Faculty Profile of Dr. M. Arun

Dr. M. Arun
Assistant Professor
Department of Biotechnology

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Research Area

- Plant Genetic Engineering
- Plant Genome Editing
- Crop Protection Methods

Education & Career

Education

Ph. D.
Subject : Biotechnology
Institution : Bharathidasan University, Tiruchirappalli
Year of Award : 2012

M. Sc.,
Subject: Biotechnology
Institution : Ponnaiyah Ramajayam College, Thanjavur
Affiliated University : Bharathidasan University
Year of Award : 2005

B. Sc.,
Subject: Biotechnology
Institution: Ayya Nadar Janaki Ammal College, Sivakasi
Affiliated University: Madurai Kamaraj University, Tamil Nadu, India
Year of Award: 2003

Career

At Bharathiar University.
Assistant Professor : Nov 2016 to Till Date

Past Experience

1.Post Doctoral Senior Researcher(01.03.2016-31.06.2016)
Gyeongsang National University.
Jinju, South Korea
2.Post Doctoral Senior Researcher(01.09.2014-29.02.2016)
Kyungpook National University
Daegu, South Korea
3.Scientist(09.12.2013-09.12.2013)
Bio Ultima Life Sciences Ltd.
Tamil Nadu, India

Awards

Funding agency : Environmental advisory for sustainable trust
Purpose of award : **Best Young Scientist**

Country : India
Date of Award : 25.01.2020

Membership

Visits

Country Visited : South Korea.
Duration of Visit : 1 year 9 months
Month and Year : 01.09.2014 to 31.06.2016
Purpose of Visit : Research.

Collaborators

Others

Projects

Funded Projects(National level)

- Ongoing-3
- Completed-2

1.CRISPR/Cas9 mediated targeted mutagenesis of GmMYB39 to improve isoflavones' content in soybean seeds.

Principle Investigator:Dr. M. Arun
Funding Agency : DST

Amount : 22.31 Lakhs.
Duration : 2019-2022 (Ongoing)

2.Screening, identification, and production of novel anticancer drug from plant sources.

Principle Investigator:Dr. M. Arun
Funding Agency : RUSA 2.0 - BCTRC
Amount : 7.88 Lakhs.
Duration : 2021-2023 (Ongoing)

3.In vitro and In silico approach in endangered medicinal plant Hemidesmus indicus for conservation and production of clinically important triterpenoids,

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Principle Investigator:Dr. M. Arun
Funding Agency : TANCHE-RGP
Amount : 24.84 Lakhs.
Duration : 2021-2023 (Ongoing)

1.Setting up of pilot plant scale-up facility incorporated with novel methodologies for commercial production of plant extracts.

Principle Investigator:Dr. M. Arun
Funding Agency :RUSA 2.0-BEICH,
Amount : Rs.7.0 Lakhs.
Duration : 2019

2.Upregulating the flavonoid biosynthetic pathway of soybean using MYB transcription factor for enhanced production of pharmaceutically important antioxidants.

Principle Investigator:Dr. M. Arun
Funding Agency : UGC-BSR
Amount : 9.97 Lakhs.
Duration : 2018-2020

Consultancy Projects

- Ongoing
- Completed

Research Guidance

- Post Doc.
- Ph.D.
- M.Phil.
- M.Sc.

Ongoing

Title

Name

Completed

Title

Name

Ongoing

Completed

Sample Data.

Ongoing

Sample Data.

Completed

Sample Data.

Ongoing

Sample Data.

Completed

Sample Data.

Research Publication

-
- International
-
- National
-
- Patents
-
- Conferences
-
- Books / Chapters
-
- Database

1. The effect of polyamines on the efficiency of multiplication and rooting of Withania somnifera (L.) Dunal and content of some withanolides in obtained plants,
   G. Sivanandhan, T.S. Mariashibu, M. Arun, M. Rajesh, S. Kasthurirengan, N. Selvaraj, and A. Ganapathi,
   Acta Physiologiae Plantarum, 33, 2279-2288 (2011).

2. Performance and emission study of diesel engine using environmental friendly biodiesel fuel from Jatropha curcus oil,
M. Mathiyazhagan, M. Arun, M. Jeyaraj, T. Senthilkumar, and A. Ganapathi,
Journal of Environmental Research and Development, 6, 132-138 (2011).

1. Chitosan enhances withanolides production in adventitious root cultures of Withania somnifera (L.) Dunal,
G. Sivanandhan, M. Arun, S. Mayavan, M. Rajesh, T.S. Mariashibu, M. Manickavasagam, N. Selvaraj, and A. Ganapathi,
Industrial Crops and Products, 37, 124-129 (2012).

4. Optimization of elicitation conditions with methyl jasmonate and salicylic acid to improve the productivity of withanolides in the adventitious root culture of Withania somnifera (L.) Dunal,
G. Sivanandhan, M. Arun, S. Mayavan, M. Rajesh, M. Jeyaraj, G. Kapil Dev, M. Manickavasagam, N. Selvaraj, and A. Ganapathi,
Applied Biochemistry and Biotechnology, 168, 681-696 (2012).

5. Optimization of carbon source for hairy root growth and withaferin A and withanone production in Withania somnifera,
G. Sivanandhan, M. Rajesh, M. Arun, M. Jeyaraj, G. Kapil Dev, M. Manickavasagam, N. Selvaraj, and A. Ganapathi,
Natural Product Communications, 7, 1271-1272 (2012).

6. Overexpression of tobacco osmotin (Tbosm) in soybean conferred resistance to salinity stress and fungal infections,
K. Subramanyam, M. Arun, T.S. Mariashibu, J. Theboral, M. Rajesh, N.K. Singh, M. Manickavasagam, and A. Ganapathi,
Planta, 236, 1909-1925 (2012).

7. Vacuum infiltration enhances the Agrobacterium-mediated genetic transformation in Indian soybean cultivars,
T.S. Mariashibu, K. Subramanyam, M. Arun, S. Mayavan, M. Rajesh, J. Theboral, M. Manickavasagam, and A. Ganapathi,
Acta Physiologiae Plantarum, 35, 41-54 (2013).

8. Effect of culture conditions, cytokinins, methyl jasmonate and salicylic acid on the biomass accumulation and production of withanolides in multiple shoot culture of Withania somnifera (L.) Dunal using liquid culture,
G. Sivanandhan, M. Rajesh, M. Arun, M. Jeyaraj, G. Kapil Dev, A. Arjunan, M.

Manickavasagam, M. Muthuselvam, N. Selvaraj, and A. Ganapathi,
Acta Physiologiae Plantarum, 35, 715-728 (2013).

9. Agrobacterium tumefaciens-mediated in planta seed transformation strategy in sugarcane,
S. Mayavan, S. Subramanyam, M. Arun, M. Rajesh, G. Kapil Dev, G. Sivanandhan, B. Jaganath, M. Manickavasagam, N. Selvaraj, and A. Ganapathi,
Plant Cell Reports, 32, 1557-1574 (2013).

10. Assessment of somatic embryogenesis potency in Indian soybean [Glycine max (L.) Merr.] cultivars,
T.S. Maria Shibu, K. Subramanyam, M. Arun, J. Theboral, M. Rajesh, S. Kasthuri Rengan, R. Chakravarthy, M. Manickavasagam, and A. Ganapathi,
Indian Journal of Experimental Biology, 51, 849-859 (2013).

11. Transfer and targeted overexpression of γ-Tocopherol Methyltransferase (γ-TMT) gene using seed-specific promoter improves tocopherol composition in Indian soybean cultivars,
M. Arun, K. Subramanyam, J. Theboral, G. Sivanandhan, M. Rajesh, G. Kapil Dev, B. Jaganath, M. Manickavasagam, S. Girija, and A. Ganapathi,
Applied Biochemistry and Biotechnology, 172, 1763-1776 (2014).

12. Factors influencing podophyllotoxin production in adventitious root culture of Podophyllum hexandrum Royle,
M. Rajesh, G. Sivanandhan, M. Arun, V. Vasudevan, J. Theboral, S. Girija, M. Manickavasagam, N. Selvaraj, and A. Ganapathi,
Acta Physiologiae Plantarum, 36, 1009-1021 (2014).

13. Optimized shoot regeneration for Indian soybean: the influence of exogenous polyamines,
M. Arun, K. Subramanyam, J. Theboral, A. Ganapathi, and M. Manickavasagam,
Plant Cell Tissue and Organ Culture, 117, 305-309 (2014).

14. Enhanced production of isoflavones by elicitation in hairy root cultures of soybean,
J. Theboral, G. Sivanandhan, K. Subramanyam, M. Arun, N. Selvaraj, M. Manickavasagam, and A. Ganapathi,
Plant Cell Tissue and Organ Culture, 117, 477-481 (2014).

15. Application of sonication in combination with vacuum infiltration enhances the Agrobacterium-mediated genetic transformation in Indian soybean cultivars,
M. Arun, K. Subramanyam, T.S. Mariashibu, J. Theboral, G. Shivanandhan, M. Manickavasagam, and A. Ganapathi,
Applied Biochemistry and Biotechnology, 175, 2266-2287 (2015).

16. Application of encapsulation-vitrification in combination with air dehydration enhances cryotolerance of Chrysanthemum morifolium shoots tips,
S.M. Jeon, M. Arun, S.Y. Lee, and C.K. Kim,
Scientia Horticulturae, 194, 91-99 (2015).

17. Combinatorial expression of transcription factor genes B-Peru and mPAP1 enhances anthocyanin accumulation in transgenic Petunia hybrid,
T.N. Ai, M. Arun, A.H. Naing, S.H. Lim, and C.K. Kim,
Scientia Horticulturae, 200, 186-196 (2016).

18. Involvement of exogenous polyamine enhances regeneration and Agrobacterium-mediated genetic transformation in half-seeds of soybean,
M. Arun, A. Chinnathambi, K. Subramanyam, S. Karthik, G. Sivanandhan, J. Theboral, S.A. Alharbi, C.K. Kim, and A. Ganapathi,
3 Biotech, 6,148 (2016).

19. Nitrogenous compounds enhance the growth of petunia and reprogram biochemical changes against the adverse effect of salinity,
M. Arun, R. Radhakrishnan, T.N. Ai, A.H. Naing, I.J. Lee, and C.K. Kim,
The Journal of Horticultural Science and Biotechnology, 91, 562-572 (2016).

20. Sucrose-induced anthocyanin accumulation in vegetative tissue of Petunia plants requires anthocyanin regulatory transcription factors,
T.N. Ai, A.H. Naing, M. Arun, S.H. Lim, and C.K. Kim,
Plant Science, 252, 144-150 (2016).

21. High-efficient Agrobacterium-mediated in planta transformation in black gram (Vigna mungo (L.) Hepper),
G. Kapildev, A. Chinnathambi, G. Sivanandhan, M. Rajesh, V. Vasudevan, S. Mayavan, M. Arun, M. Jeyaraj, S.A. Alharbi, N. Selvaraj, and A. Ganapathi,
Acta Physiologiae Plantarum, 38, 205 (2016).

22. Sodium nitroprusside stimulates growth and shoot regeneration in chrysanthemum,
M. Arun, A.H. Naing, S.M. Jeon, T.N. Ai, T. Aye, and C.K. Kim,
Horticulture Environment and Biotechnology, 58, 78-84 (2017).

23. Expression of RsMYB1 in Petunia enhances anthocyanin production in vegetative and floral tissues,
T.N. Ai, A.H. Naing, M. Arun, S.M. Jeon, and C.K. Kim,
Scientia Horticulturae, 214, 58-65 (2017).

24. Characterization of the role of sodium nitroprusside (SNP) involved in long vase life of different carnation cultivars,
A.H. Naing, K. Lee, M. Arun, K.B. Lim, and C.H. Kim,
BMC Plant Biology, 17,149 (2017).

25. Elite hairy roots of Raphanus sativus (L.) as a source of antioxidants and flavonoids,
M. Balasubramanian, M. Anbumegala, R. Surendran, M. Arun, and S. Girija,
3 Biotech, 8,128 (2018).

26. Role of pyridoxine in alleviating cardiovascular diseases: A brief review,
J. Halka, N. Vidya, K. Saravanan, and M. Arun,
International Research Journal of Multidisciplinary Technovation, 1, 125-134 (2019).

27. Super nutritive marine astaxanthin, an effectual dietary carotenoid for neurodegenerative diseases,
K. Kowsalya, N. Vidya, V. Vijayalakshmi, and M. Arun,
International Research Journal of Multidisciplinary Technovation, 1, 115-124 (2019).

28. Plant derived secondary metabolites in cancer therapy: actions, applications, and future prospective of dietary flavonol (quercetin),
K. Saravanan, J. Halka, K. Kowsalya, and M. Arun,
International Research Journal of Multidisciplinary Technovation, 1, 135-143 (2019).

29. Effect of different Agrobacterium rhizogenes strains for in-vitro hairy root induction, total phenolic, flavonoids contents, antibacterial and antioxidant activity of (Cucumis anguria L.),

J. Joseph Sahayarayan, R. Udayakumar, M. Arun, A. Ganapathi, M.S. Alwahibi, N.S. Aldosari, and A.M.A. Morgan,
Saudi Journal of Biological Sciences, 27, 2972-2979 (2020).

30. Myricetin: versatile plant based flavonoid for cancer treatment by inducing cell cycle arrest and ROS–reliant mitochondria-facilitated apoptosis in A549 lung cancer cells and in silico prediction,
R. Padmini, M. Uma, M. Arun, M. Razia, K. Anand, B. Ravindran, D. Premnath, B. Balamuralikrishnan, S.W. Chang, and W.J. Chung,
Molecular and Cellular Biochemistry, 476, 57-68 (2021).

31. Essential oils as an effective alternative for the treatment of COVID-19: Molecular interaction analysis of protease (Mpro) with pharmacokinetics and toxicological properties
S. Panikara, G. Shobaa, M. Arun, J. Joseph Sahayarayan, A. Usha Raja Nanthini, A. Chinnathambi, S.A. Alharbie, O. Nasiff, and H.J. Kim,
Journal of Infection and Public Health, 14, 601-610 (2021).

Alumini Reflections: