


Brief Biodata

<p>Name & Affiliation</p> 	<p>Professor Neelam Sangwan, FNA, FNAAS M.Sc (Biochem), Ph.D (University of Lucknow), INSA-Royal Society Visiting Scientist UK; Visiting Scientist Noble Foundation, USA; INSA and NAAS Young Scientist Medal</p> <p>Head, Department of Biochemistry Central University of Haryana, Mahendergarh, Jant-Pali; nsangwan@cuh.ac.in; drneelamsangwan@gmail.com mobile: 9415766696;</p>
<p>Education, employment and research/academic assignments:</p>	<ul style="list-style-type: none"> • M.Sc (Biochem), University of Lucknow, Lucknow • Ph.D, University of Lucknow, Lucknow • Proficiency in German Language, University of Lucknow, Lucknow • Certificate Course in Yoga, University of Lucknow, Lucknow • Visiting Scientist (BOYSCAST Fellow), Noble Foundation, USA • Visiting Scientist (INSA-Royal Soc), John Innes Centre, Norwich, UK • Professor, Academy of Scientific and Innovative Research (AcSIR) • Chief Scientist, CSIR-Central Institute of Medicinal and Aromatic Plants (CIMAP), Lucknow-(Till Jan 2019) • Senior Principal Scientist, CSIR-Central Institute of Medicinal and Aromatic Plants (CIMAP), Lucknow-(Till July 2015) • Principal Scientist, CSIR-Central Institute of Medicinal and Aromatic Plants (CIMAP), Lucknow-(Till July 2009) • Scientist E1, CSIR-Central Institute of Medicinal and Aromatic Plants (CIMAP), Lucknow-(Till July 2004) • Scientist-C, CSIR-Central Institute of Medicinal and Aromatic Plants (CIMAP), Lucknow-(Till July 1994) • Scientist B, CSIR-Central Institute of Medicinal and Aromatic Plants (CIMAP), Lucknow-(Till Jan 1992) • Scientist B, CSIR-CSIR Complex, Palampur (Now IHBT, Palampur), (July 1989-Jan 1992)

Administrative Responsibilities

- **Head**, Dept of Biochemistry, Central University of Haryana
- **Provost** (g), Central University of Haryana
- **Coordinator**, Department of Pharmaceutical Sciences, Central University of Haryana
- **Observer**, CUCET (All India examination for Admission in UG, PG and Ph.D)-2019
- **Member**, Hostel management committee, Central University of Haryana
- **Member**, Academic Council, Central University of Haryana
- **Chairperson**, Board of Studies (Biochemistry), Central University of Haryana
- **Chairperson**, Board of Studies (Pharmaceutical Sciences), Central University of Haryana
- **Member**, School Board, Central University of Haryana
- **Member**, Proctorial Board, Central University of Haryana
- **Members** of the Court, Central University of Haryana
- **Chairperson**, Departmental Academic Integrity Panel (DAIP), Dept of Biochemistry, Central University of Haryana
- **Member**, Departmental Academic Integrity Panel (DAIP), Dept Biotechnology, Central University of Haryana
- **Chairperson**, Departmental Academic Integrity Panel (DAIP), Dept Pharmaceutical Sciences, committee, Central University of Haryana
- **Chairperson**, Departmental Academic Integrity Panel (DAIP), Dept Library and Information Sci, committee, Central University of Haryana
- **Presiding Officer**, Internal Complaint Committee, Central University of Haryana
- **State Nodal officer-Jigyasa Student-scientist** connect programme of CSIR-KVS
- **Member Collegium-** Annual assessment of scientist of CSIR-CIMAP, Lucknow

		<ul style="list-style-type: none"> • Chairperson, Health Committee, CSIR-CIMAP, Lucknow • Member-Screening and selection Committee, CSIR-CIMAP, Lucknow
	<p>Honors/ Award/ Distinctions</p>	<p>Academy Fellowships/membership</p> <ul style="list-style-type: none"> • Fellow, Indian National Science Academy (INSA), N Delhi • Fellow, National Academy of Agricultural Sciences (NAAS), N Delhi • Member, National Academy of Sciences, India (NASI, Allahabad • Member, Society of Biological Chemists (SBC), India • Member, Indian Science Congress Association (ISCA), <p>Early Career Research Fellowships</p> <ul style="list-style-type: none"> • BOYSCAST Fellowship • INSA-Royal Society, UK Fellowship • Dr K S Krishnan Fellowship (DAE), India • UGC Research Fellowship (NET) <p>Major Awards/Honors</p> <ul style="list-style-type: none"> • INSA Medal for Young Scientist • NAAS Young Scientist Award • Indian Science Congress Award-Prof Hira Lal Chakravorty Award • CSIR-Technology Award from Dr Harshvardhan, Minister of Science and Technology (as PI and leader) • DBT-Women Leaders in Crop Science delegate to • Cambridge University, UK under Newton-Bhabha Program
	<p>International Visits</p>	<ul style="list-style-type: none"> • USA-Noble Foundation (Research) • UK-John Innes Centre (Research) • UK-Cambridge University, Clare College-Human Frontier Program

		<ul style="list-style-type: none"> • Australia-RMIT University (Exploring collaboration initiatives) • China-Jiangnan University, Wuxi (Invited lecture) • Spain-ISPMB, Barcelona conference presentation
	Expert/ Member Taskforce	<ul style="list-style-type: none"> • Expert member technical committee-INDO-ASEAN R&D proposals of Department of Science and Technology, N Delhi • Reviewer- STRIDE (UGC), N Delhi • Subject expert committee member, Recruitment in CSIR, ASRB (served) • Task force member, UP Council of Science and Technology-UPCST (Served) • Task force member, Department of Biotechnology (DBT) • Member, CSIR-Plant Sciences Research Committee • Invited member, Helmholtz-Indian Platform on Science, Technology, Education and Research • Member, Review Committee on Genetic Manipulation, DBT, Government of India (2019) • Member, Committee for Evaluation of projects of 14th Financial Commission (2019) • Reviewer Kothari Fellowship-Evaluation of National postdoctoral fellowship
	Review of Projects and Manuscripts/ Editorship	<ul style="list-style-type: none"> • Reviewed projects from national funding agencies CSIR, ICMR, DBT and DST, UGC • Reviewed projects from international funding agencies NIH-USA, Israel Govt • Publications from about 40 International Journals • Managing Editor-Plant Growth Regulation (Springer)
	Human Resource Developed	<ul style="list-style-type: none"> • Mentored-NPDF, DBT Postdoctoral Fellows and CSIR-postdoctoral fellows • Supervised/co-supervised- Ph.Ds (Thirteen) • Supervised-M.Phil/ M.Tech/ M.Sc (Fifty) • Supervised-KVPY Fellow, three academies summer fellows • Supervised-TWAS, Raman International fellows • Mentored Women Scientist: WOS, DBT BioCARE

	Courses Taught	Taught courses of Ph.D, M.Sc-JNU, AcSIR, CUH <ul style="list-style-type: none"> • Plant Biochemistry • Biology of Macromolecules • Synthetic Biology • Advances in Gene Silencing • Chemistry and Biology of Natural Products • Advances in Genomics and Proteomics • Genetic engineering and Biotechnology
	Research Student Examinership	<ul style="list-style-type: none"> ▪ Ph.D, M.Tech. and MSc. Thesis/dissertation of IIT, DU, BHU, JNU, AKTU and other Universities ▪ Doctoral advisory committee member for scholars registered under JNU ▪ Doctoral advisory committee member for scholars registered under AcSIR
	Area of Research	<ul style="list-style-type: none"> • Medicinal and Aromatic Plants (MAPs), and Nutraceuticals • Biosynthesis of Natural Products • Plant Secondary Metabolism • Functional Genomics of MAPs • Transcriptome, Genome Sequencing, Assembly and Mapping of Metabolic Pathways • Recombinant Protein Expression and Characterization • Transgenic Plants for Stress Tolerance • Transgenic Plants for Modulation of Secondary Metabolites • Chemotypes and Phytochemicals-Terpenoid/Steroid and others • Trichomes-Structural and Functional Characterization • Cross Talk of pathways across intracellular compartments • Mechanisms in plants for abiotic (drought, heavy metal) stress • Phytochemical Based Pharmacological Properties such as • Neuroprotection, Anti-Inflammatory (in Collaboration) <p>MAPs: <i>Withania somnifera (ashwagandha), W. coagulans, Ocimum species (Tulasi), Pelargonium (Rose scented geranium) species, Mentha species, Artemisia annua, Centella asiatica, Aroma grasses, Dioscoria sps, Gymnema Sylvester, Boerhavia diffusa</i></p>
	Major Translational Leads	<ul style="list-style-type: none"> ✓ Pharmacologically optimized Ashwagandha extracts/prepared formulation and phytochemical processes for evaluation of pharmacological activities such as immunomodulatory, neuroactive, anti-oxidant etc;

		<ul style="list-style-type: none"> ✓ Ashwagandha variety NMITLI-118 (member, Released 2009) ✓ Ashwagandha variety NMITLI-101, the lead varieties (Released 2015 from Vigyan Bhawan by Honorable minister Dr Harshvardhan)) ✓ Ashwagandha basic and translational work-Winner of CSIR Technology Award 2015 ✓ Chemotypes of Ashwagandha
	External agency grants/projects Implemented	<ul style="list-style-type: none"> • Department of Science and Technology (DST), Delhi • Department of Biotechnology (DBT), N Delhi • Indian National Science Academy (INSA), Delhi • New Millennium Indian Technology Leadership Initiative (NMITLI), N Delhi • CSIR (FTT, Network) • CSIR-Mission Projects (Aroma mission and Phytopharmaceutical Projects)
	Publications	<ul style="list-style-type: none"> • About 91 publications in high impact factor in International journals • Book Chapters (six) • Patents • International/National conference presentations • Citations about 4520, • h-index -39; • i10 index -78
	Social outreach and responsibilities	<ul style="list-style-type: none"> ❖ Nodal Scientist (CSIR-CIMAP)-KVS Jigyasa Program of state of UP (2017-2019), ❖ Coordinated visits and workshops for bright young students of KVS for inculcating scientific temperament ❖ Participated in CSIR-program on MAPs cultivation and future prospects in villages of UP under rural development program (CSIR-800) with AcSIR scholars ❖ Chairperson-ICC, CSIR-CIMAP, Lucknow ❖ Member Advisory Committee, Health conclave at India International Science Festival (IISF) held at Lucknow-2018 for organizing Health Conclave, CMEs, Health Expo ❖ Convener-National Conference on <i>Bharat ka Vigyan mein Yogdan (March 5, 2020)</i>

Selected Publications Only

- Tripathi S, Srivastava Y, Sangwan RS, **Sangwan Neelam S** (2020) In silico mining and functional analysis of AP2/ERF gene in *Withania somnifera*. *Scientific Reports* 10 4877 (Corresponding author)
- Tripathi S, Sangwan RS, Mishra B, Jadaun JS, **Sangwan Neelam S** (2019) Berry transcriptome: Insights into a novel resource to understand development dependent secondary metabolism in *Withania Somnifera*. **Physiologia Plantarum**. doi:10.1111/ppl.12943 (Corresponding author)
- Maurya S and **Sangwan NS** (2019) Profiling of essential oil constituents in *Ocimum* species. *Proc. Natl. Acad. Sci., India, Sect. B Biol. Sci.* DOI 10.1007/s40011-019-01123-8 (Corresponding author)
- Mishra B, **Sangwan Neelam S**, (2019) Amelioration of cadmium stress in *Withania somnifera* by ROS management: Active participation of primary and secondary metabolism. **Plant Growth and Regulation** 87:403–412 (Corresponding author)
- Mishra B, Chand S, **Sangwan Neelam S**, (2019) ROS management is mediated by ascorbate-glutathione- α -tocopherol triad in co-ordination with secondary metabolic pathway under cadmium stress in *Withania somnifera*. **Plant Physiology and Biochemistry** 139: 620-629 (Corresponding author)
- Maurya S, Chandra M, Yadav RK., Narnoliya LK., Sangwan RS, Bansal S, Sandhu P, Singh U, Kumar D, **Sangwan Neelam S** (2019) Interspecies comparative features of trichomes in *Ocimum* reveal insights for biosynthesis of specialized essential oil metabolites. **Protoplasma** 81: 1–15 (Corresponding author)
- Tripathi S, Sangwan RS, Narnoliya, LK, Srivastava, Y, Mishra B, **Sangwan Neelam S** (2017) Transcription factor repertoire in Ashwagandha (*Withania somnifera*) through analytics of transcriptomic resources: Insights into regulation of development and withanolide metabolism. **Scientific Reports** doi:10.1038/s41598-017-14657-6 (Corresponding author)
- Nilofer A, Singh AK, Kumar D, Kaur P, **Sangwan Neelam S**, Singh S (2018) A novel method for survival of rose-scented geranium (*Pelargonium graveolens* L.) mother plants under extreme climatic conditions. **Industrial Crop Products** 126: 227-237
- Bansal S, Narnoliya LK, Mishra B, Chandra M, Yadav RK, **Sangwan Neelam S** (2018) HMG-CoA reductase from Camphor Tulsi (*Ocimum kilimandscharicum*) regulated MVA dependent biosynthesis of diverse terpenoids in homologous and heterologous plant systems. **Scientific Reports** 8:3547 DOI:10.1038/s41598-017-17153-z (Corresponding author)
- Yadav RK, Sangwan RS, Srivastava AK, **Sangwan Neelam S** (2016) Prolonged exposure to salt stress affects specialized metabolites-artemisinin and essential oil accumulation in *Artemisia annua* L.: metabolic acclimation in preferential favour of enhanced terpenoid accumulation *Protoplasma* DOI 10.1007/s00709-016-0971-1 (Corresponding author)

- Yadav RK, Sangwan RS, Srivastava AK, Maurya S, **Sangwan Neelam S** (2015) Comparative profiling and dynamics of artemisinin related metabolites using efficient protocol and expression of biosynthetic pathway genes during developmental span of two elite varieties of *Artemisia annua* L. *J Plant Biochem Biotech* 24: 167-175 (Corresponding author)
- Ahmad H, Samuel SS, Khandelwal K, Arya A, Tripathi S, Agrawal S, **Sangwan, Neelam S**, Shukla R, Dwivedi AK (2016) Enduring protection provided by NMITLI118RT+ and its preparation NMITLI118RT+ CFM against ischemia/reperfusion injury in rats. **RSC Advances** 6:42827-42835
- Jadaun JS, **Sangwan Neelam S**, Narnoliya L, Tripathi S, Sangwan RS (2015) *Withania coagulans* tryptophan decarboxylase gene cloning, heterologous expression, and catalytic characteristics of the recombinant enzyme-Protoplasma DOI 10.1007/s00709-015-0929-8
- Gupta P, Goel R, Agarwal A, Asif M, **Sangwan Neelam S**, Sangwan RS, Trivedi P (2015) Comparative transcriptome analysis of different chemotypes elucidates withanolide biosynthesis pathway from medicinal plant *Withania somnifera*. **Scientific Reports** 5: 18611.21. doi: 10.1038/srep18611
- Verma G, Mishra S, **Sangwan Neelam S** and Sharma S (2015) Reactive oxygen species mediate axis-cotyledon signaling to induce reserve mobilization during germination and seedling establishment in *Vigna radiata*. **J Plant Physiol** 184, Pages 1-106: 79-88
- Tiwari P, Sangwan RS, **Sangwan Neelam S**. (2016) Plant secondary metabolism linked glycosyltransferases: An update on expanding knowledge and scopes. **Biotechnology Advances** doi:10.1016/j.biotechadv.2016.03.006 (IF 9.950; Corresponding author)
- Mishra S, Bansal S, Sangwan RS, **Sangwan Neelam S** (2016) Genotype independent and efficient Agrobacterium-mediated genetic transformation of the medicinal plant *Withania somnifera* Dunal. **J Plant Biochem Biotechnol** 25:191-198 (Corresponding author)
- Singh J, Sabir F, Sangwan RS, Narnoliya LK, Saxena S, **Sangwan Neelam S** (2015) Enhanced secondary metabolite production and pathway gene expression by leaf explants-induced direct root morphotypes are regulated by combination of growth regulators and culture conditions in *Centella asiatica* (L.) urban. **Plant Growth Regulation** 75, 55-66 DOI 10.1007/s10725-014-9931-y (Corresponding author)
- Singh J, Sangwan RS, Gupta S, Saxena S, **Sangwan Neelam S** (2014) Profiling of triterpenoid saponin content variation in different chemotypic accessions of *Centella asiatica* L. **Plant Genetic Resources: Characterization and Utilization**; 1–4 doi:10.1017/S1479262114000860 (Corresponding author)

- Rastogi S, Meena S, Bhattacharya A, Ghosh S, Shukla RK, **Sangwan Neelam S**, Lal RK, Gupta MM, Lavania UC, Gupta V, Nagegowda DA and Shasany AK (2014) De novo sequencing and comparative analysis of holy and sweet basil transcriptomes. **BMC Genomics**, 15:588 doi:10.1186/1471-2164-15-588 (Corresponding author)
- Srivastava S, Sangwan RS, Tripathi S, Mishra B, Narnoliya LK, Misra LN and **Sangwan Neelam S** (2015) Light and auxin responsive cytochrome P450s from *Withania somnifera* Dunal: cloning, expression and molecular modelling of two pairs of homologue genes with differential regulation **Protoplasma** DOI 10.1007/s00709-015-0766-9 (Corresponding author)
- Mishra S, Bansal S, Sangwan RS and **Sangwan Neelam S** (2015) Genotype independent and efficient Agrobacterium-mediated genetic transformation of the medicinal plant *Withania somnifera* Dunal **Journal of Plant Biochemistry Biotechnology** DOI: 10.1007/s13562-015-0324-8 (Corresponding author)
- Rajakani R, Narnoliya, L, **Sangwan Neelam S**, Sangwan R.S. and Gupta V (2014) Subtractive transcriptomes of fruit and leaf reveal differential representation of transcripts in *Azadirachta indica*. **Tree Genetics and Genomes**. DOI 10.1007/s11295-014-0764-7
- Tiwari P, Sharma P, Khan F, **Sangwan Neelam S**, Mishra BN and Sangwan RS (2015) QSAR and docking studies on gymnemic acid analogues for antidiabetic activity targeting PPAR γ . *Current Computer-aided Drug Design* 11: 57-71. (Joint Corresponding author)
- Khedgikar V, Ahmad N, Kushwaha P, Gautam J, Nagar GK, Singh D, Trivedi PK, Mishra PR, **Sangwan Neelam S**, Trivedi R (2014) Preventive effects of Withaferin A isolated from the leaves of an Indian Medicinal Plant *Withania somnifera* (L.): Comparisons with 17- β -Estradiol and Alendronate. **Nutrition** DOI: 10.1016/j.nut.2014.05.010
- Mishra S.K, **Sangwan Neelam S**, Srivastava AK, Mishra B, Sangwan RS (2014) Proteomic identification of a fucosyltransferase from petals of milk thistle, *Silybum marianum*. *Plant Genetic Resources: Characterization Utilization* 1-5
- Mishra B, Sangwan RS, Mishra S, Jadaun JS, Sabir F and **Sangwan Neelam S** (2014) Effect of cadmium stress on inductive enzymatic and nonenzymatic responses of ROS and sugar metabolism in multiple shoot cultures of Ashwagandha (*Withania somnifera*). **Protoplasma** doi. 10.1007/s00709-014-0613-4 (Corresponding author)
- Chandra M, **Sangwan Neelam S**, Kumar H, Singh AK, Kalra A (2014) dl-2 Aminobutyric acid and calliterpenone are the potential stimulators of Trichoderma cellulose activities. **Biomass and Bioenergy** 62, 212-21
- Narnoliya LK, Rajakani R, Sangwan RS, Gupta V, **Sangwan Neelam S** (2014) Comparative transcripts profiling of fruit mesocarp and endocarp relevant

to secondary metabolism by suppression subtractive hybridization in *Azadirachta indica* (neem). **Molecular Biology Reports** 10.1007/s11033-014-3174-x

- Sidique AA, Joshi P, Misra LN, **Sangwan Neelam S**, Darokar MP (2014) 5,6-De-epoxy 5-en-7-one-17-hydroxy withaferin A, a new cytotoxic steroid from *Withania somnifera* L. Dunal leaves, **Natural Product Research** DOI:10.1080/14786419.2013.871545
- Yadav R K, Sangwan, R S, Sabir F, Srivastava, AK and **Sangwan Neelam S** (2014) Effect of prolonged water stress on specialized secondary metabolites, peltate glandular trichomes, and pathway gene expression in *Artemisia annua* L. **Plant Physiology and Biochemistry** 74: 70-83; dx.doi.org/10.1016/j.plaphy.2013.10.02 (Corresponding author)
- Mishra SK, **Sangwan Neelam S** and Sangwan RS (2014) Physico-kinetic and functional features of a novel β -glucosidase isolated from milk thistle (*Silybum marianum* Gaertn.) flower petals. *J Plant Biochem Biotech* 23: 379-388
- Bose SK, Yadav RK, Mishra S, Sangwan RS, Singh AK, Mishra B, Srivastava AK and **Sangwan Neelam S** (2013) Effect of gibberellic acid and calliterpenone on plant growth attributes, trichomes, essential oil biosynthesis and pathway gene expression in differential manner in *Mentha arvensis* L. **Plant Physiol Biochem** 66:150-158 (Corresponding author)
- Sharma P, **Sangwan Neelam S**, Bose, S K and Sangwan R S (2013) Biochemical characteristics of a novel vegetative tissue geraniol acetyltransferase from a monoterpene oil grass (Palmarosa, *Cymbopogon martinii* var. Motia) leaf- **Plant Science** 203-204: 63-73
- Kushwaha AK et al (2013) Tropine forming tropinine reductase gene from *Withania somnifera*: Biochemical characteristics of the recombinant enzyme and novel physiological overtones of tissue wide gene expression patterns. **PloS one** 8 (9) e744777
- Khedgikar, V, Kushwaha, P, Gautam, J, Verma A, Changkija B, Kumar A, Sharma S, Nagar GK, Singh D, Trivedi PK, **Sangwan Neelam S**, Mishra PK, Trivedi R (2013) Withaferin A: a proteasomal inhibitor promotes healing after injury and exerts anabolic effect on osteoporotic bone. **Cell Death and Disease** 01/2013; 4:e778
- Sangwan et al (2013) *De novo* sequencing and assembly of *Centella asiatica* leaf transcriptome for mapping of structural, functional and regulatory genes with special reference to secondary metabolism. **Gene** 525: 58-76 <http://dx.doi.org/10.1016/j.gene.2013.04.057>
- Kushwaha AK, **Sangwan Neelam S**, Tripathi S and Sangwan RS (2013) Molecular cloning and catalytic characterization of a recombinant tropine biosynthetic tropinone reductase from *Withania coagulans* leaf. **Gene** 516: 238-247 <http://dx.doi.org/10.1016/j.bbr.2011.03.031>

- Sabir, F, Mishra, S., Sangwan, R.S., Jadaun, J S. and **Sangwan, Neelam S** (2013) Qualitative and quantitative variations in withanolides and expression of some pathway genes during different stages of morphogenesis in *Withania somnifera* Dunal. **Protoplasma** 250: 539-549. DOI 10.1007/s00709-012-0438-y (Corresponding author)
- Rajakani R, Narnoliya L, **Sangwan Neelam S**, Sangwan R.S. and Gupta V (2013) Activated charcoal-mediated RNA extraction method for *Azadirachta indica* and plants highly rich in polyphenolics, polysaccharides and other complex secondary compounds. **BMC Research Notes** 6:125- doi:10.1186/1756-0500-6-125
- Mishra SK, **Sangwan Neelam S**, Sangwan RS (2012) Comparative physico-kinetic properties of a homogenous purified β -glucosidase from *Withania somnifera* leaf. **Acta Physiol Plant** 35: 1439-1451 DOI 10.1007/s11738-012-1183-8
- Chaurasiya, ND, **Sangwan Neelam S**, Sabir, F, Misra, LN, Sangwan R S (2012) Withanolide biosynthesis recruits both mevalonate and DOXP pathways of isoprenogenesis in Ashwagandha *Withania somnifera* L. (Dunal). **Plant Cell Reports** 31: 1889-1897. DOI 10.1007/s00299-012-1302-4
- Mishra, S, Sangwan, RS, Bansal, S and **Sangwan Neelam S** (2012) Efficient transgenic plant production of *Withania coagulans* (Stocks) Dunal mediated by *Agrobacterium tumefaciens* from leaf explants of in vitro multiple shoot culture. **Protoplasma** 250:451-458 DOI 10.1007/s00709-012-0428-0 (Corresponding author)
- Chandra M, Kalra A, **Sangwan Neelam S** and Sangwan RS (2012) Kinetic and proteomic features of an extracellularly secreted homogeneity purified β -glucosidase of *Trichoderma citrinoviride*. **Molecular Biotechnology**-53: 289-299 DOI: 10.1007/s12033-012-9526-7;
- Sabir F. Sangwan R.S., Kumar R, **Sangwan Neelam S** (2012) Salt stress induced responses in Growth and Metabolism in Callus Cultures and Differentiating in vitro Shoots of Indian Ginseng (*Withania somnifera* Dunal). **J. Plant Growth Regul** 31: 537-548 DOI10.1007/s00344-012-9264-x
- Misra LN, Misra P, Pandey A, Sangwan RS and **Sangwan Neelam S** (2012) 1, 4 dioxane and ergosterol derivatives from *Withania somnifera* roots. **J. Asian Nat. Prod Res**-14: 39-45.
- Sabir F, Sangwan RS, Singh J, Pathak, N, Mishra, LN, **Sangwan, Neelam S** (2011) Biotransformation of withanolides by cell suspension cultures of *Withania somnifera* (Dunal)– **Plant Biotechnology Reports**-5, 12-134. DOI 10.1007/s11816-011-0165-4

- Sabir F, Kumar A, Tiwari P, Pathak, N Sangwan, RS, Bhakuni, RS, **Sangwan Neelam S** (2010) Bioconversion of artemisinin to its nonperoxidic derivative deoxyartemisinin through suspension cultures of *Withania somnifera* Dunal- **Z. fur Naturforschung**- 65c, 607-612
- Chaurasiya ND, Sangwan RS, Mishra L N, Tuli R, **Sangwan Neelam S** (2009) Metabolic clustering of a core collection of Indian ginseng *Withania somnifera* Dunal through DNA, Isoenzyme, polypeptide and withanolide profile diversity. **Fitoterapia** 80:496-505
- Sharma PK, **Sangwan Neelam S**, Mishra B.N. and Sangwan RS (2009) Coherent ontogenic dynamics of geraniol acetyltransferase activity and geranyl acetate concentration in flowers and leaves of aroma grass *Cymbopogon martini* var Motia. **Plant Growth Regulation**, 57:103–10851.
- Chandra M, Kalra A, **Sangwan Neelam S**, Gaurav SS, Darokar MP, Sangwan RS (2009). Development of a mutant of *T. citrinoviride* for enhanced production of cellulases. **Bioresource Technology** 100: 1659-62
- Sangwan R.S, Chaurasiya ND, Lal, P., Mishra L N, Tuli R and **Sangwan Neelam S** (2008). Root contained withanolide A is inherently de novo synthesized within roots in Ashwagandha (*Withania somnifera*). **Physiologia Plantarum** 133: 278-87
- Sangwan RS, **Sangwan Neelam S**, Chaurasiya ND, Sharma PK, Mishra SK, Tyagi BR and Srivastava AK (2008) Carbonate extraction process for metabolic, isozymic and proteomic profiling of rose-scented geranium (*Pelargonium* sp), a hyper-acidic plant. **Phytochemical Analysis** 19: 104
- Misra L, Mishra P, Pandey A, Sangwan RS, **Sangwan Neelam S** and Tuli R (2008) Withanolides from *Withania somnifera* roots. **Phytochemistry** 69:1000-1005.
- Sabir F, Sangwan RS, Chaurasiya ND, Misra LN, and **Sangwan Neelam S** (2008). *In vitro* withanolides production by *Withania somnifera* Dunal cultures. *Zfur Naturfor*-63c, 409-412 (**Corresponding author**)
- Chaurasiya ND, Uniyal GC, Lal P, Mishra L N, **Sangwan Neelam S**, Tuli R and Sangwan RS (2007). Analysis of withanolides in root and leaf of *Withania somnifera* by HPLC with photo diode array and evaporative light scattering detection. **Phytochem Analysis** 19: 148-154
- Sangwan RS, Chaurasiya ND, Lal P, Misra LN, Uniyal GC, Tuli R, and **Sangwan Neelam S** (2007). Withanolide A biogeneration in shoot cultures of Ashwagandha (*Withania somnifera* Dunal). **Chem Pharm Bull** 55: 1371-1375
- **Sangwan Neelam S**, Sharma PK and Sangwan RS (2007) Geranyl acetate esterase is commonly present but linalyl acetate esterase occurrence is highly limited in plants. **Flavour and Fragrance Journal** 22; 169-173

- Sabir F, **Sangwan Neelam S**, ND Chaurasiya, L N Misra, R Tuli and R S Sangwan (2007) Micro-propagation of *Withania somnifera* L. accessions from axillary meristem for rapid propagation and consistent withanolide productivity. **J Herbs Spices Med Plants** 13: 118-128 (**Corresponding author**)
- Sharma PK, Sangwan RS and **Sangwan Neelam S** (2005) TCA facilitated coenzyme A- SH stabilization based end point spectrophotometric DTNB-assay for plant terpene alcohol acetyl transferases (AATs). **Anal Biochem** 346: 176-178
- Misra LN, Lal P, Sangwan RS, **Sangwan Neelam S**, Uniyal GC and Tuli R (2005) Unusually sulfated and oxygenated steroids from *Withania somnifera*. **Phytochemistry** 66: 2702-2707
- Shukla N, **Sangwan Neelam S**, Misra HO and Sangwan RS (2004) Characterization of *Boerhavia diffusa* L mutant lines by RAPD and isozyme selected for agronomically valuable traits. **Journal of Genetics and Breeding** 58: 37-46
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- Srivastava Y and **Sangwan NS** (2020) Improving crops through phytochemical perspectives, in Advancement in crop improvement techniques, Elsevier ed: Tuteja N, Tuteja R, Passricha N, Saifi SK, **Paperback ISBN: 9780128185810** Elsevier

- **Sangwan NS**, Tripathi S, Srivastava Y, Mishra B and Pandey N (2017) Phytochemical Genomics of Ashwagandha. In Science of Ashwagandha: Preventive and Therapeutic Potentials (pp. 3-36). Edi: A Kaul, Wadhwa R, Springer, Cham.
- **Sangwan NS**, Jadaun J, Tripathi S, Mishra B, Narnoliya LK et al (2017) Plant metabolic engineering Omics approaches in plant metabolic engineering in Omics Technology and bioengineering: Towards improving quality of life; Edi: D Barh and Vasco Azevedo ISSN no 9780128046593 (Hard copy); Elsevier, Academic Press (<https://doi.org/10.1016/C2015-001634-3>)
- **Sangwan NS**, Tiwari, P, Mishra SK, Yadav RK, Tripathi S, Kushwaha, AK Sangwan RS (2015) Plant Metabolomics: An Overview of Technology Platforms for Applications in Metabolism: The Omics of Plant; Edi: Barh D, Khan MS, Davies E, ISBN: ISBN:978-81- 322-2171-5, Publisher: Springer PlantOmics: The Omics of Plant Science 2015, pp 257298 Date: 06 Feb 2015
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- **Sangwan, Neelam** et al (2015) Plant Metabolomics: An Overview of Technology Platforms for Applications in Metabolism: The Omics of Plant; **Edi: Barh D, Khan MS, Davies E**, ISBN: ISBN:978-81-322-2171-5, **Publisher: Springer** PlantOmics: The Omics of Plant Science 2015, pp 257-298 Date: 06 Feb 2015

Conference/Seminar/Workshop/Lectures (2019):

- Sangwan NS (2019) Delivered Distinguished Guest Lecture at Department of Biochemistry, University of Lucknow, Lucknow entitled “Traditional to Modern Medicines from Plants; April 16, 2019
- Sangwan NS (2019) Invited lecture entitled “Molecular Strategies and Prospects for Quality Improvements in Ashwagandha” in MHRD sponsored International

Workshop on "Use of advanced biotechnological techniques for crop improvement" At CCSHAU, Hisar, June 29, 2019

- Sangwan NS (2019) Presented prospects on "Secondary metabolites-Phytochemicals for crop improvement" as an Invited member at Helmholtz-Indian Platform on Science, Technology, Education and Research; At Bangalore, Feb14, 2019
- Sangwan NS (2019) Delivered lecture "Herbal Research from Laboratory to Market: An Asian Experience" at University of Lagos, Akoka, Yaba, Lagos on Aug 29, 2019 (Live Streaming)
- Participated in Technical workshop, Handling of disciplinary Proceedings and Cases of Sexual harassment at workplace, at Integrated Training and Policy Research, Delhi (Aug 8-10, 2019)
- Participated in "Deliberation on Faculty Recharge Program scheme at AICTE held on Aug 13, 2019
- Participated in Brainstorming workshop on Integrated Approach to Education: Issues and Concerns Related to Draft National Education Policy, 2019 held at CUH on July 26, 2019
- Participated in meeting on "Implementation of Central Government Scheme of Installation of Vending Machines at Colleges/University of Haryana, a step towards health and hygiene of girls and women at District Court, Narnaul, July 7, 2019
- Chaired the Technical session VI, First Annual Interdisciplinary Conference, CUH
- Chaired the session of Central Zone IABSCON-2019, Indian Academy of Biomedical Sciences on theme "Recent trends in Biomedical Research: Advances and Challenges, at Department of Biochemistry, King George Medical University, Lucknow