

Dr.K.ARUN M.Sc., Ph.D., Diploma in Apiculture.

Assistant Professor,

Department of Biotechnology, Microbiology, and Bioinformatics

(Funded by the DBT, Government of India)

National College (Autonomous),

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Profile:

Biotechnology professional with experience of 5 Years in Academic Teaching and 11 Years in Research. Expertise in Banana Breeding, Plant Tissue Culture, Embryogenic cell suspension culture, and secondary metabolites identification and production in plants.

Academic Qualifications:

2011-2021 **Ph.D.-Biotechnology**
ICAR-National Research Centre for Banana, Tiruchirappalli, Tamilnadu, India.

2007-2009 **Master of Science, Plant Biotechnology, 72.40%**
Bharathidasan University, Tiruchirappalli, Tamilnadu, India.

2004-2007 **Bachelor of Science, Plant Biology and Plant Biotechnology, 63.3%**
St.Joseph College, Bharathidasan University, Tiruchirappalli, Tamilnadu, India.

2021-2022 **Diploma in Apiculture**,Kongunadu Arts and Science College(Autonomous),
Coimbatore, Tamilnadu, India.

Professional experience:

- Assistant Professor, Department of Biotechnology, Microbiology and Bioinformatics (funded by the DBT-PG Teaching Scheme, Government of India), **National College (Autonomous)** in Tiruchirappalli, Tamilnadu from August 2019 till date.
- Production Manager in **Meristem Research and Consultancy Pvt Ltd**, Villupuram, Tamilnadu from February 2017 to July 2019. (2 years 5 months)

Research Experience:

- Work done for Ph.D. entitled '**Understanding the factors responsible for seed set for enhanced regeneration of hybrids in banana (*Musa spp.*)**'.
- **Project Assistant**– Worked and maintained the banana breeding germplasm and Banana Tissue Culture and Embryo culture for selected banana hybrids' from March (2014) – January (2017) in **ICAR – National Research Centre for Banana**, Tiruchirappalli, Tamilnadu, India.

- **Ph.D Scholar**–Characterization and safety duplication of priority *Musa* collections’ from November (2010) - March (2014) funded by **Global Crop Diversity Trust, FAO, Rome and BIOVERSITY, France** worked at ICAR– National Research Centre for Banana, Tiruchirappalli, Tamilnadu, India.
- **Project Assistant** – Banana Tissue Culture and Embryo culture in banana hybrids from August (2009) - November (2010) funded by **ICAR-National Research Centre for Banana, Tiruchirappalli.**
- **Post Graduate Research in Bharathidasan University, Tiruchirappalli** -‘*In vitro* callus induction of *Plantago ovata* Forsk.and its antimicrobial activity’ from October (2008) – March (2009).

Publications:

Research Papers:

- Kumaravel, M., Backiyarani, S., Saraswathi, M, S., **Arun, K** and Uma, S. (2020). Induction of somatic embryogenesis in recalcitrant *Musa* spp. by media manipulation based on the molecular mechanism. *Acta Horticulturae*.1272, 119-126.
- Uma.S and **Arun.K** (2016).Understanding the Diversity and Reproductive Biology of Banana – for Improvement through Basic Research. *Acta Horticulture*.1114, 1-12.
- Dayarani, M., Dhanarajan, M.S., **Arun,K.** Uma, S and Padma Narayani (2014) Embryo culture and embryo rescue studies in wild *Musa* spp. (*Musa ornata*). *Journal of Applied Horticulture*, 16 (2): 126-130.
- **Arun,K.**, Uma,S., Saraswathi,M.S., Backiyarani,S. and Durai,P. (2013), Effects of whole seed priming on the *in vitro* germination of hybrid banana embryos (*Musa* spp.). *Seed Sci.& Technol.*, **41**, 439-451.

Book chapters:

- R.Anburaj, G.Roseline Jebapriya, MA. Nabeel, K.Kathiresan, **K.Arun***. 2023. Ecology and Biotechnological Applications of Marine cyanobacteria: A review. Algal, Fungal and Microbial Research, Genic Books Publishers Pvt. Ltd, UP, India, Vol: 1, PP. 255-265. ISBN: 978-81-96637-63-7.
- R.Anburaj*, K.Kathiresan, C.Prasannakumar, M.S.Mohamed Jaabir, **K.Arun***. 2024. Exploring the Depths: A Comprehensive Review of Marine Algae. Recent Trends in Algae and Seaweeds. Scieng Publications. Tamilnadu, India and USA. PP. 176-187. ISBN: 978- 93-94766-96-9

Awards:

Best oral presentation entitled “Expression profile of candidate genes in seed setting and non-seed setting genotypes of banana”. In National Conference on Fruit Breeding in Tropics and Subtropics-An Indian Perspective held at ICAR-IIHR, Bangalore on April, 2016.

Research achievements:

- Identified the factors responsible for seed set in banana.
- Developed Morpho-Taxonomic characterizations database for 200 *Musa* accessions.
- Standardized protocols for embryo culture and embryo rescue in banana hybrids.
- Standardized protocols for the mass multiplication of banana hybrids direct and indirect somatic embryogenesis bud explants of banana.
- Work experience in mass multiplication of banana accessions of different genomic constitutions.
- Hands-on experience in embryogenic cell suspensions culture and regeneration process.

Funded Research Projects

S. No	Agency	Period	Project Title	Year	Budget (Rs.In lakhs)
1	National College (Autonomous), Trichy-1	1 year	<i>In Vitro</i> Mass Multiplication of Cv. Peyan	2023	0.25

Invited Speaker / Resource Person:

- Resource Person on “Banana – The Wish Fulfilling Tree (Kalpatharu)” Organized by Department of Botany, Karur Velalar College of Arts and Science for Women, Karur, Tamil Nadu, held on 28th February 2022.
- Resource Person for DST SERB CRG project sponsored workshop on “Basic Practices in Plant Tissue Culture” as Scientific Social Responsibilities (SSR) activity, Organized by Department of Botany, Bharathidasan University, Tiruchirappalli, Tamilnadu, held on 12.02.2022.

Conference & Seminars:

- Participated in International Conference on " Agri-Tourism: A Sunrise Sector in Agriculture" organized by the TRIARD, Perambalur, Tamil Nadu, India from 24-25 March, 2023.
- Participated in International Conference on" Innovations in Sustainable Production and Value Chain Management in Banana" jointly organized by the ICAR - National Research Centre for Banana, Tiruchirappalli from 23-25 February, 2020.
- Assisted in organizing the International workshop on “*Musa* Germplasm identification towards optimizing use” conducted by Bioversity international and *Musa* Net during December, 2014.
- Training Associate in “Advances in Gene Identification and Marker Development” at National Research Centre for Banana, Tiruchirappalli during October, 2012.
- Training Associate in “*In-vitro* techniques and application of molecular markers in banana

and plantains” sponsored by ICAR and held at National Research Centre for Banana, Tiruchirappalli during November, 2009.

- Global Conference entitled “Meeting the Challenges in Banana and Plantain for Emerging Biotic and Abiotic Stresses” held during December, 2010 at Tiruchirappalli- 24, Tamilnadu, India.
- National Conference on “Modern Trends in Plant *in vitro* Biology” held in January, 2009 at Bharathidasan University, Tiruchirappalli-24, Tamilnadu, India.
- National Symposium on “Herbal Drug Research” held in September, 2008 at Bharathiar University, Coimbatore-46, Tamilnadu, India.
- Participated in Regional Conference on “Fern Diversity of India” 15thFebruary 2007 held at St. Joseph’s College, Tiruchirappalli, Tamilnadu, India.

Google Scholar ID:

<https://scholar.google.com/citations?user=v7sg0hEAAAAJ&hl=en>

Vidwan ID:

<https://vidwan.inflibnet.ac.in/profile/163851>

Research Gate ID:

<https://www.researchgate.net/profile/Arun-Kumar-596>

