

Dr. BINITHA V. S.
ASSOCIATE PROFESSOR
PG & RESEARCH DEPARTMENT OF ZOOLOGY
SREE NARAYANA COLLEGE, NATTIKA

FACULTY PROFILE

Date of Joining in the present service: 27.02.2010

Educational Qualification : M Sc., B Ed., M Phil., PhD

Year of Experience : 15Yrs

Area of Interest: Toxicology, Fishery science, Biochemistry and Physiology

Subjects Handled: Cell Biology, Biochemistry, Bioinformatics, Biotechnology, Immunology, Physiology and Molecular Biology.

PUBLISHED RESEARCH ARTICLES

1. Sabira O., Ajaykumar A.P., Varma S. R., Jayaraj K. N., Muddukrishnaiah K., Praveen K., Parvathi V., **Binitha V. S.**, Alex P. A., A. V. Raghu and Zeena K. V. (2025). *Nepenthes* pitcher fluid for the green synthesis of silver nanoparticles with biofilm inhibition, anticancer and antioxidant properties, Scientific Reports, 15: 5349, <https://doi.org/10.1038/s41598-025-89212-9>. Published on 13.02.2025
2. Sabira O., Drisya N., Ajaykumar A.P., Mathew A., Jayaraj K. N., **Binitha V. S.**, Zeena K. V., Roy K. B., Janish P. A., Sheena P., and Kaladharan P. V. (2024) : From *Ficus recemosa* Leaf Galls to Therapeutic Silver Nanoparticles: Antibacterial and Anticancer Applications; 16 (8), 1025; https://doi.org/10.3390/pharmaceutics_16081025 Published on 01.08.2024
3. Ajaykumar A.P., Nikhila, K., Sabira O., Jayaraj K. N., Varma S. R., Rasheed, V.A., **Binitha V. S.**, Sreeja K., Resmi M. R. and Annet Babu (2024): A bio-inspired approach for the synthesis of few layer graphene using beetle defensive gland extract; RSC Adv., 2024, 14, 5729-5739; <https://doi.org/10.1039/d3ra08733f> Published on 06.02.2024, IF 3.9
4. Ajaykumar A.P., Sabira O., **Binitha V. S.**, Varma S. R., Anjaly M., Jayaraj K. N., Janish P. A., Zeena K. V., Sheena P., Veena V., and Aswathi (2023): Bio-Fabricated Silver

- Nanoparticles from the Leaf Extract of the Poisonous Plant, *Holigarna arnottiana*: Assessment of Antimicrobial, Antimitotic, Anticancer, and Radical-Scavenging Properties; *Pharmaceutics*, 15, 2468-. <https://doi.org/10.3390/pharmaceutics15102468> Published on 15.10.2023, IF 5.4
5. Ajaykumar, A.P.; Sabira, O., Sebastian, M., Varma, S.R., Roy, K. B., Binitha V. S., Rasheed, V.A., Jayaraj, K.N., and Vignesh, A.R. (2023): A novel approach for the biosynthesis of silver nanoparticles using the defensive gland extracts of the beetle, *Luprops tristis* Fabricius. *Scientific Reports*, 13:10186; <http://doi.org/10.1038/s41598-023-37175-0> Published on 22 June 2023 IF 4.6
 6. Ajaykumar, A.P., Anjaly M., Chandni. A., Varma, S.R.; Jayaraj, K. N., Sabira, O., Rasheed, V.A., **Binitha, V. S.**, Raja T. S., Basheer V. S., Suvendu G., and Suvro C. (2023): Green Synthesis of Silver Nanoparticles Using the Leaf Extract of the Medicinal Plant, *Uvaria narum* and Its Antibacterial, Antiangiogenic, Anticancer and Catalytic Properties, *Antibiotics*, 12(3) 564-; <https://doi.org/10.3390/antibiotics12030564> Published on 13.03.2023. IF 4.9
 7. Sabira, O., Vignesh, A.R., Ajaykumar, A.P.; Varma, S.R.; Jayaraj, K.N.; Sebastin, M.; Nikhila, K.; Babu, A.; Rasheed, V.A.; **Binitha, V.S.**, Zeena K. V. and Sujith M. S. (2022): The Chemical Composition and Antimitotic, Antioxidant, Antibacterial and Cytotoxic Properties of the Defensive Gland Extract of the Beetle, *Luprops tristis* Fabricius. *Molecules*, 27(21), 7476; <https://doi.org/10.3390/molecules27217476>. Published on 2.11.2022 IF 4.6
 8. Anjaly M., Ramesh A. R., Abdul R. V., **Binitha V. S.**, Sabira O, Sujith M. S., Prasant C., and Ajaykumar A. P. (2022): Microwave-assisted greener synthesis of Silver nanoparticles using *Entada rheedii* leaf extract and investigation of its anticancer and antimicrobial properties. *International Journal of Nano Dimension*, 13(3): 329-334, Published on 1/7/2022 IF 0.319
 9. **V. S. Binitha**, Smina M. S., A.P. Ajay Kumar and Mani Shankar Babu (2018): Toxic effect of Malathion on the Fresh water Common Carp *Catla catla*. *Journal of Advanced Zoology*, 39(2): 108-112. Scopus Indexed.

10. A. P. Ajaykumar, M. Gokuldas and **V. S. Binitha** (2018): Hyperlipaemic response of topically applied synthetic neuropeptides in the plant bug *Iphita limbata* Stal (Pyrrhocoridae: Heteroptera). Journal of Entomological Research, 2018, 42 (4): 525-528. IF 0.564
11. **V. S. Binitha** and A. P. Ajaykumar. (2013): Toxic effects of three synthetic pesticides on mortality of fresh water fish, *Tilapia mossambica*. Journal of ecotoxicology and environmental monitoring. Journal of Advanced Zoology, 34 (2): 81-84. Scopus indexed
12. M. Gokuldas, A. P Ajaykumar, **V. S. Binitha**, D. Umadevi, K. M. Ismail and K. A. Abdul Rasheed (2013): Identification of an AKH/RPCH family peptide in the rice grasshopper, *Hieroglyphus banian* (Acrididae: Orthoptera). Journal of Entomology, 10 (2): 95-102. Scopus indexed
13. **V. S. Binitha**, K. V. Lazar and A. P. Ajaykumar (2012): Chronic effect of carbaryl on the levels of total protein, total free amino acid and total glucose in the male reproductive system of *Iphita limbata* Stal (Heteroptera: Pyrrhocoridae). Journal of entomological research. 36 (4) 359-362. IF 0.248
14. **V. S. Binitha**, K. V. Lazar and A. P. Ajaykumar (2012): Imine formation in the haemolymph of the plant bug, *Iphita limbata* Stal after topical application of carbaryl. Journal of Advanced Zoology, 33(1):13-15. Scopus indexed
15. **V. S. Binitha**, and A. P. Ajaykumar (2012): Toxic effects of three synthetic pesticides on survival and behaviour of a brackish water fish, *Etroplus suratensis*. Journal of ecotoxicology and environmental monitoring, 22 (2) 149-154.
16. **V. S. Binitha**, K. V. Lazar. (2011): Histopathological effects of sublethal doses of carbaryl on testes and mesadenes of plant bug, *Iphita limbata* Stal (Heteroptera: Pyrrhocoridae). Journal of entomological research. 35 (3) 277-282 Scopus indexed
17. **V. S. Binitha**, K. V. Lazar and A. P. Ajaykumar (2011): Acute effects of carbaryl on the levels of total protein, and phosphatases in the haemolymph of the plant bug, *Iphita limbata* Stal (Heteroptera: Pyrrhocoridae). Journal of Advanced Zoology, 32(1):29-32. Scopus indexed.
18. **V. S. Binitha**, K. V. Lazar and U. V. K. Muhammed (2009). Effect of trivalent antimony on amylase activity in the gut of heteroptera bug, *Iphita limbata*. Journal of ecotoxicology and environmental monitoring, 19 (3) 259-263.

19. **V. S. Binitha**, K. V. Lazar. (2009) Acute effect of carbaryl on the levels of glucose, total protein and total free amino acids in the plant bug, *Iphita limbata* Stal (Heteroptera: Pyrrhocoridae), Journal of Entomological research, 33(4), 81-84. Scopus Indexed

PAPERS PUBLISHED IN PROCEEDINGS/ABSTRACT BOOKS

1. Athira S, Sudheshna D., Prathibha V. R. and **Binitha V. S.** (2023): The Curative and Regenerative Response of *Lampito mauritii* Earthworm Towards the Leaf Extract of *Boerhavia diffusa*. Proceedings of Two-Day International Seminar Advanced Techniques In Biological Research (ATBR-2023), Department of Zoology, KKTU Govt. College, Pullut, funded by Directorate of Collegiate Education, Government of Kerala on 22nd & 23rd of November, 2023; ISBN 978-81-7255-172-8.
2. Anjana P. R. and **Binitha V. S.** (2023), Comparative study of coleopteran species in coastal and non-coastal regions of Thrissur district, Kerala., Proceedings of seminar “Biodiversity for sustainable future”, 14 - 16 Nov 2023, Organized by Research Department of Zoology, SNGS College, Pattambi, funded by Directorate of Collegiate Education, Govt. of Kerala, ISBN 978-81-7255-173-5pp 43-52
3. **V. S. Binitha** , M. S. Smina and A. P. Ajaykumar (2022): Toxic effect of Lambda - cyhalothrin on Fresh water fishes, *Catla catla* and *Labeo rohita*. Current Status of Biological Research: an Overview, A Handbook in connection with the National Level Virtual Scientific Paper Presentation Competition organized by ZOOTOPIA, The Journal Club, Department of Zoology, Vimala College, Thrissur, ISBN : 978-81-7255-134-6.
4. Anjaly Mathew, Ajaykumar, A. P., Ramesh A R, Abdul Rasheed V T, **V S Binitha**, Sabira O, Sujith M S, and Prasant C M (2022): Green Synthesis of Silver Nanoparticles from the Leaf Extract of The Medicinal Plant, *Entada rheedii*. In Current Status of Biological Research: an Overview, A Handbook in connection with the National Level Virtual Scientific Paper Presentation Competition organized by ZOOTOPIA, The Journal Club, Department of Zoology, Vimala College, Thrissur, ISBN : 978-81-7255-134-6.
5. T. B. Akhila, **V. S. Binitha** and A. P. Ajaykumar (2022): Diversity of Plankton in the Canoly Canal at Pullut, Thrissur District, Kerala. In Current Status of Biological Research: an Overview, A Handbook in connection with the National Level Virtual

Scientific Paper Presentation Competition organized by ZOOTOPIA, The Journal Club, Department of Zoology, Vimala College, Thrissur, ISBN : 978-81-7255-134-6.

6. **V. S. Binitha**, A. Archana Prasad, A. P. AjayKumar and K. M. Bibin (2017): Malathion induced mortality and histological changes in the juvenile *Etroplus suratensis*, Proceedings of 29th Kerala Science Congress, January 28-30, Mar Thoma College, Thiruvalla, Pathanamthitta, Sponsored by KSCTE, Govt. of Kerala.
7. **V. S. Binitha**, A. U. Anupriya and A. P. Ajaykumar (2017): Toxic effect of carbofuran on Indian Major Carp, *Catla catla*, Proceedings of 7th National level Paper presentation competition, Biovision, January 30, Published by Department of Zoology, Mercy College, Palakkad.
8. K. K. Sibi, **V. S. Binitha** and A. V. Sudhikumar (2015): Diversity of iders in Vazhachal Forest, Kerala, Proceedings of National seminar on Biodiversity conservation: Trends and Prospects, September 17&18, at Christ College, Irinjalakuda, Sponsored by KSCTE.
9. **V. S. Binitha**, M. Aswani, Archana Prasad, P.S. Sruthy and A. P Ajaykumar (2015): Toxic effect of Malathion on swimming and respiratory behaviours of Indian major carps *Catla catla*, *Labeo rohita* and *cirrhinus mrigala*. Proceedings of the National Seminar 15-16 December, Department of Zoology, Sree Neelakanta Government Sanskrit College, Pattambi.
10. P. D. Deepthi, T. S. Mini, **V. S. Binitha** and A. P. Ajaykumar (2014): Lambda-cyhalothrin induced biochemical changes in the liver and muscle tissues of *Oreochromis mossambicus*. Proceedings of UGC Sponsored National Seminar Cum Workshop, February 18-19, Department of Botany, KKTU Govt. College, Kodungallur.
11. R. Binsha and **V. S. Binitha** (2013): Toxic effect of a synthetic fungicide, Tebuconazole on survival and behaviour of fresh water fish *Cyprinus carpio*, Proceedings of National seminar on emerging trends in Indian aquaculture, 28-30 March, Department of Aquatic Biology and Fisheries, Sponsored by Dept. of fisheries, Government of Kerala.
12. **V.S. Binitha** and K. V. Lazar (2010): Histomorphological effect of sublethal concentration of carbaryl in the male reproductive system of *lphita limbata* Stal,

Pyrhocoridae, Proceedings of 97th Indian Science Congress, January 3 to 7, University of Thiruvananthapuram

13. **V.S. Binitha** and K. V. Lazar (2010): Effect of carbaryl on free amino acids in the hemolymph of the plant bug, *Iphita limbata* Stal. Proceedings of 22nd Kerala Science Congress, January 28-31, 2010, Kerala Forest Research Institute, Peechi.

BOOKS PUBLISHED

1. A. P. Ajaykumar and **V. S. Binitha** (2022). Biochemistry and Molecular Biology. The Calicut University Central Co-operative Stores Ltd, ISBN: 978-93-94931-00-8. Published on June 2022.
2. A. P. Ajaykumar and **V. S. Binitha** (2021). Genetics and Immunology. The Calicut University Central Co-operative Stores Ltd, ISBN: 978-93-90783-76-2. Published on June 2021.
3. **V.S. Binitha** (2013). Male reproductive system of *Iphita limbata* - biochemical and histological effects of carbaryl on the male reproductive system. Lap Lambert Academic Publishing, Germany, ISBN: 978-3-659-31035-5.

BOOK CHAPTER PUBLISHED

1. A. P. Ajaykumar and **V. S. Binitha** (2018): 'Cobras of Akumbe' A chapter in Koodu Magazine, 57 (2), 24-26

PAPERS PRESENTED

1. Anticancer activity of coelomic fluid and tissue extract of Indian earthworm, *Lampito mauritii*. National level virtual scientific paper presentation competition organised by Zootopia, The Journal Club, PG Department of Zoology, Vimala College, Thrissur, 22 December 2021.
2. Malathion induced mortality and histological changes in the juvenile *Etroplus suratensis*, January 28-30, 2017, 29th Kerala Science Congress at Mar Thoma College, Thiruvalla, Pathanamthitta.
3. Toxic effect of carbofuran on Indian Major Carp, *Catla catla*, 7th National level Paper presentation competition, Biovision, January 30, 2017, Organized by Department of Zoology, Mercy College, Palakkad.

4. Diversity of Spiders in Vazhachal Forest, Kerala, National seminar on Biodiversity conservation: Trends and Prospects, September 17&18, 2015, at Christ College, Irinjalakuda, funded by KSCTE & KSBB.
5. Toxic effect of Malathion on swimming and respiratory behaviours of Indian major carps *Catla catla*, *Labeo rohita* and *Cirrhinus mrigala*. National Seminar 15-16 December 2015, Department of Zoology, Sree Neelakanta Government Sanskrit College, Pattambi, Sponsored by Directorate of Collegiate Education, Govt of Kerala.
6. Lambda-cyhalothrin induced biochemical changes in the liver and muscle tissues of *Oreochromis mossambicus*. UGC Sponsored National Seminar Cum Workshop on February 18-19, 2014, Department of Botany, KKTU Govt. College, Kodungallur.
7. Effect of carbaryl on free amino acids in the hemolymph of the plant bug, *Leptoglossus limbata* Stal. 22nd Kerala Science Congress, January 28-31, 2010, Kerala Forest Research Institute, Peechi
8. Histomorphological effect of sublethal concentration of carbaryl in the male reproductive system of *Leptoglossus limbata* Stal, Pyrrhocoridae, 97th Indian Science Congress, January 3 to 7, 2010, University of Thiruvananthapuram

SESSIONS CHAIRED

1. Chaired a technical session in the International seminar on 'Advanced Techniques in Biological Research, organized by the Department of Zoology, KKTU Govt. College, Pullut, sponsored by the Directorate of Collegiate Education, Govt. of Kerala on 22.11.2023.

RESEARCH PROJECTS

- **Minor Project Completed-Funded By University Grants Commission (UGC)**
 1. Toxic effect of three synthetic pesticides on *Etroplus suratensis*, *Catla catla* and *Labeo rohita*
- **Student Research Projects Completed-Funded by Kerala State Council for Science, Technology and Environment (KSCTE)**
 1. The regenerative response of different species of earthworms towards the leaf extracts of *Boerhavia diffusa*, 2019
 2. Diversity of Plankton in Pullut river of Thrissur District, Kerala, India, 2017

3. Diversity of Spiders in Vazhachal Forest, Kerala, India, 2015.

RESEARCH GUIDE SHIP

Research Guide of the University in Zoology, with Department of Zoology, Christ College, Irinjalakuda, as centre of research. U.O.No. 20263/2022/Admn; Dated 27.10.2022

ORIENTATION COURSE ATTENDED

1. UGC-Sponsored Orientation Programme from 05-06-2014 to 02-07-2014, HRDC-ASC, University of Calicut

REFRESHER COURSE ATTENDED

1. Refresher Course (Online) on 'Zoology' from 10.04.2023 to 24.04.2023, organized by Teaching Learning Centre, Ramanujan College, University of Delhi.
2. Refresher Course (Online) on 'Natural Science' from 28.06.2022 to 12.07.2022, organized by Teaching Learning Centre, Ramanujan College, University of Delhi.
3. Refresher Course (Online) on 'Managing Online Classes and Co-creating MOOCs (Level 2)' from 02.06.2021 to 16.06.2021, organized by Teaching Learning Centre, Ramanujan College, University of Delhi.
4. Refresher course in Life sciences from 18.10.2019 to 31.10.2019, organized by UGC-HRDC-ASC, University of Calicut.
5. Refresher course in Bioscience from 10.01.2018 to 30.01.2018, organized by UGC-HRDC-ASC, University of Calicut.

FACULTY DEVELOPMENT PROGRAMME ATTENDED

1. Faculty Development Programme (Online) on 'The Power of Teacher-Student Relationship in Determining Student Success' from 15.03.2021 to 20.03.2021 organized by CIT Sandwich Polytechnic College, Coimbatore.
2. Faculty Development programme (Online) on Recent Trends and Challenges in Research from 10.05.2021 to 18.05.2021, organized by Teaching Learning Centre, Ramanujan College, University of Delhi.

3. Faculty Development programme (Online) on 'Multimedia Tools for Teaching and Learning' from 22.07.2021 to 28.07.2021, organized by Teaching Learning Centre, Ramanujan College, University of Delhi, in collaboration with Sree Narayana College, Nattika.

SEMINARS/WORKSHOPS ORGANIZED

1. One day webinar on 'Human wildlife Conflict' in connection with wildlife week celebration, October 10, 2020, Sponsored by Directorate of Environment and Climate Change, Govt. of Kerala.
2. One day Seminar cum Photo exhibition on Forest, Water and Life, as a part of observance of world water day, March 22, 2019, Sponsored by Directorate of Environment and Climate Change, Govt. of Kerala.
3. Inter-collegiate oral presentation contest on Forest, Water and Life, March 22, 2019, Sponsored by Directorate of Environment and Climate Change, Govt. of Kerala.
4. One day Regional Seminar and Photo exhibition on Wetland Conservation, February 7, 2014, Sponsored by PTA.
5. One day Seminar on 'Ecological Philosophy of Sree Narayana Guru', September 11, 2013, as a part Nature Club activity.
6. One day Regional career orientation Programme for Post graduate students on January 30, 2014, Sponsored by Alumni association.
7. One day Regional career orientation Programme for UG and PG students on November 4, 2013, Sponsored by Alumni association.
8. One day Regional Seminar on 'waste management' and 'DNA and Protein-Modern Perspective', for higher secondary teachers, December 20, 2012, Sponsored by Alumni association.

SEMINARS AND CONFERENCES ATTENDED

1. Two day National Seminar on Number Theory, Discrete Mathematics and their Applications, February 18 & 19, 2016, organized by Department of Malayalam, Sree Narayana College, Nattika.

2. International cultural exchange programme, An Indo Cultural Exchange Programme: A Journey of Love Caravan, March 6th, 2014, Organized by Department of Malayalam, Sree Narayana College, Nattika
3. UGC Sponsored National Seminar on Gender Issues and Empowerment of Women, February 5th & 6th, 2014, Organized by Department of Economics, Sree Narayana College, Nattika
4. National Seminar on Genetics, Breeding and Biotechnology, December 16 & 17, 2011, Organized by Department of Botany, University of Calicut.

WEBINARS ATTENDED

1. One day webinar on 'Four Year Undergraduate Programme (FYUGP) curriculum framework', conducted by Malaviya Mission Teacher Training Center (MMTTC), UGC-HRDC, University of Calicut, on 30.10.2023 in online platform.
2. One day webinar on 'Scientific Thinking for better Democracy', organized by Sree Narayana College, Kollam, on 01.05.2021 at Zoom Platform.
3. One day webinar on 'Biodiversity of Marine Ornamental Fishes in India, organized by Sree Narayana College, Kollam, on 06.05.2021 at Zoom Platform.
4. One day webinar on 'What lies beneath? Subterranean biodiversity of the Western Ghats', organized by Sree Narayana College, Kollam, on 06.05.2021 at Zoom Platform.
5. One day webinar on 'Vaccine Talk in the Time of Covid', organized by Sree Narayana College, Kollam, on 07.05.2021 at Zoom Platform.
6. One day webinar on 'Human Evolution and Migration: the Stories Told by DNA!', organized by Sree Narayana College, Kollam, on 08.05.2021 at Zoom Platform.
7. One day webinar on 'Ants of Kerala', organized by Sree Narayana College, Kollam, on 09.05.2021 at Zoom Platform.
8. One day webinar on 'Indian Arctic Expedition- My Experience as a Team Member', organized by Sree Narayana College, Kollam, on 11.05.2021 at Zoom Platform.
9. One day webinar on 'Connecting Science with Society: Why is it Important?', organized by Sree Narayana College, Kollam, on 12.05.2021 at Zoom Platform.

10. One day webinar on Covid 19-Second Wave: How to treat at Home?, organized by Sree Narayana College, Kollam, on 13.05.2021 at Zoom Platform.
11. One day webinar on ‘Cancer Therapies: Promises and Challenges in the Covid Era’, organized by Sree Narayana College, Kollam, on 14.05.2021 at Zoom Platform.
12. One day webinar on ‘Live Feeds, organized by Sree Narayana College, Kollam, on 15.05.2021 at Zoom Platform.
13. One day webinar on ‘Biodiversity & Conservation of Coral Reefs’ organized by Sree Narayana College, Kollam, on 18.05.2021 at Zoom Platform.
14. One day webinar on ‘Marine Debris & Microplastic Pollution’, organized by Sree Narayana College, Kollam, on 19.05.2021 at Zoom Platform.
15. One day webinar on ‘Marine Aquarium-set up and Diversity’ organized by Sree Narayana College, Kollam, on 22.05.2021 at Zoom Platform.
16. One day webinar on ‘Teenage Problems & Solutions, organized by Sree Narayana College, Kollam, on 26.05.2021 at Zoom Platform.
17. One day webinar on ‘Eshuthhujeevitham’, organized by Sree Narayana College, Kollam, on 27.05.2021 at Zoom Platform.
18. One day webinar on ‘Butterflies of Kerala: A review’ organized by Sree Narayana College, Kollam, on 31.05.2021 at Zoom Platform.
19. One day webinar on ‘Race to Rescue with Geodata’ organized by Sree Narayana College, Kollam, on 01.06.2021 at Zoom Platform.

WORKSHOPS ATTENDED

1. One day training program for teachers organised by Kerala Institute of Local Administration (KILA), Mulamkunnathukavu, Thrissur, attended in connection with 25th years of Decentralization-Training for teachers (Thrissur District), on 18.12.2021, at KILA, Thrissur.
2. Two day workshop on **Statistics for Biologists**, December 16&17, 2019, organized by Department of Zoology, Sree Neelakanta Government Sanskrit College, Pattambi, Sponsored by Directorate of Collegiate Education, Govt. of Kerala.

3. Two day workshop on **Molecular Techniques**, November 21&22, 2018, organized by Department of Zoology, Sree Neelakanta Government Sanskrit College, Pattambi, Sponsored by Directorate of Collegiate Education, Govt. of Kerala.
4. One day **Training Programme for Faculty-in-Charge of bhoomithrasena Clubs** of Middle Zone, November 25, 2017, held at St. Xavier's Collage, Aluva, Ernakulam, organized by Directorate of Environment and Climate Change, Government of Kerala.
5. Two day workshop on **Bioinformatics**, December 6&7, 2017, organized by Department of Zoology, Sree Neelakanta Government Sanskrit College, Pattambi, Sponsored by Directorate of Collegiate Education, Govt. of Kerala..
6. Two days **workshop on Bioinformatics**, 29&30 November 2016, Organized by Department of Zoology, Sree Neelakanta Government Sanskrit College, Pattambi, Sponsored by Directorate of Collegiate Education, Govt. of Kerala.
7. National Seminar Cum Workshop on **Techniques in Biosciences**, February 18-19, 2014, Organized by Department of Botany, KKTU Govt. College, Kodungallur, Sponsored by University Grants Commission
8. Three days Induction **Training Programme of FLAIR (Fostering Linkages in Academic Innovation and Research) 'Good Learning'**, 22, 23&24 December, 2014, at Institute of Management in Government, Thiruvananthapuram, Organized by New Initiatives of Higher Education, Directorate of Collegiate Education, Government of Kerala.
9. Hands-on workshop on **DNA Barcoding and Fingerprinting**, 7&8 February, 2013, Sponsored by Directorate of Collegiate Education, Govt. of Kerala.
10. Two days National Seminar-cum-workshop on **Developing e-contents on Bioinformatics**, 8&9, August 2012 at EMS Seminar Complex, University of Calicut, Educational Multimedia Research Centre, University of Calicut.

ACADEMIC RESPONSIBILITIES UNDERTAKEN

Developed module for e-learning delivery material on the subject Bioinformatics for the e-content series produced by the EMMRC, University of Calicut for the Consortium for Educational Communication (CEC), New Delhi (2017).

POSITIONS HELD IN THE COLLEGE

- Elected Council Member 2024, 2025
 - Admission Nodal Officer 2023,2024
 - Scholarship Nodal Officer 2019-2021
 - Staff Editor 2019
 - PTA Executive member 2017-2018
 - Bhoomithrasena Club Coordinator 2016 to 2021
 - Nature Club Coordinator 2014
 - Member of Extension Committee, Remedial coaching committee, Biodiversity Club, Research and Publications committee, Modular Course, Science Club
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