PROFILE

Name	**Er. (Mrs). B. Padma S. Rao**
Designation	**Chief Scientist and Co Chair** Vertical 4B Environmental Audit and Planning Division of Vertical 4 Environmental Impact Audit and Planning Division, CSIR NEERI, Nehru Marg, Nagpur-440020
Qualification	• Bachelor of Technology (Chem Engg), Nagpur University (1988), • PG. Dip in Env Sci and Disaster Mgmt, Vellore Christian University, Vellore (1992), • M.Tech (Res), (Civil Engg- Env Engg), VNIT, Nagpur (2011),
Experience (in years)	35
Field of Expertise (Air Pollution Monitoring, Management and Control, Emission Inventory and Source Apportionment studies, Carrying Capacity Studies and EIRA and Environmental Audit Studies)	More than 200 research/consultancy projects on air quality monitoring, management, emission inventory, control, environmental audit and impact assessment and carrying capacity projects for industries, industrial areas, urban/social and ecologically fragile areas, mines, monuments, developmental projects, NGT and High Court etc along with more than 20 research publications in international science citation index journals. Presented more than 50 papers in national and international 2 conferences and workshops. Development of various air pollution control systems for emission control of crematoria, small scale Lime kilns as well as traffic intersection emissions are successfully demonstrated and being taken up in pilot mode. The mobile emission monitoring and control van first of its kind is developed for emission monitoring and control studies and is being used in industries. 20 Training Programme for Capacity Building under NCAP, World Bank sponsored, Source Apportionment Study in Mines (Singareni & Gevra Coal Mines) Non-compliant cities (10 cities), Environmental Audit of Mines as well as Power Plant, Development of Emission Control Unit for PM 10 & PM 2.5 (Indoor) as Input to CC Unit, VOC Emission Monitoring
Publications (in Nos.)	40 (More than 20 Publication in International SCI Journals, CIF : *23.942 and citations: 113)*

List of Some Publications International Journal

Identification of In-plant Ambient Air Quality Monitoring Stations using Prediction Models	B. Padma S. Rao, V.I. Pandit, Harish Gupta, M.Z. Hasan, and B. Shrinivas Rao	Bulletin of Environmental Contamination and Toxicology, USA, Vol 68, No. 6, Pg 839-844, June, 2002 10.1007/s00128-002-0031-8
Flue gas treatability studies: A tool for techno-	B. Padma S. Rao, B. Shrinivas Rao, N.S. Manthapurwar and M.Z.	Environmental Monitoring and Assessment,(EMAS)

economic control of industrial air pollution	Hasan	Netherlands, Vol 82, No. 1, Pg. 75-81, EMAS, Feb (II) 2003 https://doi.org/10.1023/A:1021673130320
Performance evaluation of green belt in a petroleum refinery- A case study,	B. Padma S. Rao, Gavane, A.G., Ankam, S.S., Ansari, A.F., Pandit, V.I., Nema, P.	Ecological Engineering, 23, 77-84, (2004) DOI:10.1016/j.ecoleng.2004.06.013
Monitoring of Hydrocarbon Emission in a Petroleum Refinery	Rao, B. Padma S., Ankam. S, Ansari, M.F., Kumar A, Gavane, A.G, Pandit, V.I., Nema, P.,	Environmental Monitoring and Assessment, 108: 123-132, 2005 (Submitted in December 2003 and accepted in 2004) DOI: 10.1007/s10661-005-3961-x
Estimating Fugitive Budget of Volatile Organic Carbon (VOC) in a Petroleum Refinery	B. Padma S. Rao, S.Ankam, Ansari, M.F., Kumar, A., Pandit, V.I., Nema, P	Bulletin of Environmental Contamination and Toxicology 75, 1, July 2005 (Submitted in 2004 and accepted in 2005) DOI: 10.1007/s00128-005-0728-6
Inventory of SO2, PM and Toxic Metals Emissions from Industrial Sources in Mumbai, India	A. D. Bhanarkar, P. S. Rao, D. G. Gajghate, and P. Nema,	Atmospheric Environment USA, Vol. 39(21) July 2005, 3851-3864 DOI:10.1016/j.atmosenv.2005.02.052
Air Quality Impact of Sponge Iron Industries in Central India	B. Padma S. Rao, A Kumar, F. Ansari, P. Piplatkar, S. Devotta and T. Chakrabarti	Bulletin of Environmental Contamination and Toxicology, Volume 82, Number 2 / Page 255 , February, 2009 DOI: 10.1007/s00128-008-9519-1
Seasonal Variation of Acidic gases around a Petroleum Refinery	B. Padma S. Rao, V.M. Mhaisalkar, A. Kumar, A. Shrivastava, and S. Devotta	Journal of Toxicology-an open access journal, acceptance received on Feb. 2009- Open Access Journal
Particle Size Distribution of Ambient aerosols in an Industrial Area	B. Padma Rao, A. Srivastava, F. Yasmin, S. Ray, N. Gupta, C. Chauhan, C.V.C Rao, and S.R.Wate	Bulletin of Environmental Contamination and Toxicology, Paper Accepted for publication, Acceptance received on Nov 2011 DOI: 10.1007/s00128-011-0518-2
Real time Ambient Air Quality Status During Diwali Festival in Central, India	Shivangi Nigam, B. Padma S. Rao, N. K. Mandal, N Kumar	Journal of Geo-science and Environmental Protection, 2015 DOI:10.4236/gep.2016.41017
Impact assessment of tourists on noise	Vijay, Ritesh; Kori, Chandan; Mardikar, Trupti;	Journal of Sustainable Tourism, Taylor and

environment in heritage site	Goel, Malay; Prasad, P; Kamal, Neel; George, K; Rao, Padma	Francis, 2015
Effects of unregulated anthropogenic activities on mixing ratios of volatile organic air pollutants – A case study,	MajumdarDipanjali, Rao, P.S; et.al	Journal of the Air & Waste Management Association, Thomson Reuters, 2015 DOI: 10.1080/10962247.2015.1062815
Prediction of remotely sensed cloud related parameters over an inland urban city of India: a neuro-computing approach"	N.Kumar, A.Middey and P.S.Rao	ANNALS OF GIS is online from 25 Nov 2015, Taylor & Francis DOI: 10.1080/19475683.2015.1114522
Spatial variability in ambient atmospheric fine and coarse mode aerosols over Indo-Gangetic plains, India and adjoining oceans during the onset of summer monsoons, 2014	Avirup Sen, Yadiki Nazeer Ahammed, Tirthankar Banerjee, Abhijit Chatterjee, Anil Kumar Choudhuri, Trupti Das, Narayan Chandara Deb, Amit Dhir, Sangita Goel, Altaf Hussain Khan, Tuhin Kumar Mandal, Vishnu Murari, Shrimanta Pal, Padma Shrinivas Rao, et al	Atmospheric Pollution Research, 2016 https://doi.org10.1016/j.apr.2016.01.001
The health burden and economic costs averted by ambient PM 2.5 pollution reductions in Nagpur, India	Tunde O. Etchie · Saravanadevi Sivanesan · Gregory O. Adewuyi ·P.S.Rao [...] · Kirk R. Smith	Environment international, 2017 https://doi.org/10.1016/j.envint.2017.02.010
"Prediction and examination of seasonal variation of ozone with meteorological parameter through artificial neural network	Navneet Kumar, Middey A, Padma S. Rao,	Urban Climate 2017, 20: 148-167., https://doi.org/10.1016/j.uclim.2017.04.003
Particulate and Gases Pollution Control During Idling Condition of Vehicles at Traffic Intersections: A Case Study for Nagpur City.	Navneet Kumar, Rajendra Prasad Poluru, Padma S. Rao, Mayuri Shrirang, Ashish P. Patil,.	American Journal of Earth Sciences., 2017

Managing future air quality in megacities:, A case study for Delhi	Markus Amann, Pallav Purohit, Anil D. Bhanarkar, Imrich Bertok, Jens Borken- Kleefeld, Janusz Cofala , Chris Heyes, Gregor Kiesewetter, Zbigniew Klimonta, Jun Liu, Dipanjali Majumdar, Binh Nguyen, Peter Rafaj, Padma S. Rao, Robert Sander, Wolfgang Schöpp, Anjali Srivastava, B. Harsh Vardhan	Atmospheric Environment, 2017 DOI:10.1016/j.atmosenv.2018.05.026
The health burden and economic costs averted by ambient PM 2.5 pollution reductions in Nagpur, India	Tunde O. Etchie · Saravanadevi Sivanesan · Gregory O. Adewuyi ·P.S.Rao [...] · Kirk R. Smith	Environment international, 2017 https://doi.org/10.1016/j.envint.2017.02.010
Managing future air quality in megacities: Co-benefit assessment for Delhi	Bhanarkar, A.D., Purohit, P., Rafaj, P., Amann, M., Bertok, I., Cofala, J., Rao, P.S., Vardhan, B.H., Kiesewetter, G., Sander, R., Schöpp, W., Majumdar, D., Srivastava, A., Deshmukh, S., Kawarti, A., Kumar, R	Atmospheric Environment,186, 158–177, 2018 https://doi.org/10.1016/j.atmosenv.2018.05.026
"The burden of disease attributable to ambient PM2.5-bound PAHs exposure in Nagpur, India"	Etchie, Tunde O., Sivanesan, Saravanadevi, Etchie, Ayotunde T.,Adewuyi, Gregory O., Krishnamurthi, Kannan, George, K.V., Rao, Padma S et al	Chemosphere, 204. pp. 277-289, 2018 DOI: 10.1016/j.chemosphere.2018.04.054
Managing future air quality in megacities: Emission inventory and scenario analysis for the Kolkata Metropolitan City, India	Dipanjali Majumdar, Pallav Purohit, Anil D. Bhanarkar, Padma S. Rao, Peter Rafaj, Markus Amann, Robert Sande, Ankita Pakrashi, Anjali Srivastava	Atmospheric Environment Volume 222, 1 February 2020 https://doi.org/10.1016/j.atmosenv.2019.117135

In non peer reviewed/SCI Journal (Indicate the total Impact Factor and citations of your publications)

Shivangi Nigam, B.	Air Quality Index - A	April- June 2015	Research Journal of Engineering and Technology	India	Vol:06, No. 02, April-

Padma S. Rao, N Kumar and V.A. Maishalkar,	Comparative Study for Assessing the Status of Air Quality				June 2015
बी. पदमा एस. राव और शिवांगी निगम	महानगरों में हवा की गुणवत्ता की स्थिति एवं मानव जीवन पर प्रभाव	June 2015	Paryavaran Patrika	CSIR - NEERI, Nagpur	Submitted
बी. पदमा एस. राव और शिवांगी निगम	वायु प्रदुषणः गंभीर समस्या	Jan 2016	Hindi Patrika Shram Kiran of CGWE, Nagpur	CGWB, Nagpur	published

List of Some Publications in National Journals

Emission Characteristics and Economics for use of Alternate Fuel : A Case Study	B. Padma S. Rao, V.I. Pandit and M.Z.Hasan	Journal of Indian Association of Environment Management (IAEM) Vol 28, 47-52, Feb. 2001
Air Pollution Modeling : A Tool for Management of Regional Air Quality	H. Gupta, B. Padma S. Rao, V. I. Pandit, and M. Z. Hasan,	Indian Journal of Environmental Health, IJEH, Vol. 44, No. 1, pp. 1-7, January 2002 PMID: 12968718
Need for Bio-aerosol Monitoring around Waste Management/ Treatment Facility: An Overview	B. Padma S. Rao, and S.S. Satyanarayan,,	Indian Journal of Environment Protection (IJEP), Vol 22, pp 373-376, April 2002
Strategic Environmental Assessment	B. Padma S. Rao, Pallavi	Chemical & Environmental Research, May
(SEA): Methodology for Transportation Sector in an Typical Urban Area	Chakole, and M. Z. Hasan	2002
Title: Managementof Heat and Emissions in boilers, heaters and	B. Padma S. Rao, V.I.Pandit, and P. Nema	Chemical Industry Digest (CID), 67-71, 2003

boilers of a petroleum refinery,		
Performance of Air Emission Generator for Simulation of Small/Medium Scale Industrial Emission	B. Padma S. Rao, B. Shrinivas Rao, Pallavi, N.S. Manthapurwar and M. Z. Hasan	Indian Chemical Engineering Vol. 46. No.3., 147-150, July-Sept. 2004
Factor Analysis for Estimating Source Contribution to Ambient Airborne Particles in around the Petroleum Refinery in India	B. Padma S Rao, C.Chauhan, V.A.Mhaisalkar, A. Kumar, S. Devotta and S.R.Wate	Indian Chemical Engineer of IICHE, Kolkata, Paper Accepted for Publication and Acceptance received on July 2011
List of Some Publications as Chapter in Books		
Occurrence of Bio-aerosols in an Urban Area	B. Padma .S. Rao, S. Muthukumar, P. Thawale and A. Juwarkar,	Air Water and Soil Pollution, pg. 42-49, K.K. Singh et. al from Kalyani Publishers, Ludhiana, ISBN 978-81-272-4019-6, 2007
Ambient Respirable Particulate Matter and Toxic Metals in Kolkata city	D.G.Gajghate, P. Thawale, B. Padma .S. Rao, S. K. Singh and A. Juwarkar,	Air Water and Soil Pollution, pg. 50-55, K.K. Singh et. al from Kalyani Publishers, Ludhiana, ISBN 978-81-272-4019-6, 2007
Consequence of damage due to release of chlorine in paper industry	B. Padma .S.Rao, B. Shrinivas Rao P. Thawale and A. Juwarkar,	Air Water and Soil Pollution, pg. 163-169, K.K. Singh et. al from Kalyani Publishers, Ludhiana, ISBN 978-81-272-4019-6, 2007
Control techniques for organicvapour emissions from point and area sources	B. Padma .S.Rao , P.R. Thawale, A. Kumar and Asha, A. Juwarkar	Sustainable Resource Management, Vol I, , pg. 248-257, K.K. Singh et. al from MD Publishers, (www.mdppl.com), New Delhi, ISBN 978-81-904551-0-7, 2007
Air Pollution from small and medium Enterprise	B. Padma .S. Rao	Environmental Status of India, Sukumar Devotta and C.V. Chalapati Rao from Atlantic Publishers & Distributors (P) Ltd (www.atlanticbooks.com), New Delhi, ISBN 978-81-269-0698-7, 2008, pg. 31-37

An Approach for Estimating Green House Gas Emission Inventory and Modeling in a Petroleum Refinery	Padma S. Rao , V.M Mhaisalkar and S. Devotta	Paper submitted in Book entitled " Sustainable Environmental Protection and Development, Kalyani Publishers, Ludhiana, 2009, acceptance received in Jan 2009
Hydrocarbons Emission Pattern in Indian Cities	Padma S. Rao, D. Som, V.M Mhaisalkar, A. Shrivastava, and S. Devotta	Paper submitted in Book entitled " Sustainable Environmental Protection and Development, Kalyani, 2009 Publishers, Ludhiana, acceptance received in Jan 2009
Honors & Awards	• Expert Member of the Sub-Committee on "Research and Development" CAQM, New Delhi • Expert Member of the Sub-Committee of "Monitoring and Identification" CAQM, New Delhi • Expert Member of the National Knowledge Network (NKN) to support National Clean Air Programme (NCAP) Activities, CPCB, Delhi • SENATE MEMBER, IIIT, Nagpur, • BOG Member of IIIT, Nagpur • Chairman, Sub-Committee, of Grievance Committee IIIT, Nagpur • Awarded Fellowship of The Rockefeller Foundation Programme Leadership in Environment, and Development (LEAD), USA, Cohort 8, since 2001 • Awarded ISO 14001 EMS Audit, ISO 14001 LEAD AUDITOR -IRCA ACCREDITED, UK SINCE 2010 • Nodal Officer of CSIR-NEERI NCAM 12th five year plan project • Nodal Officer for Fly Ash Mission Project of CSIR • Member of Steering committee of Central Board of Worker Education, Nagpur since 2012 onwards • Subject experts of science research scheme in Kerala State Council for Science and technology since 2012 onwards	
Training Programs/events	❖ More than 20 nos on Development of National Program for Capacity Development for AQM aligned with National Skills Qualification framework of India World Bank Sponsored and coordinated by IITK, CSIR NEERI and iForest, Capacity Building and Technical Assessment of NMC for NCAP	

	Implementation, Training Programs on Air quality management for CPCB, MPCB, Mahagenco, SAIL, NTPC, IOCL, WBPCB, OSPCB,ONGC etc
Project Clients	❖ (More than 150 nos of Public/sector Industries/Mines/Ministries/Govt organization, ULB's, more than 30nos of private industries/NGO etc) viz.,SCCL, SECL, MPCB, OSPCB, WBPCB, HSPCB, PPCB, CPCB, GSPCB, GPCB, MoEF, TIFAC, DPCC, CECB, MCD Nigam Bodh Ghat, SAIL, APPCB, PMC, Pune, NMC, Nagpur, World Bank (IITK, CSIR NEERI and iForest) Training Prog, ADB, Hindalco, FCI, RAIN CALCINING Bhagirathi Chemicals, Gujarat, EPITOME Hyderabad, NTPC, Ambuja Cements, IOCL, HPCL, BPCL, EIL, Shell India Total, ONGC, ASI, UPPCB, Hetero group, Mahagenco, Coal India, NGT and Court matters etc
Project Budget/External Cash Flow	❖ (Mostly as Project Leader/Nodal Officer): More than Rs 1900 Lakhs CNP projects, MLP (Rs 191 Lakhs) GIA (Rs 900 Lakhs), (12th Plan Multi Institutional NCAM project of CSIR (Rs 20 Crore)
Human Resource Development	❖ More than 5 PhD . ❖ More than 90 Project students under various projects were trained for air quality management studies at field, and lab. ❖ External Guide for 20 B.Tech/M.Tech/PG students of various Univ./Engg colleges for submission of project work/thesis