

# CURRICULUM VITAE

**Name:** JAYAKUMAR.K  
**Father's Name:** KALIYAMOORTHY  
**Sex:** Male  
**Date of Birth:** 30.05.1981  
**Present Post held:** Assistant professor in Botany, Since Jan. 2009



**Present address:** Dept. of Botany, AVC College, Mannampandal, Mayiladuthurai-609305.

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**Marital Status** : Married

## Educational Qualifications:

| Name of examination | Year of passing | Name of University                       | Subjects taken | Class / % of marks          |
|---------------------|-----------------|--|----------------|-----------------------------|
| Ph.D. Degree        | 2005<br>(Reg.)  | Annamalai University                     | Botany         | March-2009                  |
| M.Phil. Degree      | 2005            | Annamalai University                     | Botany         | I class with 7.50/10 (OGPA) |
| M.Sc. Degree        | 2004            | Annamalai University                     | Botany         | I class with 7.17/10 (OGPA) |
| B.Sc., Degree       | 2002            | AVC – College (Bharathidasan University) | Botany         | I class 63.50%              |

**Topic of Research (M. Phil.)** : Cobalt induced changes on growth and nutrient content of black gram.

**Topic of Research (PhD.)** : Changes in growth and metabolism of soybean (*Glycine max*) plants exposed to increasing concentrations of cobalt

**Research Experience** : 15 years

**Project Guided** : 4 (PG – Biotechnology)  
: 22 (PG – Botany)

**Teaching Experience:**

**UG** : 10 years  
**PG** : 11 years

**Research Experience**

| SI. NO. | Name of the organization                           | Designation      | Period           | Nature of Assignment   |
|---------|--|------------------|------------------|--|
| 1       | Ecology Lab, Dept. of Botany, Annamalai university | Research Scholar | 2005 – 2009      | Heavy metal Toxicity Effect In various plants (10)                       |
| 2       | Annai College of Arts & Science, Kumbakonam        | Guide            | 2009 – 2012      | Produced 4 M.sc students, Filed In Medicinal Plants.                     |
| 3       | A.V.C college                                      | Guide            | 2012 - Till date | Produced 22 M.sc students, Filed In pollution ecology & Medicinal Plants |

**AWARD:**

**Receiving an appreciation for acquiring Google Scholar Citation Index above 250**

**SCHOLASTIC DISTINCTIONS**

International seminar attended : 1  
National level seminars attended : 21  
Workshops attended : 8  
Papers published in national journals : 7  
Papers published in international journals : 50  
Training programme attended : 4  
Reviewer (International journal) : 4  
Google Scholar Citation : 391 (h-Index 9)

**EDITORIAL BOARD MEMBER (INTERNATIONAL JOURNAL)**

1. International Letters of Natural Science (SciPress Ltd, Switzerland)

**REVIEWER (INTERNATIONAL JOURNAL)**

1. International Journal of Modern Biology and Medicine - (Modern Scientific Press-USA).  
2. African Journal of Agricultural Research -. (South Africa)  
3. Basic Research Journal of Microbiology - (Nnamdi Azikiwe University, Nigeria))  
4. Agricultural Science Research Journal – (South Africa)

## RESEARCH PUBLICATIONS IN JOURNALS

### RESEARCH PAPERS PUBLISHED IN INTERNATIONAL JOURNALS

1. **Kaliyamoorthy Jayakumar**, Cheruth Abdul Jaleel and P. Vijayarengan. Changes in Growth, Biochemical Constituents and Antioxidant potentials in Radish (*Raphanus sativus* L.) Under cobalt stress. **Turk J Biol** 31 (2007) 127-136.
2. **Kaliyamoorthy Jayakumar**, Packirisamy Vijayarengan, Zhao Changxing, Cheruth Abdul Jaleel. Soil applied cobalt alters the nodulation, leg-haemoglobin content and antioxidant status of *Glycine max* (L.) Merr. **Colloids and Surfaces B: Biointerfaces**, 67 (2008) 272–275
3. Cheruth Abdul Jaleel, **Kaliyamoorthy Jayakumar**, Zhao Chang-Xing and Muhammad Iqbal. Low Concentration of Cobalt Increases Growth, Biochemical Constituents, Mineral Status and Yield in *Zea Mays*. **Journal of scientific research**, 1(1) 128 – 137, (2009).
4. **Kaliyamoorthy Jayakumar**, Cheruth Abdul Jaleel. Uptake and Accumulation of Cobalt in Plants: a Study Based on Exogenous Cobalt in Soybean. **Botany Research International** 2 (4): 310-314, 2009
5. C. Abdul Jaleel, **Kaliyamoorthy Jayakumar**, Zhao Chang-Xing, M. M. Azooz. Antioxidant potentials protect *Vigna radiata* (L.) Wilczek plants from soil cobalt stress and improve growth and pigment composition. **Plant Omics Journal** 2(3):120-126 (2009)
6. **Kaliyamoorthy Jayakumar**, Cheruth Abdul Jaleel, M. M. Azooz. Impact of Cobalt on Germination and Seedling Growth of *Eleusine coracana* L. And *Oryza sativa* L. Under Hydroponic Culture. **Global Journal of Molecular Sciences** 3 (1): 18-20, 2008
7. **Kaliyamoorthy Jayakumar**, Cheruth Abdul Jaleel, M. M. Azooz. Mineral Constituent Variations under Cobalt Treatment in *Vigna mungo* (L.) Hepper. **Global Journal of Molecular Sciences** 3 (1): 32-34, 2008
8. Cheruth Abdul Jaleel, **Kaliyamoorthy Jayakumar**, Zhao Chang-Xing, M. M. Azooz. Effect of Soil Applied Cobalt on Activities of Antioxidant Enzymes in *Arachis hypogaea*. **Global Journal of Molecular Sciences** 3 (2): 42-45, 2008.
9. **Kaliyamoorthy Jayakumar**, Cheruth Abdul Jaleel, M. M. Azooz. Phytochemical Changes in Green Gram (*Vigna radiata*) under Cobalt Stress. **Global Journal of Molecular Sciences** 3 (2): 46-49, 2008.
10. **Kaliyamoorthy Jayakumar**, Cheruth Abdul Jaleel, M. M. Azooz, P. Vijayarengan, M. Gomathinayagam, R. Panneerselvam. Effect of Different Concentrations of Cobalt on Morphological Parameters and Yield Components of Soybean. **Global Journal of Molecular Sciences** 4 (1): 10-14, 2009
11. **Kaliyamoorthy Jayakumar**, Cheruth Abdul Jaleel, Zhao Chang-Xing and M. M. Azooz. Cobalt induced variations in growth and pigment composition of *Arachis hypogaea* L. **Global Journal of Molecular Sciences** 4 (1): 10-14, 2009.
12. **Kaliyamoorthy Jayakumar**, Abdul Jaleel, P. Vijayarengan. Effect of Different Concentrations of Cobalt on Pigment Contents of Soybean. **Botany Research International** 2 (3): 153-156, 2009.

13. P.Vijayarengan, Cheruth Abdul Jaleel, Zhao Chang-Xing, **Kaliyamoorthy Jayakumar** and M.M. Azooz. Biochemical Variations in Ground Nut under Cobalt Applications. **Global Journal of Molecular Sciences** 4 (1): 19-22, 2009.
14. **Kaliyamoorthy Jayakumar**, M.M. Azooz, P. Vijayarengan, C. Abdul Jaleel. Mineral Nutrient Variations in Soybean (*Glycine Max*) After Treatment with Exogenous Cobalt. **Recent Research in Science and Technology**, 2(1): 001–007. 2010
15. **Kaliyamoorthy Jayakumar** □, M.M. Azooz, P. Vijayarengan, S. Ananth,C. Abdul Jaleel. Alteration in sugar metabolism of *Glycine max* with cobalt application. **Journal of Ecobiotechnology**, 2-1; 01-05-2010.
16. S. Rajasekaran, K. Sankar Ganesh, **Kaliyamoorthy Jayakumar**, M. Rajesh, C. Bhaaskaran, P. Sundaramoorthy. Biofertilizers-Current Status of Indian Agriculture, **International Journal of Environment and Bioenergy**, 4(3): 176-195, 2012.
17. **Kaliyamoorthy Jayakumar**, M. Rajesh, K. Sankar Ganesh, P. Vijayarengan. Cobalt Alters the Nodulation, Leg-Haemoglobin Content and Antioxidant Potential of Horse Gram (*Dolichos biflorus*), **International Journal of Modern Biochemistry**, 2(1): 1-9, 2013.
18. **Kaliyamoorthy Jayakumar**, M. Rajesh, T.M. Satheesh Kannan, S. Rajasekaran, P. Vijayarengan. Traditional Knowledge and Utility of Medicinal Plants in Cauvery Delta Region Aduthurai - Thanjore District - Tamil Nadu – India, **International Journal of Modern Biology and Medicine**, 3(3): 1-9, 2013. Modern Scientific Press- USA - Florida
19. **Kaliyamoorthy Jayakumar**. Influence of Pharmaceutical Effluents on Seedling Vigour, Dry Matter Production of Horse Gram (*Dolichos biflorus*. L.). **International Journal of Modern Plant & Animal Sciences**, 1(1): 58-66, 2013.
20. **Kaliyamoorthy Jayakumar**. Assessment and Day to Day Utilization of Medicinal Plants in Mayiladuthurai – Nagapattinam District of Tamil Nadu, India. **International Journal of Modern Biology and Medicine**, 4(1): 1-10, 2013.
21. **Kaliyamoorthy Jayakumar**, T.M. Sathees Kannan and M. Nagarajan. Effect of Raw and Biologically Treated Municipal Waste Water on Growth of Paddy (*Oryza sativa* L.). **International Journal of Environment and Bioenergy**, 7(1): 1-9, 2013.
22. **Kaliyamoorthy Jayakumar**, T.M. Satheesh Kannan, M. Rajesh and P. Vijayarengan. Effect of cobalt chloride on biochemical constituents, mineral status and antioxidant potentials in sesame (*Sesamum indicum* L.). **International Journal of Modern Plant & Animal Sciences**, 1(2): 67- 81, 2013.
23. Rajesh. M and **Kaliyamoorthy Jayakumar**. Changes in Morphological and Biochemical contents and Yield of *Abelmoschus esculents* (L.) Moench due to Panchagavya spray. **International Journal of Modern Plant & Animal Sciences**, 1(2): 82-85, 2013.
24. **Kaliyamoorthy Jayakumar**, M. Rajesh, L. Baskaran and P. Vijayarengan. Changes in Nutritional Metabolism of Tomato (*Lycopersicon esculantum* Mill.) Plants Exposed to Increasing Concentration of Cobalt Chloride. **International Journal of Food Nutrition and Safety**, 4(2): 62-69, 2013.
25. Rajesh. M, **Kaliyamoorthy Jayakumar** and T.M. Sathees Kannan. Effect of Biofertilizers Application on Growth and Yield Parameters of Green gram (*Vigna radiata*, (L) R. Wilczek). **International Journal of Environment and Bioenergy**, 7(1): 43-53, 2013.

26. Sathees Kannan. T. M, **Kaliyamoorthy Jayakumar** and M. Rajesh. In-Vitro Studies on *Cardiospermum halicacabum* L.- A Medicinal Herb. **International journal of Traditional & Natural medicine**, 3(1):1-10, 2013.
27. Sathees Kannan T.M, M. Rajesh and **Kaliyamoorthy Jayakumar**. Comparative Study of Certain Bio-chemical Parameters in Normal and Infected Leaves of some Important Plants. **International Journal of Modern Biochemistry**, 2(1): 50-54, 2013.
28. Rajesh. M, **Kaliyamoorthy Jayakumar**, T.M. Sathees Kannan and K. Sankar Ganesh. Influence of Sugar Mill Effluent on Seed Germination and Seedling Growth of Cluster Bean (*Cyamopsis tetragonaloba* (L) Taub). **International Journal of Environment and Bioenergy**, 7(2): 54-62, 2013.
29. **Kaliyamoorthy Jayakumar**, Traditional Medicinal Values of *Adhatoda vasica*. **International journal of Traditional & Natural medicine**, 3(1):26-31, 2013.
30. Sathees Kannan, T.M., **Kaliyamoorthy Jayakumar**, and K. Sankar Ganesh. Effect of fungicide (Sivic) on Seed germination and Seedling growth in *Oryza sativa* L. **International Journal of Modern Biology and Medicine**, 5(1):1-4, 2014.
31. **Kaliyamoorthy Jayakumar**, Rajesh. M and T.M. Sathees Kannan. Impact of Sugar Mill Effluent on Photosynthetic Pigment content and Biochemical constituents variance of Cluster Bean (*Cyamopsis tetragonaloba* (L) Taub). **International Journal of Environment and Bioenergy**, 9(3): 143-160, 2014.
32. **Kaliyamoorthy Jayakumar** and P. Vijayarengan. Cobalt induced changes in growth and biochemical constituents in tomato (*Lycopersicon esculantum* Mill.) plants. **International Journal of Plant and Animal Sciences**, 2(1): 42-49, 2014.
33. **Kaliyamoorthy Jayakumar**. Ethno medicinal value of plants Thanjavur District, Tamil Nadu, India. **International letters of natural sciences**, 29: 33-42, 2015.
34. **Kaliyamoorthy Jayakumar**, T.M. Sathees Kannan and P.Vijayarengan. *Leucas aspera* L. – Medicinal Herb. **International Journal of Traditional and Natural Medicines**, 5(1): 1-5, 2015.
35. Sheela, T., B. Durga Devi, B. Sabetha, M. Vinoth, **Kaliyamoorthy Jayakumar**. Biocontrol Efficacy of Synbiotic Straw Berry (*Fragaria ananassa*. Duch.) Juice **International Journal of Food Nutrition and Safety**, 6(1): 10-16, 2015.
36. Sheela T., T. M. Sathees Kannan, **Kaliyamoorthy Jayakumar**. Evaluation of Bio control Efficacy of Synbiotic Cherry (*Prunus avium*. L.) Juice. **International Letters of Natural Sciences**, Vol. 42; 62-68, 2015.
37. **Kaliyamoorthy Jayakumar**, T.M. Sathees kannan, P. Thamizhiniyan and P.Vijayarengan. Evaluation of Phytochemicals Analysis, Medicinal Properties and Nutritional Value of Sesame Seeds (*Sesamum indicum*.L). **International Journal of Modern Biology and Medicine**, 6(2): 129-135, 2015
38. **Kaliyamoorthy Jayakumar**, M. Nagarajan and P. Vijayarengan. Bioactive Enzyme Activity and Medicinal Properties of Tender Coconut (*Cocos nucifera* L.). **International Journal of Modern Biochemistry**, 4(1): 10-14, 2015.
39. **Kaliyamoorthy Jayakumar**. Beneficial Role of Mineral Composition and Bio-Active Compounds of *Ficus racemosa* Linn. **International Journal of Modern Biology and Medicine**, 7(1): 24-32, 2016.

40. Chandru. G and **Kaliyamoorthy Jayakumar**. Anti-Steroidogenic Effect of *Thespesia populnea* (L.) Sol. ex Correa. in Female Mice. **World Scientific News**, 55; 263-273, 2016.
41. **Kaliyamoorthy Jayakumar**. Screening of Bioactive Compounds and Medicinal Properties of *Commelina Benghalensis* L. International Journal of Modern Biochemistry, 5(1): 7-15, 2016.
42. Jeyaprakash. K, Y. J. Lego, T. Payum, S. Rathinavel and **Kaliyamoorthy Jayakumar**. Diversity of Medicinal Plants Used By Adi Community in and Around Area of D' Ering Wildlife Sanctuary, Arunachal Pradesh, India. **World Scientific News**, 65; 135-159, 2017.
43. Chandru. G, **Kaliyamoorthy Jayakumar** and D. Navaneethakannan. Effect of Raw Extract of *Hybanthus enneaspermus* (L.) F. Muell. on the Fertility Test in Female Mice (*Mus musculus* L). **World Scientific News**, 65; 160-170, 2017.
44. **Kaliyamoorthy Jayakumar**. Pharmacognostical Studies and Phytochemicals of *Aerva lanata* (Linn.) Juss. Ex Schult. **International Journal of Traditional and Natural Medicines**, 7(1): 1-10, 2017.
45. Chandru. G, **Kaliyamoorthy Jayakumar** and M. Girija. Effect of Raw Extract of *Clitoria ternatea* (L.) on Sexual Stimulate Test of Female genital Tract in Rat. **World Scientific News**, 91; 86-98, 2018.
46. **Kaliyamoorthy Jayakumar**, B. Muthuraman and S.Rajasekaran. Evaluation of phytochemical screening and traditional value of *Zizyphus xylopyrus* (Retz) Wild. **World news of natural science**, 16; 97-104, 2018.
47. **Kaliyamoorthy Jayakumar** and B. Muthuraman. Traditional uses and nutrient status of Indian native plant fruit (*Carissa carandas* Linn.). **World Scientific News**, **96; 217 - 224, 2018.**
48. **Kaliyamoorthy Jayakumar**, R. Raja and M.Vinoth. Documentation of medicinal flora in pazhavar river bed, Korkai, Mayiladuthurai Taluk, Tamil Nadu. India. **World news of natural science**, 19; 78 – 94, 2018.
49. **Kaliyamoorthy Jayakumar** and M. Vinoth. Strategies for utilization of wound healing herbals in and around Mayiladuthurai, Nagapptinam District. **International Journal of Traditional and Natural Medicines**, 8(1): 76-89, 2018.
50. **Kaliyamoorthy Jayakumar**, 2019. Antioxidant enzyme mechanism of Cluster bean (*Cyamopsis tetragonoloba* (L.) Taub). Under cobalt stress.24: 64-70, 2019.

#### RESEARCH PAPERS PUBLISHED IN NATIONAL JOURNALS

1. **Kaliyamoorthy Jayakumar** and P. Vijayarengan, Alterations in the carbohydrate metabolism of *Vigna mungo* (L.) Hepper as affected by cobalt stress. **Indian of Journals of Environment and Ecoplanning**, 2006; 12, 693-696.
2. **Kaliyamoorthy Jayakumar** and P. Vijayarengan, Influence of cobalt on seed germination and seedling growth of *Vigna mungo* (L.) Hepper. **Plant Archives**, 2006; 6, 681-682.
3. **Kaliyamoorthy Jayakumar**, P. Vijayarengan, M. Vijayaragavan, S. Rajasekaran, K. Sumathi and P. Sundaramoorthy, Toxicological aspects of cobalt induced growth and morphological changes in *Helianthus annuus* L. **Plant Archives**, 2006; 6, 829-830.
4. M. Vijayaragavan, P. Vijayarengan, **Kaliyamoorthy Jayakumar**, and A. Natarajan, Phototoxicity of Cadmium and its effects on growth and photosynthetic responses in *Raphanus sativus* L. **Advance in plant science**, 2007; 7 (2), 555-558.

5. M. Vijayaragavan, P. Vijayarengan and **Kaliyamoorthy Jayakumar**, Cadmium mediated toxic effect on biochemical constituents in *Raphanus sativus* L. **Advance in plant science**, 2007; 20 (2), 535-536.
6. **Kaliyamoorthy Jayakumar**, Cheruth Abdul Jaleel and P. Vijayarengan. Cobalt induced changes in the antioxidant enzyme activities in Maize (*Zea Mays* L.) **Chemical environment**, 2007; 16 (1&2).
7. Rajasekaran. S, T.M. Sathees kannan, R. Arumugam, **K. Jayakumar**, J. Silvia Nithya Kumari and Malarvizhi.P. Antifungal Activity of Silver Nanoparticles Synthesized by using Leaf Extract of *Callyphyllum inophyllum* L. **International Journal of Current Research and Development**, 2016, 4 (2), 17 - 22, (ISSN- 2123- 0516).

#### **RESEARCH PAPERS PUBLISHED AS BOOK CHAPTERS**

1. Baskaran, L., P. Sundaramoorthy, K. Sankar Ganesh, **Kaliyamoorthy Jayakumar** and P. Vijayarengan, 2009. Response of green gram (*Vigna radiata* L. Wilczek) to raw and biological treated sugar mill effluent, In: **Environmental Issues and solutions**. p. 125-130.

#### **TRAINING PROGRAMMES ATTENDED**

1. Attended on commercial Agricultural technology at soil water management training program attended in Tamilnadu Agricultural University – Thanjavur-17 Sep, 2010.
2. Attended on Faculty Development Program attended in Sastra University – Thanjavur-19th & 20th Dec 2011
3. Attended on Faculty Development Program attended in Annai college of Arts & Science Kovilacherry- Kumbakonam- 27th Jan 2011.
4. Attended the Hands on Training to create awareness about applied zoology for self employment Program conducted by PG and Research Department of Zoology, Government Arts college - Kumbakonam- 11<sup>th</sup> to 13<sup>th</sup> October 2018.

#### **SEMINARS, CONFERENCES AND SYMPOSIA ATTENDED**

1. International conference on "Biotechnology - Promises and Realities", PSGR Krishnammal College for Women, Peelamedu Coimbatore, Tamil Nadu, 14-15th July 2006.
2. UGC National Seminar on Present Scenario in plant Science Research, Department of Botany, Annamalai University, 19 & 20 February 2005.
3. National Seminar on effect of Tsunami on coastal ecosystem. CAS in marine biology, Annamalai University, 10th April 2005.
4. National Science Day Nature, Nature for our future CAS in Marine Biology, Annamalai University, 28th February 2006.
5. National Seminar on Appropriate Technologies for Sustainable Horticulture, Department of Horticulture, Annamalai University, 20-21st March, 2006.
6. National Seminar on Recent in plant Biology, V. H. N. Senthikumara Nadar Collage, Virudhunagar, Tamil Nadu, 10 & 11th August, 2006.

7. National Conference on Microbial Biotechnology for Agriculture and Industry, Department of Microbiology, Annamalai University. 28-29th March 2006.
8. 94th Indian science congress, Annamalai University, 3wth January 2007.
9. UGC National Seminar on Recent Advances in medicinal plant Research, Department of Botany, Annamalai University, 3 & 4th March 2007.
10. National Seminar on Recent Advances in Legume Research, Department of Agricultural Botany, Annamalai University, 6 & 7th March 2008.
11. UGC National Seminar on Current Trends in Environment & Biosafety –SCEB, Department of Zoology, Annamalai University, 8 & 9th March 2008.
12. National conference on Animal Ethics and Welfare, Department of Zoology (DDE), Annamalai University, 28 & 30th March 2008.
13. UGC sponsored national conference on Recent trends in Bioscience-21st Millennium, Department of Zoology, Annamalai University, 6 & 7<sup>th</sup> March 2009.
14. National Seminar on Climate change and Environmental challenges, Department of Botany, Annamalai University, 7 & 8th March 2009.
15. National conference on Animal Ethics and Welfare, Department New challenges & Opportunities in Soil Organic Matter Research -NECOSOR , Department of Soil Science & Agricultural chemistry, Annamalai University, 26th Feb 2010.
16. National Seminar Inter Collegiate level on Legume Research, Department of Life Science, Mass College of Arts & Science, 03rd April 2012.
17. National seminar on Emerging trends in Chemistry (NSATC – 14). Department of Chemistry, A.V.C College (Autonomous), Mannampandal, Mayiladuthurai – 13 & 14<sup>th</sup>, March - 2014.
18. UGC Assisted seminar on Emerging trends in Plant Sciences. Department of Botany, A.V.C College (Autonomous), Mannampandal, Mayiladuthurai – 6<sup>th</sup>, October 2014.
19. State level seminar on Recent Advances in Biochemistry. Department of Biochemistry, Rabiammal Ahamed Maideen College for women, Tiruvarur – 22<sup>nd</sup>, January 2015.
20. TEQIP II sponsored Two days seminar on “Network Pharmacology – A new horizon in drug design”, Department of biotechnology, Bharathidasan Institute of Technology (BIT) campus, Anna University, Tiruchirappalli – 30 & 31<sup>st</sup> August -2016.
21. National conference on ‘Recent Advances in Modern Biology and Rural Development’ PG & Research department of Botany & Microbiology, AVVM Sri Poondi Pushaopam College, Thanjavur – 5<sup>th</sup> & 6<sup>th</sup> October – 2017.

#### **WORKSHOPS ATTENDED**

1. Workshop on Prof. K.S. Sonachalam memorial XVIII inters- disciplinary Research Methodology, Department of Economics, Annamalai University, 10 & 13th March 2008.
2. UGC National Seminar cum Work Shop on Recent Trend in Plant Science Research, Department of Botany, Annamalai University, 18<sup>th</sup> & 20<sup>th</sup> Feb 2010.
3. UGC – Sponsored one day workshop on Scientific Writing. Department of Botany, A.V.C College (Autonomous), Mannampandal, Mayiladuthurai – 11<sup>th</sup>, October 2014.



4. Science Academies' Lecture Workshop on "Perspectives in Biological Research", Department of Botany, A.V.C College (Autonomous), Mannampandal, Mayiladuthurai – 23<sup>rd</sup> & 24<sup>th</sup>, January 2017.
5. A State Level Workshop on "Organic Farming Production" (An Entrepreneurship Programme), PG & Research Department of Microbiology, Jamal Mohamed College (Autonomous), Trichy – 27<sup>th</sup> & 28<sup>th</sup> January 2017.
6. Science Academies' Lecture Workshop on "Recent Advances in Biology", Department of Microbiology, MR Government Arts College, Mannargudi – 12<sup>rd</sup> & 13<sup>th</sup>, October – 2017.
7. Science Academies' Lecture Workshop on "Conservation and Protection of Bioresources", Department of Botany, School of Life Sciences, Bharathidasan University, Tiruchirappalli – 24<sup>th</sup> & 25<sup>th</sup>, January 2018.
8. Workshop on Research Methodology, Scientific Writing & Statistical Data Analysis, Organized by Internal Quality Assurance Cell (IQAC) and Research Advisory Committee (RAC), A.V.V.M Sri Pushpam College, Poondi, 5<sup>th</sup> & 6<sup>th</sup> October 2018.