

PERSONAL STATEMENT



Professor. Kalpana Balakrishnan

Associate Dean (Research) & Director

World Health Organization Collaborating Center for Occupational and Environmental Health

ICMR Centre for Advanced Research on Air Quality, Climate and Health

Department of Environmental Health Engineering

Sri Ramachandra University, Porur, Chennai – 600116, India

I acquired my undergraduate education at the All India Institute of Medical Sciences, New Delhi, India and subsequently my doctoral and post-doctoral training at the Johns Hopkins University in Baltimore, MD, USA. Over the last 25 years, I have established one of the largest inter-disciplinary occupational and environmental health research groups in India, at the Sri Ramachandra Institute of Higher Education and Research, Chennai. I am engaged in research and training collaborations with a network of more than 50 national and international institutional partners to address national and global health research priorities.

My primary research involvement has been in the area of air pollution and health and chemical risk assessment. I have designed and conducted large scale field studies concerning the household, ambient and occupational environment across multiple states in India, including monitoring and evaluation of intervention efforts. Recently, I have been engaged in the conduct of mother-child cohort studies as well multi-country randomized control trials to strengthen the evidence for efficacy of air pollution interventions on birth/early childhood and adult cardio-vascular outcomes.

My primary scientific contributions are centered on (i) developing novel exposure assessment approaches to characterize the complex exposures experienced by rural and urban populations in low and middle income countries and (ii) designing and conducting strategic epidemiological investigations in India to catalyze policy level actions by leveraging across the national and global pools of evidence.

I am actively involved in on-going national and international technical assessments concerned with air quality and health, including the Global Burden of Disease and Comparative Risk Assessments, The World Health Organisation Air Quality Guidelines, The International Agency for Research on Cancer Monographs, The Global Energy Assessments, UNEP Asia Pacific Regional Assessments and the India State level Burden of Disease Initiative. I have published nearly 150 scientific articles in high impact peer-reviewed journals as well as book chapters and training manual that have merited more than 30,000 citations and several million views to date.

In 2014, I was selected as a Fellow of the National Academy of Medical Sciences, India. I currently serve as a member of the National Steering Committee on Air Pollution Related Issues for Health Effects for the Ministry of Health Govt. of India and the Indian Council for Medical Research led National Task Force for assessment of impact of initiatives to promote clean household energy.

My future plans are focused on building a full –fledged Faculty of Public Health at SRIHER that can jointly provide advanced research and public health practice capacities for a diverse range of students and professionals in public health and strengthen the pool of evidence for strategic actions on risk factors contributing to the national health burden.

NAME DR. KALPANA BALAKRISHNAN	TITLE Professor of Biophysics & Associate Dean (Research) Director WHO Collaborating Center for Occupational & Environmental Health ICMR Center for Advanced Research on Environmental Health Department of Environmental Health Engineering Sri Ramachandra University, Chennai, India	BIRTH DATE 7/29/63
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Education

INSTITUTION AND LOCATION	DEGREE	YEAR	FIELD OF STUDY
All India Institute of Medical Sciences, New Delhi, India	B.Sc.(Honors)	1983	Human Biology
Johns Hopkins University, Baltimore, MD, USA	Ph.D.	1991	Biophysics
Johns Hopkins University School of Hygiene and Public Health, Baltimore, MD, USA	Post Doctoral training	1993	Environmental Physiology
Johns Hopkins University School of Hygiene and Public Health, Baltimore, MD, USA	Post Doctoral training	1994	Population Dynamics
Johns Hopkins University School of Hygiene and Public Health, Baltimore, MD, USA	Post Doctoral training	1995	Environmental Health Engineering/Risk Assessment

Positions

2015-present	Associate Dean (Research), Sri Ramachandra University (SRU), Porur, Chennai
2010- present	Director, SRU-ICMR Center for Advanced Research on Air Quality, Climate and Health, The Indian Council for Medical Research, Govt. of India, SRU, Porur, Chennai.
2007 - present	Director, World Health Organization Collaborating Centre for Research and Training on Occupational and Environmental Health, SRU, Porur, Chennai.
2003 - present	Professor of Biophysics, Department of Environmental Health Engineering, SRU, Porur, Chennai.
2000-2012	Professor of Biophysics and Head, Department of Environmental Health Engineering, SRU, Porur, Chennai.
2000- 2003	Associate Professor of Biophysics and Head of Environmental Health Engineering, SRU, Porur, Chennai.
1995 - 2000	Assistant Professor of Biophysics and Course – Co-ordinator for the College of Allied Health Sciences, SRU, Porur, Chennai.
1992 – 1995	Assistant Professor, University of Maryland, University College, College Park, MD, USA.
1987 – 1989	Instructor, Department of Biophysics, Johns Hopkins University, Baltimore, MD, USA. 2000

Awards & Honours

2014	Fellow of the National Academy of Medical Sciences , India
2008	Distinguished Scientist Award for Outstanding contributions to the field by an Indian Public Health Scientist or Practitioner in the area of Environmental Health Sciences by Public Health Foundation of India , New Delhi.
2000	Hari Om Ashram Trust Award for Outstanding Scientist in area of interaction between Science and Society, awarded by The University Grants Commission, Government of India .
1999	Citation and medal for outstanding accomplishment as a distinguished women scientist in the area of environmental research awarded by the Govt. of Tamil Nadu, India .
1998	Citation for Outstanding accomplishment in the area of environmental education awarded at the Sixth World Environmental Congress , New Delhi, India.
1997	Gold Medal and citation for outstanding accomplishment in the area of environmental health awarded by Sri Ramachandra – Harvard Medical International , Chennai, India.

Important Special Assignments

February 2020 to present	Commissioner, Rockefeller-Boston University high-level Commission on Health Determinants, Data, and Decision-making (3-D Commission)
July 2018 to present	Member, International Advisory Group of Research Hub for Urban Sustainability, Health and Equity, Wellcome Trust, London, UK
September 2017 to present	Member, Scientific Advisory Committee, Stockholm Environment Institute, Stockholm, Sweden
June 2016 to present	Member, Scientific Advisory Committee, National Institute of Occupational Health, ICMR, Govt. of India
January 2016 to present	Member, Scientific Advisory Committee, National Institute for Research on Environmental Health, ICMR, Govt. of India
February 2015 to present	Member, Clean Cooking Implementation Science Network for The Fogarty International Center, National Institutes of Health, Bethesda, MD, USA.
January 2015 to present	Member, Technical Working Group for WHO Air Quality Guideline Update, WHO-EUR,Bonn.
November 2009 to present	Regional Editor (India) , Environmental Health Perspectives, The Official Journal of the National Institute of Environmental Health Sciences, USA
January 2012 to present	Associate Editor, International Journal for Public Health, Springer.
March 2015 to present	Chair, Environmental Risk Factor Group, India State Level Disease Burden Initiative of the ICMR, Govt. of India, PHFI, New Delhi and IHME, USA
January 2012 to March 2020	Member, Editorial Board, Air quality, Atmosphere and Health, Springer.
January 2018 to October 2018	Scientific Advisor, First WHO Global Conference on Air Pollution and Health
January 2014 to June 2016	Member, Steering Committee on Health Related Issues in Air Pollution, Ministry of Health and Family Welfare, Govt. Of India
January 2014 to June 2016	Member, Expert Group on Uniform Air Quality Indices for Indian Cities, Central Pollution Control Board, Govt. Of India
August 2015	Chair of the Global Platform on Air Quality and Health, World Health Organisation, August 20-27, Geneva.

December 2014	Chair of World Health Organisation Regional Meeting on Air Quality and the Launch of WHO Indoor Air Quality Guidelines: Household Fuel Combustion, December 12-14, New Delhi , India.
August 2014	Member, Technical Advisory Group, World Health Organisation Conference on Climate and Health.
January 2014	Temporary Advisor, World Health Organisation . Chair of Technical Consultation on creating a Global Platform for Air Quality and Health, January 30-31, 2014, WHO, Geneva
May 2013	Temporary Advisor, United Nations World Health Assembly Joint Session of the World Health Organisation and The Climate and Clean Air Coalition (CCAC)
June 2012-June 2013	Member of the Scientific Advisory Committee, Climate and Clean Air Coalition, United Nations Environment Program (UNEP), Paris
January -November 2013	Member, Technical Working Group For International Agency For Research on Cancer Monograph on Ambient Air Pollution
June 2011 to December 2014	Member, National Board of Examinations, Government of India
January 2011 to December 2014	Member, Technical Task Force for Indoor Air Quality Guidelines for the World Health Organization, Geneva.
October 2010	Temporary Advisor, World Health Organisation Food-borne Disease Burden Epidemiology Reference Group (FERG) meeting 2010, Geneva.
February 2010 to February 2011	Member, Technical Advisory Board for strengthening the R&D infrastructure of the Ministry of Environment & Forests, Govt. of India.
February 2010 to February 2011	Member, National Selection Committee, National Environmental Sciences Fellowship Program, for the Ministry of Environment & Forests, Govt. of India
October 2009	Temporary Advisor, World Health Organisation for the I Joint meeting of WHO-ILO collaborating centers to formulate joint implementation plan for The Global Plan of Action on Workers Health.
January 2009 to June 2012	Member, Expert Panel for the Food-borne Disease Burden Epidemiology Reference Group (FERG) of the World Health Organisation
August 2008 to December 2012	Member, Expert Group (Indoor Air Pollution) for Revised Comparative Risk Assessment and Global Burden of Disease Estimation (GBD 2010) study funded by the Bill and Melinda Gates Foundation.
September 2008 to December 2012	Lead Author for Knowledge Module on Solid Fuel Use and Health for the 2011 Global Energy Assessment being published by The International Institute for Applied Systems Analysis (IIASA), Vienna, Austria.
November 2007	Temporary Advisor, World Health Organisation for the conduct of training on Occupational Risk Assessment Toolkits for SEARO countries
September 2006	Temporary Advisor, World Health Organisation for the formulation of Indoor Air Quality Guidelines
March 2006- present	Member, Technical Review Committee, ICMR Indo-US Consortium for research and training in occupational and environmental health
March -September 2006	Temporary Advisor, The International Agency for Research on Cancer, The World Health Organisation for preparation of IARC monograph on solid fuel smoke associated with domestic combustion
April 2006-present	Director, SRU Air Pollution related Disease Diagnostic Center set up by the Gas Authority of India Ltd. Govt. Of India.
March 2006- present	Director, SRMC Centre for Information Services, International Labour Organisation, Geneva
March -October 2005	Temporary Advisor, World Health Organisation for the Revision of WHO Air Quality Guidelines 2005.
August 2005 – August 2007	Member, State level Environmental Monitoring Committee, Tamil Nadu State Pollution Control Board, Chennai

January 2005- June 2010	Member, University Development Task Force, SRU, Chennai
May 2002	Temporary Advisor, World Health Organisation, Technical Facilitator for the World Health Assembly on “ Global Burden of Disease”
June 2003 – June 2005	Technical Advisor, The World Bank, for a four province environmental health intervention project for indoor air pollution associated with solid fuel use, in China

Important Extra-Mural Grants

6/2020 to present	PI for project entitled “Assessing the role of LPG coverage at scale to achieve household air pollution and ambient air pollution exposure reductions using hyper-local, low-cost PM2.5 sensor networks: implications for the Pradhan Mantri Ujjwala Yojana program in India” funded by the Implementation Science Network, NIH Fogarty International Center, Bethesda, USA.
1/2019 to present	Co-Investigator and Advisor for project entitled “Assessing the influence of workplace, mode of commuting and residence characteristics on personal exposures to fine particulate matter (PM 2.5) in UN employees at New Delhi (PEEPs)” funded by the World Health Organisation, SEARO, New Delhi.
2/2018 to present	Co-Investigator and Advisor for project entitled “National Environmental Health Profile for Air Pollution and Health Effects: A multi-city assessment” funded by Ministry of Environment, Forests and Climate Change, Govt. of India
7/2107 to present	Principal Investigator for project entitled” Delhi Air Pollution and Health Effects (DAPHNE)” funded by DBT, Govt. of India and NERC, UK
10/2016 to present	Principal Investigator for project entitled “Household air pollution and health: a multi-country LPG intervention trial” funded by the National Institutes of Health, USA
8/2016 to present	Principal Investigator for project entitled “Air Pollution, Health and Climate in India: Building Capacities for Health Research and Program Evaluation “ Funded by Indo-US Knowledge Initiative, USIEF
4/2012-present	Co-Principal investigator for training grant entitled” Global Health Equity Fellowships” in collaboration with University of California Berkeley, funded by the Fogarty International Centre, National Institutes of Health, USA .
8/2016 -12/2108	Co-Investigator for project entitled ”Assessment of health risks for mercury exposure through human biomonitoring in Chennai”. Funded by World Health Organisation (SEAR and EUR Offices)
3/2016 -12/2018	Principal Investigator for project entitled” Developing exposure-response relationships for cardio-respiratory health risks and household air pollution in rural communities of Tamil Nadu, India” in collaboration with Tufts University, USA. Funded by the Global Alliance of Clean Cookstoves, UN Foundation, PHI, CDC
3/2016 -12/2018	Co –principal Investigator for project entitled “ Increasing LPG Use During Pregnancy: A Pilot evaluation of the GIU Campaign” in collaboration with KEMRHC, Pune and UC Berkeley. Funded by Implementation Science Network, NIH, USA,
2/2015- 11/2016	Co-investigator for project entitled “Exposure assessment and modeling for PM _{2.5} in the Andhra Pradesh Children and Parents Study (APCAPS), a prospective cohort examining risk factors for cardiovascular health effects in India” in collaboration with London School of Hygiene and Tropical Medicine, UK ; University of Minnesota, USA, Public Health Foundation of India, National Institute of Nutrition, India. Funded by the European Research Council.
6/2014 -11/2016	Co-investigator for pilot study entitled “Exploring respiratory health outcomes from sustained use of efficient cook-stoves: A pilot cluster randomized trial in rural households of Andhra Pradesh and Karnataka” in collaboration with Washington University, St. Louis, MO, USA and Foundation for Ecological Security, Anand, India, funded by the National Institutes of Health, (R21) USA.
12/2013-6/2016	Co-Principal investigator for exploratory grant on” Orofacial Clefts: Nutritional and Environmental Risk Factors” in collaboration with Utah State University and University

	of Dundee, funded by National Institutes of Health (R21),USA and the UKIERI, UK.
3/2010-8/2015	Principal Investigator and Center Director for Centre for Advanced Research on Environmental Health (Air Pollution), Indian Council of Medical Research, Govt.of India.
4/2012- 8/2012	Principal Investigator for project entitled “Developing a framework for health effects of air pollution, in Lumbini, Nepal” funded by The World Health Organization, SEARO.
8/2011- 10/2013	Co-Investigator for project entitled” The National New Born Stove Trial: A Pilot Feasibility Assessment” in collaboration with UC Berkeley, Columbia University, and INCLEN Trust, India , funded in part by The World Bank.
6/2011- 6/2012	Principal Investigator for project entitled” Developing Trainer Guidance and Implementing a regional Framework for Basic Occupational Health Services” funded by The World Health Organization, SEARO.
11/2009-3/2012	Principal Investigator for project entitled “Evaluation of Improved Biomass stoves: a pilot assessment for 2 states” funded by United Nations Environment Programme in collaboration with UC SanDiego, USA and TERI(New Delhi).
8/2009-8/2010	Principal Investigator for project entitled “Update of the Global Indoor Air Pollution Database” funded, by USEPA, Washington DC, USA.
1/2008- 6/2010	Co-principal investigator for project entitled “Monitoring and Evaluation of Improved Biomass Stoves in Tamil Nadu and Karnataka”, funded by The Shell Foundation, USA
5/2007- 6/2011	Co-Principal investigator for research and training grant entitled” International Training in Research on occupational and environmental health (ITROEH)” in collaboration with University of California Berkeley, funded by the Fogarty International Centre, National Institutes of Health, USA .
5/2007-3/2011	Principal investigator for project entitled “Time series Analysis of health effects of Air Pollution”, funded by the joint ICMR-CDC(Indo-US) Consortium on Occupational and Environmental Health, in collaboration with Ohio Super Computing Center, Ohio State University, USA
6/2010- 12/2010	Principal Investigator for project entitled “Assessment of heat stress, worker productivity and climate change: A pilot assessment” funded by the World Health Organisation, SEARO.
1/2008/- 2/2010	Principal Investigator for project entitled “ Occupational Safety and Health Aspects of CTC Substitutes: An assessment for 8 industrial sectors” funded by GTZ-India under the Joint GTZ-Proklima-Ozone Cell (MOEF), Govt.of India Collaborative Program.
8/2007- 12/2009	Co-principal Investigator for project entitled “Impact assessment for water quality interventions in districts of Southern India”, funded by The Agora Foundation, USA in collaboration with University of California, Berkeley
6/2008- 12/2009	Co-Principal Investigator for project entitled “Design of a Basic Occupational Health Services Framework for public health systems in Tamil Nadu” funded by the World Health Organisation (India Office).
3/2006- 12/2008	Principal investigator for project entitled “Sound chemicals management for a healthier environment in India and Vietnam” funded by The European Commission, Belgium in collaboration with (GTZ) GmbH, Germany.
5/2005 – 3/2009	Principal investigator for project entitled” Risk management strategies for small scale enterprises in Uttar Pradesh” funded by IDRC, Canada.
10/2004- 1/2009	Principal investigator for project entitled “Estimating health effects of air pollutants through time series analysis in Chennai, India” funded by The Health Effects Institute, Boston, USA.
11/2004- 3/2006	Principal investigator for project entitled “Environmental pollution, social structure, and health outcomes in India-a pilot study” in collaboration with University of Maryland, USA funded by National Institutes of Health, Bethesda USA, under a sub-contract to The National Council of Applied Economic Research, Govt. Of India.
1/2005-1/2006	Principal investigator for small grants programme to establish bio-aerosol monitoring programs in South India funded by ACGIH, USA.
10/2003- 10/2007	Principal investigator for project entitled “Baseline assessment of environmental and

	health status of the solid waste management sector in Chennai” funded by the Central Pollution Control Board, Govt. Of India.
9/2003- 12/2008	Principal investigator for project entitled “Integrated evaluation of indoor air pollution reduction strategies based on green-house gas emissions and health effects” funded by the United States Environmental Protection Agency.
1/2003- 3/2008	Co-principal investigator for DHHS –NIH Small research grant Grant #1 R03 TW005914-01A1; PI- Howard Hu (Harvard School of Public Health) entitled “Study of Lead Exposure & Outcomes Amongst Children in Chennai, India”.
3/2002- 3/2008	Co-Principal investigator for training grant entitled “ International Training in Research on occupational and environmental health (ITROEH)” in collaboration with University of California, Berkeley, funded by the Fogarty International Centre, National Institutes of Health, USA .
3/2001-12/2006	Principal investigator for project entitled “Comparative risk assessment for environmental health concerns in Manali Industrial Area funded under the Environmental Epidemiology – Preparation of National Environmental Health Profile Project of the Ministry of Environment and Forests, Government of India.
12/2000 – 6/2003	Principal Investigator for project entitled” Indoor air quality monitoring in rural households of Andhra Pradesh” funded by ESMAP Unit, The World Bank, Washington D.C.
6/2000- 3/2003	Principal investigator for project entitled “Health Risk assessment for Occupational Exposures to airborne pollutants in textile workers in Tamil Nadu” funded by the Tamil Nadu State Pollution Control Board.
08/1999 – 3/2001	Principal investigator for project entitled “ Indoor air quality assessment in rural Tamil Nadu” funded by the Indira Gandhi Institute for Development Research under the UNDP Cap 21 Programme.
5/1999 – 1/2002	Principal Investigator for project entitled “Economic valuation of health damage in North Chennai using a comparative risk assessment framework” funded by the Indira Gandhi Institute for Development Research under the World Bank technical assistance Scheme for Capacity building in Environmental Economics.
5/1997 – 6/1997	Principal Investigator for UNIDO (Vienna, Austria); grant for Occupational Environmental Monitoring in the leather Industry.
05/1998 –9/1998	Principal Investigator for the development of a model hospital waste management system at the SRU hospital supported by UNHCS.

Professional Memberships

2002-present	International Society for Environmental Epidemiology (Elected Officer of the Council 2009-2011)
2002-present	National Safety Council, India
2000-present	Environmental Mutagenesis Society of India
1998-present	Indian Association of Occupational Health
1998-present	American Industrial Hygiene Association, USA.
1998-present	ACGIH, USA.

Publications

A. Indexed Journal Articles/Book Chapters

2020

1. Ronald G. Munger, , Rajarajeswari Kuppaswamy, Jyotsna Murthy, Kalpana Balakrishnan,

- Gurusamy Thangave Sankar Sambandam, Anura V. Kurpad, Anne M. Molloy, Per M. Ueland, Peter A. Mossey. Maternal vitamin B12 status and risk of cleft lip and cleft palate birth defects in Tamil Nadu state, India" *The Cleft Palate-Craniofacial Journal* (In press)
2. Naveen Puttaswamy, Sudhakar Saidam, Gayathri Rajendra, Kokila Arumugam, Savannah Gupton, Erin W. Williams, Cierra L. Johnson, Parinya Panuwet, Sarah Rajkumar, Maggie L. Clark, Jennifer L. Peel, William Checkley, Thomas Clasen, **Kalpna Balakrishnan**, Dana Boyd Barr. Cross-validation of biomonitoring methods for polycyclic aromatic hydrocarbon metabolites in human urine: Results from the formative phase of the Household Air Pollution Intervention Network (HAPIN) trial in India. *Journal of Chromatography B*, Volume 1154, 1 October 2020, 122284.
 3. **Balakrishnan K**, Anoop J, Smith KR Environmental Health Risks in India, Book Chapter in *Health of the Nation-Perspectives for a New India* Edited by Ali L. Mehdi, S. Irudaya Rajan, Oxford University Press, New Delhi
 4. **Balakrishnan K**, Clasen T, Mehta S, et al. In Memoriam: Kirk R. Smith. *Environ Health Perspect.* 2020;128(7):71601. doi:10.1289/EHP7808
 5. Daniel Lawrence Wilson, Kendra N. Williams and Ajay Pillarisetti on behalf of the HAPIN Investigators An Integrated Sensor Data Logging, Survey, and Analytics Platform for Field Research and Its Application in HAPIN, a Multi-Center Household Energy Intervention Trial. *Sustainability* 2020, 12, 1805; doi:10.3390/su12051805
 6. Ranzani OT, Milà C, Sanchez M, Bhogadi S, Kulkarni B, **Balakrishnan K**, Sambandam S, Sunyer J, Marshall JD, Kinra S, Tonne C. Personal exposure to particulate air pollution and vascular damage in peri-urban South India [published online ahead of print, 2020 Apr 30]. *Environ Int.* 2020;139:105734. doi:10.1016/j.envint.2020.105734
 7. Clasen T, Checkley W, Peel JL, **Balakrishnan K**, McCracken JP, Rosa G, Thompson LM, Barr DB, Clark ML, Johnson MA, Waller LA, Jaacks LM, Steenland K, Miranda JJ, Chang HH, Kim DY, McCollum ED, Davila-Roman VG, Papageorgiou A, Rosenthal JP; HAPIN Investigators et al. Design and Rationale of the HAPIN Study: A Multicountry Randomized Controlled Trial to Assess the Effect of Liquefied Petroleum Gas Stove and Continuous Fuel Distribution. *Environ Health Perspect.* 2020;128(4):47008. doi:10.1289/EHP6407
 8. Barr DB, Puttaswamy N, Jaacks LM, Steenland K, Rajkumar S, Gupton S, Ryan PB, **Balakrishnan K**, Peel JL, Checkley W, Clasen T, Clark ML; (HAPIN Investigative Team). Design and Rationale of the Biomarker Center of the Household Air Pollution Intervention Network (HAPIN) Trial. *Environ Health Perspect.* 2020;128(4):47010. doi:10.1289/EHP5751
 9. Johnson MA, Steenland K, Piedrahita R, Clark ML, Pillarisetti A, **Balakrishnan K**, Peel JL, Naeher LP, Liao J, Wilson D, Sarnat J, Underhill LJ, Burrowes V, McCracken JP, Rosa G, Rosenthal J, Sambandam S, de Leon O, Kirby MA, Kearns K, Checkley W, Clasen T; HAPIN Investigators et al. Air Pollutant Exposure and Stove Use Assessment Methods for the Household Air Pollution Intervention Network (HAPIN) Trial. *Environ Health Perspect.* 2020;128(4):47009. doi:10.1289/EHP6422
 10. Simkovich SM, Underhill LJ, Kirby MA, Goodman D, Crocker ME, Hossen S, McCracken JP, de León O, Thompson LM, Garg SS, **Balakrishnan K**, Thangavel G, Rosa G, Peel JL, Clasen TF, McCollum ED, Checkley W. Design and conduct of facility-based surveillance for severe childhood pneumonia in the Household Air Pollution Intervention Network (HAPIN) trial. *ERJ Open Res.* 2020 Mar 23;6(1):00308-2019. doi: 10.1183/23120541.00308-2019. PMID: 32211438; PMCID: PMC7086071.
 11. Mary E Crocker, Shakir Hossen, Dina Goodman, Suzanne M Simkovich, Miles Kirby, Lisa M

- Thompson, Ghislaine Rosa, Sarada S Garg, Gurusamy Thangavel, Eric D McCollum, Jennifer Peel, Thomas Clasen, William Checkley, on behalf of the HAPIN Investigators Effects of high altitude on respiratory rate and oxygen saturation reference values in healthy infants and children younger than 2 years in four countries: a cross-sectional study 2020. *Lancet Global Health*: 8 (3), E362-E373, March, 1, 2020 DOI: [https://doi.org/10.1016/S2214-109X\(19\)30543-1](https://doi.org/10.1016/S2214-109X(19)30543-1)
12. Piedrahita R, Johnson M, Billsback KR, L'Orange C, Kodros JK, Eilenberg SR, Naluwagga A, Shan M, Sambandam S, Clark M, Pierce JR, **Balakrishnan K**, Robinson AL, Volckens J. Comparing regional stove-usage patterns and using those patterns to model indoor air quality impacts. *Indoor Air*. 2020 Jan 14. doi: 10.1111/ina.12645. Epub ahead of print. PMID: 31943353.
 13. Burrowes VJ, Piedrahita R, Pillarisetti A, Underhill LJ, Fandiño-Del-Rio M, Johnson M, Kephart JL, Hartinger SM, Steenland K, Naeher L, Kearns K, Peel JL, Clark ML, Checkley W; HAPIN Investigators. Comparison of next-generation portable pollution monitors to measure exposure to PM_{2.5} from household air pollution in Puno, Peru. *Indoor Air*. 2019 Dec 29. doi: 10.1111/ina.12638. Epub ahead of print. PMID: 31885107.
 14. Ranzani OT, Milà C, Sanchez M, Bhogadi S, Kulkarni B, **Balakrishnan K**, Sambandam S, Sunyer J, Marshall JD, Kinra S, Tonne C. Association between ambient and household air pollution with carotid intima-media thickness in peri-urban South India: CHAI-Project. *Int J Epidemiol*. 2020 Feb 1;49(1):69-79. doi: 10.1093/ije/dyz208. PMID: 31605119; PMCID: PMC7124504.
 15. GBD 2017 Diarrhoeal Disease Collaborators. Quantifying risks and interventions that have affected the burden of diarrhoea among children younger than 5 years: an analysis of the Global Burden of Disease Study 2017. *Lancet Infect Dis*. 2020 Jan;20(1):37-59. doi: 10.1016/S1473-3099(19)30401-3. Epub 2019 Oct 31. PMID: 31678029
 16. GBD 2017 Lower Respiratory Infections Collaborators. Quantifying risks and interventions that have affected the burden of lower respiratory infections among children younger than 5 years: an analysis for the Global Burden of Disease Study 2017. *Lancet Infect Dis*. 2020 Jan;20(1):60-79. doi: 10.1016/S1473-3099(19)30410-4. Epub 2019 Oct 31. PMID: 31678026
- 2019**
17. Goodman D, Crocker ME, Pervaiz F, McCollum ED, Steenland K, Simkovich SM, Miele CH, Hammitt LL, Herrera P, Zar HJ, Campbell H, Lanata CF, McCracken JP, Thompson LM, Rosa G, Kirby MA, Garg S, Thangavel G, Thanasekaraan V, Balakrishnan K, King C, Clasen T, Checkley W. Challenges in the diagnosis of paediatric pneumonia in intervention field trials: recommendations from a pneumonia field trial working group.; HAPIN Investigators. *Lancet Respir Med*. 2019 Dec;7(12):1068-1083. doi: 10.1016/S2213-2600(19)30249-8. Epub 2019 Oct 4. Review. PMID: 31591066
 18. Liao J, McCracken JP, Piedrahita R, Thompson L, Mollinedo E, Canuz E, De León O, Díaz-Artiga A, Johnson M, Clark M, Pillarisetti A, Kearns K, Naeher L, Steenland K, Checkley W, Peel J, Clasen TF. The use of bluetooth low energy Beacon systems to estimate indirect personal exposure to household air pollution.; HAPIN investigators. *J Expo Sci Environ Epidemiol*. 2019 Sep 26. doi: 10.1038/s41370-019-0172-z. [Epub ahead of print] PMID: 31558836
 19. Quinn AK, Williams K, Thompson LM, Rosa G, Díaz-Artiga A, Thangavel G, Balakrishnan K, Miranda JJ, Rosenthal JP, Clasen TF, Harvey SA. Compensating control participants when the intervention is of significant value: experience in Guatemala, India, Peru and Rwanda. *BMJ Glob Health*. 2019 Aug 21;4(4):e001567. doi: 10.1136/bmjgh-2019-001567. eCollection 2019. Review. PMID: 31543990 Free PMC Article.
 20. Sanchez M, Milà C, Sreekanth V, Balakrishnan K, Sambandam S, Nieuwenhuijsen M, Kinra S,

- Marshall JD, Tonne C. Personal exposure to particulate matter in peri-urban India: predictors and association with ambient concentration at residence. *J Expo Sci Environ Epidemiol*. 2019 Jul 1. doi: 10.1038/s41370-019-0150-5. [Epub ahead of print] PMID: 31263182.
21. Mertens A, Balakrishnan K, Ramaswamy P, Rajkumar P, Ramaprabha P, Durairaj N, Hubbard AE, Khush R, Colford JM Jr, Arnold BF. Associations between High Temperature, Heavy Rainfall, and Diarrhea among Young Children in Rural Tamil Nadu, India: A Prospective Cohort Study. *Environ Health Perspect*. 2019 Apr;127(4):47004. doi: 10.1289/EHP3711. PMID: 30986088 Free PMC Article
 22. Pillarisetti A, Ghorpade M, Madhav S, Dhongade A, Roy S, Balakrishnan K, Sankar S, Patil R, Levine DI, Juvekar S, Smith KR. Promoting LPG usage during pregnancy: A pilot study in rural Maharashtra, India. *Environ Int*. 2019 Jun;127:540-549. doi: 10.1016/j.envint.2019.04.017. Epub 2019 Apr 11. PMID: 30981912 Free Article.
 23. India State-Level Disease Burden Initiative Air Pollution Collaborators. The impact of air pollution on deaths, disease burden, and life expectancy across the states of India: the Global Burden of Disease Study 2017. *Lancet Planet Health*. 2019 Jan;3(1):e26-e39. doi: 10.1016/S2542-5196(18)30261-4. Epub 2018 Dec 6. PMID: 305
 24. Kalpana Balakrishnan The Power of Data to drive positive change. *Bull World Health Organ*. 2019 Feb 1;97(2):81-82. doi: 10.2471/BLT.19.030219.
 25. K Balakrishna . Solid Fuels: Health Effects. Book Chapter in *Encyclopedia of Environmental Health (Second Edition)*, Elsevier. Editor, Jerome Nriagu. 2019. Pages 753-759, ISBN 9780444639523, <https://doi.org/10.1016/B978-0-12-409548-9.11883-4>.

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67. K Balakrishnan , Jurgen Hannak, G. Jayaraj. Occupational Safety and Health Manual for the Leather Industry *Prepared in collaboration with the United Nations Industrial Development Organisation, 1999.*
68. K Balakrishnan, Jane Metcalfe, Aparna Koppikar, Jim Cogliano. Technical Training Manual in human health risk assessment methodologies *Prepared in collaboration with The United States Environmental Protection Agency, 1999.*
69. K Balakrishnan, Patrick Breyse Technical training Manual in Industrial Hygiene Measurements *Prepared in collaboration with the Johns Hopkins University NIOSH Educational Resource Centre, Baltimore, USA, 1999.*

Invited Presentations at Major Conferences, Workshops and Meetings

1. *2019 Kiruba Sankar Oration* at St. Johns Medical College and Research Institute, Bangalore India, December 5, 2019. Talk entitled "Creating Seamless Breathing Spaces: The challenge of addressing air pollution in India.
2. *2019 Invited Speaker* at UN Staff technical Seminar of Air Pollution and Health, WHO-SEARO, New Delhi, November 26, 2019. Talk entitled " Catalyzing air quality actions to address the health burden from ambient and household air pollution: Experience from field studies in India
3. *2018 NIEHS Keystone Seminar Speaker* at NIEHS, Raleigh, North Carolina April 5, 2018. Talk entitled "The dual burden from household and ambient air pollution in India: Building an evidence integration model for air quality actions".
4. *2018 Plenary Speaker* at the Joint scientific workshop on GBD-MAPS India, co-sponsored by the Health Effects Institute, Public Health Foundation of Indian Institute of Technology Bombay, January

- 11, 2018 , New Delhi.
5. Talk entitled Indian Studies in A Global Context: Making the case for resonance with the global pool of evidence.
6. *2018 Plenary Speaker* at the Special Environmental Health Seminar Series at the Center for Policy Research, New Delhi, January 10, 2018. Talk entitled "Air pollution as a preventable cause of adverse birth outcomes in India: New evidence from cohort studies in Tamil Nadu, India.
7. *2017 Plenary Speaker* at Symposium of Air Quality and Health organized by India Toxicological Research Institute, Lucknow November 23, 2017. Talk entitled "Establishing exposure-response relationships for PM_{2.5} exposures, birth weight and acute respiratory infections in rural-urban cohorts in Tamil Nadu: Initial results from the TAPHE study".
8. *2017 Invited Speaker* at Indo-US (ICMR-CDC) meeting on Research and Capacity Building in Environmental Health April 14-16, 2017, held at CDC, Atlanta, USA. Talk entitled "Strategic Epidemiological approaches to address the dual burden from ambient and household air pollution in India"
9. *2017 Invited Speaker* at the World Cleft Congress held at Chennai India, February 13, 2017. Talk entitled "Air pollution as a preventable cause of adverse birth outcomes: Perspectives from the field in India
10. *2016 Plenary Speaker* at Indo-US (ICMR-CDC) meeting on Air Quality and Health, February 24-26, 2016, New Delhi. Talk entitled "Assessing health effects of air pollution in India: A summary of recent progress in research evidence".
11. *2016 Invited Chair* for the Joint Session for the Asia Pacific Science Panel and Authors Meeting for the Asia Pacific Regional Assessment on Air Quality and Health for the United Nations Environment Programme, at UNEP Regional HQ, Bangkok June 6-8, 2016.
12. *2015 Invited Speaker* at I Meeting of the Global Implementation Science Network for Clean Household Energy held at the Fogarty International Center, National Institutes of Health. Talk entitled "Making the argument for clean fuels : consolidating the evidence base for actions on household air pollution in India , April 20, 2015 Bethesda, MD, USA.
13. *2015 Invited Speaker* at Tufts University Global Health Symposium organized on the occasion of World Health Day. Talk entitled" Integrating air pollution in chronic disease cohorts: Opportunities within the TAPHE and PURSE-HIS cohorts in Chennai, Tamil Nadu", April 7, Boston, USA
14. *2015 Invited Speaker* United Nations Environment Programme Meetings of the Asia Pacific Clean Air Partnership (APCAP) consultation on Establishing a Science Panel and developing a Regional Assessment.
15. Talk entitled "Burden of disease attributable to ambient and household air pollution: Making a case for a regional assessment", 9-12 March. Tokyo, Japan.
16. *2015 Invited Speaker* at Fogarty International Center Advisory Board Meeting at National Institutes of Health Talk entitled" Strategic directions for global research on household air pollution", February 6, Bethesda, MD, USA
17. *2014 Invited Speaker and Chair* World Health Organisation Regional Meeting on Air Quality and the Launch of WHO Indoor Air Quality Guidelines: Household Fuel Combustion, December 12-14, New Delhi , India
18. *2014 Invited Speaker* at Inter-Ministerial Round Table at the International Conference on Climate and Health

19. at World Health Organisation, Geneva, Switzerland. Talk entitled "Interfacing Climate and Air Quality Actions in India, August 2014.
20. *2014 Invited Speaker* at Environmental Health Seminar Series at Duke University, USA. Talk entitled "Examining health effects of air pollution in longitudinal cohorts in India: Opportunities for International collaboration", North Carolina, USA, March 2014.
21. *2014 Chair of Working Group* for the Technical Consultation on creation of a Global Platform for Air Quality organized by The World Health Organisation, Geneva, January 2014.
22. *2013 Invited Speaker and Chair* at the 2013 National Pulmonology Conference entitled "Analysing burden of disease estimates attributable to household air pollution to inform intervention priorities" Chennai, November 2013.
23. *2013 Invited Speaker* at Environmental Health Seminar Series organized by Department of Environmental Health Sciences, Columbia University, NY entitled "Examining health effects of air pollution in pregnant mother-child cohorts in Southern India: Opportunities for strengthening the evidence on exposure-response relationships", New York, September 2013.
24. *2103 Invited Plenary Speaker and Chair* at the 2013 Conference of the International Society of Environmental Epidemiology (ISEE), the International Society of Exposure Science (ISES), and the International Society of Indoor Air Quality and Climate (ISIAQ), Basel, Switzerland, August 2013.
25. *2013 Invited Speaker* at the **UN World Health Assembly** on behalf of WHO. Talk entitled " Addressing Climate and Health Co-benefits of Short lived Climate Pollutants from household fuel combustion", Geneva, Switzerland, May 2013.
26. *2013 Invited Speaker* at World Occupational Health Day Celebrations at IGCAR entitled "Global Burden of Disease for Occupational Risk Factors", Kalpakkam Chennai, July 2013.
27. *2013 Invited Keynote Speaker* at Fulbright Seminar on Environment in India organized by North Carolina State University, entitled "Cleaner air for healthier homes: Addressing the differential health impacts on women, men and children in India" , Raleigh, North Carolina, April, 2013.
28. *2013 Invited Speaker* at Panel discussion organized by Health Effects Institute, USA and Center for Science and Environment , New Delhi entitled" The burden of disease attributable to air pollution: Implications of the GBD 2010 study findings in India", India Habitat Center, New Delhi, February 2013.
29. *2013 Invited Speaker* at Panel discussion organized by IIT Delhi entitled" The GBD 2010 study: Implications for the burden attributable to household air pollution in India", IIT Delhi, New Delhi, January 2013.
30. *2012 Invited Panel Speaker at the* National Press Club, Washington D.C. entitled "The Global Burden of Disease Study 2010: Findings on household air pollution in South Asia, December 2012.
31. *2012 Invited Lecture at the* United States State Department entitled" Cleaner Air for Healthier Homes: An integrated evaluation of research evidence for policy", Washington D.C. December 2012.
32. *2011 Invited Speaker* at the Centers for Disease Control Forum on household air pollution. Talk entitled: Harmonising methods on measurement of PM and CO in household air pollution studies. Atlanta, GA December 2012.
33. *2011 Invited Plenary Speaker* for International Forum on Occupational Health and Safety: Policies, Profiles and Services, organized by the Finnish Institute of Occupational Health, Espoo, Finland, June 2011.

34. *2011 Invited Working Group Chair and Plenary Speaker* for International Workshop and Seminar on Scoping the Global Research Agenda for Household Air Pollution Related to Solid Fuel Use Organized by NIH, The US State Department and USAID. Talk entitled "Epidemiological and Casual Inference Models for Pre-existing Community Interventions in India, Washington D.C, May, 2011.
35. *2011 Invited Special Lecture* at the UN Foundation and Global Alliance for Clean Cook stoves. Talk entitled
36. How clean is clean enough: A review of initial results from field assessment of market based cook stoves in India, Washington D.C. ,May 2011.
37. *2011 Invited Poster Presentation* entitled" An expanded time-series analysis of mortality and morbidity impacts of air pollution in Chennai: a 4 year follow up of the HEI-PAPA program" organized by the Health Effects Institute, Boston, Massachussets, May 2011.
38. *2011 Invited Special Lecture* at the Center for Global Health, University of Michigan at Ann Arbor. Talk entitled: Recent progress in air pollution related epidemiological assessments in India: A review of outdoor and indoor air pollution studies, Ann Arbor, MI, April 2011.
39. *2011 Invited Special Lecture* at the Environmental and Occupational Health Sciences Institute, Rutgers University. Talk entitled "Designing exposure assessment strategies for longitudinal studies on air pollution related health impacts in India" , Newark, NJ, April 2011.
40. *2011 Invited Roundtable Speaker* for the technical committee meeting for development of Indoor air quality guidelines at the World Health Organization, Geneva, Switzerland, January 2011.
41. *2011Invited Roundtable Speaker* for the 3rd Food Borne Epidemiology Reference Group Meeting at the World Health Organization, Geneva, Switzerland, October, 2010
42. *2010Invited Speaker and Trainer* for Global Health Leadership Forum organized jointly by University of California Berkeley and Graduate School of Economics, Barcelona, Spain, July 2010.
43. *2010 Invited Plenary Speaker* for World Conference on Health promotion (IUHPE) organized by the World Health Organisation, Geneva, Switzerland, July 2010. Talk entitled "Occupational Heat stress in Developing Countries : New implications in the context of Climate Change" .
44. *2010 Invited Plenary Speaker* for International Meeting on Global Health and Vaccination: Environmental Change and Global Health" ,June 2010, Tromso, Norway. Talk entitled " Developing exposure assessment paradigms for routine estimation of the work-related heat stress burden in India: Implications for climate change related heat impacts"
45. *2010 Invited Speaker* at the Directors' Seminar Series, ATSDR, Centers for Disease Control (CDC) Atlanta, May 2010. Talk entitled "Recent Progress on assessing exposures to air pollution from solid fuel use in India".
46. *2010 Invited Speaker* at the Directors Seminar Series, Scripps Institute of Oceanography, SanDiego,CA, April 2010. Talk entitled "Air Pollution and Climate Change: The Health Co-benefits Landscape in India"
47. *2010 Distinguished Lecture* at the EHS Seminar Series, University of California School of Public Health, Berkeley, USA, April 2010. Talk entitled "Integrated assessments for emissions, exposure, and user behavior in improved stove programs for health and climate protection: Experiences from India: Household Energy, Climate Air Pollution, and Health , Distinguished Lecture" .
48. *2010 Invited Speaker* for National Technical Training Workshop on Air Pollution Measurements, organized by National Physical Laboratory, New Delhi, March 2010. Talk entitled" Integrated exposure assessments for air pollutants in India."
49. *2009 Invited Speaker* for International Consultation on Improved Biomass stoves organized by the

United States Embassy, New Delhi and USAID (New Delhi Office), New Delhi, November 2009. Talk entitled "Household combustion of Solid Fuels: An exposure and health effects review for India".

50. *2009 Invited Speaker* for Joint Indo-US ICMR CDC workshop on Climate Change and Human Health, Goa, India, August 2009. Talk Entitled "Integrating human and health and climate co-benefits for air pollution in India".
51. *2009 Invited Roundtable Speaker* for Global Energy Assessment Report Lead Authors Meeting, Vienna, Austria June, 2009. Talk entitled "Household Energy and human health in developing countries".
52. *2009 Invited Roundtable Speaker* for Joint Indo-US ICMR-CDC Occupational and Environmental Health Consortium meeting, Neemrana, India Talk entitled "Design of Interventional Studies for Indoor Air Pollution related to Household Combustion of Solid Fuels".
53. *2009 Invited Plenary Speaker* for the Annual Meeting of The Indian Association of Occupational Health, Mumbai, India, April 2009. Talk entitled "Biological Monitoring for Occupational Health Risk Assessment".
54. *2009 Invited Plenary Speaker* for I Joint WHO-Collaborating Center-ILO-CIS Center meeting at World Health Organization HQ, Geneva, Switzerland. WHO-ILO Networking Benefits: Experiences from occupational and environmental health practice in India
55. *2009 Invited Plenary Speaker* for International Conference on BioEthics organized by SRU and University of Miami, Florida, USA, in Chennai, India. Talk entitled "Environmental Ethics: An emerging concern for environmental equity".
56. *2008 Invited Speaker* for the Annual DAE Safety & Occupational Health Professionals Meet at Kalpakkam, Tamil Nadu, December 2008. Talk entitled "Emerging Paradigms for Occupational Health Risk Management".
57. *2008 Invited Speaker* for the GURME International Workshop on Air Quality Forecasting, Indian Institute of Tropical Meteorology, Pune, December 2008. Talk Entitled "Exposure reconstruction strategies for air pollution related health effects research"
58. *2008 Invited Symposium Speaker* for The Annual Conference of the International Society for Environmental Epidemiology at Pasadena, CA, USA. Talk entitled "Exposure misclassification issues for air pollution research in rapidly developing countries", October 2008.
59. *2008 Invited Speaker* for the III International Control Banding Workshop held in collaboration with the annual World Safety Congress in Seoul, Korea. Talk entitled "Chemical Risk Management Toolkits for small and medium enterprises in Southern India", July 2008.
60. *2007 Invited Speaker* at the 7th Annual meeting of the WHO Collaborating Centre Network in Occupational Health, Kuala Lumpur, Malaysia. Talk entitled "Capacity building Initiatives in occupational safety and health: Lessons learnt in India", September 2007.
61. *2007 Invited Lecture* at the School of Public Health, University of Michigan, Ann Arbor. Talk entitled "Evidence base for Air Pollution Related Health Impacts in India", May 2007.
62. *2007 Key note address* entitled: The Global Action Plan for Healthy Workers at The National Workshop on Occupational Safety, IGCAR, Kalpakkam, November 2007.
63. *2007 Session Co-Chair and Invited Symposium speaker* for the Annual Meeting of the International Society for Environmental Epidemiology at Mexico City, for mini-symposium on "Air pollution related health effects in Asia" funded by HEI, November 2007
64. *2006 Invited Speaker* for the 6th Annual Meeting of the WHO Collaborating Center Network in Occupational Health, Milan, Italy. Talk entitled "Occupational Risk Management Toolkits: Pilot projects for control banding applications in Southern India", June 2006.
65. *2005 Invited lecture* at The World Bank. Talk entitled "Scaling exposure and health assessment for indoor air pollution related to solid fuel use: Lessons learnt from the HEED project", April 2005.

66. 2005 *Invited Lecture* at the Harvard School of Public Health. Talk Entitled "Environmental Health in India: Challenges and Opportunities", April 2005.
67. 2005 *Invited Lecture* at The School of Public Health, University of California, Berkeley. Talk entitled "New paradigms for Exposure Assessment for Environmental Hazards in India", May 2005.
68. 2005 *Session Chair* and invited speaker for 10th Annual International Conference of The International Society for Indoor Air Quality and Climate, Beijing China. Session entitled "Pollution from household fuel combustion in developing countries" sponsored by the USEPA, September 2005.
69. 2005 *Session Chair* and invited speaker for the 7th International Conference on OH Education & Training for Everyone Everywhere organized by International Commission on Occupational Health in Strausberg, France, September 2005.
70. 2005 *Invited Speaker* for Indo-German meeting on Environmental Toxicology in Ahmedabad, India. Talk entitled "Indoor air pollution associated with household solid fuel use-Results of exposure assessment and modeling exercises in Southern India".
71. 2004 *Session Chair and invited speaker* for International Conference on Better Air Quality in Agra, India. Session entitled "Exposure assessment for indoor air pollution associated with household fuel use", December 2004.
72. 2004 *Invited Speaker* for 2nd International Meeting on Application of Control banding Techniques in Developing countries organized by WHO/ILO in Utrecht, Netherlands, June 2004.
73. 2004 *Invited Speaker* for Workshop on "Prevention of Air Pollution in Asia (PAPA) program of The Health Effects Institute, USA in Bangkok, Thailand, December 2004.
74. 2004 *Session chair* for International round table on occupational safety & health organized by USEFI, Chennai
75. 2003 *Invited speaker* for Indo-US workshop on "Modeling of transport of Air pollutants organized by National Environmental Engineering Research Institute (NEERI), Nagpur and Ohio Supercomputer Centre (OSC), USA
76. 2003 *Invited Speaker* at the Annual Global Health Council meeting in Washington D.C, May 2003. Talk entitled "Comparative Health risk assessment for environmental hazards".
77. 2003 *Invited speaker and session Co-Chair* for The international conference on lead poisoning prevention organized by The National Safety Council, in partnership with the Alliance to End Childhood Lead Poisoning, the Children's Environmental Health Network, the Coalition for Lead Safe Kids, and the U.S. Environmental Protection Agency, Washington, D.C., June 2003
78. 2003 *Invited Speaker and Session Co-Chair* for the Fourth International Conference on Environmental Mutagens in Human Populations (4th ICEMHP) held in, Brazil, May 2003. Talk entitled "Exposures to indoor air pollution associated with solid fuel combustion: implications for children's health in developing countries"
79. 2003 *Invited Speaker* for The Annual meeting of Environmental Mutagenesis Society International at Miami, Florida, May 2003. Talk entitled "Emerging threats to children's environmental health- the situation in developing countries" on May 2003.
80. 2003 *Invited Speaker* for the South East Asian Regional meeting of the World Health Organisation in Phuket, Thailand 2003. Talk entitled "Strategies to strengthen occupational safety and health in SEAR countries.
81. 2003 *Invited Lecture* at World Bank Consultation on Indoor Air Pollution organized by the Foreign Loan Office, Beijing China, February, 2002. Talk entitled "Design and implementation of large scale field studies on exposure assessment for indoor air pollution related to solid fuel use".
82. 2002 *Plenary speaker* on Indoor air pollution and children's health at the International Conference on Children's Health organized by the World Health Organisation, Bangkok, March 2002.

83. 2002 UNITED NATIONS GENERAL WORLD HEALTH ASSEMBLY Technical Facilitator for Ministerial Round Table on 'Risks to Health', organized by The World Health Organisation (HQ), Geneva on 13-14th May 2002.
84. 2002 *Invited speaker* for Regional Workshop on Household Energy, Indoor Air Pollution and Health, May 2002, New Delhi, co-ordinated by the World Bank and Tata Energy Research Institute.
85. 2002 *Invited case study presentation* entitled "Job-exposure- health profile for the tanning industry in Southern India" at The American Industrial Hygiene Conference and Exposition, San Diego, California, June 2002.
86. 2002 *Invited speaker* and session Co-chair at the 9th International Conference on Indoor Air Quality and Climate for the World Bank symposium on addressing indoor air quality issues in developing countries Monterey, California, July 2002. Talk entitled "Respirable particulate levels in rural households of Andhra Pradesh, India - daily concentrations and time activity data".
87. 2001 *Invited Speaker* for USEPA/USAID sponsored workshop on integrated Environmental strategies organized during the Annual International Society for Environmental Epidemiology meeting held at Garmisch Partenkirchen, Germany, 2001.
88. 2001 *Invited speaker* for National Seminar on Industrial Safety, Hazard & Risk Assessment (ISHRA) Organised by the National Productivity Council, November, 2001.
89. 2001 *Plenary address* at the International Workshop in Industrial Toxicology held at JNTU Hyderabad. Talk entitled "Disaster preparedness for chemical emergencies"
90. 2001 *Invited speaker* for Occupational Safety and Health Training Programme Organised by the Indira Gandhi Centre for Atomic Research, Kalpakkam, November, 2001.
91. 2001 *Invited Speaker* for the 8th National symposium on Environment organised by IGCAR Kalpakkam and the Department of Atomic Energy Government of India, Entitled "Health risk assessment for exposure to pesticides: A case study of endocrine disruptors", June 1999, Kalpakkam, Tamil nadu
92. 2000 *Invited Speaker* for the World Health Organisation Global Consultation on Indoor air Pollution in Developing countries, Washington, D.C., May 2000.
93. 2000 *Chair* for Round Table session on Occupational Safety and Health in Developing Countries at the Annual Industrial Hygiene Conference and Exposition of the American Industrial Hygiene Association, Florida, USA, May 2000.
94. 2000 *Invited Speaker and Chairperson* at the International Conference on Environmental & Occupational Respiratory Diseases, Organised by ITRC, Lucknow, India October, 2000.
95. 1999 *Invited speaker* for National Seminar on Industrial Safety, Hazard & Risk Assessment (ISHRA) Organised by the National Productivity Council, November, 2001.
96. 1999 *Invited Speaker* for International Seminar on Lead Poisoning organised by the George Foundation in association with CDC, Atlanta, February 1999, entitled "Health risk assessment for lead exposure in Chennai".
97. 1999 *Invited Speaker* for the Commonwealth Conference on Leather technologists, entitled "Occupational safety and health in the Leather industries", CLRI, Chennai, India, June 1999.
98. 1999 *Chairperson* for session on Occupational Safety and Health in Tanneries at the Annual Leather Technology Meet at CLRI, Chennai, February 1999
99. 1998 *Invited Speaker* for the USAEP International training workshop on Medical Waste treatment technologies, entitled "Current Indian Scenario in medical waste disposal – problems and solutions, Mount Kisco, New York, USA, May 1998
100. 1998 *Invited Speaker* for Regional Seminar on Biomedical waste management organised by the Tamil Nadu State Pollution Control Board in association with the United States Asia Environmental Partnership, February, 1998 entitled "Hospital waste Management: Strategies for

sustainable initiatives.”

Teaching Assignments

1. Course Director: Mater of Public Health (Occupational and Environmental Health)

Courses: Introduction to Global Occupational and Environmental Health, Exposure assessment and Control, Advanced Exposure Assessment Methods for Air pollution

2. Masters in Industrial Hygiene and Safety

Courses: Introduction to Occupational & Environmental Health; Industrial Hygiene I: Chemical, Physical and Biological Hazards

3. Post-Graduate Certificate in Industrial Health

Courses: Exposure assessment for occupational health; Occupational health risk management

4. Certification for the National Board of Occupational Safety and Health (NEBOSH) UK

Courses: Chemical, Biological and Physical Hazards in the Work Environment

5. Ph. D.

Graduated

- Kavitha K: Lead and neurobehaviour in children in Chennai (Graduated January 2010)
- S. Sankar: Exposure Assessment for Indoor Air Pollutants related to solid fuel combustion (Graduated January 2011)
- R. Padmavathy: Indoor air pollution and respiratory health impacts in Southern India (Graduated January 2012)
- Suchitra K: Assessing bio-aerosol exposure profiles in hospital environments in Southern India (Graduated March 2013)
- Priscilla Johnson: Respiratory health impacts related to Ozone and fine particulate exposure in Chennai (Graduated July 2014)
- Santu Ghosh: Developing spatial and functional analytical models for air pollution related health impacts in Chennai (Graduated September 2015)

Ongoing

- R. Ayappan: Developing risk calculators for chemical hazards in small and medium enterprises of S. India
- R. Ragunathan: Developing risk calculators for ergonomic hazards in the automotive industries of S. India
- G. Thangavel: Estimating exposure response relationships between ambient air pollution (AAP) and birth weight among a cohort of pregnant women in Chennai city.
- Jayachelvi Babu: Assessing health risks from mercury exposures through human biomonitoring in Chennai, Tamilnadu.
- Vigneswari: