



## **CURRICULUM VITAE**

### **SUDIPTA KUMAR MOHANTY**

Padmashree Institute of Management and Sciences  
Kommaghatta, Kengeri Post  
Bangalore - 560060  
Karnataka, India  
Cell: +91-9741433466  
E-mail: [su\\_sudepta@yahoo.co.in](mailto:su_sudepta@yahoo.co.in)

### **Education:**

**Postdoctoral research:** Research scholar at Regional laboratory of Biodiversity and Tissue Culture, Institute of Biology, National Autonomous University of Mexico, Mexico (UNAM) (April 2016- April 2017)

### **Research title:**

“Deciphering the role of EXPANSIN super-family genes during nodule development in model plant *Lotus japonicus*”

### **Objectives of research work:**

- Genome wide identification, characterization and mapping of Expansin gene family in *Lotus japonicus* genome database.
- Study of phylogenetic and structural homology of Expansin genes in other plant species (*M. truncatula*, *M. sativa*, *Glycine max*, *Phaseolus vulgaris* etc.) to understand their nature of genetic conservation.
- Spatial and temporal expression patterns of *EXPANSIN* genes at different stages of plant growth and nodule development by RT-qPCR.
- Amplification of the chosen candidate genes and cloning into RNAi or over-expression vectors using gateway technology.
- Hairy root culture in *L. japonicus* using *Agrobacterium rhizogenes* carrying plasmid of interest.

- Determination of Early and late symbiotic phenotypes of *M. loti* using light and confocal microscopy.
- Transcriptome analysis and expression of autophagy genes during plant mycorrhizal symbiotic association

**Ph. D:** Biotechnology, Acharya Nagarjuna University, Nagarjuna Nagar, Guntur, Andhra Pradesh, India.

**Research title:**

“Systematic investigation of *Leptadenia reticulata* (Wight and Arn.)- An endangered medicinal plant of India.”

**Objectives of research work:**

Screening and selection of elite germplasm of *Leptadenia reticulata* (Jivanti).

To optimize a cost effective protocols for large scale *in vitro* multiplication of *L. reticulata*.

To assess the genetic fidelity of regenerated plants based on molecular and stress related markers.

To establish *in vitro* cell suspension culture for production of secondary metabolites.

To study and analyze the phytochemicals present in cell and suspension cultures.

To study the Pharmacological activities of active ingredients (anti-microbial, anti-inflammatory, anti-oxidant, analgesic and cytotoxic activity against cancerous cell lines) of various solvent extract.

**M. Sc.:** Biotechnology, Bangalore University, Bangalore, India.

**B. Sc.** (Chemistry, **Botany** and Zoology) North Odisha University, Baripada, India

**Post Graduate Diploma in Intellectual Property rights (IPR)**, Indian Institute Of Science, Bangalore, India.

**Post Graduate Diploma in Biostatistics**, Madurai Kamraj University, Tamil Nadu, India.

**Scientific Interests:**

Genetic engineering, Molecular genetics, Transcriptome analysis, Biomarker identification, Cell & Tissue culture, Production of secondary metabolites, Phytochemistry, Plant Microbial interaction

### **Research experience & Core expertise:**

Seven years of research experience on medicinal, aromatic and model plants on genomics, Physiology, phytochemical screening, extraction and purification of pharmaceutically active compounds and determination of pharmacological activities.

- Experienced in teaching, handling projects, workshop and training for students at different label.
- Experience in statistical Data analysis of research and scientific data.
- Trained in software package for data analysis Statistical analytical system, Graphical representation and different Bioinformatics platform (SAS) SAS/ BASE, SAS/STAT, SAS/GRAPHS, SAS/SQL, SAS/MACROS, SAS/ODS, SAS/ACCESS.
- Patent search from different data bases.

### **AWARDS AND RECOGNITION**

**Young scientist award** by VGST, Dept. of information technology, Biotechnology, Science and Technology Govt. of Karnataka, India

### **RESEARCH PUBLICATIONS**

1. **Sudipta Kumar Mohanty**, Indu B K, Jesse S Dondapati, Anuradha M (2023) In vitro and in silico evaluation of anti-microbial potential of *Leptadenia reticulata*- an endangered medicinal plant. *Biological Forum–An International Journal*. (Accepted for Publication).
2. **Sudipta Kumar Mohanty**, Debabrata Panda, Sasmita Panda, Hemealatha J , Harshad V, Aswini M. *Biological Forum–An International Journal*. (Accepted for Publication).
3. **Sudipta Kumar Mohanty**, Manoj-Kumar Arthikala, Kalpana Nanjareddy and Miguel Lara (2018) Plant-symbiont interactions: the functional role of expansins. *Symbiosis*, 74(1): 1-10. <https://doi.org/10.1007/s13199-017-0501-P 1-10>.
4. Indu, B, **Mohanty, Sudipta** & Bhat, Savithri & Swamy, Mallappa & Anuradha, M. (2019). Genetic Diversity and Conservation of *Pterocarpus santalinus* L.f. Through Molecular Approaches. 10.1007/978-981-13-7627-6\_13.
5. Ramesha Alurappa Srinivas Chowdappa Radhakrishnan Narayanaswamy Uma Rani Sinniah, **Sudipta Kumar Mohanty**, Mallappa Kumara Swamy Endophytic fungi and Bioactive metabolite an update: *Microbial Biotechnology Vol 2*, Springer, 2017, ISBN 978-981-10-7140-9 p 455-482.
6. **Sudipta KM**, Kumaraswamy M, Sushil Kumar Middha, Lokesh P, Balasubramanaya S, Anuradha M (2015). Analgesic, Anti- inflammatory, Anti- Lipoxygenase activity and

characterization of three bioactive compounds in the most active fraction of *Leptadenia reticulata* (Wight & Arn.)- A valuable plant of medicinal importance. Iranian J. Pharmaceutical Res., 14(3): 933-942.

7. **Sudipta KM**, KumaraSwamy M, Anuradha M (2014). Assessment of genetic fidelity, difference in antioxidant enzyme activity and proline content of micropropagated and field grown plant of *Leptadenia reticulata*- an endangered medicinal plant. Plant cell Biotechnol molecular biology, 15(3&4): 127-135.
8. **Sudipta KM**, Kumara Swamy M, Anuradha M (2013). Influence of various carbon Sources and organic additives on *in vitro* growth and morphogenesis of *Leptadenia reticulata* (Wight & Arn), A valuable medicinal Plant of India. Int. J. Pharm. Sci. Rev. Res., 21(2): 174-179.
9. **Sudipta KM**, Kumaraswamy M, Balasubramanya S and Anuradha M (2011). Cost Effective Approach for *in vitro* Propagation of *Leptadenia reticulata* Wight & Arn. - A Threatened Plant of Medicinal Importance. J. Phytol. 3(2): 72- 79.
10. **Sudipta KM**, Balasubramanya S, Anuradha M (2011) Growth Studies and Phytochemical Analysis Of *Leptadenia reticulata* Cell Suspension Cultures. Int. J. Pharm. Sci. Rev. Res., 10 (1): 34-37.
11. **Sudipta KM**, KumaraSwamy M, Ashok G, Balasubramanya, Anuradha M (2014). Evaluation of antioxidant, *in vitro* cytotoxicity of micropropagated and naturally grown plants of *Leptadenia reticulata*- An endangered medicinal plant. Asian Pacific Journal of Tropical medicine, 7(S1): 267-271.
12. Sunil Dutt, Siddalingeshwara K.G, **Sudipta K. Mohanty**, Karthic J (2010). A promising technique for rapid screening and confirmation of L- Glutaminase-A tumour inhibitor from novel *Penicillium expansum*. International Journal of Pharma Science and Drug Research. 2(4): 275-277.
13. Siddalingeshwara K.G, Dhatri Devi. N, Sudipta KM., SuparnaLodh (2010) Mutational studies on L- Glutaminase-A tumour inhibitor from microbial origin. International Journal of Pharma Science Review and Research. 4(2): 176-179.
14. K.G. Siddalingeshwara, N.M. Nandini, K.M. Sudipta and S.M. Mohsin (2009) Microbial Lipase screening and optimization from *Penicillium expansum*. The Bioscan. 4(4): 599-601.
15. Kumara Swamy M, Sudipta KM, Mahammad Sadik G, Jayanta K, Balasubramanya S (2014).

The green synthesis, characterization and evaluation of the biological activities of silver nanoparticles synthesized from *Leptadenia reticulata* leaf extract. *Applied Nanoscience* (Springer) DOI 10.1007/s13204-014-0293-6.

16. Siddalingeshwara K.G, Uday Y., Huchesh C.H., Kartic J., Sudipta K.M (2010) Screening and characterization of protease from *Bacillus* SP. *International Journal of Applied Biology and Pharma Technology.*, I(2) 575-581.
17. Siddalingeshwara K.G, Dhatri Devi. N, Sudipta K. M.(2010) Rapid screening and confirmation of L- Glutaminase producing Novel *Aspergillus Wentii*. *International Journal of Chem. Tech Research.* 2(2) 830-833.
18. Siddalingeshwara K.G, Sudipta K. M, Chetan H. (2010) Optimization of fermentation parameters for amylase synthesis from *Aspergillus oryzae* through submerged fermentation. *Journal of Pure and Applied Microbiology.* 4(2) 767-771.
19. Rohit K C, Sudipta K M, Purushotham B and Kumara Swamy M (2013). Isolation, production and characterization of extracellular pectinase from *Aspergillus niger* K3. *Int J Pharma Biosciences*, 4(4): 667- 675.
20. Kumaraswamy M, Sudipta KM, Lokesh P, M Neeki A, Rashmi W, S Bhaumik H, S Darshil H, R Vijay and SSN Kashyap (2012). Phytochemical screening and *in vitro* antimicrobial activity of *Bougainvillea spectabilis* flower extracts. *Int J Phytomed*, 4(3): 375-379.
21. Kumaraswamy M, Sudipta K M, Balasubramanya Sand Anuradha M (2010). Effect of different carbon sources on *in vitro* morphogenetic response of patchouli. *Journal Phytol*, 2(8): 11-17.
22. Rohit K C, Sudipta K M, Purushotham B and Kumara Swamy M (2014). Isolation, screening and optimization of factors affecting protease production from *Comomonas kerstersii* KSM7. *Int. J. Pharm Tech. Res.*, 6(2): 858-867.
23. KumaraSwamy M, Sudipta KM, AnuradhaM (2014). The Effect of Plant Growth Regulators and Natural Supplements on *in vitro* Propagation of *Pogostemon cablin* Benth. *J. Crop Sci. Biotech.*, 17 (2): 71-78.
24. MallappaKumara Swamy, Mohd Sayeed Akhtar, Sudipta Kumar Mohanty, Uma Rani Sinniah (2015) Synthesis and characterization of silver nanoparticles using fruit extract of *Momordica cymbalaria* and assessment of their *in vitro* antimicrobial, antioxidant and cytotoxicity activities. *Spectrochimica Acta Part A: Molecular and Biomolecular*

Spectroscopy, 151: 939-944.

25. Kumara Swamy M, Sudipta K M, Uma Rani Sinniah, Anuradha M (2015) Evaluation of Patchouli (*Pogostemon cablin*. Benth) cultivars for growth, yield and quality parameters. J. Essential Oil Breeding Plants, 8(4): 826-832.
26. Lokesh Prakash, Sushil Kumar Middha, Sudipta KM, Mallappa Kumara Swamy (2016) Micropropagation and validation of genetic and biochemical fidelity among regenerants of *Nothapodytes nimmoniana* (Graham) Mabb. employing ISSR markers and HPLC. 3 Biotech (2016)6:171.

### **Sequence Submission DDBJ/EMBL-Bank/GenBank**

**Accession Number: AB915877**-Uncultured Bacillus sp. gene for 16S ribosomal RNA, partial sequence, isolate: SUD01.

**Accession Number: AB936782**- Uncultured Achromobacter sp. gene for 16S ribosomal RNA, partial sequence, isolate: Sudipta1

**Accession Number: AB936783**- Uncultured Bacillus sp. gene for 16S ribosomal RNA, partial sequence, isolate: Sudipta2

**Accession Number: AB936784**- Uncultured Bacillus sp. gene for 16S ribosomal RNA, partial sequence, isolate.

**Accession Number: AB936785**- Uncultured Comomonas sp. gene for 16S ribosomal RNA, partial sequence, isolate.

### **CONFERENCE/ WORKSHOP ATTENDED AND PAPER/POSTER PRESENTED**

1. Presented Poster XXXI National Congress of Biochemistry, Aguascalientes, Mexico, November, 2016. *EXPANSIN* gene family in *Lotus japonicus*: Identification, characterisation and expression analysis in response to symbiosis. GR-46; P 90
2. Participated in the event of National symposium on Expanding Horizons in Biosciences and presented a poster on “**Indirect organogenesis and plant regeneration from leaf and nodal explants of *Leptadenia reticulata*- A medicinal plant of commercial importance**”

3. Participated in the event of National symposium on Expanding Horizons in Biosciences and presented a poster on “**The effect of plant growth regulators and natural extracts on the micropropagation of Patchouli**”
4. Participated in the event of National symposium on Expanding Horizons in Biosciences and presented a paper on “***In vitro* propagation of medicinally important plant *Leptadenia reticulata***”
5. Participated in symposium on “**advances in microbiology for human welfare**” organized by association of microbiologist of India.
6. Participated in National level workshop on “**An *in vivo* and *in silico* approach to prokaryotic gene expression.**” Organized by Department of biotechnology, Bioinformatics centre.
7. Participated as delegate in the state level conference on “**Science and Technology for societal transformation**” organized by Karnataka Science and Technology academy.
8. Participated in UGC sponsored National seminar on “Intellectual property rights in Bioinformatics” organized by Post graduate Department of Bio-technology, JSS college, Mysore.
9. Attended two days seminar cum workshop on “Computational Biology Applications” held at MLA college Bangalore.
10. Participated in “National seminar on trends in plant sciences” organized by Department of Botany, Sri KrishnaDevaraya University, Anantpur.
11. Participated in the conference as delegate in the state level conference on “mesmerizing fields of biotechnology” held by Dept. of P.G. studies, SDM college Ujere.
12. Trained in Randomly amplified polymorphic DNA Fingerprinting technology by Govt. Of Karnataka, Dept. Of Horticulture, Biotechnology centre, Hulimavu, Bangalore.

### **TECHNICAL EXPERIENCE:**

13. **PLANT BIOTECHNOLOGY:** Tissue culture techniques like Organ culture, Callus culture, Anther Culture, Pollen culture, Somatic embryogenesis, plant genetic transformation, Polymerase Chain Reaction, gene Cloning, Gel electrophoresis, DNA Extraction and Purification, RNA Extraction, Protein extraction, Northern, Western and Southern Hybridization, Identifying the agronomical traits by Marker assisted selection,

ELISA, extraction of phytochemicals and determination of biological activity (anti-microbial, anti-inflammatory, analgesic and cytotoxic activity against established cell lines).

14. **IMMUNOLOGY:** Separation of immunoglobulin and Precipitation, Separation of lymphocytes from blood, Rocket immunoelectrophoresis, ELISA based assays, Radial immune assay, Ouchterlony Double Diffusion.
15. **MOLECULAR BIOLOGY:** Genomic DNA isolation from bacteria, plants and animals Cells, study of genetic fidelity by using molecular markers, RAPD, RFLP, PCR, Study of conjugation, Transduction, Isolation of plasmid DNA and characterization.
16. **MICROBIOLOGY:** Basic staining techniques, characterization, microbial Enzyme production, purification and assay.
17. **BIOINFORMATICS:** Accessing bibliographic databases, Sequence retrieval from nucleic acids and protein database, FASTA and BLAST searches, PDB retrieval, comparison of sequences, Genome mapping, Functional annotation, Differential expression analysis, Gene set enrichment analysis .
18. **STATISTICS:** Data analysis using software package Statistical analytical system (SAS) SAS/ BASE, SAS/STAT, SAS/GRAPHS, SAS/ANOVA.

### **COMPUTER KNOWLEDGE:**

Basic computer skills MS Office, MS Word, C- languages and basic Internet Operation and database search.

### **PERSONAL DETAILS**

**Father's name:** Jatindra Nath Mohanty

**Date of Birth:** 21<sup>st</sup> March 1983

**Sex:** Male

**Marital status:** Married

---

DECLARATION



I hereby declare that the above information is correct to the best of my knowledge and I bear the responsibility for the correctness of the above-mentioned particulars.

**Place: Bangalore**

**Sudipta Kumar Mohanty**

### **References**

1. **Dr Anuradha M.** Principal Padmashree Institute of Management and Sciences, Kommagata, Kengeri, Bangalore-560060, email: [pimsprincipal@gmail.com](mailto:pimsprincipal@gmail.com)
2. **Dr. Miguel Lara Flores.** Coordinador de Vinculación Institucional. Secretaria de Desarrollo Institucional, University National Autonomous De Mexico., Mexico DF, Mexico, E mail. [mlara@unam.mx](mailto:mlara@unam.mx) Tel. (+52) 56230252
3. **Dr. Manojkumar Arthikala** Profesor-Investigador Titular 'A' T.C, Ciencias Agro genómicas, Escuela Nacional de Estudios Superiores-Unidad León Universidad Nacional Autónoma de México (UNAM), León,Gto. C.P.37684, Mexico ,Tel. 01(477) 194 08 00 Ext.43418, [manoj@enes.unam.mx](mailto:manoj@enes.unam.mx)
4. **Dr. Kalpana Nanjareddy** Prof. Investigador Titular Agro genómicas, , Escuela Nacional de Estudios Superiores-Unidad León Universidad Nacional Autónoma de México (UNAM) , León,Gto. C.P.37684, Mexico. Tel. 01(477) 194 08 00. Email. [kalpana@enes.unam.mx](mailto:kalpana@enes.unam.mx)