



Dr. A. Arumugam
Associate Professor & Head i/c

Contact

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Academic Qualifications: M.A., M.Sc., M.Phil., Ph.D.

Year	Degree	Subject	University/Institute
2003	Ph. D	Plant Science	University of Madras
1997	M. Sc.	Plant Science	University of Madras
1995	B. Sc.	Botany	Govt. Periyar Arts college
1992	HSS	Science	Kamban Govt, HSS
1989	SSLC	General	Ramamurthy Govt. HS,

Teaching Experience: 10 Years

Research Experience: 19 Years

Additional Responsibilities

1. Secretary of Alagappa University Faculty Association

Areas of Research

Agrotechniques, Phytochemistry, Pharmacogonancy, Biochemistry & Molecular biology, Chromatography, Plant Pathology, Plant Pathology, Analytical Techniques Nanotechnology, Microbial Dye degradation and Bio-imaging

Research Supervision / Guidance

	Program of Study	Completed	Ongoing
Research	Ph.D.	1	4
	M.Phil.	9	8
Project	PG	13	--

Publications

International		National		Others
Journals	Conferences	Journals	Conferences	Books / Chapters / Monographs / Manuals
27	36	3	30	6- Co-author

Cumulative Impact Factor (as per JCR) :	18.4
h-index :	11
i10 index :	10
Total Citations :	260

Funded Research Projects

Completed Projects

S. No	Agency	Period		Project Title	Budget (Rs. In lakhs)
		From	To		
1	UGC	2010	2013	Micro propagation and germplasm conservation of endangered medicinal plants in Southern India	11.23
2	AURF	2010	2011	Development of Nanosensor for Bacterial pathogen detection	0.64

Ongoing Projects

S. No	Agency	Period		Project Title	Budget (Rs. In lakhs)
		From	To		
1	DST- PRIME MINISTER'S FELLOWSHIP SCHEME	2014 April	2018 March	Nanoparticles based bio degradation and power generation using textile waste water bacteria	24 Lakhs

Events Participated (optional)

Conferences / Seminars / Workshops:

1. Seminars – 5
2. Workshops – 4

Other Training Programs

1. UGC Refresher course – 8

Membership in

1. Member, Board of Studies for MSC and Mphil Botany courses, Alagappa University.
2. Member, Board of Studies, M. Sc., Botany, Alagappa University affiliated Colleges.
3. Chairman, Board of Valuation, M. Sc., and M. Phil. Botany, Alagappa University.
4. Chairman, Question Setting Board, M. Sc., Botany, Alagappa University.
5. University Representative, Distance Education Examinations, Alagappa University.
6. Member, Inspection Squad, Examinations of Alagappa University affiliated Colleges.
7. Member, research centre inspection committee , Alagappa University affiliated Colleges

Resource persons in various capacities

Number of Invited / Special Lectures delivered: 10 Invited Lectures

S. No	Organized by	Topic	Year	National / International
1.	Department of Oceanography and Coastal area Studies, Alagappa University	National Seminar on Current trends and Prospects of Nano marine science	2009	National
2.	Department of Biochemistry STET Women's College, mannargudi	Bioinformatics and its Applications (2009)	2009	National
3.	STCW, mannargudi	Advancement of Bioinformatics	2010	National

4.	Alagappaengineering college, Karaikudi	DST and DNA based biosensor application in cancer diagnosis	2010	National
5.	KK Institute of technology, Coimbatore	AICTE- Sustainable technology for green environment	2011	National
6.	K.S.R College of Engineering, Tiruchengode	Biosensor application in electronics	2012	National
7.	Alagappa Botanical Club, Karaikudi	Applications of Nanotechnology	2012	National
8.	Dept of Animal Health & Management, Alagappa University	Nano Robots and their applications in Biomedical field	2013	National
9.	H.H the rajahs college	Nanotechnology	2013	National

Others

1. Articles published in Newspapers / Magazines : 3
2. No. of PhD Thesis evaluated : 3
3. No. of PhD Public Viva Voce Examination conducted : 1

Recent Publications

Research Publications

1. Kasi Gopinath, Natarajan Parimala Devi, Marimuthu Govindarajan, Kasi Bhakayaraj, Shanmugasundaram Kumaraguru, Ayyakannu Arumugam , Naiyf S. Alharbi, Shine Kadaikunnan, Giovanni Benelli. One-pot green synthesis of silver nanoparticles using the orchid leaf extracts of *Anoectochilus elatus*: growth inhibition activity on seven microbial pathogens" *Journal of Cluster Science*. **2017**
2. V. Karthika, A. Arumugam , K. Gopinath , P. Kaleeswarran , M. Govindarajan, N. S. Alharb S. Kadaikunnan, J. M. Khaled , G. Benelli, *Guazuma ulmifolia* bark-synthesized Ag, Au and Ag/Au alloy nanoparticles: Photocatalytic potential, DNA/protein interactions, anticancer activity and toxicity against 14 species of microbial pathogens, *Journal of Photochemistry & Photobiology, B: Biology*, **167 (2017) 189-199. ISSN: 1011-1344.**
3. K.Gopinath, M. Govindarajan, M.Chinnadurai, N.Parimala Devi, K.Bhakayaraj, S. Kumaraguru, T. Baranisri, A. Sudha, M. Zeeshan, **A. Arumugam**, N.S. Alharbi, S.Kadaikunnan, G. Benelli. One-pot synthesis of dysprosium oxide nano-sheets: antimicrobial potential and cytotoxicity on A549 lung cancer cells. *Journal of Cluster Science*. **DOI:10.1007/s10876-016-1150-4. (2016), ISSN Number: 1572-8862.**
4. K. Bhakayaraj, S. Kumaraguru, K. Gopinath, V. Sabitha, PR. Kaleeswarran, V. Karthika, A. Sudha, U. Muthukumaran, K. Jayakumar, S. Mohan, **A. Arumugam**, Eco-Friendly Synthesis of Palladium Nanoparticles Using *Melia azedarach* Leaf Extract and Their Evaluation for Antimicrobial and Larvicidal Activities, *Journal of cluster science*, **DOI 10.1007/s10876-016-1114-8. (2016). ISSN Number: 1572-8862.**
5. K.S. Venkatesh, K. Gopinath, N.S. Palani, **A. Arumugam**, Sujin P. Jose, S. Asath Bahadur, R. Ilangovan, Plant pathogenic fungus *F. solani* mediated biosynthesis of Nanoceria: Antibacterial and antibiofilm activity, *RSC advances*, **2016, (6), 2016 42720-42729. ISSN Number: 2046-2069.**
6. Kasi Gopinath, Shanmugasundaram Kumaraguru, Kasi Bhakayaraj, Subramanian Mohan, Kunga Sukumaran Venkatesh, Masanam Esakkirajan, Periyannan

- Kaleeswarran, Naiyf S. Alharbi, Shine Kadaikunnan, Marimuthu Govindarajan, Giovanni Benelli, **Ayyakannu Arumugam**, Green synthesis of silver, gold and silver/gold bimetallic nanoparticles using the *Gloriosa superba* leaf extract and their antibacterial and antibiofilm activities, *Microbial Pathogenesis*, **101**, (2016), (1-11). **ISSN Number: 0882 - 4010.**
7. Viswanathan Karthika, **Ayyakannu Arumugam**, Synthesis and characterization of MWCNT/TiO₂/Au NC for photocatalytic and antimicrobial activities. *IET nanobiotechnology*, doi: **10.1049/iet-nbt.2016.0072,2016.** (2016) **ISSN Number: 1751 - 8741**
 8. K. Gopinath, S. Kumaraguru, K. Bhagyaraj, S. Thirumal, **A.Arumugam**. Eco friendly synthesis of TiO₂ Au and Pt doped TiO₂ nanoparticles for dye sensitized solar cell and evaluation of toxicity. *Superlattices and Microstructure*. **(92)**, 2016, (100 - 110). **ISSN Number: 0749-6036.**
 9. M. Latha, M. Sumathi, R. Manikandan, **A. Arumugam**, N.M. Prabhu. Biocatalytic and antibacterial visualization of green synthesized silver nanoparticles using *Hemidesmus indicus* microbial pathogenesis. **(82)**, 2015, (43-49). **ISSN Number: 0882-4010.**
 10. K. Gopinath, C. Karthikeyan, A.S.Haja Hameed, K. Arun Kumar, **A. Arumugam**. Phytochemical Synthesis and Crystallization of Sucrose from the Extract of *Gloriosa superba* *Research Journal of Phytochemistry*. **(9)**, 2015, (144-160). **ISSN Number: 2151-6081.**
 11. K. Gopinath, V. Karthika, C. Sundaravadivelan, S. Gowri, **A. Arumugam**. Mycogenesis of cerium oxide nanoparticles using *Aspergillus niger* culture filtrate and their applications for antibacterial and larvicidal activities, **(5)**, 2015, (295-303). **ISSN Number: 2193-8865.**
 12. **A. Arumugam**, C. Karthikeyan, A.S.Haja Hameed, K.Gopinath, S.Gowri, V. Karthika. Synthesis of cerium oxide nanoparticles using *Gloriosa superba* L. Leaf extract and their structural, optical and antibacterial properties *Materials Science and Engineering: C*, **(49)**, 2015, (408-415). **ISSN Number: 0928 - 4931.**
 13. K. Gopinath, **A. Arumugam**. Extracellular Mycosynthesis of Gold Nanoparticles Using *Fusarium solani*. *Applied Nanoscience*, **(4)**, 2014, (657-662). **ISSN Number: 2190-5509.**

14. K. Gopinath, V. Karthika, S. Gowri, **A. Arumugam**. In Vitro Morphogenetic Regeneration From Root Explant Of *Gloriosa superba* L. For The Enhanced Crop Production The Scitech Journal, **(1), 2014, (30-33). ISSN Number : 2278 - 5329.**
15. K. Gopinath, S. Gowri, V. Karthika, **A. Arumugam**. Green synthesis of gold nanoparticles from fruit extract of *Terminalia arjuna*, for the enhanced seed germination activity of *Gloriosa superba*. Journal of Nanostructure in Chemistry, **(4), 2014, (115). ISSN Number : 2193-8865.**
16. K. Gopinath, V. Karthika, S. Gowri, V. Senthilkumar, S. Kumaresan, **A. Arumugam**. Antibacterial activity of ruthenium nanoparticles synthesized using *Gloriosa superba* L. leaf extract Journal of Nanostructure in Chemistry, **(4), 2014, (83). ISSN Number : 2193-8865.**
17. K. Gopinath, K. S. Venkatesh, R. Ilangovan, K. Sankaranarayanan, **A. Arumugam**. Green synthesis of Gold nanoparticles from leaf extract of *Terminalia arjuna*, for the enhanced mitotic cell division and pollen germination activity. Industrial Crops and Products, **(50), 2013, (737-742). ISSN Number : 0926 - 6690.**
18. K. Gopinath, C. Sundaravadivelan, A. Arumugam. Green synthesis, characterization of silver, gold and bimetallic nanoparticles using bark extract of *Terminalia arjuna* and their larvicidal activity. International Journal of Recent Scientific Research, **(4), 2013, (904-910). ISSN Number : 0976- 3031.**
19. K. Gopinath, S. Gowri, **A. Arumugam**. Phytosynthesis of silver nanoparticles using *Pterocarpus santalinus* leaf extract and their antibacterial properties Journal of Nanostructure in Chemistry, **(3), 2013, (68). ISSN Number : 2193-8865.**
20. **A. Arumugam**, K. Gopinath. In vitro regeneration of an endangered medicinal plant of *Withania somnifera* using four different explants Plant Tissue Cult. & Biotech, **(23), 2013, (79-85). ISSN Number : 1818-8745.**
21. K. Gopinath, V. Senthil kumar, **A. Arumugam**, S. Kumaresan. Antimicrobial activity of extracellular metabolite of endophytic fungi *Phomopsis* spp. isolated from four different medicinal plants of India Journal of Applied Biology and Pharmaceutical Technology, **(4), 2013, (40-46). ISSN Number : 0976- 4550.**

22. K. Gopinath, **A. Arumugam**. Effect of Temperature and pH on the *Gloriosa superba* L. pollen fertility *Advanced Bio Tech*, **(12)**, **2012**, **(15-18)**. **ISSN Number : 2319 - 6750**.
23. K. Gopinath, **A. Arumugam**. Micropropagation and in vitro micro rhizome initiation of *Gloriosa superba* L. (an endangered medicinal plant) *Asian Pacific Journal of Tropical Biomedicine*, **(1)**, **2012**, **(1-6)**. **ISSN Number : 1995 - 7645**.
24. **A. Arumugam**, K. Gopinath. In vitro Micropropagation using Corm Bud Explant: An Endanger Medicinal Plant of *Gloriosa superba* L. *Asian Journal of Biotechnology*, **(4)**, **2012**, **(120-128)**. **ISSN Number : 1996- 0700**.
25. **A. Arumugam**, K. Gopinath, M. Muthukumaran, M. Jayaseelan, R. Abilas, M. Shaghul Hameet. Studies on Freshwater Algal Biodiversity from Kanchipuram Temple Ponds *Advanced Bio Tech*, **2012**, **(17-19)**. **ISSN Number : 2319 - 6750**.
26. **Arumugam**, K. Gopinath. In-vitro Callus Development of Different Explants used for Different Medium of *Terminalia arjuna*. *Asian Journal of Biotechnology*, **(3)**, **2011**, **(564-572)**. **ISSN Number : 1996- 0700**.
27. **A. Arumugam**, K. Gopinath. Micro propagation and tissue culture of the endangered medicinal plant *Withania somnifera* by the direct shoot and root initiation method. *Journal of Applied Biology and Pharmaceutical Technology*, **(2)**, **2011**, **(315-321)**. **ISSN Number : 0976- 4550**.
28. **A. Arumugam**, Gopinath. Differential In vitro Morphogenetic Response in Shoot Tip, Hypocotyl and Cotyledon Segments of *Phyllanthus amarus* L. *Advanced Bio Tech*, **(11)**, **2011** **(11-14)**. **ISSN Number : 2319 - 6750**.
29. S.P. Kamala Nalini, P. Saravanan, **A. Arumugam**, D. Lalithakumari. A novel bacteria for biocontrol and plasmid mediated antibiosis. *Asian journal of microbial biotech, Env, Sc* **(2)**, **2008**, **301-308**. **ISSN Number : 0972 - 3005**
30. S.P. Kamala Nalini, P. Saravanan, **A. Arumugam**, D. Lalithakumari. Chemotaxis and colonization – A positive approach for effective biocontrol by *Pseudomonas chlororaphis* *Asian journal of microbial Biotech. Env. Sc.* **(2)**, **2008**, **251-255**. **ISSN Number : 0972 - 3005**