

DR. R. RAKKIMUTHU

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Professional Summary

Dynamic Assistant Professor with a proven track record at Dept. of PG Botany, NGM College, fostering student-centered learning. Spearheaded seminars enhancing cross-departmental collaboration and significantly contributed to academic research. Excels in curriculum development and team leadership, demonstrating a unique blend of technical expertise and interpersonal skills.

Skills

- Publishing research
- Academic research
- Team leadership
- Student engagement
- Critical thinking
- Curriculum development
- Teamwork

Experience

Assistant Professor at Dept. of PG Botany, NGM College

June 2015 – Current

- Mentored students completing research projects
- Coordinated seminars and workshops, promoting cross-departmental collaboration and learning.
- Involved in various Committee like IIC Social Media Coordinator, IQAC Criterion manager (IV), Examination Reform committee, Board of Studies member etc.,

Education

Mother Teresa University

SLET, December 2015.

Bharathiar University-NGM College

Ph.D., Biotechnology, March 2015.

Bharathiar University

M.Sc., Botany -2012.

NGM College

M.Sc., Biotechnology – 2010.

NGM College

B.Sc., Plant Biology and plant biotechnology, 2007.

S.K.P HSS. | Udumalpet

HSC, December 2004.

Govt. High.School | GomangalamPudur

SSLC, December 2002.

Personal Information

- Specialization: Bioprospecting and Plant Biotechnology
- Place of Birth: Tamilnadu
- Community: BC - KonguVellalaGounder
- Date of Birth: 03/05/87
- Gender: Male
- Nationality: Indian
- Religion: Hindu

Current Position

Assistant Professor and Head of PG Botany, NGM College, Pollachi, Tamil Nadu.

Ph.D Details

Ph.D-Biotechnology, *In vitro* propagation, phytochemical screening and biological activity of *Cocculushirsutus* (L.) Diels- 20/04/15.

Project ReportSubmitted

Studies on the antioxidant activity of the fern *Hemionitisarifolia* (Burm.)Moore (Student Project Scheme), Tamil Nadu State Council for Science and Technology, Chennai.

Research

- *In vitro* Propagation, phytochemical screening and biological activity of *Cocculushirsutus* (L.) Diels, 10/2010- 05/2014, under the guide of Dr. K.M. Aravinthan, Research Department of Biotechnology, NGM College, Pollachi
- Effect of Sun Light on the Luminescence of the bioluminescent Bacteria, 12/2009 - 02/2010, under the guide of Dr. J. Ravindran, National Institute of Oceanography Regional Center, Kochi, Kerala
- Training on Ultra Refined Papain & Evaluation of Microbial and Biochemical Parameters of Enzyme, Senthil Papain & Food Products (P) Limited, Coimbatore, 06/01/09 -06/09/09

Patent Published

- Production of Eco-friendly Anti-ticks Phytoformulated Herbal Spray, 2024.
(Application Number-202441098199)
- Edible Coating from Biomaterials for Extending Shelf Life of Fruits and Vegetables,2021.
(Application Number- 202141014695)

Book Publications

1. Latha Isabel.M., A. Logamadevi, K. Rajalakshmi., E. Neelamathi and R. Rakkimuthu (2016). A Compendium of NGM College Campus Flora. In Infospringer Publishing Co., www.Infospringer.co.uk. (ISBN-978-81-931646-9-3).

Paper Publications

1. Rakkimuthu, R., Jinu Jacob, Aravinthan ,K. M. (2011). *In vitro* micropropagation of *Alpinia zerumbet* Variegata, an important medicinal plant, through rhizome bud explants. Research in Biotechnology. 2:7-10.
2. Nithya Priya. S, Rakkimuthu. R, Aravinthan, K. M. (2011). *In vitro* Propagation of *Jatropha curcas* Linn- A valuable Multipurpose Crop. Adv Bio Tech. 11(02): 24-25.
3. Rakkimuthu, R, Kavitha Krishna, R., Suganyadevi, P., Aravinthan, K. M. (2012). Quantitative phytochemical analysis and their antioxidant activity of *Cocculus hirsutus* (L.) Diels fruit. International Journal of Phytomedicine. 4(4). 447-455.
4. Kiruthiga R, Rakkimuthu R. and Aravinthan K . M. (2014). Antibacterial activity of *Crotalaria pallid* Aiton. (Fabaceae). Indian J. Pharm. Biol. Res. 2(1):82-85.
5. Kiruthiga, R., Rakkimuthu, R. and Aravinthan, K. M. (2014). Comparative antioxidant studies of *in vivo* leaves and *in vitro* callus of *Crotalaria pallid* Aiton (Fabaceae). Research in Pharmacy. 4(2): 01-15.
6. Reshmi, S. K., Kathires, M., Rakkimuthu, R., Aravinthan, K. M. and P Suganya Devi (2014). Evaluation of Antioxidant and DNA Nicking Potential of Anthocyanin Extracted from *Erythrina indica* Flower Petals. Res. J. Pharm., Biol. Chem. Sci.5(4): 718-725. (Impact factor- 0.5)
7. Rakkimuthu. R., J. Srilakshmi, R. Kiruthika and K.M. Aravinthan (2015). Indirect organogenesis of medicinally important *Bacopa monnieri* L. from inter nodal explant, Journal of Tropical Med. Plants, Vol. 15, pp: 77 - 79.
8. Rakkimuthu. R., Palmurugan, S. and Shanmugapriya, A. (2016). Effect of temperature, light, pH on the stability of anthocyanin pigments in *Cocculus hirsutus* fruits International Journal of Multidisciplinary Research and Modern Education (IJMRME). Vol.2 (2): 92-96. (Impact factor- 3.015).
9. Rakkimuthu, R. Dhanya , K., Bennita, L .and Naveenraj, B. (2018). Phytochemical analysis, synthesis of silver nanoparticles and its antibacterial activity from *Cyperus brevifolius* L. International Journal of Creative Research Thoughts. 6 (1): 610 - 617.
10. Rakkimuthu, R., Naveenraj, B., Benitta, L. and Dhanya, K. (2018). Phytochemical screening and its antibacterial activity of the fern *Hemionitis arifolia* (BURM.) MOORE. World Journal of Pharmaceutical Research. Vol 7, Issue 13: 603-609.
11. Rakkimuthu, R., Muthukumar, M., Aarthi, S. and Nishana, S. (2018). Antimicrobial activity of methanolic tuber extract of *Cyperus rotundus* L. World Journal of Pharmaceutical Research, Vol. 8, Issue 1, 1155-1162.
12. Rakkimuthu, R., Naveenraj, B., Susila, P., Sindhusa, M., and Indu, R. (2019). Studies on the antioxidant activity of the fern *Hemionitis arifolia* (Burm.) Moore. American International Journal of Research in Science, Technology, Engineering & Mathematics, 193-98.

13. Sathishkumar, P., Kaviya, D., Rakkimuthu, R., Anandakumar A.M., Sowmiya, D. and Sabirafathima, S (2019). Quantitative phytochemical screening of *Filicium decipiens* Wight & Arn. Leaves. American International Journal of Research in Science, Technology, Engineering & Mathematics, 208-212.
14. Anandakumar, A.M., Anvar, K., Rakkimuthu, R., Sathishkumar, P., Sowmiya, D and Alahupreeti, J. (2019). Eco-friendly mosquito repellent fabric using dye derived from *Curcuma aromatic* Salisb. American International Journal of Research in Science, Technology, Engineering & Mathematics. 68-72.
15. Sowmiya, D., Rakkimuthu, R., Sathishkumar, P., Anandakumar, A. M., Sinju, S and Vanisree, B (2019). Effect of silver nanoparticles of *Ulva fasciata* in germination of selected pulses. American International Journal of Research in Science, Technology, Engineering & Mathematics. 204-207.
16. Rakkimuthu, R., Nithiyakamatchi, R., Sathishkumar, P., Anandakumar, A. M. and Sowmiya, D. *In vitro* antifungal activity of formulated floral extracts against *Malassezia furfur* (2019). The International journal of analytical and experimental modal analysis. Volume 11: 1326-35.
17. Rakkimuthu, R., Indu, R., Sathishkumar, P., Anandakumar, A.M., Sowmiya, D (2019). Effect of herbal spray for coconut copra process, storage and Post-harvest disease management, International Journal of Botany Studies, ISSN: 2455-541X; Volume 4; Issue 6; November 2019; Page No. 77-81.
18. Anandakumar, A.M., Alahupreeti, J., Rakkimuthu, R., Sathishkumar, P. and Sowmiya, D. (2019). Studies on clastogenic activity caused by synthetic red food colour dye on the root tips of *Allium cepa* L. International Journal of Botany Studies ISSN: 2455-541X; Volume 4; Issue 6; November 2019; Page No. 102-105.
19. Rakkimuthu Ramalingam, Sathishkumar Palanisamy, Ananda Kumar Mohanraj, Sowmiya Durisamy and Nishanthini Rajasekaran (2020). Chemical Profiling of *Momordicacharantia* L. seed essential oil and its Antimicrobial Activity. Journal of Essential Oil Bearing Plants. Volume 23; issue 2; March 2020; Page No. 390-396. Publishers- Taylor & Francis.
20. Rakkimuthu, R., P Sathishkumar, A M Ananda Kumar and D Sowmiya, 2022 .Green synthesis of silver nanoparticles from *Chaetomorpha antennina* (Bory) and its Antimicrobial Activity. Indian Journal of Natural Sciences 13 (75).
21. R. Rakkimuthu, S. Aarthi, E. Neelamathi, P. Sathishkumar, A.M. Anandakumar and D. Sowmiya, 2022. Green synthesis of reduced grapheneoxide silver nanocomposite using *Anisomeles malabarica* (L.) R.Br. leaf extracts and its antibacterial activity, Rasayan j. Chem. Vol 15, No. 1: 417-422.
22. Rakkimuthu R, Sowmiya D, Ananthi P, Sathishkumar P and Ananda Kumar A M 2023. Chemical profiling of fern *Cheilosoria mysurensis* (Wall. ex Hook.) Ching & Shing and its biological activity. Plant Science Today, Jan-23, ISSN 2348-1900, 10 (1), pp: 91-95.
23. P. Sathishkumar, G.Chokkalingam, R.Rakkimuthu, A.M. Ananda Kumar D.Sowmiya and V.Prabhu. Production of Degradable Bio Plastics from Invasive Alien Plants in Anamalais, the Western Ghats. Indian Journal of Natural Sciences, Volume 13(76), 52603.
24. D. Sowmiya, R. Rakkimuthu and P. sathishkumar 2023. Screening of Phytochemical and Antimicrobial activity of Lithophytic Fern *Pyrrosia Porosa* (C.Presl) Hovenkamp. Indian journal of Natural Sciences. 13 (76), 52680.

25. P. Sathishkumar, R. Rakkimuthu, A.M. Anandakumar and D Sowmiya ,2023. Edible coating from Nontoxic biomaterial for extending shelf life of fruits and vegetables Indian Journal of Natural Sciences 14 (78), 55936.
26. P. Sathishkumar R. Rakkimuthu A.M. Anandakumar, 2023. Pharmacocognostical Characterisation and Phytochemical Profiling of the Medicinal Plant, *Ehretia ovaliaefolia* Wight.Indian Journal of Natural Sciences, 15 (83).
27. A.M Kumar, D Rathika, R Rakkimuthu, and P Sathishkumar 2023. Floristic diversity and ethnobotanical studies of Nandha gopalasamy hill temple sacred grove of Western Ghats, PollachiTaluk, Coimbatore. Agricultural Science Digest-A Research Journal,Volume 43(1), 57-62.
28. Rakkimuthu, R., P Sathishkumar, A M Ananda Kumar and D Sowmiya, 2024. GC/MS Analysis of Methanolic Extract of *Pancratium triflorum*Roxb. Bulbs, Indian Journal of Natural Sciences 15 (83).
29. A.M. Anandakumar, Sri Kirubashini, R. Rakkimuthu and P. Sathishkumar 2024. Formulation and evolution of eco-friendly foliar spray produced from kitchen wastes for better crop productivity Biospectra, 19 (1), 235-244
30. D.Sowmiya, K. Vinothkumar, R.Rakkimuthu, A.M. Anandakumar and P. Sathishkumar, 2024.Qualitative and Quantitative analysis of the unexplored fern *Thelypteris meeboldii* from Southern Western Ghats, Tamilnadu, Indian Journal of Natural sciences 15, 83.

Proceedings

1. R. Rakkimuthu and Aravinthan, K. M. (2013). Preliminary phytochemical analysis of red purple fruit of *Cocculus hirsutus* (L.) Diels. In: Parimelazhagan, T. (Ed.) Turning plants into medicines- Novel approaches. Vol.1. New India publishing agency, New Delhi, India, pp. 124-129.
2. Reshmi, S. K., Kathiresh, M., Rakkimuthu, R. and Aravinthan, K. M. (2013). Phytochemical and Antioxidant Activity of Crude Alkaloid Extract of *Hybanthus Enneaspermus* (L.). In: Parimelazhagan, T. (Ed.). Scientific Basis of Herbal Medicine. Daya Publishing House®. A Division of Astral International Pvt. Ltd. New Delhi, India, pp. 107-114.
3. Rakkimuthu, R., Kiruthika, R and Aravinthan, K. M. Antiproliferative activity of *Cocculus hirsutus* (L.) Diels fruit extracts used against HEP-2 and MCF-7 cell lines. National symposium on modern biological sciences. pp 57-62., 2016. ISBN 5-8-978-81-926250-0-3.
4. R. Rakkimuthu. A Green Synthesis of Silver Nanoparticles and its Antimicrobial Activity from Plants Leaf Extracts- A Review. In: Poonkodi. K (Ed). Recent Innovations in Greener Nanotechnology, NGM College, Pollachi. Vol 1: 59-65. ISBN 978-81- 933882-6-6., 2017.
5. R. Rakkimuthu, D. Sowmiya, D. Vinothkumar, P. Arunkumar and G. Chokkalingam. Callus induction, phytochemical studies (*In vivo* leaves) of *Mukia maderaspatana* (L.)M.ROEM. National conference on Biodiversity and its conservation: Priorities and challenges. 2018. ISBN: 978-93-84234-71-3.

6. R. Rakkimuthu, P. Sathishkumar,, A. M. Anandakumar, D. Sowmiya, S. Sabirafathima,R. Indu, R. Nithyakamatchi, S. Ramya and S. sinju, 2019. Antibacterial activity ofmethanolic fruit extract of *Cucumis trigonus*roxb. In: Poonkodi. K (Ed). Proceedings onnational seminar on Advanced Materials for Energy, Environment and MedicinalApplications, PP:88- 91. ISBN 978-93-87009 56-1.
7. P. Sathishkumar, S. Inmukyshyamala, R. Rakkimuthu, A. M. Anandakumar and D. Sowmiya, 2019. Evaluation of *in-vitro* anti-diabetic activity of the methanolic extracts of *Allium sativum* l. skin and *Areca catechu* L. husk using yeast cells. In: Poonkodi. K (Ed).Proceedings on national seminar on Advanced Materials for Energy, Environment andMedicinal Applications, PP:95- 100. ISBN 978-93-87009-56-1.
8. A. M. Anandakumar, N. Sasikumar, R. Rakkimuthu, P. Sathishkumar and D.Sowmiya, 2019. Organoleptic evaluation and phytochemical studies on *Phyllanthus reticulates* Poir., In: Poonkodi. K (Ed). Proceedings on national seminar on AdvancedMaterials for Energy, Environment and Medicinal Applications, PP:101- 108. ISBN 978-93-87009-56-1.

Paper Presented in National Conferences

1. Presented the paper “Premilinary phytochemical analysis of red purple fruit of *Cocculus hirsutus* (L.) Diels” in a national level UGC Sponsored conference on “Phytomedicine” held at Bharathiar University, Coimbatore on 4 & 5th October 2012. ISBN: 978-93-81450-46-8.
2. Presented a poster presentation entitled ‘Eco friendly one – pot green synthesis of Ag -rGo nanocomposites by *Anisomeles malabarica* (L.) R. Br. Extract and its photocatalytic and antibacterial property in Young Scientist Conference as part of India International Science Festival 2019 held at Biswa Bangla Convention Centre, Kolkata during 5-8 November 2019.
3. Presented a paper entitled Chemical profiling and its antibacterial activity of essential oil from the leaves of *Artabotrys hexapetalus* (l.f) Bhandari in the one day International Conference on Emerging Trends in Science and Technology (ETIST-2021), Jointly organized by Department of Biological Science, Physical Science and Computational Science on 27th October 2021.
4. Presented a paper entitled “Preliminary phytochemical analysis of Fern *Cheliosoria mysurensis* in two days international conference on Topical Drifts in Nanoscience @Green chemistry-TDNSGC’22 held from 21-22, September 2022, organised by Department of chemistry and Biochemistry, Nadar saraswathi college, Theni.

FDP Organised

1. PG and Research Department of Botany Organized FDP on Nutraceuticals - 'A Perfect way to live Healthy Forever' delivered by Dr. A.M. Ananda kumar on 10.04.2020 at 2.30 to 3.00pm.
2. Organized 7 day FDP Programme for the Faculties of Biological sciences by PG and Research Department of Botany, Nallamuthu Gounder Mahalingam College, Pollachi from 25.05.2020 to 31.05.2020.
3. PG and Research Department of Botany organized 7 days FDP program on AI Tools for Teachers on 07.08.23-17.08.23 at NGM Computer Lab 1.

Seminar / Workshop Organized

1. One day workshop on "In House workshop and Hands on Training in Plant Biotechnology" on 10th March 2016.
2. One day workshop on "SPSS Applications in Biostatistics" on 4th October 2016.
3. One day Training cum workshop on "Basic Techniques in Botany" on 15th March 2017.
4. Seminar on "IPR in Life Science Applications" on 20th October 2017.
5. Symposium on Composting and solid waste management on 16th November 2017.
6. Science Academies' Lecture workshop on "Linnaean to Digital Era of Plant Systematics" 7th and 8th December 2017.
7. One day workshop on Practical Botany on 24th January 2018
8. One day National level training - workshop on Plant taxonomy on 5th & 6th October 2018.
9. One day workshop on Foldscope and its applications on 5th February 2019.
10. 7 day International Faculty Development Program on Biological Sciences from 25th - 31st May 2020. (online mode).

Seminar / Workshop attended

1. International seminar on "Recent trends in agricultural biotechnology and higher education opportunities in biosciences" held at CMS College of science and commerce, Chinnavedampatti, Coimbatore- 6, Tamilnadu, India on 2nd March, 2009.
2. UGC Sponsored National Level Seminar on "Conservation and Utilization of Rural and Ethno medicinal Plants" held at Gobi Arts & Science College, Gobichettipalayam-638453, Erode District, Tamilnadu, on 28th and 29th January, 2011.
3. Patent Information Centre (PIC) and TNSCST Sponsored one day "Awareness workshop on Intellectual Property Rights (IPR)" held on 23rd February 2011 at UPASI Tea Research Institute, Valparai.
4. Faculty Development Programme on "Application and Use of SPSS for Business Decision Management" on 30th June 2011 at Sakthi Institute of Information and Management Studies, Pollachi.
5. "Training in Plant Taxonomy" organized by the Department of Botany, Karpagam University, Coimbatore from 13-17th July 2011.

6. ICMR Sponsored National Level workshop on "Man and Medical Research" organized by the Department of Botany, Bharathiar University, Coimbatore, during 23rd -24th, February, 2012.
7. DBT, DRDO, DST, TNSCST and MoES Sponsored National Level conference on "Phytomedicine" organized by the Department of Botany, Bharathiar University, Coimbatore, during 4th and 5th, October 2012.
8. One day state level seminar on "Opportunities and Challenges in Biosciences" organized by the Department of Biotechnology on 10th October 2013.
9. Faculty Development Programme on "Environment Audit of Infrastructure, Extension Activity and Institutional Social Responsibility" organized by IQAC, Nirmala College for Women, Coimbatore on 30th October 2015.
10. Science Academies Lecture Workshop on "Progress and Challenges in life sciences" organized by the Department of Biochemistry, PSG College of Arts and Science, Coimbatore, held during 6th and 7th October 2016.
11. UGC Sponsored one day National Level Workshop on "Recent trends and advances in Bio-Composting" organized by the department of Zoology, NGM College, Pollachi on 23rd December 2016.
12. One day National level workshop on "Biodiversity Conservation Issues and Challenges" held on 21st February 2017 organized by Department of Zoology, NGM College, Pollachi.
13. One day National Conference on Recent Innovation in Greener Nano Technology, held on 21st July 2017 organized by Department of Chemistry, NGM College, Pollachi.
14. One day state level workshop on 'Special data interpretation and chromatographic techniques' Organized by PG Department of Chemistry, NGM College, Pollachi held on 26th July 2018.
15. International Seminar on Waste Management organized by National Centre of Excellence (MHRD), Thiagarajar College, Madurai and Nottingham Trent University, United Kingdom held on 03rd September 2018.
16. One day National level workshop on 'Sustainable Agriculture' Organized by PG Department of Zoology, NGM College, Pollachi held on 3rd October 2018.
17. Two days interactive workshop on converting research work into worth commercialization - claim drafting, organized by the Intellectual Property Right Cell, Bharathiar University, Coimbatore during 29th and 30th August 2019.
18. Interactive Workshop on Converting the Research work into Patent, on 27th September 2019 at Vivekananthar Arangam, Nallamuthu Gounder Mahalingam College (Autonomous) Pollachi.
19. National Seminar on Floristic diversity and ethnic intellect of Western Ghats on November 21st 2022, Organized by Department of Botany.
20. 7 days FDP on Quality Education for National Building, Organised by Internal Quality Assurance cell, Sakthi Institute of Information and management studies, Pollachi.
21. International short term training program on Environment pollution: A threat to life in the air, Organised by Raj Rishi Govt. Autonomous College. 15th to 21st August 2023.

Language Known

- Tamil
- English