

Dr. K. Mohamed Rafi
 Assistant Professor,
 PG & Research Department of Botany
 Jamal Mohamed College (Autonomous)
 Tiruchirappalli – 20.
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Educational Qualification:

- **Ph. D: Botany** in Jamal Mohamed College, Tiruchirappalli. Title of the thesis is “Studies on genetic diversity of *Withania somnifera* (L) Dunal of Tamil Nadu”.
- **M. Sc: Botany** in Jamal Mohamed College, Tiruchirappalli. Carried out a research project and submitted a dissertation entitled “*In vitro* culture studies on *Vigna unguiculata* L.”
- **B. Sc: Botany** in Jamal Mohamed College, Tiruchirappalli.

Research Project Received:

S. No	Title of the Project	Name of the Agency	Duration	Remarks
1.	Isolation and characterization of actinomycetes from soil and their antimicrobial activity against poultry pathogens.	Tamil Nadu State Council for Science and Technology, Chennai - 25	2009-10 Academic year.	Completed
2	Standardization and Cultivation of oyster mushroom (<i>Pleurotus florida</i>) using different substrate.	Jamal Mohamed College	2022-23 Academic year.	Ongoing
3	Establishment of Scheduled Caste and Scheduled Tribe Cell in Tamilnadu (Spirulina Cultivation)	Tamil Nadu State Council for Science and Technology, Chennai - 25	2023- 2024 Academic year	Ongoing

Professional Experience

Duration	Designation / Responsibility	Particulars of work done
July 2009 – Till Date	Assistant Professor, PG and Research Department of Botany, Jamal Mohamed College, Tiruchirappalli-20	Teaching and guiding of M.Sc, student projects

January 2003 – July 2009	Research Scholar (Full time) PG and Research Department of Botany, Jamal Mohamed College, Tiruchirappalli-20	Studies on genetic diversity of <i>Withania somnifera</i> (L) Dunal of Tamil Nadu.
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Awards / Recognitions Receive

S. No.	Award / Recognition	Awarding Agency and Place	Date(s)
1	Best Academician	Thanthai Rover Institute of Agriculture and Rural Development, Perambalur.	24th & 25th March 2023.
2	Valuable Guidance and Motivation as a Faculty Coordinator - LEO	Lions clubs International District 324 F	9 th March 2024

Number of M.Phil/Ph.D Produced:

M. Phil		Ph. D	
Awarded	Pursuing	Awarded	Pursuing
06	01	-	02

Orientation / Refresher / Other Courses attended

Name of the Course	Academic Staff College, University	Duration	Date
Orientation Course	Academic Staff College, UGC – HRDC, Bharathidasan University, Tiruchirappalli	28 Days	08.07.2015 To 04.08.2015
Refresher Course in Life Science	Academic Staff College, UGC – HRDC, Bharathidasan University, Tiruchirappalli	14 days	16.07.2019 To 29.07.2019
Refresher Course in Advance Research Methodology	Teaching Learning Centre, Ramanujan College, University of Delhi under the aegis of Ministry of Education	14 Days	22.01.2022 to 05.02.2022
UGC – Sponsored Online Refresher Course in Life Science (Interdisciplinary)	Academic Staff College, UGC – HRDC, Bharathidasan University, Tiruchirappalli	14 days	27.07.2023 to 09.08.2023

Publications:

1. Pradeep Duraiyarasan, Parthiban Subramaniyan, Arun Melvin, Siva G, Venkatesh S & **Mohamed Rafi K** (2024). Facile Green Synthesis of Silver Nanoparticles Using *Passiflora edulis* and Its Efficacy Against the Breast Cancer Cell Line. *Biotechnology of Medicinal Plants with Antiallergy Properties* – Springer Singapore.
2. Siva K, Arumugam M, **Mohammed Rafi K**, Bhuvanewari R (2024). Larvicidal Activities of *Capparis divaricata* against Two Mosquito Species, *Aedes aegypti* and *Anopheles stephensi*. *Research Journal of Agricultural Sciences Vol 15, Issues 1*.
3. Banu A. Afroos NN, Shafeera N. Kalangadan, **Mohamed Rafi K**, Saravanakkumar D, Rajaram K, Fowziya SA, Mohamed S, and Ayeshamariam A. (2024). "Enhanced Growth of Green Synthesized Bi₂Fe₄O₉: Nanoparticles Decorated on MWCNT." *Oriental Journal of Chemistry* 40, no. 1.
4. Baskaran Maheswaran, Mysoon Al-Ansari, Latifah Al-Humaid, Joseph Sebastin Raj, Woong Kim, Natchimuthu Karmegam and **Mohamed Rafi K** (2022). *In vivo* degradation of polyethylene terephthalate using microbial isolates from plastic polluted environment. *Chemosphere journal homepage: www.elsevier.com/locate/chemosphere- Publication date 2022/10/2*. IF: 8.943.
5. Arumugam M, **Mohamed Rafi K**, Nagarajan M and Amzad Basha Kolar. Pharmacological and Phytochemical Investigation of *Chloroxylon swietenia* DC. (2022). *Research Journal of Agricultural Sciences an International Journal-1444–1448*.
6. Sivabharathy R, Thirumamagal M, Ragamathunnisa, **Mohamed Rafi K**, Mohamed Saleem A and Ayeshamariam A (2021). Characterization of CeO₂-NiO Thin Film Produced by Jet Nebuliser Technique. *International Journal of Nanobiotechnology*. <http://materials.journalspub.info/index.php?journal=IJNB&page=index>.
7. Fowziya Shaik Ali, Faisal Al Marzouqi, Afroos Banu A, Ismail Fathima M, Mohamed Jahangir A. R, **Mohamed Rafi K** and Ayeshamariam A (2021). Novel synthesis of cerium oxide nano photocatalyst by a hydrothermal method. *Journal of Semiconductors*. 10.1088/1674-4926/42/12/122801. IF: 0.418
8. Thilip C, Raja P, **Mohamed Rafi K**, Faizal K.P, Thiagu G, Aslam A and Shajahan A (2020). Genetic Transformation using *Agrobacterium rhizogenes* for the production of Valuable Anti-Cancer Compound, Withaferin-A from *Withania somnifera* (L.) Dunal. *Jamal Academic Research Journal-an Interdisciplinary*. 1: 1-5.
9. Kayalvizhi K, Alhaji N.M.I, **Mohamed Rafi K**, and Ayeshamariam A (2020). Facial Synthesis of Copper with CNT for the removal of Ni ions. *Malaya Journal of Matematik*. 2: 4902-4905. IF: 1.3
10. Prabhavathi G, Karunanithy M, Ayeshamariam A, Sekar N, **Mohamed Rafi K**, Pon Nivetha P, Kaviyarasu K and Jayachandran M (2019). Removal of Heavy Metals from Wastewater Treatment using Composite Nanomaterials : A Review *Journal of Nanoscience, Nanoengineering & Applications* 9: 27-44. IF: 6.15
11. Prem Navaz M, Raja Mohamed S, Ramamurthy V, **Mohamed Rafi K** and

- A. Ayeshamariam (2018). Anticancer Activity of Ag NPs Biosynthesized by Using *Cassia auriculata*. IOSR Journal of Applied Physics (IOSR-JAP), 10: 19-26.
12. Prem Navaz M, Raja Mohamed S, **Mohamed Rafi K** and Ayeshamariam A (2018). Green synthesis of Ag NPs synthesized by using *Cassia auriculata* leaves (*C. auriculata*) and its applications of cancer activity. IOSR Journal of Pharmacy 8: 2250-3013.
 13. Prem Navaz M, Raja Mohamed S, Palanivelu M, **Mohamed Rafi K** and Ayeshamariam A (2018). Effect of *Cassia auriculata* (*C. auriculata*) Leaves Extract for the Bio Synthesis of Ag NPs and its Investigation of Antioxidant Activity. American Scientific Publishers, 12: 1-8.
 14. Ayeshamariam A and **Mohamed Rafi K**, Prem Nawaz M, Raja Mohamed S (2017). Assessment of Heavy Metals in Surface Water of Adirampattinam Seashore, Thanjavur District, Tamil Nadu, India. Fluid Mechanics: Open Access. Issue 1 • 1000147. IF: 4.245
 15. Thilip C.S, Aslam A, **Mohamed Rafi K**, Varutharaju K and Kathiravan K (2017). Efficient Agrobacterium Rhizogenes Mediated Hairy Root Culture System for Withanolide Production from *Withania somnifera* (L.) Dunal. Journal of Applied Biotechnology Bioengineering.
 16. Karthika C, **Mohamed Rafi K** and Mannivan S (2016). Phytochemical analysis and evaluation of antimicrobial potential of *Senna alata* L. Leaves extract, Asian Journal of Pharmaceutical and Clinical Research, 9(2).
 17. Barsana Barvin, Kashif M, Sree Revathy K, Ayeshamariam A, **Mohamed Rafi K**, Bououdina M and Hashim U (2014). Assessment of the Physico-Chemical Properties of Water samples collected for four different samples at Ramnad and Sivagangai Districts, Tamil Nadu, In India. Journal of Harmonized Research in Applied Sciences 2(2), 2014, 111-117.
 18. **Mohamed Rafi K** and Shajahan A (2013). Studies on Genetic Diversity of *Withania somnifera* (L.) Dunal of Tamilnadu. Publication date 2013/5/17.
 19. **Mohamed Rafi K**, Aslam A, Kohila S, Tanweer J and Shajahan A (2010). Direct rhizogenesis from in vitro leaves of *Withania somnifera* (L.) Dunal. Indian Journal of Plant Physiology, 173-176, 15 : 2.
 20. **Mohamed Rafi K**, Aslam A, Kohila S, Tanweer J, Shajahan A (2010). Direct rhizogenesis from *in vitro* leaves of *Withania somnifera* (L.) Dunal. Indian Journal of Plant Physiology, 173-176, 15 : 2.
 21. Aslam A, **Mohamed Rafi K** and Shajahan A (2007). Effect of terminal flowering on sweetness of leaves in *Stevia rebaudiana* Bertone. JARJ: Int. 4 (1):20-22.
 22. **Mohamed Rafi K** and Shajahan A (2006). Germplasm Conservation of *Pavetta indica* L. an endemic and medicinally important plant by *in vitro* culture method. Plant biotechnology, APH Publishing. Pages 271.
 23. **Mohamed Rafi K**, Sirajudeen K and Shajahan A (2005). Antimicrobial activity of the leaf extract of *Moringa concanensis* (Nimmo.). Advances in Plant Sciences. 18(II):893-894.
 24. **Mohamed Rafi K**, and Shajahan A. (2004). Germplasm conservation of *Pavetta indica* L. An endemic and medicinally important plant by *in vitro* culture method. In Recent Trends in Plant Biotechnology (Ed. N. Jeyabalan). Proceedings

of National Seminar on Recent Trends in Plant Biotechnology, Bharathidasan University, Tiruchirappalli.

25. **Mohamed Rafi K** and Shajahan A. (2004) Effect of Thidiazuron on *in vitro* propagation of an endemic and medicinally important plant, *Pavetta indica* L. JARJ: Int. Academic interdisciplinary Journal of Jamal Mohamed College, 1(2): 4-6.

Gene Sequences deposited in the National Center for Biotechnology Information (NCBI):

S.No	Accession No	Nucleotide	source
1	HM451428	16s rRNA partial	<i>Enterococcus faecalis</i> strain JMC-UBL-02
2	FJ974057	16s rRNA partial	<i>Bacillus firmus</i> strain SK20
3	HM45142	16s rRNA partial	<i>Bacillus flexus</i> strain JMC-UBL-2
4	HM451430	16s rRNA partial	<i>Acinetobacter species</i> strain JMC-UBL 15
5	HM451431	16s rRNA partial	<i>Bacillus species</i> strain JMC-UBL 15
6	HM451432	16s rRNA partial	<i>Acinetobacter species</i> strain JMC-UBL 17
7	HM451433	16s rRNA partial	<i>Comamonas species</i> strain JMC-UBL 19

Papers presented in conferences:

1. Pradeep Duraiyaran, Parthiban Subramaniyan, Arun Melvin, S Gunalan, Sebastin Raj and **K Mohamed Rafi**. Efficient synthesis of silver nanoparticles utilizing *Passiflora edulis* leaf extract and its potential against breast cancer cell line. 8th International Conference on Recent Advances In Chemical And Environmental Research (ICRACER-2023). PG & Research Department of Chemistry, Jamal Mohamed College, Tiruchirappalli. 20th December 2023.
2. Parthiban S, Pradeep D, Arun Melvin A, Arumugam M and **Mohamed Rafi K**. Green synthesis of Ag NPs synthesized by using of *Senna alata* Linn leaves and their antibacterial activity. International conference on Future Challenges of Microbes in Environment (TCFCME - 2023). PG & Research Department of Microbiology, Jamal Mohamed College, Tiruchirappalli. 23rd February 2023.
3. Balaji K, Shankar R, Prema N, **Mohamed Rafi K**, Kathiravan K. and Shajahan A. Molecular Characterization and antibacterial analysis for *in vitro* and *in vivo*

raised *Withania somnifera* (L.) Dunal. Regional Seminar on Recent Trends in Biotechnology and its Role in Utilization of Biodiversity, PG & Research Dept of Botany, Jamal Mohamed College, Tiruchirappalli. March 2007. **Won II prize.**

4. Kokila S, **Mohamed Rafi K**, Tanweer J and Shajahan A. Molecular characterization of peroxidase and esterase in callus culture of *Withania somnifera* (L.). Regional Seminar on Recent Trends in Biotechnology and its Role in Utilization of Biodiversity, PG & Research Dept of Botany, Jamal Mohamed College, Tiruchirappalli. March 2007.
5. Sirajudeen K, **Mohamed Rafi K**, and Shajahan A. Antimicrobial analysis of the plant extracts of *Moringa concanensis* Nimmo. Regional Seminar on Recent Trends in Biotechnology and its Role in Utilization of Biodiversity, PG & Research Dept of Botany, Jamal Mohamed College, Tiruchirappalli. March 2007.
6. Aslam A, **Mohamed Rafi K**, Kathiravan K and Shajahan A. Micropropagation and Ecophysiological studies on *Stevia rebaudiana* Bertone. National Symposium on Plant Biotechnology – New frontiers, Central Institute of Medicinal and Aromatic Plants, Lucknow. November 2005.
7. **Mohamed Rafi K**, Tanweer J, Kathiravan K and Shajahan A . Separation of Withaferin-A from *in vitro* root culture of *Withania somnifera* (L.) Dunal. National Symposium on Plant Biotechnology – New frontiers, Central Institute of Medicinal and Aromatic Plants, Lucknow. November 2005.
8. **Mohamed Rafi K**, Janarthanan S, Kathiravan K and Shajahan A. Assessment of diversity among *Withania somnifera* (L.) Dunal accessions in Tamilnadu. National Symposium on Plant Biotechnology – New frontiers, Central Institute of Medicinal and Aromatic Plants, Lucknow. November 2005.
9. **Mohamed Rafi K**. and Shajahan A. Germplasm conservation of *Pavetta indica* L. An endemic and medicinally important plant by *in vitro* culture method. National Seminar on Recent Trends in Plant Biotechnology, Bharathidasan University, Tiruchirappalli. March 2004.

Conferences / workshops / Trainings:

1. Participated in **A one-week Faculty Development Programme on Instrumentation of FT-IR, UV-Visible & FT-Raman Spectroscopy** at PG & Research Department of Chemistry & PG & Research department of Physics, Jamal Mohamed College, Tiruchirappalli-20. Held on 4th to 8th December, 2023.
2. Participated in the **International Conference on Agri-Tourism: A Sunrise Sector in Agriculture** at Thanthai Rover Institute of Agriculture and Rural Development- Prambalur, 24th & 25th March 2023.
3. Participated in the National Conference on **Chemical, Biological and Medical Sciences. (NCCBMS-23)**. PG & Research Department of Biochemistry, Thanthai Periyar Government Arts and Science College, (Autonomous), Tiruchirappalli. Held on 7th March 2023.

4. Participated in the 3rd International Conference on **Environment and Health(ICEH - 2023)**. Organized by PG and Research Department of Zoology, Jamal Mohamad College (Autonomous)- Tiruchirappalli. Held on 1st & 2nd March-2023.
5. Served as an Organizing Committee Member in the National Seminar on **“Innovative Research Approaches in Biological Science”** held on 25th & 26th May 2022, at PG & Research Department of Botany, Jamal Mohamed College, Tiruchirappalli-20.
6. Certificate of appreciation Faculty Development Program (FDP): International Webinar on **“Biological Innovations of Resource Management and Sustainable Development”** organized by PG & Research Department of department of Botany Jamal Mohamed college Tiruchirappalli, on 24th to 26th august 2021 under DBT star college scheme.
7. Participated in the **National Pollution Control Day** at Jamal Mohamed college Tiruchirappalli, 2nd December 2021
8. Participated in the **“Orientation Programme on MOOC’s and e-Learning”** on 29-01-2020, Organized by Department of Library, Jamal Mohamed College, Tiruchirappalli-20
9. Served as a JURY member in **“National Science Day Celebrations”** on 3rd March 2021, Organized by Jamal Mohamed College, Tiruchirappalli.
10. Served as a JURY member in **“National Science Day Celebrations”** on 28-02-2020, Organized by Jamal Mohamed College, Tiruchirappalli.
11. Certificate of appreciation on **‘Effective Implementation of Part-V Extension Activities for the Club Advisors’** Organized by IQAC – Jamal Mohamed College, Trichy. – 07.12.2020.
12. A one-day State level Seminar On **“Perspectives in Plant and Conservation Biology”** Organized by PG & Research department of botany, Jamal Mohamed College, Tiruchirappalli. – 22.02.2019.
13. A One-day National Seminar on **“Challenges and Changes in the Evaluation System”** Organized by IQAC of Jamal Mohamed College, Tiruchirappalli. 26-02-2019.
14. Participated in the **“Staff Enrichment Programme on Ownership culture”** Organized by IQAC Jamal Mohamed College, Tiruchirappalli, on 14th June 2019.
15. Acted as a chairperson in the International Seminar on **“Emerging Trends in Biological Research (ETBR 2018)**, Organized by PG & Research Department of

Biotechnology & Microbiology, Jamal Mohamed college - Trichirappali-20, held on 3rd March 2018.

16. Seminar on **“The MHRD draft proposal for higher Education Commission of India (Repeal of UGC Act 1956) Act 2018”** held on 15th July 2018 at Jamal Mohamed College, Tiruchirappalli

17. Seminar on **“The MHRD draft proposal for higher Education Commission of India (Repeal of UGC Act 1956) Act 2018”** held on 15th July 2018 at Jamal Mohamed College, Tiruchirappalli

18. Seminar on **“The MHRD draft proposal for higher Education Commission of India (Repeal of UGC Act 1956) Act 2018”** held on 15th July 2018 at Jamal Mohamed College, Tiruchirappalli

19. Participated in the One-day Workshop on **“Improving Teaching Practices- A Strategic Approach”** Organized by IQAC Jamal Mohamed College, Tiruchirappalli, on 23rd June 2018.

20. Certificate of appreciation **“Department of Botany Organized a state level seminar”** during 2017-2018

21. Participated in the Three day **“NLP-Based Faculty Empowerment Programme”** Organized by IQAC Jamal Mohamed College, Tiruchirappalli, on 17th, 19th & 20th June 2017.

22. Participated in **“Documentation of Traditional Knowledge and Grassroots Innovation in Remote Village of Preamble and Pudukkottai districts of Tamilnadu”** sponsored by National Innovation Foundation (Autonomous) organized by centre for bio diversity informatics, department of botany at Jamal Mohamed College Tiruchirappalli, on 25th September 2016

23. Certificate of appreciation one-day workshop on **“The Role of Teacher Present Scenario”** organized by the internal Quality Assurance cell of the college in Jamal Mohamed college Tiruchirappalli, on 10-12-2016

24. **The Science Academies “Recent Trends in Biology and Biotechnology”** Organized by PG & Research Department of Biotechnology, Jamal Mohamed College, Tiruchirappalli-20, from 29th to 31st January 2014.

25. Participated in a Four-day Workshop on **“LATEX and SPSS”** Organized by PG & Research Department of Mathematics, Jamal Mohamed College, Tiruchirappalli, on 26th, 29th, 30th September 2014 & 1st October 2014.

26. **Three days “Science Academies’ lecture work shop on “Thrust Areas in Life Science”** sponsored by organized by Department of Biotechnology, Cauvery College for Woman, Tiruchirappalli – 620 018 31st January to 2nd February, 2013

27. National conference on **“Recent Trends in Plant Biotechnology”** Organized by Bharathidasan university, Tiruchirappalli-24, from 27 & 28 -February-2013.
28. **National Conference on “Current Challenges in Environment”** Supported by Association of environmental analytical chemistry of India organized by PG & Research Department of Zoology, at Jamal Mohamed College, on 07-03-13 Trichy – 20
29. Participated in the One-day Seminar on **“Teaching, Learning and Research in Higher Education – Excellence and Beyond Excellence”** Organized by IQAC Jamal Mohamed College, Tiruchirappalli, on 7th March 2012.
30. One day State level seminar on **“Emerging Advancements in Biosciences”** organized by Department of Microbiology and Biotechnology, Jamal Mohamed College, Trichy – 20 on 17th March 2012.
31. One day seminar on **“Teaching learning and research in higher education – Excellence and beyond excellence”** organized by Internal Quality Assurance cell, at Jamal Mohamed College, on 07-03-12 Trichy – 20.
32. International Workshop on **“The Art of Journal and Thesis Writing”** Wajthew-2012 organized by the Center for Research and Development and Center for Development of Teaching and Learning on 05th January at PRIST University, Thanjavur.
33. **Colloquium on “3R Concept and its practice in Academia and Research”** on 2nd October 2011, Organized by Mahatma Gandhi – Doerenkamp Center, (MGDC) Bharathidasan University, Tiruchirappalli.
34. **Regional Seminar on Recent Trends in Biotechnology and its Role in Utilization of Biodiversity** – sponsored by UGC – from 05-03-2007 to 06-03-2007 – organized by PG and Research Dept of Botany, Jamal Mohamed College, Tiruchirappalli – 620020.
35. **Expo and Seminar on Agrotechniques and trade promotion of herbs and Herbal products from 29th & 30th January 2005** organized by Srimad Andavan Arts and Science College, Tiruchirappalli.
36. **National Symposium on Plant Biotechnology** – sponsored by Plant Tissue culture Association of India – from 18-11-2005 to 20-11-2005 – organized by Central Institute of Medicinal and Aromatic Plants, Lucknow.
37. **National Seminar on Recent Trends in Plant Biotechnology** – sponsored by Dept of Plant Science, Bharathidasan University – from 22-03-2004 to 23-03-2004 – organized by Bharathidasan University, Tiruchirappalli.
38. **National Seminar on cultivation of Medicinal plants and manufacture of herbal medicines** – sponsored by Ministry of Environment & forests, Govt. of India – from 19-06-2004 to 20-06-2004 – organized by Sri Sankara College of Ayurveda, Tiruchirappalli.

39. **National Symposium on Current Scenario in Microbial Biotechnology** – sponsored by **DST & TNSCST** – from 28-09-2004 to 29-09-2004 – organized by PG & Research Dept. of Botany and Microbiology, Jamal Mohamed College, Tiruchirappalli – 620020.

40. **Communication skills workshop** – sponsored by Jamal Mohamed College – from 22-07-2003 to 08-10-2003 – organized by Guidance, Counseling and UGC coaching center, Jamal Mohamed College, Tiruchirappalli – 620020.

Updated on July, 2024.