

# Detailed CV



Name : Dr Karunaara. N  
Educational Qualification : M Sc, M Phil, Ph D  
Radiography Testing Level–2 Certified from Bhabha Atomic Research Centre/AERB

Designation : Professor  
Coordinator, Centre for Advanced Research in Environmental Radioactivity (CARER)  
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Research Areas : Radiation protection, environmental radioactivity, radioecology, and nuclear safety. Development of new methods/ techniques/technology for the measurements and mitigation of radioactivity in the environment and workplaces. Accelerator mass spectrometry (AMS), gamma spectrometry, liquid scintillation spectrometry, alpha spectrometry and neutron activation analyses. Application of natural and anthropogenic radionuclides for studying environment, such as soil erosion, sedimentation rate and transportation measurements, atmospheric mixing studies, submarine water discharge, etc.

Professional Teaching Experience : 25 years

Research Guidance (M.Phil. /Ph.D.) :  
Ph D Completed students' list : Dr. Ujwal Prabhu  
Dr Chetan Rao

Dr (Mrs.) P V Geetha  
 Dr. Yashodhara I  
 Dr. Sudeep Kumara  
 Dr. Mohan M P  
 Mr. Srinivas Kamath (thesis submitted)  
 Mr. Dileep B N (thesis submitted)  
 Mrs. Renita Shiney D'Souza (thesis submitted)  
 Mrs. Rashmi Nayak (thesis submitted)

Ongoing Registered Students' list : Mr. A Baburajan  
 Mr. Bharath Seraje  
 Ms. Arya Ramya Krishnan  
 Mr. Vijith

## Research Projects

### Completed

Sl. No.	Research Project	Duration	Funding Agency	Grant (Rs.)
1.	Studies on site specific transfer factors for radionuclides and trace elements in Kaiga region	2007-11	Board of Research for Nuclear Sciences (BRNS)	37 lakhs
2.	Studies on transfer Factors of Iodine, Cesium and Strontium in air→ grass→ cow→ milk pathway and estimation of radiation dose specific to Kaiga region	2008-12	Nuclear Power Corporation of India Ltd. (NPCIL)	79 lakhs
3.	Baseline database on radiation level, radionuclides and trace elements concentration in environmental matrices around Gogi	2009-13	BRNS	36 lakhs
4.	Study of <sup>220</sup> Rn adsorption in charcoal and vegetable oils for <sup>220</sup> Rn mitigation application in off-gas stream	2009-14	Bhabha Atomic Research Centre (BARC)	38 lakhs
5.	Baseline radiation levels and radionuclides concentration in environmental matrices in and around BARC Project Site near Dodda Ullarti, Chellakere	2013-15	BARC	32 lakhs
6.	Studies on the sedimentation rate of fresh water reservoirs of West Coast of India by <sup>137</sup> Cs and <sup>210</sup> Pb techniques	2012-15	UGC	10.7 lakhs
7.	Standardization of techniques for <sup>14</sup> C and <sup>3</sup> H measurements in environmental matrices and evaluation of population doses in the vicinity of PHWR power plant	2013-20	BRNS	560 lakhs
8.	National coordinated project for establishing gamma radiation levels using TLD's	2015-18	BARC	12 lakhs

## Ongoing

Sl. No.	Research Project	Duration	Funding Agency	Grant (Rs.)
1	Validation of liquid scintillation spectrometry-based Carbon-14 ( <sup>14</sup> C) measurements techniques by AMS and development of reference materials for application in environmental monitoring programmes around Nuclear Power Plants	2019-22	IUAC, New Delhi	8.26 lakhs
2	Inter-Institutional Collaborative Project on “ Studies on Site Specific Environmental Transfer Factors for Radionuclides around IGCAR, Kalpakkam”	2020-23	Indira Ghandhi Atomic Research Centre	43.0 lakhs
3	Monitoring and Predicting Radionuclide Uptake and Dynamics in Tropical Monsoonal Climate for Optimizing Remediation of Radioactive Contamination in Agriculture	2020-23	International Atomic Energy Agency (IAEA)	Collaborative project

## Professional Collaboration

### Research collaboration with institutions abroad

- Wayne State University, USA
- Lund University, Sweden (Signed MoU)
- National Accelerator Centre, Seville, Spain
- National Institute of Radiological Sciences (NIRS), Japan (Signed MoU)
- University of Hirosaki, Japan (Signed MoU)
- College of Technology, Kuwait
- University of Southampton, UK
- Fudan University, Shanghai, China
- Shanghai Institute of Measurement and Testing Technology (SIMT), Shanghai, China
- Natural Radiation Survey and Analysis Research Unit (NRSA-RU), Chulalongkorn University, Thailand
- State Key Laboratory of Estuarine and Coastal Research (East China Normal University), Shanghai, China
- University of Botswana, Botswana
- College of Agriculture, Botswana
- Ithemba Laboratories, South Africa
- University of Agriculture Abeokuta, Nigeria
- National Center for Nuclear Sciences and Technology, Tunisia

### Research collaboration with Institutions within India

- Bhabha Atomic Research Centre, Mumbai (Signed 4 MoUs)
- Indira Gandhi Centre for Atomic Research, Kalpakkam (Signed MoU)
- Environmental Survey Laboratories of Nuclear Power Plants at Kaiga, Kakrapara, Tarapur, Narora, Kalpakkam, Kudankkulam
- Nuclear Power Corporation of India Ltd. (Signed MoU)
- Indian Institute of Science (MoU is being signed)
- Indian Institute of Technology, Mumbai
- Inter-University Accelerator Centre (MoU signed)
- JNU, New Delhi
- National Centre for Sustainable Coastal Management, Chennai
- ICAR - Institute of Soil And Water Conservation, Dehradun
- Indian Agricultural Research Institute, New Delhi
- About 30 Universities/Institutes of India

### Research Journal Publications

Publication details	Number
Papers published in journals	95
Papers published in conferences / seminars	181
Invited talks	29
Books/proceedings (edited)	6
Project reports	11
Laboratory manual on analysis of environmental samples for radioactivity	1

#### a. In Journals

#### Publication through International Collaboration

1. Determination of radon concentration in soil gas by gamma-ray spectrometry of olive oil  
Darwish Al-Azmi and Karunakara N.  
*Journal of Radiation Measurements*, Vol. 42, 486 – 490, 2007.
2. Natural radioactivity in soil samples of Botswana  
Murthy V. R. K. and Karunakara N.  
*Journal of Radiation Measurements*, 43; 1541–1545; 2008.
3. Indoor and outdoor radon levels and its diurnal variations in Botswana  
Murthy V. R. K., King, J. G., Karunakara N., Raju V.C.C.  
*Nuclear Instruments and Methods in Physics Research A*, Available online since 25 October, 2009.
4. A Study on Radon Absorption Efficiencies of Edible Oils Produced in India  
Karunakara N. and Darwish Al-Azmi  
*Health Physics*, 98(4), 621-627, 2010.
5. A simple radon chamber for use with soil gas for calibration of radon measuring devices and instruments  
D. Al-Azmi and N. Karunakara  
*International Journal of Low Radiation*, 8 No. 5/6, 429-439, 2011.

6. Application of the Monte Carlo method for the efficiency calibration of CsI and NaI detectors for gamma-ray measurements from terrestrial samples  
S. Baccouche, D. Al-Azmi, N. Karunakara and A. Trabelsi  
*Applied Radiation and Isotopes* 70, No. 1, 227-232, 2012.
7. Radon adsorbed in activated charcoal - a simple and safe radiation source for teaching practical radioactivity in schools and colleges  
D. Al-Azmi, A. Mustapha and N. Karunakara  
*PHYSICS EDUCATION*, 47(4), 471-475, 2012.
8. Teaching about natural background radiation.  
D. Al-Azmi, A. Mustapha and N. Karunakara.  
*PHYSICS EDUCATION*, 48 (4), 506-511, 2013.
9. Measurements of fission yield in 8 MeV bremsstrahlung induced fission of  $^{232}\text{Th}$  and  $^{238}\text{U}$   
H. Naik, B. S. Shivashankar, H. G. Raj Prakash, Deves Raj, Ganesh Sanjeev, N. Karunakara, H. M. Somashekarappa, S. Ganesan, G. N. Kim, A. Goswami  
*Journal of Radioanalytical and Nuclear Chemistry*, 299:127–137, 2014.
10. Phosphate solubilizing uranium tolerant bacteria associated with monazite sand of a natural background radiation site in South-West coast of India.  
Sowmya Shreedhar & Rekha Punchapady Devasya, Karunakara Naregundi & Chiu-Chung Young and Arun Ananthapadmanabha Bhagwath  
*Annals of Microbiology, Springer*, Available online since Feb. 2014.
11. Problems with the dating of sediment core using excess  $^{210}\text{Pb}$  in a freshwater system.  
Mark Baskaran, Joseph Nix, and N. Karunakara  
*Journal of Environmental Radioactivity*, 138, 341-342, 2014.
12. Assessment of  $\gamma$ -radiation levels and associated dose rates from surface soils in the eastern part of Botswana  
Alfred Sello Likuku, N. Karunakara, Gothatamang Patrick Nthoiwa  
*International Journal of Low Radiation*, Vol. 9, Nos. 5/6, 344-354, 2014
13. [Special issue of Journal of Environmental Radioactivity on 2nd International Conference on Po and radioactive Pb isotopes.](#)  
Edited by N Karunakara, M Baskaran *Journal of Environmental Radioactivity* 138, 341-342, 2014
14. Baseline studies on radionuclide concentration in food materials and estimation of the committed radiation dose around the phosphate industrial area of south Tunisia. Sonia Machraoui, M. P. Mohan, N. Karunakara, Salam Labidi *Radiation Protection Dosimetry* 208, 1-11, 2018.
15. Gamma dose rates in the high background radiation area of Mangalore region, India  
Darwish Al-Azmi, Sudeep Kumara, M. P. Mohan and N. Karunakara  
*Radiation Protection Dosimetry*, pp. 1–4, 2019.
16. Assessment of radionuclide transfer factors and transfer coefficients near phosphate industrial areas of South Tunisia

Sonia Machraoui & Mohan Mandya Purushotham, Karunakara Naregundi and Salam Labidi  
Environmental Science and Pollution Research, Springer Nature, <https://doi.org/10.1007/s11356-019-05786-8>. 2019

17. A Walk-In Type Calibration Chamber Facility For <sup>222</sup>Rn Measuring Devices and Inter-Comparison Exercises  
S. Trilochana, H.M. Somashekarappa, K. Sudeep Kumara, M.P. Mohan, S. Rashmi Nayak, Renita Shiny D'Souza, Srinivas S. Kamath, B.K. Sahoo, J.J. Gaware, B.K. Sapra, M. Janik, Darwish Al-Azmi, Y.S. Mayya And N. Karunakara  
Radiation Protection Dosimetry, Pp. 1–16 Doi:10.1093/Rpd/Ncz188, 2019.
18. Mass exhalation rates, emanation coefficients and enrichment pattern of radon, thoron in various grain size 3 fractions of monazite rich beach placers  
Primal V. Pinto<sup>1</sup>, Sudeep Kumara K. and Karunakara N.  
Radiation Measurements (2019), <https://doi.org/10.1016/j.radmeas.2019.106220>
19. Comparison of radon and thoron concentration measuring systems among Asian countries  
M. Janik<sup>1</sup>, S. Tokonami, K. Iwaoka, N. Karunakara, D. Al-Azmi, S. Trilochana, M.P. Mohan, K. Sudeep, I. Yashodhara, W. Zhuo, C. Zhao, F. Tang, L. He, S. Chanyotha, C. Kranrod and O. Kurihara  
Int. J. Environ. Res. Public Health 16, 5019; 2019. doi:10.3390/ijerph16245019
20. Optimization of a Batch Thermal Combustion Method Using a Tube Furnace Oxidation System (Pyrolyser) and LSC for Carbon-14 Determination in Environmental Matrices.  
Renita Shiny D'Souza, S. Rashmi Nayak, M. P. Mohan, Bharath, K Arya Krishnan, Srinivas Kamath, P.M. Ravi, N. Karunakara & A.D. Ferrari, L.A. García, I.G. Martínez, F.J.S. Arévalo, R.G.Tenorio  
Journal of Environmental Radioactivity, Manuscript No. JENVRAD-220-174. In press

#### **Other Publications in International Journals**

21. Prominent alpha emitting radionuclides in Kaiga environs  
Karunakara N., Somashekarappa H. M., Narayana Y., Balakrishna K. M. and Siddappa K.  
*Indian Journal of Environmental Protection*, Vol. 14, No. 4, 241-245, 1994.
22. Distribution and enrichment of radionuclides in the newly discovered high background area in Ullal on the south-west coast of India  
Narayana Y., Radhakrishna A. P., Somashekarappa H. M., Karunakara N., Balakrishna K. M. and Siddappa K.  
*Health Physics (USA)*, Vol. 69, No. 2, 178-186, 1995.
23. Distribution of some natural and artificial radionuclides in the environment of coastal Karnataka of South India  
Narayana Y., Radhakrishna A. P., Somashekarappa H. M., Karunakara N., Balakrishna K. M. and Siddappa K.  
*Journal of Environmental Radioactivity (UK)*, Vol. 28, No. 2, 113-139, 1995.
24. Internal exposure to the population of coastal Karnataka of south India from dietary intake  
Narayana Y., Radhakrishna A. P., Somashekarappa H. M., Karunakara N., Balakrishna K. M. and Siddappa K.  
*Radiation Protection Dosimetry (UK)*, Vol. 62, No. 3, 131-138, 1995.

25. Indoor radon levels in coastal Karnataka on the south west coast of India  
Narayana Y., Somashekarappa H. M., Karunakara N., Balakrishna K. M., Siddappa K., Kumar S., Gopalani D. & Ramaseshu P.  
*Bulletin of Radiation Protection (India)*, Vol. 19, No. 2 & 3, 12-15, 1996.
26. Bioindicators in the tropical forest vegetation of Kaiga environment  
Somashekarappa H. M., Radhakrishna A. P., Narayana Y., Karunakara N., Balakrishna K. M. and Siddappa K.  
*Journal of Environmental Radioactivity (UK)*, Vol. 31, No. 2, 189-198, 1996.
27. Seasonal variation of indoor radon levels in coastal Karnataka on the south west coast of India  
Narayana Y., Radhakrishna A. P., Somashekarappa H. M., Karunakara N., Balakrishna K. M. and Siddappa K.  
*Radiation Measurements, USA*, Vol. 29, No. 1, 19-25, 1998.
28. Cesium-137 concentration in Kaiga environment  
Karunakara N., Somashekarappa H. M., Narayana Y., Avadhani D. N., Mahesh H. M., Balakrishna K. M. and Siddappa K.  
*Radiation Physics and Chemistry, UK*, Vol. 51, No. 4-6, 623-624, 1998.
29. Radioactivity and radiation levels in the environs of Kaiga  
Karunakara N., Avadhani D. N., Mahesh H. M., Somashekarappa H. M., Narayana Y. and Siddappa K.  
*Environmental Geochemistry, India*, Vol. 1, No. 1, 1- 4, 1998.
30.  $^{238}\text{U}$ ,  $^{210}\text{Pb}$  and  $^{210}\text{Po}$  concentrations in water samples of Coastal Karnataka and Kaiga environs  
Mahesh H. M., Avadhani D. N., Karunakara N., Somashekarappa H. M., Narayana Y. and Siddappa K.  
*Environmental Geochemistry, India*, Vol. 1, No. 2, 59-62, 1998
31. Polonium-210 concentration in food and diet samples of the Goa environs, India  
Avadhani D. N., Mahesh H. M., Karunakara N., Somashekarappa H. M., Narayana Y. and Siddappa K.  
*Environmental Geochemistry, India*, Vol. 2, No. 1, 1-4, 1999.
32. Prominent artificial radionuclides in the environment of coastal Karnataka of south west coast of India  
Narayana Y., Karunakara N., Avadhani D. N., Mahesh H. M., Somashekarappa H. M. and Siddappa K.  
*Journal of Radiological Protection, UK* Vol. 20, 295-300, 2000.
33. Distribution and enrichment of  $^{210}\text{Po}$  in the environment of Kaiga in south India  
Karunakara N., Avadhani D. N., Mahesh H. M., Somashekarappa H. M., Narayana Y. and Siddappa K.  
*Journal of Environmental Radioactivity, UK*, 51, 349-362, 2000.
34. Distribution and behavior of  $^{210}\text{Po}$  and  $^{210}\text{Pb}$  in soil samples of Goa, south west coast of India  
Avadhani D. N., Mahesh H. M., Somashekarappa H. M., Karunakara N., Narayana Y. and Siddappa K.  
*Journal of Radiation Protection and Environment. India*. Vol. 24, Nos. 1&2, 401-405, 2001.

35.  $^{210}\text{Pb}$  concentration in air and water samples in the environment of coastal Karnataka and Kaiga  
Mahesh H. M., Avadhani D. N., Somashekarappa H. M., Karunakara N., Narayana Y. and Siddappa K.  
*Journal of Radiation Protection and Environment, India.* Vol. 24, Nos. 1&2, 406-409, 2001.
36. Natural radioactivity in the environment of Goa of south-west coast of India  
Avadhani D. N., Mahesh H. M., Somashekarappa H. M., Karunakara N., Narayana Y. and Siddappa K.  
*Journal of Radiation Protection and Environment, India.* Vol. 24, Nos. 1&2 (Suppl.), S136-S142, 2001.
37. Natural radioactivity in beach sands of Goa of South-West coast of India.  
Avadhani D. N., Mahesh H. M., Somashekarappa H. M., Karunakara N., Narayana Y. and Siddappa K.  
*Journal of Radiation Protection and Environment.* Vol 24. No.4, 2001.
38.  $^{210}\text{Po}/^{210}\text{Pb}$  Ratio in Air and Rain water samples in the Environment of coastal Karnataka and Kaiga  
Mahesh H. M., Avadhani D. N., Somashekarappa H. M., Karunakara N., Narayana Y. and Siddappa K.  
*Journal of Radiation Protection and Environment, India.* Vol. 24, Nos. 1&2 (Suppl.) S71-S75, 2001.
39. Distribution of Natural radionuclides in soil samples of coastal Karnataka of south west coast of India  
Narayana Y., Karunakara N., Somashekarappa H. M., Avadhani D. N., Mahesh H. M. and Siddappa K.  
*Health Physics, USA,* Vol. 80, No.1, 24-33, 2001.
40.  $^{226}\text{Ra}$ ,  $^{232}\text{Th}$  and  $^{40}\text{K}$  concentrations in soil samples of Kaiga of south west coast of India  
Karunakara N, Somashekarappa H M, Narayana Y, Avadhani D N, Mahesh H M and Siddappa K  
*Health Physics, USA,* No.5, 470-476, 2001.
41.  $^{137}\text{Cs}$  Concentration in Environment of Kaiga in the south west coast of India  
Karunakara N., Avadhani D. N., Mahesh H. M., Somashekarappa H. M., Narayana Y. and Siddappa K.  
*Health Physics, USA,* Vol. 81, No 2, 148-155, 2001.
42. Dietary intake of  $^{210}\text{Po}$  and  $^{210}\text{Pb}$  in the environment of Goa of south west coast of India  
Avadhani D. N., Mahesh H. M., Karunakara N., Narayana Y., Somashekarappa H. M. and Siddappa K.  
*Health Physics, USA,* Vol.81, No. 4, 438-445, 2001.
43. Radon-222 concentration in Ground waters and associated health effects in the environment of coastal Karnataka and Kaiga on south west coast of India  
Mahesh H. M., Avadhani D. N., Karunakara N., Somashekarappa H. M., Narayana Y. and Siddappa K.  
*Health Physics, USA,* Vol.81, No. 6, 724-728, 2001.



44.  $^{226}\text{Ra}$ ,  $^{40}\text{K}$  and  $^7\text{Be}$  activity concentrations in plants in the environment of Kaiga of south west Coast of India  
Karunakara N., Somashekarappa H. M., Narayana Y., Avadhani D. N., Mahesh H. M. and Siddappa, K.  
*Journal of Environmental Radioactivity*, Vol. 65, 255-266, 2003.
45. Distribution and behaviour of natural radionuclides in soil samples of Goa on the southwest coast of India  
Avadhani D. N., Mahesh H. M., Karunakara N., Narayana Y., Somashekarappa H. M., and Siddappa, K.  
*Radioactivity in the Environment*, Vol. 7, ISSN 1569-4860, 1131-1140, 2005.
46. Natural radioactivity in South West Coast of India  
Karunakara N., Somashekarappa H. M. and Siddappa, K.  
*International Congress Series*, Vol. 1276, 346-347, 2005.
47. Indoor and outdoor radon levels and their diurnal variations in the environs of southwest coast of India  
Karunakara N., Somashekarappa H. M. and Siddappa, K.  
*International Congress Series*, Vol. 1276, 341-343, 2005.
48. Transportation of radionuclides from Western Ghats to Arabian Sea through some major rivers of south India  
Rajshekara K. M., Narayana Y., Karunakara N., and Siddappa, K.  
*International Congress Series*, Vol. 65, 348-349, 2005.
49. Distribution and behaviour of natural radionuclides in soil samples of Goa on the southwest coast of India  
Avadhani D. N., Mahesh H. M., Karunakara N., Narayana Y., Somashekarappa H. M. and Siddappa K.  
*Journal of Radioactivity in the Environment*, Vol. 7, 1131-1140, 2005.
50.  $^{210}\text{Pb}$  measurement in soils - A comparison of gamma ray spectrometry and alpha counting methods  
Karunakara N.  
*Radiation Protection and Environment*, Vol. 30 (1-4), 104-106, 2007.
51. Concentrations of Concentrations of  $^{226}\text{Ra}$ ,  $^{232}\text{Th}$  and  $^{40}\text{K}$  in the Soils of Bangalore Region, India  
Shiva Prasad N. G., Nagaiah N., Ashok G. V. and Karunakara N.  
*Health Physics Health Phys.* Vol. 94(3); 264 –271; 2008.
52. Study on radionuclides in granite quarries of Bangalore rural district, Karnataka, India  
Ningappa C., Sannappa J. and Karunakara N.  
*Radiation Protection Dosimetry*, Vol. 131, No. 4, 495–502; 2008.
53. Site specific transfer factors of  $^{226}\text{Ra}$ ,  $^{228}\text{Ra}$ ,  $^{40}\text{K}$  and  $^{137}\text{Cs}$  for vegetables in Kaiga region  
Chetan Rao, Ujwal Prabhu, Karunakara N., Somashekarappa H. M., Nayak, P. D. and Ravi P. M.  
*Radiation Protection and Environment*, Vol. 31, No. 1-4, 435-455, 2008.
54. Natural Radioactivity in Udupi and Karkala Taluks of Coastal Karnataka

- Gerald Pinto, N. Karunakara, H. M. Somashekarappa, Chetan Rao, Ujwal Prabhu and I. Yashodhara *Indian Journal of Pure and Applied Physics*, Vol. 48, 527-529, 2010.
55. Radiation levels and radionuclide distributions in soils of Gogi region, a proposed uranium mining region in North Karnataka.  
Yashodhara, I., Karunakara, N., Sudeep Kumara, K., Rudramurthy., and Tripathi, R. M., *Journal of Radiation Protection and Environment*. Volume 34, Issue 4, pp 267-269. 2011.
56. Estimation of grass to milk transfer coefficient for Cesium for emergency situations.  
Ujwal P., Karunakara N., Yashodhara I., Dileep B. N., Ravi P. M.  
*Journal of Radiation Protection and Environment*, Vol. 34 (3), 210-212, 2012.
57. Determination of concentration of iodine in grass and cow milk by NAA methods using reactor neutrons  
P. V. Geetha, N. Karunakara, Ujwal Prabhu, P. M. Ravi, J. Sudhakar , Nicy Ajith, K. K. Swain, R. Acharya, A. V. R. Reddy  
*Journal of Radioanalytical Nuclear Chemistry*, Vol. 294, 435–438, 2012.
58. Concentration of  $^{222}\text{Rn}$  in drinking water along coastal Kerala and evaluation of ingestion doses.  
Primal D'Cunha, Y. Narayana, N. Karunakara, I. Yashodhara and Sudeep Kumar  
*Journal of Radiation Protection and Environment*. Vol. 34 (3), 197-200, 2012.
59. Deposition based passive monitors for assigning radon, thoron inhalation doses for epidemiological studies.  
Y. S. Mayya, R. Mishra, R. Prajith, A. C. Gole, B. K. Sapra, M. P. Chougankar, R. R. K. Nair, R. C. Ramola, N. Karunakara, P. K. M. Koya  
*Journal of Radiation Protection Dosimetry*. Vol. 152 (1-3), 18-24, 2012.
60. Residential radon exposure in some areas of Bangalore city, India  
Ashok G V, Nagaiah N, Shiva Prasad N G, Ambika M R, Sathish L A, Karunakara. N.  
*Radiation Protection and Environment*, 35 (2), 59, 2012
61. Soil to rice transfer factors for  $^{226}\text{Ra}$ ,  $^{228}\text{Ra}$ ,  $^{210}\text{Pb}$ ,  $^{40}\text{K}$  and  $^{137}\text{Cs}$ : a study on rice grown in India.  
N. Karunakara, Chetan Rao, P. Ujwal, I. Yashodhara, Sudeep Kumara, P.M. Ravi  
*Journal of Environmental Radioactivity*, Vol. 118, 80-92, 2013.
62. Photo-neutron cross-section measurement in the 8 and 10 MeV bremsstrahlung induced reaction of  $^{238}\text{U}$   
H. Naik, Rita Crasta, S. V. Suryanarayana, Ganesh Sanjeev, B. S. Shivashankar , H. G. Raj Prakash , N. Karunakara, H. M. Somashekarappa, M. Kumar, V. T. Nimje, K. C. Mittal, A. Goswami  
*Journal of Radioanalytical and Nuclear Chemistry*, Published online April 2013.
63. Studies on soil to grass transfer factor (Fv) and grass to milk transfer coefficient (Fm) for cesium in Kaiga region.  
N. Karunakara, P. Ujwal , I. Yashodhara , Chetan Rao , K. Sudeep Kumara, B.N. Dileep, P.M. Ravi. *Journal of Environmental Radioactivity*, Vol. 124, 101-112, 2013.
64. Study of natural radioactivity and estimation of radiation dose in the environment of Tumkur, Karnataka, India.

Jayasheelan, A, Manjunatha S, Yashodhara I and Karunakara N.  
*Radiation Protection Dosimetry*, Vol. 58 (1):73-78, 2014.

65. Assessment of Ambient Gamma Dose Rate around a Prospective Uranium Mining Area of South India – A Comparative Study of Dose by Direct Methods and Soil Radioactivity Measurements.  
Karunakara N., Yashodhara I., Sudeep Kumara K., Tripathi, R. M., S. N. Menon, S. Kadam, and M. P. Chougankar.  
*Results in Physics, Elsevier, Open access journal*, 4, 20-27, 2014.
66. Influence of physico-chemical parameters on the distribution of uranium in the ground water of Bangalore, India  
Ningaiiah Nagaiah, Gladys Mathews, Karthik Kumar Mysore Balakrishna, Ambika Madalakote Rajanna, Karunakara Naregundi  
*Radiation Protection and Environment*, 36 (4), 175-180, 2014.
67. Study of concentration of uranium and physicochemical parameters in ground water and the ingested radiation dose to the population of Bangalore, South India  
N Nagaiah, G Mathews, MBK Kumar, M R Ambika, N Karunakara  
*Environment and Sustainability*, 154, 251, 2014.
68. Analysis of  $^{226}\text{Ra}$ ,  $^{232}\text{Th}$  and  $^{40}\text{K}$  in the host rock and the soil samples and assessment of radiological risks for Mandya region, India  
B.C. Shivakumara, M. S. Chandrashekara, L. Paramesh, T. S. Shashikumar, N. Karunakara.  
*International Journal of Integrative sciences, Innovation and Technology*. Vol.3, Iss 2, pg 18-24, 2014.
69. Effect of humidity on thoron adsorption in charcoal bed  
Sudeep Kumara K., Karunakara N., Yashodhara I., Sapra B. K., Sahoo B. K., Gaware J. J., Kanse S. D., and Mayya Y. S.  
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5<sup>th</sup> BRNS-DAE Symposium on Nuclear Analytical Chemistry-V (NAC-V), Mumbai, January 20-24, 2014.
126. Radiation levels and radionuclide distributions in terrestrial, atmospheric and aquatic environs of Gogi uranium mining region of north Karnataka.  
Yashodhara, I., Sudeep Kumara, K., Karunakara, N., and Tripathi, R M.

5<sup>th</sup> BRNS-DAE Symposium on Nuclear Analytical Chemistry-V, Mumbai, January 20-24,2014.

127. Experimental and theoretical considerations for designing an optimal activated charcoal bed for <sup>220</sup>Rn mitigation.  
Sudeep Kumara, K., Karunakara, N., Sahoo, B.K., Gaware, J.J., Sapra, B.K., and Mayya, Y.S..  
First National Conference on Radiation Awareness and Detection in Natural Environment (RADNET-I). Tehari Garhwal, June 15-17. 2015
128. Study on dependence of breakthrough time on flow-rate of the carrier gas in <sup>220</sup>Rn adsorber bed.  
Sudeep Kumara, K., Trilochana Shetty., Karunakara, N., Sahoo, B.K., Gaware, J.J., Sapra, B.K., and Mayya. Y.S.  
First National Conference on Radiation Awareness and Detection in Natural Environment (RADNET-I). Tehari Garhwal, June 15-17. 2015 (BEST POSTER AWARD).
129. Natural radioactivity in soils from Challakere region, Karnataka.  
Mohan, M. P., Sudeep Kumara, K., Yashodhara, I., Karunakara, N., and Chandrashekara, A.  
First National Conference on Radiation Awareness and Detection in Natural Environment (RADNET-I). Tehri Garhwal, June 15-17. 2015.
130. Design, development and characterization of a Charcoal based thoron mitigation system for Application in thorium processing facilities.  
Sudeep Kumara, K., Karunakara, N., Sahoo, B.K., Gaware, J.J., Sapra, B.K., and Mayya, Y.S.  
Proceedings of the 20<sup>th</sup> National Symposium on Radiation Physics (NSRP-20), Mangalore University, (ISBN 978-93-82845-96-6). 2015.) (ISRP-NUCLEONIX AWARD). 2015.
131. Activity ratios of primordial radionuclides in soils of natural heavy metal mineralized region.  
Yashodhara, I., Karunakara, N., Sudeep Kumara, K., Mohan, M.P., and Tripathi R. M.  
Proceedings of the 20<sup>th</sup> National Symposium on Radiation Physics (NSRP-20), Mangalore University, (ISBN 978-93-82845-96-6). 2015.
132. Natural radioactivity in soils of Challakere region of Karnataka, India.  
Mohan, M. P., Sudeep Kumara, K., Yashodhara, I., Karunakara, N., and Chandrashekara, A.  
Proceedings of the 20<sup>th</sup> National Symposium on Radiation Physics (NSRP-20), Mangalore University, (ISBN 978-93-82845-96-6). 2015.
133. Condensational behaviour of iodine vapours in presence of aerosols.  
Mariam, Manish Joshi, Sudeep Kumara, K., Karunakara, N., and Sapra, B. K.  
Proceedings of the 20<sup>th</sup> National Symposium on Radiation Physics (NSRP-20), Mangalore University, (ISBN 978-93-82845-96-6). 2015.
134. A new Method of Detection of Heavy Water Leak from Heat Exchanger of PHWR by Cerenkov Photon Counting Technique. Dileep, B N., Ravi, P M., Karunakara, N., Cruz, S J D., Managanvi, S S., Raichur, P G., Tripathi, R M.,  
Proceedings of the 20<sup>th</sup> National Symposium on Radiation Physics (NSRP-20), Mangalore University, (ISBN 978-93-82845-96-6). 2015.
135. Optimization of sample weight for the estimation of <sup>14</sup>C in environmental matrices using Pyrolyser

- Renita Shiny D'Souza, Rashmi Nayak, Srinivas Kamath, Mohan M. P., B Narayana, Dileep, B. N., Ravi, P. M., and Karunakara. N.  
13<sup>th</sup> DAE-BRNS Nuclear and Radiochemistry Symposium (NUCAR-2017), February 6-10, KIIT University, Bhubaneswar, Odisha, India, 2017, .
136. Update on <sup>7</sup>Be and <sup>210</sup>Pb concentrations in atmospheric and terrestrial environment of Kaiga region  
Mohan M. P., Sudeep Kumara K., Yashodhara I., and Karunakara N.  
13<sup>th</sup> DAE-BRNS Nuclear and Radiochemistry Symposium (NUCAR-2017), February 6-10, KIIT University, Bhubaneswar, Odisha, India, 2017.
137. Tritium in air and water around Kaiga Generating Station  
Srinivas S Kamath, B Narayana, Renita Shiny D'Souza, Rashmi Nayak, Mohan M. P., Dileep, B. N., Babu Rajan A, Ravi, P. M., and N Karunakara  
13<sup>th</sup> DAE-BRNS Nuclear and Radiochemistry Symposium (NUCAR-2017), February 6-10, 2017, KIIT University, Bhubaneswar, Odisha, India. (BEST PAPER AWARD).
138. A walk-in type <sup>222</sup>Rn calibration chamber for calibration of radon and progeny measuring devices and intercomparison measurements  
Trilochana Shetty, Somashekarappa H M, Sudeep Kumara K., Yashodhara I., Mohan M. P., Sahoo B.K., Gaware J.J., Sapra B. K. and Karunakara N.  
13<sup>th</sup> DAE-BRNS Nuclear and Radiochemistry Symposium (NUCAR-2017), February 6-10, KIIT University, Bhubaneswar, Odisha, India, 2017.
139. Standardization of methods for determination of OBT in environmental matrices using Pyrolyser  
Rashmi Nayak, Shiny Renita D'Souza, Srinivas Kamath, B. Narayana, Dileep, B. N., and Ravi, P. M, and N. Karunakara  
13<sup>th</sup> DAE-BRNS Nuclear and Radiochemistry Symposium (NUCAR-2017), February 6-10, 2017, KIIT University, Bhubaneswar, Odisha, India, 2017. (BEST PAPER AWARD).
140. Standardization of an analytical method for Carbon-14 in air and its associated uncertainties.  
A. Baburajan, S.S. Dalvi, V. Sudheendran, P.M. Ravi and N. Karunakara.  
13<sup>th</sup> DAE-BRNS Nuclear and Radiochemistry Symposium (NUCAR-2017), February 6-10, 2017, KIIT University, Bhubaneswar, Odisha, India, 2017. (BEST PAPER AWARD).
141. An Advanced Calibration facility for <sup>222</sup>Rn and Progeny Measuring Devices.  
Trilochana Shetty, H. M. Somashekarappa, K. Sudeep Kumara, I. Yashodhara, M. P. Mohan, B. K. Sahoo, J. J. Gaware, B. K. Sapra and Karunakara N.  
20<sup>th</sup> National Conference on Solid State Nuclear Track Detectors and Their Applications, 26-28, October, 2017.
142. Beryllium-7 and Lead-210 in West Coast of India.  
Mohan. M. P, Renita Shiny D'Souza, Rashmi Nayak, Srinivas S Kamath, Trilochana Shetty, K. Sudeep Kumara, Yashodhara. I and Karunakara. N.  
National Conference on Reached the Unreached through Science and Technology, 8 - 9 September, 2017, Mangalore University.
143. Determination of organically bound tritium in environmental matrices.  
Rashmi Nayak S, Renita Shiny D'Souza, Srinivas Kamath, Mohan M P, Bharath, Narayana B, Dileep B N, Ravi P M, and Karunakara N.

National Conference on Reached the Unreached through Science and Technology, 8 - 9 September, 2017, Mangalore University.

144. Estimation of  $^{14}\text{C}$  Concentration in Environmental Matrices.  
Renita Shiny D'Souza, Rashmi Nayak S, Srinivas Kamath, M. P. Mohan, Bharath, B. Narayana, B. N. Dileep, P. M. Ravi and N. Karunakara.  
National Conference on Reached the Unreached through Science and Technology, 8 - 9 September, 2017, Mangalore University.
145.  $^7\text{Be}$  and  $^{210}\text{Pb}$  in Soil and Vegetation in the Environment of West Coast of India.  
Mohan. M. P, Sunil Kumar. A. C, Radhakrishna A. P, Renita Shiny D'Souza, Rashmi Nayak, Srinivas S Kamath, Trilochana Shetty, K. Suddep Kumara, Yashodhara. I and Karunakara. N.  
National Conference on Radiation Physics, NCRP-2017, 23-24 November, 2017, Bangalore University, 120.
146. Performance Evaluation of Automatic Sample Oxidation System for Organically Bound Tritium Determination in Environmental Matrices.  
Rashmi Nayak S, Renita Shiny D'Souza, Srinivas Kamath, Mohan M P, Narayana B, Dileep B N, Ravi P M, and N. Karunakara.  
National Conference on Radiation Physics, NCRP-2017, 23-24 November, 2017, Bangalore University.
147. Tritium Concentration in Ambient Air Around Kaiga Nuclear Power Plant.  
Srinivas. S. Kamath, B. Narayana, Renita Shiny D'Souza, Rashmi Nayak, Mohan. M. P, B. N. Dileep, Babu Rajan A, Ravi P. M and N. Karunakara.  
National Conference on Radiation Physics, NCRP-2017, 23-24 November, 2017, Bangalore University.
148. Performance Evaluation of Sample Oxidation System for Carbon-14 Determination in Environmental Matrices.  
Renita Shiny D'Souza, Rashmi Nayak S., Srinivas Kamath, Mohan M. P., Narayana B., Dileep B. N., Ravi P. M., and Karunakara N.  
National Conference on Radiation Physics, NCRP-2017, 23-24 November, 2017, Bangalore University, 174
149. Performance Evaluation of Two Oxidation Systems for Tritium Measurements in Environmental Matrices.  
Rashmi Nayak S., Renita Shiny D'Souza, Srinivas Kamath, Mohan M. P., Narayana B., Dileep B. N., Ravi P. M., and Karunakara N. 2018. 21<sup>st</sup> National symposium on Radiation Protection (NSRP 21). 05-07 March 2018, Raja Ramanna Centre for Advanced Technology, Indore Indore, PP: 112.
150. Site Specific Data on Water Equivalent Factor for Determination of Organically Bound Tritium Concentration.  
Rashmi Nayak S., Renita Shiny D'Souza, Srinivas Kamath, Mohan M. P., Narayana B., Dileep B. N., Ravi P. M., and Karunakara N. 2018. 20<sup>th</sup> National symposium on Environment (NSE-20) 20-23 May 2018, PP: 461-462.
151. A "Semi-dynamic" Technique for Achieving Temporal Stability of  $^{222}\text{Rn}$  Concentration in a Walk-in Type of Calibration Chamber.

S. Trilochana, K. Sudeep, M.P. Mohan, B.K. Sahoo, J.J. Gaware, B.K.Sapra, H.M. Somashekarppa, Y.S. Mayya and N.Karunakara  
21<sup>st</sup> National Symposium on Radiation Protection (NSRP 21), 5-7 March, 2018,.

152. Importance of site specific data on total carbon content for the estimation of Carbon-14 specific activity in environmental samples  
Renita Shiny D'Souza, Rashmi Nayak S., Srinivas Kamath, Mohan M. P., Dileep, B. N., Ravi P. M., Ferrari A.D., Garcia L.A., Martinez I. G., Arevalo F. J. S., and Karunakara N.  
Proceedings of 21<sup>st</sup> National symposium on Radiation Protection (NSRP 21). 2018. PP: 113.
153. A New Passive Method for Long Term Atmospheric Tritium Sampling Using Glycerol.  
Srinivas. S. Kamath, B. Narayana, Renita Shiny D'Souza, Rashmi Nayak, Mohan. M. P, B. N. Dileep, Babu Rajan A, Ravi P. M and N. Karunakara. Proceedings of National Symposium on Radiation Physics-2018, 5-7<sup>th</sup> March, RRCAT, Indore.
154. Evaluation of spatial homogeneity of <sup>222</sup>Rn in a walk in calibration chamber using CR-39 based passive detectors. Trilochana, S., Sudeep, K. K., Mohan, M.P., Somashekarppa, H. M., Sahoo, B. K., Gaware, J. J., Sapra, B. K., Mayya, Y. S., Janik, M., Darwish, A., Karunakara, N.  
Proceedings of 20<sup>th</sup> National symposium on Environment (NSE-20), 13 – 15 December, 2018, IIT Gandhinagar, Ahmedabad.
155. Radon as a Tracer for Estimation of Indoor Air Change Rate (ACR).  
K.Sudeep Kumara., Trilochana Shetty., M.P.Mohan., Y.S. Mayya., N.Karunakara.  
Proceedings of 20<sup>th</sup> National Symposium on Environment (NSE-20), p,455-456. 2018
156. Air sampling for Tritium measurement using ethylene glycol- Evaluation of dependence of collection efficiency with ambient temperature and humidity.  
Srinivas. S. Kamath, B. Narayana, Renita Shiny D'Souza, Rashmi Nayak, Mohan. M. P, B. N. Dileep, Babu Rajan A, Ravi P. M and N. Karunakara.  
Proceedings of 20<sup>th</sup> National Symposium on Environment-2018, 13-15<sup>th</sup> December, Indian Institute of Technology, Gandhinagar. 2018.
157. <sup>14</sup>C activity in environmental matrices in west coast region of India  
Renita Shiny D'Souza, Rashmi Nayak S., Srinivas Kamath, Mohan M. P., Narayana B., Dileep, B. N., Ravi P. M., and Karunakara N.  
Proceedings of 20<sup>th</sup> National symposium on Environment (NSE-20). PP: 457-458. 2018
158. HTO and Organically Bound Tritium (OBT) in Marine Ecosystems at Tarapur  
A. Baburajan, V. Sudheendran, R.H. Gaikwad, P.M. Ravi and N. Karunakara  
Proceeding of 20<sup>th</sup> Biennial DAE BRNS Symposium on Nuclear and Radiochemistry (NUCAR-2019), January 15-19, 2019, at BARC, Mumbai, Page No: 281
159. Determination of indoor air change rate (ACR) in dwellings with <sup>222</sup>Rn as a tracer.  
K.Sudeep Kumara., Trilochana Shetty., M.P.Mohan., Y.S. Mayya., N.Karunakara (2019).  
22<sup>nd</sup> National Symposium on Radiation Physics (NSRP-22), p,160
160. Measurement of Indoor Air Exchange Rate (AER) by <sup>222</sup>Rn Time Series Analysis  
K.Sudeep Kumara., Trilochana Shetty., M.P.Mohan., Y.S. Mayya., N.Karunakara  
Paper submitted to IARPNC-2020 to be held at NFC, Hyderabad (November, 2020)
161. Annual tree growth rings of tropical high rainfall regions of India can be used for retrospective assessment of Carbon-14 in the environment



- K Arya Krishnan, Bharath, R.S. D'Souza, K. Stenström, H. Linderson and Karunakara N.  
Paper accepted for IARPNC-2020 to be held at NFC, Hyderabad (November, 2020)
162. TLD based cumulative gamma dose measurements in Karnataka, India  
B. Sachin, S. Trilochana, K. Sudeep, Kumara, M. P. Mohan, S. K. Sahu, P.G. Shetty, M. Swarnakar, R. A. Takale, Nagaiah N and N Karunakara  
Paper accepted for IARPNC-2020 to be held at NFC, Hyderabad (November, 2020)
163. Quantification of Stack Discharge of  $^{14}\text{C}$  from PHWR Power Plant at Kaiga  
Bharath, D'Souza R. S, Arya Krishnan K, Nayak S. R, Manganvi S. S,  
Ravi P. M, Karunakara N.  
Paper accepted for IARPNC-2020 to be held at NFC, Hyderabad (November, 2020)
164. Organically Bound Tritium in terrestrial biota in the vicinity of PHWR power plant at Kaiga  
S.Rashmi Nayak, Renita Shiny D'Souza, Bharath, Arya Krishnan, Srinivas Kamath,  
P.M.Ravi, and N. Karunakara  
Paper accepted for IARPNC-2020 to be held at NFC, Hyderabad (November, 2020)
165.  $^{14}\text{C}$  in Terrestrial Environmental Biota in the Vicinity of PHWR NPP at Kaiga  
Renita Shiny D'Souza, Bharath. Arya Krishnan, S. Rashmi Nayak,  
Srinivas Kamath, P.M. Ravi, and N. Karunakara  
Paper accepted for IARPNC-2020 to be held at NFC, Hyderabad (November, 2020)
166. Temporal and seasonal variations of Tritium in ambient air at Kaiga Nuclear Power Plant  
Srinivas S Kamath, B Narayana, Renita Shiny D'Souza, Rashmi Nayak,  
M. P. Mohan M, P M. Ravi, and N Karunakara  
Paper accepted for IARPNC-2020 to be held at NFC, Hyderabad (November, 2020)

### Conference Presentations (Abstracts)

167. Alpha counting techniques in environmental radioactivity investigations  
Avadhani D. N., Narayana Y., Karunakara N., Somashekarappa H. M., Mahesh H. M. and Siddappa K. *National Symposium on One Hundred years of Electron Discovery (NSED-97)*, Kuvempu University, Shimoga, India, Dec. 29-30, 1997.
168. GERMON Station at Mangalore University - A Nodal Centre.  
Somashekarappa H. M., Narayana Y., Mahesh H. M., Karunakara N., Avadhani D. N. and Siddappa K.  
*National Symposium on One Hundred years of Electron Discovery (NSED -97)*, Kuvempu University, Shimoga, India, Dec. 29-30, 1997.
169. Gamma spectrometry for probing the environment.  
Karunakara N., Somashekarappa H. M., Narayana Y., Avadhani D. N., Mahesh H. M., Balakrishna K. M. and Siddappa K.  
*National Symposium on One Hundred years of Electron Discovery (NSED-97)*, Kuvempu University, Shimoga, India, Dec. 29-30, 1997.
170. Low background high efficiency beta counting system for low level counting  
Mahesh H. M., Somashekarappa H. M., Karunakara N., Avadhani D. N. and Siddappa K.  
*National Symposium on One Hundred years of Electron Discovery (NSED -97)*, Kuvempu University, Shimoga, India, Dec. 29-30, 1997.

171. Natural alpha activity in the environment of Kaiga  
 Karunakara N., Somashekarappa H. M., Narayana Y., K. M. Balakrishana and Siddappa K.  
*National seminar on Radiation, Environment and Man*, Mysore University, Mysore, India, Oct. 8-9, 1992.
172. Natural radiation level in the environment of Goa  
 Avadhani D. N., Mahesh H. M., Karunakara N., Somashekarappa H. M., Narayana Y., Balakrishna K. M. and Siddappa K.  
*Seminar on Impact of Discovery of Radioactivity on Modern Society (IDRMS-96)*, Kuvempu University, Shimoga, India, Nov. 4-5, 1996.
173. Radiation dose due to radon daughters in Mangalagangothri  
 Mahesh H. M., Avadhani D. N., Karunakara N., Somashekarappa H. M., Narayana Y., Balakrishna K. M. and Siddappa K.  
*Seminar on Impact of Discovery of Radioactivity on Modern Society (IDRMS-96)*, Kuvempu University, Shimoga, India, November 4 -5, 1996.
174. Radium-226 and Po-210 activities in Kaiga environs  
 Karunakara N., Balakrishna K. M., Somashekarappa H. M., Narayana Y., Avadhani D. N., Mahesh H. M. and Siddappa K.  
*Seminar on Impact of Discovery of Radioactivity on Modern Society (IDRMS-96)*, Kuvempu University, Shimoga, India, Nov. 4 -5, 1996.
175. Cesium-137 and Strontium-90 concentration in coastal Karnataka and Kaiga environs  
 Karunakara N., Narayana Y., Somashekarappa H. M., Radhakrishna A. P., Avadhani D. N., Mahesh H. M., Balakrishna K. M. and Siddappa K.  
*National Seminar on Coastal Zone Environment Management: an appraisal of the contemporary research and development*, Mangalore University, Mangalore, India, Feb. 12-14, 1997.
176. Radon and thoron progeny concentrations in dwellings in the environment of Mangalore  
 Somashekarappa H. M., Karunakara N., Mahesh H. M., Avadhani D. N. and Siddappa K.  
*National Symposium on prospectus and problems of environment in the new millennium*, Mangalore University, Mangalore, India, Dec. 14-16, 2000.
177. Concentration and distribution of polonium-210 in air and water samples in the environment of coastal Karnataka and Kaiga  
 Mahesh H. M., Avadhani D. N., Somashekarappa H. M., Karunakara N. and Siddappa K.  
*National Symposium on prospectus and problems of environment in the new millennium*, Mangalore University, Mangalore, India, Dec. 14-16, 2000.
178. Distribution of natural radionuclides in potable waters of Goa environs.  
 Avadhani D. N., Mahesh H. M., Somashekarappa H. M., Karunakara N. and Siddappa K.  
*National Symposium on Emerging Trends in Radiation Sources and their Applications*, Kuvempu University, Shimoga, India, January 9-10, 2001
179. Concentrations of  $^{210}\text{Po}$  and  $^{210}\text{Pb}$  in atmosphere in the environment of coastal Karnataka and Kaiga.  
 Mahesh H. M., Avadhani D. N., Somashekarappa H. M., Karunakara N. and Siddappa K.  
*National Symposium on Emerging Trends in Radiation Sources and their Applications*, Kuvempu University, Shimoga, India, Jan. 9-10, 2001

180. Uranium concentration in water samples in the environment of coastal Karnataka and Kaiga. Mahesh H. M., Avadhani D. N., Somashekarappa H. M., Karunakara N. and Siddappa K. *National Seminar on Atomic Energy, Ecology and Environment*, Jamal Mohammed College, Tiruchirappalli, India, Feb. 8-9, 2001.
181. Natural radiation level and radionuclides distribution in beach sand of Goa. Avadhani D. N., Mahesh H. M., Somashekarappa H. M., Karunakara N. and Siddappa K. *National Seminar on Atomic Energy, Ecology and Environment*, Jamal Mohammed College, Tiruchirappalli, India, Feb. 8-9, 2001.

### Invited / plenary talks delivered

Sl. No.	Title and Details
1.	Radioactivity and Radionuclide Distribution in the Environment of Kaiga of South West Coast of India. Satellite Meeting of International Conference IARP - IC - 2K1, Kaiga, India, Feb. 26-27, 2001.
2.	Monitoring of Radioactivity in the Environs of South West Coast of India National Seminar on Atomic Energy, Ecology and Environment, held at Jamal Mohamed College, Tiruchirappalli, India during Feb. 8-9, 2001.
3.	Studies on Environmental Radioactivity in South West Coast of India Seminar on Nuclear Power, Science City, Kolkata, March 10-11, 2007.
4.	Studies on Environmental Radioactivity in South West Coast of India by Mangalore University National Conference of Low Level Radiation Measurement, IUAC, New Delhi, Nov. 18-20, 2009.
5.	Nuclear Power – The Power of the Future UGC Sponsored National Seminar on “Nuclear Chemistry – Its relevance to present scenario”, A. V. Kamamma College for Women, Davangere, March 5 <sup>th</sup> , 2010.
6.	Environmental Impact Assessment Around the Nuclear Power Station in Kaiga National Seminar on Nuclear Energy and Environment. Kuvempu University, Karnataka. November 10-11, 2011.
7.	Findings of the Studies on Environmental Radioactivity Monitoring for Two Decades Around Kaiga Region National Conference on Nuclear Applications, Hazards and Safety Measures (NAHSM). Tumkur University, Karnataka, February 10-11, 2012.
8.	Nuclear Energy – Myths and Realities National Science Day Celebration-2012, Organized by St. Agnes College, Mangalore in association with the Karnataka Science and Technology Academy, February 25, 2012.
9.	Studies on Radioactivity Levels in the Environmental of Kaiga Nuclear Power Station Technical Seminar on Nuclear Energy – Environment and Safety (NEEDS-2012), Organized by the Indian Nuclear Society and Mysore University, March 3, 2012.
10.	Site Specific Studies on Environmental Transfer Factors in Kaiga Region 30 <sup>th</sup> IARP National Conference (IARPNC-2012), Mangalore University, March 15-17, 2012.
11.	Site Specific Studies on Environmental Transfer Factors in Kaiga Region 19 <sup>th</sup> National Symposium on Radiation Physics – IGCAR, Kalpakkam, Dec. 12-14, 2012.

12.	Environmental Radioactivity – Sources and Measurements Refresher Course in Physics, Staff Development College, Bangalore University, April 10, 2013.
13.	Applications of Nuclear Energy and Radioisotopes for the Benefit of Mankind Refresher Course in Physics, Staff Development College, Bangalore University, April 10, 2013.
14.	Applications of the Radioisotopes in Human Welfare National Seminar on “Radiation and Radio Isotopes in Research”, Milagres College, Kalyanapura, Udupi, Sept. 6, 2013.
15.	Benefits of Nuclear Energy and its Need for Developing India St. Agnes College, Mangalore, Jan. 20, 2014.
16.	Radiation and Radioisotopes for the Benefit of Mankind National Seminar on Isotope and Nuclear Technique - Applications to Basic and Applied Sciences", M. A. M. O. College, Mukkam, Calicut, March, 2014.
17.	Radiation and Radioisotopes – Applications UGC sponsored National Seminar at St. Philomena College, Puttur, March 15, 2014.
18.	Studies on Environmental Radioactivity and Impact Assessment around Kaiga Region National Seminar on “Radioactivity – Natural and Manmade”, Vidya Vikas Institute of Engineering and Technology, Mysore, March 15, 2014 (Organized by Indian Nuclear Society, Mysuru).
19.	Impact Assessment Studies around the PHWR power plant at Kaiga Region National Seminar of Radiation in the Environment, Hyderabad JNTU Technology, Hyderabad, May 2015.
20.	Studies on Environmental Radioactivity in Karnataka St. Philomena College, Mysuru, March 29, 2016.
21.	Centre for Advanced Research in Environmental Radioactivity (CARER) - Activities, Capabilities, and Opportunities for Collaborative Research” Twentieth Conference on Solid State Nuclear Track Detectors and Their Applications (SSNTD-20), Vidya Vikas Institute of Engineering and Technology, Mysuru, October 26-28, 2017.
22.	Activities, Capabilities, Achievements and Opportunity for Collaborative Research at Centre for Advanced Research in Environmental Radioactivity (CARER) National Conference on Radiation Physics (NCRP), Bangalore University, Nov. 23-24, 2017.
23.	Standardization of methods for Carbon-14 and Tritium Measurements in environmental matrices around Nuclear Power Plants –Challenges 21st National Symposium on Radiation Physics (NSRP-21), Raja Ramanna Center for Advanced Technology (RRCAT), Indore, India, March 5-7, 2018.
24.	Pre and Post-operational Radioecological Studies Around Kaiga Nuclear Power Station IARP International Conference (IARPIC-2018) on “Developments towards Improvement of Radiological Surveillance at Nuclear Facilities and Environment”, January 16-20, 2018, BARC, Mumbai,
25.	<sup>210</sup> Po and <sup>210</sup> Pb in terrestrial, atmospheric and aquatic environment of tropical rainfall region of Indian subcontinent Fourth International Conference on Polonium and Radioactive Pb Isotopes (INCO-PoPb- 2019), April 8-11, 2019, State Key Laboratory of Estuarine and Coastal Research (East China Normal University)
26.	Transfer Factors and Transfer Coefficient Studies at Kaiga Generating Station Theme Meeting on “Environmental Remediation Strategies for Radioactive Contamination”, Safety Research Institute, AERB, Kalpakkam, March 14-15, 2019.
27.	Standardization of Methods for <sup>14</sup> C and Tritium Measurements

	Workshop on Environmental Radioactivity Measurements, July 25-26, 2019, IGCAR, Kalpakkam.
28.	Analytical procedures for measurements <sup>14</sup> C in stack effluents and environment Theme Meeting on Measurement of C-14 Activity in effluent release and environment samples, AERB, Mumbai, Feb. 19, 2019
29.	Environmental Radioactivity: Three Decades of Studies on Baseline Levels and Impact Assessments on the West Coast of India National Conference on Environmental Radiation: Impact on Society and Its Implications (ERISI-2019), Jahavpur University, Nov. 15-16, 2019

### Impact of publications in terms of

#### Google scholar citation as on December 2020

	All	Since 2015
<u>Citations</u>	1135	656
<u>h-index</u>	20	13
<u>i10-index</u>	32	14

### Conferences / Seminars / Workshops / Symposia organized

- Organized the 2<sup>nd</sup> International Conference on Polonium and Radioactivity Pb isotopes (INCO-PoPb-2013), Mangalore University, February 10-13, 2013 in which participants from 24 countries had participated.
- Organized the 30<sup>th</sup> Indian Association for Radiation Protection (IARP) 29th National Conference (IARPNC-2012) with focal theme, “Radiological Protection and Safety in Nuclear Reactors and Radiation Installations”, Mangalore University, March 15-17, 2012 in which 228 participants from premier research institutions and Universities presented papers.
- Organized the 20<sup>th</sup> National Symposium on Radiation Physics (NSRP-20) with focal theme, “Radiation Measurements: Challenges in lowering of detection limits”, Mangalore University, during Oct 28-30, 2015 in which 190 participants from premier research institutions and Universities presented papers.
- Organized the International Workshop on Carbon-14 and Tritium Measurements in Environmental Matrices, Nov. 6-10, 2017, CARER, Mangalore University, India. Scientists from BARC, IGCAR, ESL’s, NPCIL, AERB, and CARER derived benefit from this workshop. Experts from Lund University, Sweden, University of Southampton, UK, and University of Georgia, USA, and BARC were resource persons for this workshop.
- Organised the Indo-German workshop on Radon measurements, February 22-23, 2018, CARER, Mangalore University
- Organised the course on Advanced Direct Reading Radon, Thoron and Progeny Sensors during under MHRD, Govt. of India programme on Global Initiative for Academic Networking, with expert faculty from Hirosaki University, Japan, April 22-27, 2019, CARER, Mangalore University.

- Organised the course on Applications of Nuclear Techniques in the Investigation of Monsoon Dynamics and Atmospheric Pollutants, under MHRD, Govt. of India programme on Global Initiative for Academic Networking, with expert faculty from Wayne State University, USA, *May 14-24, 2019, CARER, Mangalore University.*
- As a member of the International Advisory Committee involved in organizing the 3<sup>rd</sup> International Conference on Po and Radioactive Isotopes, scheduled for Oct. 2015 in the University of Turkey, Turkey.
- As a member of the International Advisory Committee involved in organizing the 4<sup>th</sup> International Conference on Polonium and Radioactive Pb Isotopes (INCO-PoPb-2019), April 8-11, 2019, State Key Laboratory of Estuarine and Coastal Research (East China Normal University), Shanghai, China

### Awards / Fellowship / Recognition

Award received	Name of the body/society
Sir C V Raman State Award (for Physical Sciences)	Karnataka State Council for Science and Technology, Govt. of Karnataka, for the year 2017
Dr. A K Ganguly Award	Indian Association for Radiation Protection (IARP) For outstanding work in the field of radiation protection and radiation in the environment in the year 2012.
ISRP-NUCLEONIX Award	Indian Society for Radiation Physics (ISRP) Best experimental research award - 20 <sup>th</sup> National Symposium on Radiation Physics (NSRP-20), Oct. 27-30, 2015, Mangalore University.
Best Paper Award	Indian Association for Radiation Protection (IARP) Conference, March 19-21, 2014, BARC, Mumbai.
Best Paper Award	5 <sup>th</sup> BRNS-DAE Symposium on Nuclear Analytical Chemistry-V, January 20-24, 2014, Mumbai.
Best Paper Award	National Conference on Radiation Awareness and Detection in Natural Environment (RADNET-I). June 15-17, 2015, Tehari Garhwal,
Best Paper Award	13 <sup>th</sup> DAE-BRNS Nuclear and Radiochemistry Symposium (NUCAR-2017), February 6-10, 2017, KIIT University, Bhubaneswar (best oral presentation).
Best Paper Award	13 <sup>th</sup> DAE-BRNS Nuclear and Radiochemistry Symposium (NUCAR-2017), February 6-10, 2017, KIIT University, Bhubaneswar (best poster presentation).
Best Paper Award	National Conference on Radiation Physics (NCRP), Nov. 23-25, 2017, Bangalore University.
Outstanding Contribution Award	5 <sup>th</sup> International Conference on Environmental Radioactivity (ENVIRA, 2019), September 8-13, 2019, Praha, Czech Republic.

### Membership of Professional Bodies

<b>Name of the Body/Society</b>	<b>Name of Award / Fellowship / Nature of Membership / Editorship</b>
Expert member	International Atomic Energy Agency (IAEA) mission to give recommendations to Member Countries on radiation protection and measurements of radionuclides in environmental matrices
Secretary	Indian Society for Radiation Physics (ISRP) (2013-2015)
Executive Committee Member	Indian Association for Radiation Protection (IARP), 2015
Life Member	Indian Association for Radiation Protection (IARP)
Life Member	Indian Society for Radiation Physics (ISRP) (2013-2015)
Life Member	Nuclear Track Society of India
Life Member	Geochemical Society of India
Member	National Association for Application of Radioisotopes and Radiation in Industry (NAARI), India
Executive Committee Member	NAARI, Mangalore Chapter
Member	Board of Examination for M. Tech. and Ph. D., Homi Bhabha National Institute (HBNI), BARC, Mumbai and other universities within Karnataka and other states
Member	International Steering Committee to organizing the International Conference series on Polonium and radioactive Lead isotopes

### **Any other Information**

#### **Lecture series conducted abroad**

On invitation from intuitions from abroad or as Expert, International Atomic Energy Agency (IAEA) missions to member countries delivered a series of lectures and trained scientists in the following institutions/countries:

- i. Higher Institute of Medical Technologies of Tunis (ISTMT), Tunisia (April 6-11, 2015): invited to deliver 8 lectures on radiation protection, measurements of low-level radioactivity in the environment, gamma and alpha spectrometry, estimation on transfer factors for radionuclides in food pathway in the vicinity of phosphate industries. Also, trained the scientists of the ISTMT in low-level radiation measurements.
- ii. University of Botswana, Gaborone, Botswana (September. 15-Oct. 2, 2010): invited to deliver lectures on radiation protection, measurements of low-level radioactivity and impact assessment of the uranium mining on the environment around Serule uranium mining region, Botswana.

- iii. Visited Radiation Protection Department, Ministry of Health, Kuwait (August 17-22, 2013) as an Expert Member of IAEA mission to Kuwait and delivered 6 lectures and trained the scientists of Department of Radiation Protection, Ministry of Public Health, Kuwait in radioactivity testing and certification of food materials and drinking water.
- iv. Visited Radiation Protection Department, Ministry of Health, Bahrain (November 19-13, 2014) as an Expert Member of IAEA Advisory mission to Kuwait and delivered 8 lectures and trained the scientists of radiation protection laboratories and professionals of oil industries of the Gulf region in the assessment of naturally occurring radioactivity material (NORM).

**Countries visited on research collaboration**

Spain, France, Botswana, South Africa, Tunisia, Japan, China, Malaysia, Bahrain, and Kuwait for research collaboration and on invitation to deliver lectures. The collaborating institution details are provided in the respective section above.