plants Editor: Maulin P. Shah Publisher-CRC Press Taylor and Francis group ISBN-9780367758127 | 2022 |
| 11. | Khushboo Dasauni, Divya and Tapan Kumar Nailwal | Removal of Contaminants by Modified Biochar-Based Material | Biochar and its application in bioremediation Publisher- Springer Editors: Riti Thapar Kapoor, Helen treichel, Maulin P. Shah ISBN- 9789811640582 | 2022 |
| 12. | Ojo Michael Oseni, Tapan Kumar Nailwal and Veena Pande (2020) | <i>Momordiacharantia</i> L. (Cucurbitaceae), a vegetable of utmost nutritive and pharmacological importance | Natural products and their utilization patterns, Nova Science Publishers, Inc. ISBN: 978-53618-140-1 | 2020 |
| 13. | S.Bhandari, S.Sinha, Tapan K Nailwal (2018) | Youth migration-Reasons and impact on hill agriculture of | Jagdamba Publishing Company, New Delhi (India). | |

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|--|--|--|-------------------------|--|
| | | Uttarakhand. Migration from Indian Himalayas Region Challenges and Strategies. | ISBN: 978-93-85437-17-5 | |
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| 14. | S.Bhandari, Tapan K.Nailwal(2020) | Exploration of Microbial communities of Indian Hot springs and their potential Biotechnological applications | Recent Advancements in Microbial Diversity, Elsevier ISBN: 978-0-12-821265-3 | 2021 |
| 15. | Khushboo Dasauni, Tapan K. Nailwal (2020) | The Biodiversity of Microbial life | Recent Advancements in Microbial Diversity, Elsevier ISBN: 978-0-12-821265-3 | 2021 |
| 16. | Lokesh Tripathi, Tapan K. Nailwal (2020) | Metagenomics: Applications of functional and Structural approaches and meta-omics | Recent Advancements in Microbial Diversity, Elsevier ISBN: 978-0-12-821265-3 | 2021 |
| 17. | Khushboo Dasauni, Tapan K. Nailwal (2020) | Zinc finger proteins: Novel sources of genes for abiotic stress tolerance in plants | Transcription Factors for Abiotic Stress Tolerance in Plants, Elsevier ISBN: 978-0-12-819334-1 | 2021 |
| 18. | S.Bhandari, S. Sinha, Tapan K.Nailwal | Nanotechnology: an approach for enhancement of plant system in terms of Tissue culture | Nanotech. In life science, Phytonanotechnology Springer (In-Press) | 2021 |
| 19 | Md Shahbaz Anwar, Anupam Pandey, Manoj Kumar Singh, Nazia Firdous, Amit Verma, Mohammad Wahid Ansari and Tapan Kumar Nailwal | Ethnobotanical uses of a highly medicinal plant <i>Prunella vulgaris</i> and its diversity | “Scope of Phytochemically Unexplored Medicinal Plants”, Enriched Publication, New Delhi (India) ISBN - 978-1-63535-013-5 | 2018 |
| 20. | Anupam Pandey, Priyanka H Tripathi, Satish Chandra Pandey, Tara Singh Bisht, Vinay Mohan Pathak, Tapan Kumar Nailwal | Removal of toxic pollutants from soil using microbial biotechnology | Microbial Biotechnology in Environmental Monitoring and Cleanup, IGI Global International Publisher, USA ISBN: 9781522531265 | 2018 |
| 21 | Pankaj, Tapan K. Nailwal (2018) | Crop Improvement Through Microbial Technology: a Step Towards Sustainable Agriculture | “Crop improvement through Microbial Biotechnology” ed’s: Ram Prasad, S. S. Gill and Narendra Tuteja. Elsevier, USA ISBN: 9780444639875 | 2018 |
| 22 | Lalit M.Tiwari, Brij | Conservation of | Microbiological and | 2017 |

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|--|--|--|--|--|
| | M.Upreti, Neetu Bohra, Mamta Bharti, Naveen Pandey, Neha Chopra, Geeta Tewari, Tapan Nailwal (2017) | <i>Ginkgo biloba</i> L. through in-vitro techniques and its Molecular characterization | Pharmacological Aspects of Biodiversity, Discovery Publishing House Pvt.Ltd., New Delhi (India) ISBN: 978-93-5056-878-1 | |
|--|--|--|--|--|

e) Conference Publications/Proceedings (start from recent publications)

| Authors name | Title of the paper | Conference name | Year |
|---|--|---|------|
| Aishwarya, Khushboo, Tapan nailwal, Bhavani | Facile synthesis and characterization of Te-doped CuO nanoparticles for increased antibacterial and photocatalytic activity, | 3rd International Conference on Advances in Smart Materials and Emerging Technologies (ASMET, 2022) is being organized with the theme “Technologies for Sustainable Future “ on 15th-16th December 2022 by the Department of Applied Sciences and Humanities, Indira Gandhi | 2022 |
| Saumya, Khushboo, Tapan nailwal, Bhavani | TeO ₂ deposited ZnO nanotubes combined with cefotaxime as a nanoantibiotic against Klebsiella pneumoniae, 2022 Materials Today: Proceedings | 3rd International Conference on Advances in Smart Materials and Emerging Technologies (ASMET, 2022) is being organized with the theme “Technologies for Sustainable Future “ on 15th-16th December 2022 by the Department of Applied Sciences and Humanities, Indira Gandhi | 2022 |

Projects Ongoing

| S/N | Title of the project | Funding Agency | Amount (Rs.) | Year (from-To) |
|-----|---|--|--------------|----------------|
| 01 | Green synthesis of nanoparticles from medicinal/industrial <i>Cannabis</i> species of Uttarakhand Himalayan region and establishment of its micropropagation protocol | UCB, Ministry of Agriculture, Biotech Bhavan, Haldi, Uttarakhand | 5.6Lac | 2023-2025 |
| 02 | Mass multiplication, hardening and acclimatization of <i>in vitro</i> regenerated <i>Meizotropis pillita</i> Vern, patwa plantlets | Kumaun University, Nainital | 1.6 lacs | 2024-25 |

(A) Completed

| S/N | Title of the project | Funding Agency | Amount (Rs.) | Year (from-To) |
|-----|---|-----------------------------------|--------------|-------------------|
| 1. | <i>IN VITRO</i> MICROPROPAGATION OF <i>RHODODENDRON ARBOREUM</i> SM. (VERN., BURANS) AN IMPORTANT FOREST SPECIES OF UTTARANCHAL HILLS. | DBT, Govt. of India | 15.25 Lacs | Mar2007-Mar 2010 |
| 2. | <i>IN VITRO</i> MICROPROPAGATION OF <i>MEIZOTROPIS PELLITA</i> (VERN., PATWA A VERY RARE, ENDANGERED & ENDEMIC PLANT OF PATWADANGER, NAINITAL-UTTARAKHAND-INDIA | UCOST, Govt. of Uttarakhand | 06.15 Lacs | Sep 2007-Sep 2009 |
| 3 | <i>IN VITRO</i> MASS MULTIPLICATION OF SUPERIOR CLONES OF APPLE (<i>Pyrus malus</i> L) CULTIVARS OF RAMGARH REGION OF MUKTESHWAR KUMAUN HILLS, UTTARAKHAND | UGC Govt. of India | 12.508 Lacs | July 2012-2015 |
| 4 | <i>IN VITRO</i> MACRO AND MICRO PROPAGATION WITH BIOCHEMICAL AND MOLECULAR CHARACTERIZATION OF <i>ACONITUM BALFOURI</i> Staph., AND <i>PICRORHIZA KURROA</i> Royle ex Benth, IMPORTANT PLANT SPECIES OF UTTARAKHAND | USBD Govt. of Uttarakhand | 10.00 Lacs | June 2012-2015 |
| 5 | GENETIC TRANSFORMATION THROUGH <i>AGROBACTERIUM RHIZOGENES</i> FOR ENHANCED PRODUCTION OF POTENTIAL ALKALOIDS IN <i>BERBERIS</i> Spp OF KUMAUN HIMALAYAN REGION | USBD Govt. of Uttarakhand (CO-PI) | 5.38 Lacs | Nov 2012-2015 |
| 6 | STUDIES ON CONSERVATION OF <i>GINKGO BILOBA</i> Linn. (<i>GINKGOACEAE</i>): A RARE EXOTIC MEDICINAL PLANT | UGC Govt. of India (CO-PI) | 8.018 Lacs | July 2012-2015 |
| 7 | ASSESSMENT OF ANTIMICROBIAL AND ANTIOXIDANT POTENTIALITY OF SOME GYMNOSPERMS OF KUMAUN HIMALAYA | DBT Govt. of India (CO-PI) | 12.0 lacs | July 2014-2017 |

Teaching details

| Name of the course/paper | Department | University | Year |
|--------------------------|---------------|-------------------|------------|
| Plant Biotechnology | Biotechnology | Kumaun University | Since 2005 |
| Immunology | Biotechnology | Kumaun University | Since 2005 |
| Cell biology | Biotechnology | Kumaun University | Since 2005 |

Professional Memberships

| S/N | Name of the Association/Organizations | Status of membership |
|-----|---|----------------------|
| 1 | Society of Biological Chemists | Life Membership |
| 2 | The Indian Science Congress Association | Life Membership |
| 3 | Global Initiative of Academic Networks | Life Membership |

Honours and Awards

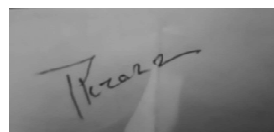
| Award | Awarding Organization | Year |
|-----------------------|-----------------------|------|
| Young scientist award | UGC | 2023 |

Conference Presentations

| S. No. | Title of the paper/ Invited lecture | Title of conference/ Seminar etc. | Organized by | International/ National |
|--------|--|---|--|----------------------------|
| 1. | Antimicrobial Activity of Wild and Micropropagated <i>Meizotropis pispellita</i> – an Endemic and Endangered Plant of Kumaun Himalayas | NMPB sponsored National Conference on “Recent Advances in Ayurvedic herbal medicine – From source to manufacturing”. 15-16 Sep 2017 | Faculty of Biomedical Sciences, Uttarakhand Ayurved University, Dehradun | National |
| 2. | Genome editing in plants: An important tool for improving water use efficiency | Plant Responses to Light and Stress: Emerging Issues in Climate Change (PRLS 2018) 10-12 Oct 2018 | International Centre for Genetic Engineering and Biotechnology (ICGEB), New Delhi-INDIA | International |
| 3. | <i>In vitro</i> antimicrobial activity of essential oils of medicinal plants against pathogenic bacteria | Medicinal, Aromatic and Nutraceutical Plants from Mountain Areas (ACMAP) Feb 14-16 2019 | Jointly organized by The Department of Life Sciences & Biotechnology GEU, Dehradun UK-INDIA and American Council for Medicinally Active Plants (ACMAP) USA | International |
| 4. | Over production of flavanoids in <i>Oroxylum indicum</i> under <i>in vitro</i> conditions through elicitation | Medicinal, Aromatic and Nutraceutical Plants from Mountain Areas (ACMAP) Feb 14-16 2019 | Jointly organized by The Department of Life Sciences & Biotechnology GEU, Dehradun UK-INDIA and American Council for Medicinally Active Plants (ACMAP) | International |

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| | | | USA | |
| 5. | Phytoremediation processes: physiological responses of plants to heavy metals | Energy, Functional Materials and Nanotechnology & Sustainable Environmental Management (ICFEN & SEM) May 24-26 2019 | Nanoscience and Nanotechnology Centre, Department of Chemistry, Kumaun University Nainital-263002, UK-INDIA | International |
| 6. | Micro/Macro Propagation of <i>Oroxylum indicum</i> Vent (L.) and its Antioxidant Analysis | PTCAI Sponsored National Symposium on Trends in Plant Biotechnology & Agriculture. 6-8 th Feb 2020 | Thapar Institute of Engineering and Technology, Patiala, Punjab | National |
| 7. | Diversity, Biotechnology and Secondary Metabolites of Plants | CBSE, GOI Sponsored Webinar for DPS, Bangalore-North, Karnataka-Uttarakhand Twinning Initiative of CBSE. 25 July 2020 | Delhi Public School, Bangalore, Karnataka (INDIA) | National |
| 8. | Biological Diversity, Biotechnology and Secondary Metabolites of Himalayan Plants | STC on Technological Developments in Bioprocessing. 23 rd Sep –27 th Sep 2020 | Department of Biochemical Engineering, B.T. Kumaun institute of Technology, Dwarahat, UK | National |
| 9. | MICROPROPAGATION: The Revolutionary Technology <i>that saves</i> Time, Money and Nature <i>for</i> Humans | e-Refresher Course on Plant Tissue Culture: Scope and Opportunities. 17 th Oct 2020 | AKS University, Satna-84001 (MP)-INDIA | National |
| 10. | “Betel farming economically important plant for Uttarakhand”, | one day symposium on “Reinventing Biochemical networks and Nutrition and Health in post genomic Era” | G.B.P.U.A&T., Pantnagar, October, 2018. | National |
| 11. | “Next Generation sequencing and role of Bioinformatics in its analysis”, | Emerging Trends in Engineering, Management & Sciences, conducted by Graphic Era, Bhimtal., | Graphic Era, Bhimtal. International Conference on April, 2019. | International |

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| 13. | Biodiversity: basis of global life forms” | Two day conference on World Environment Day held during June 5-6 2020 | School of Biological Engineering & Life Sciences Shobhit Institute of Engineering and Technology, Shobhit University Meerut, India. 5-6 June,2020 | International |
| 14. | Green synthesis of Sulphur Nanoparticles using <i>Cannabis sativa</i> Leaves and its Effect on <i>In Vitro</i> Regeneration of <i>Cannabis sativa</i> | APBNS, at NASC Complex, by NIPB, New Delhi. 2022 | 43 rd PTCA(INDIA) | International |
| 15. | 44 th PTCA(INDIA) on Synthesis of sulphur nanoparticles from <i>Cannabis sativa</i> leaves and studies on its multifunctional role as an antibacterial agent and nanofertilizer | IFANS, at NABI, Mohali, India, 2023 | 44 th PTCA(INDIA) | International |



Signature of the faculty member

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