BIODATA

Dr. R. Harikumaran Nair. M. Sc, PhD

Assistant Professor in Physiology (Stage-II)

School of Biosciences, Mahatma Gandhi University

Priyadarshini Hills. PO. Kottayam. Kerala. INDIA-686 560

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Education (Post-Graduation onwards)

Si No.	Institution Place	Degree Awarded	Year	Field of Study
1	University of Kerala, Thiruvananthapuram, Kerala	M.Sc	1994	Zoology
2	Mahatma Gandhi University, Kottayam, Kerala	PhD	2001	Physiology

Employment (Starting with the most recent employment)

Si No.	Institution, Place	Position	From (Date)	To (date)
1	School of Biosciences, Mahatma Gandhi University, Kottayam, Kerala	Assistant Professor	22/05/2006	continuing
2	School of Biosciences, Mahatma Gandhi University, Kottayam, Kerala	Lecturer (contract service)	20/11/2003	21/05/2006
3	Dept. of Physiology, St. John's Medical College, Bangalore, India.	Postdoctoral fellow	01/03/2002	15/07/2002

Research areas

- Cardiovascular and hepatic functional impairment under chemotherapeutic stress and food additives exposure.
- Renal regulatory mechanisms in Kidney stone diseases.
- Endocrine functional impairment related to environmental toxicology

PhD awarded under the Guidance:

- Ph Ds awarded: 04
- Ph D Research Scholars currently working : **04** (01 DBT fellow/ 2 DST INSPIRE Fellows/ 01 University JRF)

M Sc/M Phil Projects guided

- M. Sc Dissertations-**12**
- M Phil Thesis-**07**

Teaching experience: Classes (in years): Post Graduation-13 years

Research Experience excluding years spent in Ph.D (in years): 11Years

Research Publications: Original Papers 28/Scientific Proceedings 11/ Seminar abstracts 19

Publications (2010 onwards)

1. Oxidative stress and lung functions in diabetic mellitus, Ajithakumari, S.Shashidhar, & R.H. Nair (2010), Biomedicine;30(2):221-226, ISSN: 09702067
2. Effect of long term intake of aspartame on antioxidant defence status in liver, M Abhilash, MVS Paul, MV Varghese, RH Nair (2011). Food and chemical toxicology 49 (6), 1203-1207 ISSN: 0278-6915, **Impact factor- 2.895**
3. Hepatoprotective efficacy of curcumin against arsenic trioxide toxicity, VV Mathews, P Binu, MVS Paul, M Abhilash, A Manju, RH Nair (2012). Asian Pacific Journal of Tropical Biomedicine 2 (2), S706-S711, ISSN: 2221-1691, **Impact factor- 1.062,**
4. Ameliorative effect of α-tocopherol on monosodium glutamate-induced cardiac histological alterations and oxidative stress, Sauganth Paul, Abhilash Mohanan, Mathews V Varghese, Manju Alex and Harikumaran Nair (2012), Journal of Science of Food and Agriculture 92 (15), 3002-6., ISSN: 1097-0010, **Impact factor-1.714**
5. Protective effects of α-tocopherol against oxidative stress related to nephrotoxicity by monosodium glutamate in rats, MVS Paul, M Abhilash, MV Varghese, M Alex, R

Harikumaran Nair (2012),Toxicology mechanisms and methods 22 (8), 625-630. **ISSN** 1537-6516, **Impact factor- 1.517**

6. Mitigation of hepatotoxic effects of arsenic trioxide through omega-3 fatty acid in rats, VV Mathews, MVS Paul, M Abhilash, A Manju, S Abhilash, RH Nair. (2012), Toxicology and industrial health, 0748233712463778, ISSN: 0748- 2337, **Impact factor- 1.859**
7. Long-term consumption of aspartame and brain antioxidant defense status, M Abhilash, MV Sauganth Paul, MV Varghese, RH Nair (2013), Drug and chemical toxicology 36 (2), 135-140, **ISSN**:0148-0545, **Impact factor- 1.233**
8. Myocardial toxicity of acute promyelocytic leukaemia drug-arsenic trioxide, VV Mathews, MV Paul, M Abhilash, A Manju, S Abhilash, RH Nair (2013), Eur. Rev. Med. Pharmacol. Sci 17 (1), 34-38 ISSN:1128-3602, **Impact factor- 1.213**
9. Oxidative stress induced by the chemotherapeutic agent arsenic trioxide, VV Mathews, MV Paul, M Abhilash, A Manju, S Abhilash, RH Nair (2014), 3 Biotech, Springer, ISSN:2190-572X,
10. Effect of astaxanthin on ethylene glycol induced nephrolithiasis, M Alex, MV Varghese, M Abhilash, MVS Paul, RH Nair (2014), PP-42-47, IOSR Journal of Pharmacy and Biological Sciences, ISSN: 2278-3008
11. Astaxanthin modulates osteopontin and transforming growth factor β1 expression levels in a rat model of nephrolithiasis: a comparison with citrate administration, M Alex, S Paul, M Abhilash, VV Mathews, TV Anilkumar, RH Nair (2014), BJU international 114 (3), 458-466, ISSN: 1464-410X, **Impact factor- 3.533**
12. Effect of astaxanthin on dieresis and body composition in experimental nephrolithiasis, M Alex, MV Varghese, M Abhilash, MVS Paul, RH Nair (2014) International Journal of Pharmaceutical Science Invention, Vol 3.5, 17-22, ISSN 2319-670X
13. Chronic effect of aspartame on ionic homeostasis and monoamine neurotransmitters in the rat brain, M Abhilash, M Alex, VV Mathews, RH Nair (2014). International journal of toxicology, 1091581814537087, ISSN: 1091-5818, **Impact factor- 1.290**
14. Docosahexaenoic acid relieves cellular damage due to oxidative stress induced by the chemotherapeutic agent arsenic trioxide in H9c2 cardiomyocytes, Abhilash S, Vineetha R C, MV Varghese, Harikumaran Nair (2014) pp.45-58, International Journal of Pharmacy & Pharmaceutical Research, ISSN:2349-7203

15. Screening of Eugenol- A Monoterpene, as an antioxidant, Binu.P and Harikumaran Nair R (2015), International Journal of Advanced Research, Vol.3, 11, 1527-1533.
16. Effect of long-term intake of aspartame on serum biochemical parameters and erythrocyte oxidative stress biomarkers in rats, M Abhilash, MV Varghese, MVS Paul, M Alex, RH Nair (2015).Comparative Clinical Pathology 24 (4), 927-933, ISSN:1128-3602, **Impact factor- 0.374**
17. Screening of Eugenol- A Monoterpene, as an antioxidant, Binu.P and Harikumaran Nair R (2015), International Journal of Advanced Research, Vol.3, 11, 1527-1533, ISSN 2320-5407
18. Effect of long-term intake of aspartame on serum biochemical parameters and erythrocyte oxidative stress biomarkers in rats, M Abhilash, MV Varghese, MVS Paul, M Alex, RH Nair (2015).Comparative Clinical Pathology 24 (4), 927-933, ISSN:1128-3602, **Impact factor- 0.374**
19. Single oral acute fluoride exposure causes changes in cardiac expression of oxidant and antioxidant enzymes, apoptotic and necrotic markers in male rats, Lakshmikanthan, Panneerselvam, Vimal Govindarajan, Jaishabanu Ameeramja, Harikumaran Raveendran Nair, Ekambaram Perumal (2015) Biochemie, Vol 119, December 2015, PP 27–35 ISSN: 0300-9084, **Impact factor-2.963**
20. L- Ascorbic acid and α- Tochopherol to protect against arsenic trioxide induced oxidative stress in H9c2 cardiomyocytes, Vineetha R C, Abhilash S, R. Harikumaran Nair (2015) IOSR Journal of Pharmacy and Biological Sciences,Vol 9,6.1 13-19 ISSN: 2319-7676
21. Evaluation of the cardioprotective effect of docosahexaenoic acid against arsenic trioxide induced toxicity in H9c2 cardiomyocytes by preliminary dose standardization assays. Abhilash S, Vineetha R C, Binu P, Arathi P, Harikumaran Nair (2016) International Journal of Advanced Research in Biological Sciences, 3(2): 235-242.
22. The Antioxidant Potential of Astaxanthin on Arsenic Trioxide Induced Cardiac Damage in Male Wistar Rats. Binu. P, Mathews V Varghese, Manju Alex, Abhilash S, Vineetha R C, Harikumaran Nair R (2016) IOSR Journal of Biotechnology and Biochemistry (IOSR-JBB), Volume 2, Issue 2, pp: 42-48, ISSN: 2455-264X)
23. Evaluation of the Effectiveness of Docosahexaenoic acid in protecting Liver cells against Arsenic trioxide induced Toxicity by Preliminary dose Standardization assays. Abhilash S, Vineetha R C, Binu P, Arathi P, Harikumaran Nair R (2016) The

International Journal of Life-Sciences Scientific Research. Volume 2, Issue 2, pp: 46-54, ISSN: 2455-1716

24. Evaluation of the Effectiveness of Docosahexaenoic acid in protecting Liver cells against Arsenic trioxide induced Toxicity by Preliminary dose Standardization assays. Abhilash S, Vineetha R C, Binu P, Arathi P, Harikumaran Nair R (2016) The International Journal of Life-Sciences Scientific Research. Volume 2, Issue 2, pp: 46-54 (ISSN: 2455-1716)
25. Evaluation of a antioxidant potential of natural xanthone mangiferin in myocardium-A rat model study. Binu Prakash, Abhilash S, Vineetha R C, Arathi P, Harikumaran Nair (2016) International Journal of Advanced Research in Biological Sciences (Int. J. Adv. Res. Biol. Sci.). 3(11), 220-229, ISSN: 2348-8069
26. Polyphenol rich ethanolic extract from Boerhavia diffusa L. mitigates angiotensin II induced cardiac hypertrophy and fibrosis in rats A. Prathapan, Mathews V. Varghese, S. Abhilash, P. Salin Raj, Anil K. Mathew, Anupama Nair, R. Harikumaran Nair, K.G. Raghu (2017) Biomedicine & Pharmacotherapy 87, 427-436.**Impact factor -2.3**
27. Attenuation of arsenic trioxide induced cardiotoxicity through flaxseed oil in experimental rats, Mathews V Varghese, M Abhilash, Manju Alex, MV Sauganth Paul, A Prathapan, KG Raghu, R Harikumaran Nair (2017), Redox Report, DOI:10.1080/13510002.2017.1289313. **Impact factor-2.6**
28. Studies on Curative Efficacy of Monoterpene Eugenol on Anti- Leukemic Drug Arsenic trioxide Induced Cardiotoxicity, Binu P, Priya N, Abhilash S, Vineetha RC, Harikumaran Nair (2017), Biomedicine & Pharmacotherapy, DOI: 10.1016/j.biopha.2017.04.087 (Accepted). **Impact factor- 2.326**

Scientific Proceedings

1. M. Abhilash, S.Shashidhar & R.H.Nair,The role of electrolytes in cataractogenesis and modulation by silver nitrate in Albino rats pp. 776-777, Proceedings of 22nd Kerala Science Congress, 28-31 January 2010, ISBN 81-86366-71-7
2. Efficacy of Eicosapentaenoic acid and docosahexaenoic acid against hepatotoxicity induced by acute promyelocytic leukemia drug, Molecular diagnostic for sustainable health in biosciences and technology, Karunya University, 2011, ISBN 978-93-81361-14-6
3. Myocardial and hepatocellular implications of arsenic, pp469-471, 24th Kerala Science Congress, RRI, Kottayam, 2012, ISBN 81-86366-77-6

4. Artificial sweetener aspartame-A risk factor to blood antioxidant defense system, pp575-577, 24th Kerala Science Congress, RRI, Kottayam, 2012,ISBN 81-86366-77-6
5. Effect of astaxanthin on renal osteopontin expression levels in calcium oxalate stone disease, 25th Kerala Science Congress, Trivandrum,2013, ISBN 81-86366-83.0
6. Impact of long term consumption of artificial sweetener- aspartame on body weight and glucose homeostasis in diabetic and non-diabetic conditions, 25th Kerala Science Congress, Trivandrum,2013,ISBN 81-86366-83.0
7. Monosodium glutamate (food flavor enhancer) impairs cardiac antioxidant system and cyto architecture, 25th Kerala Science Congress, Trivandrum,2013,ISBN 81-86366-83.0
8. Prospective investigation of omega 3 fatty acid against arsenic trioxide- acute promyelocytic leukemia drug induced myocardial toxicity, 25th Kerala Science Congress, Trivandrum, 2013, ISBN 81-86366-83.0
9. Dose dependent effect of astaxanthin on angiotensin converting enzyme levels in experimental nephrolithiasis, 23rd Swadeshi Science Congress- 2013, Kottayam, ISBN: 978-81-928129-1-5
10. Anticancer drug induced membrane damage in H9c2 cardiomyocytes and possible protection by docosahexaenoic acid, Proceedings of National Symposium on Emerging Trends in Biotechnology 2014, CUSAT, Kochi, ISBN-978-93-80095-47-9
11. Chemotherapeutic stress on cardiomyocytes: A combination strategy with antioxidant vitamins for stress protection, Proceedings of National Symposium on Emerging Trends in Biotechnology 2014, CUSAT, Kochi, ISBN-978-93-80095-47-9

Seminar abstracts

1. Lipid peroxidation and antioxidant activities in hypertensive subjects of different age groups, Indian Science Congress, Trivandrum, 2010
2. Lipid peroxidation and Histopathological alterations in cardiac tissue of monosodium glutamate administered rats, Indo-US workshop: translating molecular cardiology in to clinical practice, RGCB, Trivandrum, 2010
3. Histopathological and myocardial enzyme alterations by arsenic trioxide- anti cancer drug, Indo-US workshop: translating molecular cardiology in to clinical practice, RGCB, Trivandrum, 2010
4. Effect of monosodium glutamate on antioxidants and histopathology in brain, 98th Indian science congress, SRM University, Chennai, 2011

5. Long term exposure to monosodium glutamate on antioxidant defense system and histopathology in rat kidney, Recent trends in therapeutic advancement of free radical science, Bharathi Women's College, Chennai
6. Artificial sweetener aspartame and antioxidant defense status in the brain, Recent trends in therapeutic advancement of free radical science, Bharathi Women's College, Chennai, 2011
7. The cardioprotective efficacy of omega-3 fatty acid against acute promyelocytic leukaemia drug- arsenic trioxide induced toxicity, Recent trends in therapeutic advancement of free radical science, Bharathi Women's College, Chennai, 2011
8. Artificial sweetener aspartame consumption and hepatic oxidative stress defense mechanism, 23rd Kerala Science Congress, KSCSTE, 2011
9. Effect of astaxanthin on kidney function impairment in nephrolithiasis, International conference on advances in biological sciences, Kannur University, 2012
10. Excitotoxic food additive monosodium glutamate- A menace to myocardium, International conference on advances in biological sciences, Kannur University, 2012
11. Consumption of non-nutritive sweetener aspartame- A risk for hepatic functions, International conference on advances in biological sciences, Kannur University,2012
12. Evaluation of arsenic induced genotoxicity and cytoprotection of omega- 3 fatty acid by cytokinesis blocked micronuclei assay, International conference on advances in biological sciences, Kannur University,2012
13. Protective effect of omega 3 fatty acid against anti-leukaemia drug arsenic trioxide induced electrocardiographic alterations, International conference on biotechnology for innovative applications, (Elsevier), ISBN:978-93-5107-103-7, Amrita University, Kollam, 2013
14. Renal Osteopontin expression in experimental nephrolithiasis- astaxanthin a modulator, Basic and Advanced Biochemical techniques: relevance in interdisciplinary research scenario, Bishop Kurialacherry College, Kottayam, 2013
15. Cardiovascular disease protective role of ascorbic acid (vitamin C) in arsenic induced cardiotoxicity, International conference on research methodology and scientific writing, M.G. University, 2013
16. Effect of Docosahexaenoic acid against promyelocytic Leukaemia drug- Arsenic trioxide mediated toxicity in H9c2 Cardiomyocytes, 26th Kerala Science Congress, Wayanad, KSCSTE, Trivandrum , 2014

17. Cardioprotective efficacy of a tocopherol in arsenic exposure, 26th Kerala Science Congress, Wayanad, KSCSTE, Trivandrum, 2014
18. Anticancer drug toxicity on cardiomyoblasts, State level seminar on Stem Cell therapy and cancer, SAS SNDP Yogam College, Konni, Pathanamthitta, 2014
19. L Ascorbic acid (Vitamin C) to prevent the cardiotoxicity in H9c2 cardiomyoblasts by chemotherapeutic agent, SAS SNDP Yogam College, Konni, Pathanamthitta, 2014

Invited lectures

20. Artificial Food flavor enhancer- monosodium glutamate & cardiac stress (Technical Session VI), New Risk factors of coronary artery disease, N.S.S.College Pandalam, 2012
21. Chemotherapeutic stress on heart and protective role of docosahexaenoic acid, International conference on integrative and Comparative Physiology. Centre for Evolutionary and Integrative Biology, University of Kerala, Trivandrum, 2013

Publications (before joining service)

1. Pankajam.K, Harikumaran Nair R, Kesavachandran.C, Rethamma.KV, and Shashidhar.S. Effects of Automobile exhaust pollution on the pulmonary functions in shopkeepers, Pollution Research. 2005; 24(1): 51-56.
2. Kesavachandran.C, Harikumaran Nair R. and Shashidhar.S. Pulmonary function studies in Kalarypayathu Practitioners. Ind. J. Physiol. Pharmacol., 2004, 48(2), 235-240.3.
3. Geetha. B., Harikumaran Nair R., Kesavachandran.C.,Susan Chandy and Shashidhar. S., Pulmonary functions in workers of fertilizer and chemical Industry,Ind.J.Physiol.Pharmacol.2001:45(2):215-221.4.
4. Geetha B., Harikumaran Nair R., Kesavachandran,C and Shashidhar, S., Respiratory Function Studies in Rare Earth Factory Workers, Pollution Research 2001: 20(1):115-119.5.
5. Kesavachandran.C., Harikumaran Nair R.,and Shashidhar.S., Lung Volumes in Swimmers performing different strokes, Ind.J.Med.Sci.2001:55(12):669-676.
6. Reethamma K.V., Harikumaran Nair R., Kesavachandran C and Shashidhar S. Effect of Wood Dust on Lung Functions, Pollution Research 2000:19(4):693-699.

7. Harikumaran Nair R., Kesavachandran C and Shashidhar S., Spirometric Impairments in Undernourished Children, Ind.J.Physiol.Pharmacol.1999, 43(4):467-473.
8. Harikumaran Nair R.,Kesavachandran C.,Sanil R.,Sreekumar R and Shashidhar S. Prediction Equation for Lung Functions in South Indian Children, Ind.J.Physiol.Pharmacol.1997, 41(4):390-396.
9. Kesavachandran C., Sanil R., Harikumaran Nair R.,Arun A.Rauf and ShashidharS.,PulmonaryFunction Studies in Rowers.Ind.J.Physiol.Pharmacol.1997,41(1):29 –34.
10. Bindu K.Pazhur,Susan Chandy, Harikumaran Nair R.,and Shadhidhar S. Effect of Domestic Cooking Fuels on Lung Functions in Women, Pollution Research 1997, 16(3):149-154.

Seminar abstracts (before joining service)

1. Geetha B, Harikumaran Nair R, Kesavachandran C and Shashidhar S. Respiratory Function Studies on Newsprint Factory workers. International Conference on Health, Occupation and Environment in Unorganized sector-problems and Road maps (ICHOE 2004). November 1-3, 2004, Industrial Toxicology Research Centre (ITRC, CSIR), Lucknow, INDIA.
2. Rethamma K V, Harikumaran Nair R, Kesavachandran C and Shashidhar S. Pulmonary function status among Wood workers. International Conference on Health, Occupation and Environment in Unorganized sector- problems and Road maps (ICHOE 2004). November 1-3, 2004, Industrial Toxicology Research Centre (ITRC, CSIR), Lucknow, INDIA.

Orientation/Refresher/Winter School/Short term course

1) Participated in Orientation Course conducted by UGC Academic staff college, University of Calicut from November 21 to December 18, 2007
2) Workshop on Curriculum Restructuring for UG Biophysics Course Calicut University- 24- 28 February 2009
3) UGC sponsored Short term course for Research Guides, Academic Staff College, University of Kerala, Trivandrum, 23-28 March 2009
4) UGC Sponsored Refresher Course in Life Sciences conducted by the UGC- Academic Staff College, University of Kerala, Kariavattom from 08/12/2009 to 29/12/2009

5) UGC sponsored Refresher Course in Life Sciences (Inter Disciplinary) conducted by the UGC Academic Staff College, University of Kerala, Kariavattom from 19/07/2013 to 08/ 08/2013
6) Participated in the UGC sponsored Winter School Programme (equivalent to OC/RC) conducted by the UGC Human Resource Development Centre, University of Kerala, Kariavattom, Trivandrum from 29/10/2015 to 18/11/2015 .

Academic and Administrative duties performed.

Academic

- Chairman, Board of Examination, B.Sc Biophysics, University of Calicut
- External Examiner, Central University of Kerala
- External Examiner, Kannur University
- External Examiner, CUSAT,
- External Examiner in Zoology, University of Kerala
- External Examiner, School of Medical Education, M.G. University
- Mentor, P.G. Dissertation, School of Biosciences
- Mentor, M Phil Thesis, School of Biosciences
- Member, Bioscience Forum
- Member (Physiology), Departmental Doctoral Committee
- Member, Doctoral Committee, Bioscience/ Botany/Zoology
- Member, Evaluation Committee for UGC-RFSM fellowships
- Delegate, EU Awareness Campaign, Kochi
- Executive Committee Member, Workshop on
- Molecular Phylogenetics in Microbiology -2012
- Life member, Association of Physiologist's and Pharmacologists of India
- Member, Indian Society of Toxicology
- Member, Society for Evolutionary and Integrative Biology
- Chairman, Publication Committee, 23rd Swadeshi Science Congress-2013
- Member, Alumni Association, School of Biosciences
- Member, Ph D Board of adjudication, Osmania University

- External Expert, PhD pre submission, University of Kerala
- Member, Ph D Board of adjudication, Bharathidasan University
- External Expert, PhD pre submission, University of Kerala
- Member, Scrutiny Board, M.Sc Zoology,& Integrative Biology University of Kerala
- Co-ordinator, One day Seminar on Advances in Chemical Biology, School of Biosciences

Administrative duties

- Additional Chief Superintendent, Off Campus examinations- 2009
- Member Campus Development Committee
- Member Secretary, Institutional Animal Ethics Committee
- Member Secretary, Institutional Human Ethics Committee
- Committee for waste management
- Member, Institutional Ethics Committee, Providence College for Women, Coonoor, Tamilnadu
- Scientist from Outside the Institution, Institutional Animal Ethics Committee, Medical College, Kottayam
- Technical Committee Member, BUILDER, DBT, School of Biosciences
- Member, P.G. Board of Studies, Biosciences, M.G. University
- Member, P.G. Board of Studies, Biotechnology, Kannur University

Seminars/ workshops attended

1) Attended seminar on recent trends in research methodology, biotechnology, bioinformatics & endocrinology. 4th March 2008, Dept. of Zoology, Govt. College for Women, Trivandrum
2) Attended National Workshop on Genomics and Proteomics. March 14-15, 2008, Dept of Biochemistry, University of Kerala, Trivandrum
3) National Seminar on Nutrigenomics: An innovative solution to life style disorders. Dept of Industrial Microbiology, Govt. College for Women, September 24-26, 2008

4) University Workshop on research Projects, M.G. University, 2 April 2009
5) National Seminar related to birth Bicentenary of Charles Darwin, School of Biosciences, M.G. University, 7th August 2009
6) Workshop on Modern Biotechnology in Indian Agriculture, Environmental Resources Research Centre, Trivandrum, 4-15, December 2009
7) Attended Indian Science Congress 2010, Trivandrum, 3-7January, 2010
8) Attended three day National Seminar at Government college for women, Trivandrum, 22-24 March, 2010
9) Attended animal handling and ECG recording training at COMTEK, Bangalore, 2011
10) Attended 23rd Kerala Science Congress, 2011
11) Attended 98th Indian Science Congress, 2011
12) Attended CME, Medical college, Kottayam, 2011
13) Attended National Conference on MDSHBT2011 at Karunya University, 2011
14) Attended National seminar on current concepts in immunology, 2011
15) Workshop on Frontiers of Spectroscopy and Microscopy, DST PURSE, M.G.University, 2012
16) Attended 24rd Kerala Science Congress, 2012
17) Attended National seminar on Lifestyle and Diseases, SBS, 2012
18) Attended ICABS-2012, Kannur University
19) Attended 25th Kerala Science Congress, Trivandrum, 2013
20) Attended 26th Kerala Science Congress at wayanad, 2014

Research Collaborations

Indian Institute of Toxicology Research, (IITR, CSIR)- Lucknow, UP, India

National Institute of Interdisciplinary Science and Technology (NIIST, CSIR)- Thiruvananthapuram, Kerala, India

Teaching assignments

M.Sc/MPhil/PhD

Courses: Physiology theory & Practical, Neurobiology, Electrophysiology, Molecular Endocrinology, Physiological Biophysics theory & Practical, Research Methodology, PhD course work, Paper III.

Reviewer for Journals

- Comparative Clinical Pathology, Springer
- Toxicology Research, Royal Society of Chemistry
- Bentham Science Publishers
- Current Advances in Algae Biotechnology
- Medical Research Archives
- Indian Journal of Physiology & Pharmacology
- Biomedical and Environmental Sciences
- Biotechnic & Histochemistry
- Journal of Dietary Supplements
- Biological Trace Elements Research
- Pharmaceutical Biology.
- Drug and Chemical Toxicology
- BMC Complementary and Alternative Medicine.