

## CV



**1. Name and Photograph: Dr. Niraj Sharma**

**2. Designation and complete address including email id.**

Senior Principal Scientist  
Environmental Science Division  
CSIR-Central Road Research Institute (CRRI)  
P.O. CRRI, Mathura Road  
NEW DELHI –110025 (INDIA)  
E-mail-sharmaniraj1990@rediffmail.com, neeraj.ccri@nic.in  
Phone: +919810283013

**3. Areas of Interest**

EIA & Environmental Clearance of Infrastructure Projects, Vehicular Pollution Modelling,  
Fuel Consumption of vehicles & Emission Modelling

**4. Educational Qualification**

Degree	Year of Passing	University/Instt.	Subjects	Div/Class/Grade
Ph. D.(IITD)	2005	Deptt. of Applied Mechanics, Indian Institute of Technology (IIT), Delhi	Vehicular Pollution Dispersion Modelling using Environmental Wind Tunnel (EWT) Technique	CGPA 8.42/10 (Course Work)
M.E. (Civil Engg. with Specialization in Environ. Engg.)	1988	Govt. Engg. College Jabalpur, R.D. University, Jabalpur (M.P.)	Environmental Engg. Subjects (Dissertation on Air Pollution)	First Class with Distinction (85.43%)
B. E. (Civil Engg.)	1986	Govt. Engg. College Jabalpur, R.D. University, Jabalpur (M.P.)	Civil Engineering Subjects (Air pollution as an elective subject)	First Class with Distinction (75.33%)

## 5. Professional Experience

Grade/Post	From	To	Estt./Lab/Institution
Lecturer (Civil Engineering)	24.01.1989	15.07.1990	Govt. Engineering. College, Jabalpur (M.P.), Board of Technical Education, Govt. of M.P.
Research Scholar (EIA Division)	16.07.1990	19.08.1992	CSIR- National Environmental Engineering Research Institute (CSIR-NEERI), Nagpur
Scientist 'B', Group - IV (1)	20.08.1992	19.08.1997	CSIR- Central Road Research Institute (CSIR-CRRI) New Delhi
Scientist 'C', Group – IV (2)	20.08.1997	19.08.2002	CSIR-Central Road Research Institute, (CSIR-CRRI) New Delhi
Scientist 'E-I', Group – IV (3)	20.08.2002	19.08.2007	CSIR- Central Road Research Institute, (CSIR-CRRI) New Delhi
Scientist 'E-II', Group – IV (4)	20.08.2007	19.08.2013	CSIR-Central Road Research Institute, (CSIR-CRRI) New Delhi
Scientist 'F', (Sr. Pr. Scientist) Group – IV (5)	20.08.2013	Cont.	CSIR-Central Road Research Institute, (CSIR-CRRI) New Delhi

## 6. Membership to Professional Bodies

1	Indian Association of Environmental Protection, NEERI, Nagpur	Member
2.	Institute of Urban Transport, New Delhi	Member
3.	Indian Roads Congress, New Delhi	Member
4.	Institution of Engineers (India), Kolkata	Fellow
5.	Indian Science Congress Association, Kolkata	Member

## 7. Achievements

### a. Honours and Awards

- i. Awarded merit certificate for securing high position in higher secondary examination conducted by Board of Secondary Education (MP) (1981)
- ii. Awarded GATE Scholarship by Human Resources Ministry (HRD), Govt. of India, to pursue M.E. Degree (1986).
- iii. Research Fellowship (EIA Division) at National Environmental Engineering Institute (NEERI), Nagpur, India (1990).
- iv. The research paper entitled “Application of the Wind Tunnel to Air Pollution Problems” - was awarded “Bhupesh Nandy and Rekha Nandy Gold Medal” as best research paper in “Environmental Engineering by the Institution of Engineers (India), kolkata in the Fifteenth Indian Engineering Congress held at Hyderabad from 18<sup>th</sup> – 21<sup>st</sup> December, 2000.
- v. The research paper entitled “Vehicle Pollution Modelling in India” has been awarded “The Nawab Zain Yar Jung Bahadur Memorial Prize” by the Institution of Engineers( India), Kolkata in the “Twentieth Indian Engineering Congress” held at Kolkata” from December 15<sup>th</sup> -18<sup>th</sup>, 2005.
- vi. The Project entitled Evaluation of Emission Characteristics of In–Use Vehicles has Been Awarded as the Best In – House Project in CRRI for Year **2008-09** (**Role in the Project – Member of the Project Team**)

- vii. The Project entitled “Feasibility Study to Examine the Possibility for Installation of Weigh in Motion (WIM) System at Various Entry Points of Delhi” has Been Awarded as the Best In – House Project in CRRI for Year **2009-10 (Role in the Project – Project Leader)**
- viii. The Research Paper entitled “ Review of Environmental Laws and their Applicability to Road/Highway Projects” , Published in the **Journal of Indian Roads Congress , Vol. 70 , Part 2, pp 165-185. By Dr. N. Sharma, R. Dhyani and Dr. S. Gangopadhyay** has been awarded “**Commendation Certificate**” by IRC in **71<sup>st</sup> Annual Session of IRC** held at **Nagpur** from **Nov. 11<sup>th</sup> - 14<sup>th</sup>, 2010.**
- ix. **Member of the Expert Appraisal Committee (EAC)** on CRZ, Infrastructure & Miscellaneous Projects, New Construction and Industrial Estate Projects (**MoEF Govt. of India**) (**2007-2013**).

**b. Research Projects – in the following format**

- i. Transportation of Hazardous Materials – Safety Requirements (1992) (In – house R&D Project).
- ii. Road Transport and Global Climatic Changes, Sponsored by Council of Scientific and Industrial Research (CSIR) Steering Group on Global Changes, New Delhi, India (1994).
- iii. Status of Ambient Air Quality in Delhi and Jaipur (1995).
- iv. Training of Traffic Police Personnel in Second Generation of Metropolitan Cities in India, Sponsored by Ministry of Surface Transport, (MOST), Govt. of India (1995).
- v. EIA of Delhi-Gurgaon Section of NH-8 Sponsored by M/s Kadiyali Associates, New Delhi (1998).
- vi. Evaluation of Emission Characteristics and Compliance of Emission Standards for In-use petrol Driven Vehicles and Critical Appraisal of the Efficacy of Existing Pollution Checking System in Delhi, (1998)(In – house R&D Project).
- vii. EIA of the Expansion of Terminal Building 2B of Indira Gandhi International Airport, Sponsored by Airport Authority of India (1998).
- viii. An Overview of Vehicle Emission Legislations in India (1998). (In – house
- ix. Study on Impact of Vehicular Pollution Between Mathura-Delhi and Mathura-Agra Corridor of NH-2 Sponsored by Indian Oil Corporation (IOC), New Delhi. (1999)
- x. Efficacy of the Fuel Saver in Reducing CO and HC Emissions from In -Use Petrol Driven Vehicles (2000), Sponsored by M/ S Prozone Inc., Mumbai.
- xi. Urban Road Traffic and Air pollution Study (URTRAP) (2002). Sponsored by Ministry of Petroleum and Natural Gases (MoPNG), Govt. Of India, on behalf of “Mashelkar Committee.”
- xii. Investigation of Fine Particulate Matter and Ozone Levels in Darjeeling and Kolkatta (Collaborative Research Project along with NPL, New Delhi) (2003).
- xiii. ISRO – GBP Project on Trace Gases and Aerosols (Collaborative Research Project). Sponsored by ISRO -GBP Programme (2004)
- xiv. Fuel Losses Due to Idling of the Vehicles at Various Traffic Intersections in Delhi. Consultancy Project, Sponsored by Petroleum Conservation and Research Association (PCRA), New Delhi (2005).
- xv. Vehicular Pollution Monitoring at Selected Intersections in Delhi, Consultancy Project Sponsored by Society of Indian Automobile Manufacturers (SIAM), New Delhi (May, 2005).(SSP-4429)
- xvi. Environmental Impacts of the Road Transport (CSIR Network Project) (2007)

- xvii. Multiscale Modelling Platform for Environmental Forecasting and Management (Vehicular Emission Modelling Component) (CSIR Network Project along with CMMACS, Bangalore) (2007).
- xviii. Environmental Impact Assessment(EIA) studies for Badarpur - Faridabad and Mundaka-Bahadurgarh corridors of Delhi Metro sponsored by the Delhi Metro Rail Corporation (DMRC) New Delhi (2005).**(CNP-1318)**
- xix. Measurement of Emissions of Petrol and CNG-driven vehicles in Delhi – A joint study of Department of Environment, Department of Transport, Government of NCT of Delhi, Delhi Pollution Control Committee and Central Road Research Institute (Feb.,2005).
- xx. Quantification of Benefits Achieved from the Implementation of Phase – I of Delhi Metro, Sponsored by the Delhi Metro Rail Corporation (DMRC) New Delhi (2006). **(CNP-1365)**
- xxi. Environmental & Road Safety considerations During Transportation of Hazardous Materials by Road (In – House Project) **(OLP0401) (2005 –Contd.)**
- xxii. EIA study for proposed Metro Bhawan, Barakhamba Lane, Connaught Place Sponsored by the Delhi Metro Rail Corporation (DMRC) New Delhi (2006) **(CNP-1377)**.
- xxiii. Technical advice for a portion of peripheral road alignment at Gottegere Lake, Bangalore Sponsored by Nandi Infrastructure Corridor Enterprise Limited, Bangalore (Karnataka) (2007)**(CNP 1425)**
- xxiv. Estimation of additional ridership and Economic Internal Rate of Return (EIRR) for Central Secretariat – Badarpur MRTS line project Sponsored by the Delhi Metro Rail Corporation (DMRC) New Delhi (2007).
- xxv. EIA for proposed IT Park, Block III, Shastri Park, Delhi sponsored by the Delhi Metro Rail Corporation (DMRC) New Delhi (2007-08) **(CNP-1478)**
- xxvi. Evaluation of Emission Characteristics of In–Use Vehicles( In–House Project) **(OLP-0447) (2008)**
- xxvii. Effect of Over- Loading on Fuel Consumption, Sponsored by Ministry of Shipping, Road Transport & Highways( MoRTH) **(2008) (SSP-4479)**
- xxviii. EIA of Sushant Lok Integrated Metro Station along the Central Secretariat- Gurgaon Corridor of Delhi Metro, Sponsored by Delhi Metro Rail Corporation (DMRC) Limited. **(2008)(CNP-1522)**
- xxix. “Study on Measurement of On – Road Fuel Consumption in Vehicles” as a Part of “Road User Cost (RUC) Module” Under **Supra Institutional Project (SIP)** (CSIR Network Project, SIP-30) **(2008- Contd.)**
- xxx. **(Modified)** Technical advice for a portion of peripheral road alignment at Gottegere Lake, Bangalore Sponsored by Nandi Infrastructure Corridor Enterprise Limited, Bangalore (Karnataka) **(2009)**.
- xxxi. Updating of Quantification of Benefits Achieved from the Implementation of Phase – I of Delhi Metro, Sponsored by the Delhi Metro Rail Corporation (DMRC) New Delhi **(CNP-1554)(Aug. 2009)**.
- xxxii. Feasibility Study to Examine the Possibility for Installation of Weigh in Motion (WIM) System at Various Entry Points of Delhi **(OLP-463) (2009)**
- xxxiii. EIA of Rehabilitation Centre at Bhai Veer Singh Marg, Sponsored by Delhi Metro Rail Corporation Limited (DMRC) **Delhi, (CNP-1600) (June, 2009 - Contd.)**
- xxxiv. Traffic & Air Pollution Survey on Road Network Connecting Darlaghat - Ropar and Darlaghat-Naragarh (HP), Sponsored by M/s Gujrat Ambuja Cements Limited **(CNP-1606) (Sept. 2009)**.
- xxxv. “Environmental Risk Assessment and Safety Considerations in Transportation of Hazardous Materials by Road **(OLP - 0402) (August, 2010)**

- xxxvi. Review and Updating of Comprehensive Environmental Impact Assessment Report of Ganga Expressway from Greater Noida - Balia in the State of UP, Sponsored by M/s Jaypee Ganga Infrastructure Corporation Limited, Noida/Delhi (CNP-1617) (Sept. 2009)
- xxxvii. Environmental Impact Assessment Study for Preparation of Detailed Project Report for Proposed Metro Phase III” (CNP-1609)( Dec.2010)
- xxxviii. Customized Training Programme on Air & Noise Pollution Modelling at M/s ICT, New Delhi by CRRI ( July 26<sup>th</sup> – 30<sup>th</sup>, 2011) (July, 2011) (CNP-1683)
- xxxix. Assessment of Atmospheric Pollutants Exposure to the Golden Temple In-House **Project Co-Leader (OLP-0518) (Dec., 2015)**
- xl. Special Training Programme on Air & Noise Pollution Modelling for Environmental Professionals at CRRI, (Oct. 29<sup>th</sup> - Nov.1<sup>st</sup> , 2012) (Oct.-Nov., 2012) (CNP-1869)
- xli. Evaluation of Economic Loss Due to Idling of Vehicles at Signalized Intersection and Mitigation Measures (ELSIM). **Project Leader for Work Plan-4: Emission Estimation of Fuel Loss Due to Idling. (XII Five Year Plan) (ESC0204)**
- xlii. National Perspective on Emission Inventory of Climate Forcing Gases (GHG) from Transportation Sector in India (Probing the Changing Atmosphere and its Impacts in Indo-Gangetic Plains (IGP) and Himalayan Regions (AIM-IGPHim) (CSIR XII<sup>th</sup> FYP Project - PSC 0112 (NPL-Nodal Laboratory)
- xliii. India's first Biennial Update Report (BUR) under the preparation of Third National Communication (TNC) and other New Information to United Nations Framework Convention on Climate Change: Indian Transportation Sector Green House Gas Inventory 2010-First Biennial Updated Report(**Project Leader-Dr. Anil Singh**) Ministry of Environment & Forests, Govt. of India (CNP-1966)
- xliv. Supervision of Schedule -I Tests Specified in in the Concession agreement Related to Six Lanning of Existing Road from Km 364.125 to 390.000 and Km 0.000 to 58.245on the Kishangarh - Ajmer- Beawer Section of NH-8 in State of Rajasthan (Phase-II) (**Project Leader-Mr. Sudhir Mathur, Chief scientist**), NHAI and M/s Soma Isolux Kishangarh - Beawer Tollways Pvt. Ltd. (CNP-2098)
- xlv. Assurance of Quality Construction of Corridor of Elevated Road on Outer Ring road From Madhuban Chowk to Mukarba Chowk, New Delhi (Project Leader-Dr. R. Garg BAS Div, Sr. Pr. Scientist) (CNP-1918)
- xlvi. Procurement of Air Pollution Mobile Van Fitted with State of Art Pollutant Specific Air Quality Analyzers for Monitoring and Assessment (OLP - 48) (**Project Leader**) (Aug.2015)

### c. Research Publications

#### Research papers published in Journals

1. Sarin, S.M. and Sharma, N. (1996) “Mobile Bombs on Highways” Road Safety Digest, 6 (2): 1-5. Also **reproduced** in “Indian Auto” October, 1996 pp 30-36.
2. Singh, A., Sarin, S.M., Shanmugam, P., **Sharma, N.**, Attri, A.K. and Jain, V.K. (1997) “Ozone Distribution in the Urban Environment of Delhi during Winter Months”. Atmospheric Environment, 31(20): 3421-3427.

3. Sunil Kumar, C.S., Mahajan, A.U., **Sharma, N.**, Deshpande, V.P. and Badrinath, S.D. (1997) "A Comparative Study on the Formation of Heat Islands in Industrial and Urban Centres". *Pollution Research* 16(1): 15-18.
4. Singh, A., Shanmugam, P., **Sharma, N.**, Shukla, A. and Sarin S.M. (1998) Diurnal Variation of Pollutants in the Urban Atmosphere of Delhi during Winter Months, *Indian Journal of Environmental Protection*. 18(2): 115-122.
5. Sarin, S.M., **Sharma, N.**, Sharma, K. and Singh, A. (1999). An Overview of the Vehicular Emission Legislation in India", *Indian Highways*, 27(12): 5-20.
6. Sarin, S.M., Suri, B.L., Singh, A., **Sharma, N.**, Shanmugam, P, and Sharma, K.(1999) "Critical Appraisal of Efficacy and Financial Viability of Existing Pollution Checking System in Delhi". *Journal of Indian Association for Environmental Management*, 26 (1): 154 – 162.
7. Sarin, S.M., Singh,A., **Sharma, N.**, Sharma, K. and Shanmugam, P. (2001). "Evaluation of Emission Characteristics and Compliance of Emission Standards for In-Use Petrol Driven Vehicles in Delhi." *Indian Journal of Environmental Health*, 43(1): 1-20.
8. Sarin, S.M., Chaurasia, V. K. and **Sharma, N.** (2000). "*Mahanagroan Main Badti Vayu Pradushan Ki Samasaiyain avm Unka Nidan (In Hindi)*". *Paryavaran Patrika*, September, 2001, pp 37 – 41 (Published from NEERI, Nagpur)
9. **Sharma, N.** and Sarin, S.M. (2000). "*Raj Margo Par Chalte Mobile Bombs (In Hindi)*". *Yantriki World*, June, 2000, pp 10 -14.
10. Nirjer, R.S., Jain,S. S., Parida,M., **Sharma,N.**, Robert,V.R. and Mittal, N.(2002). "Development of Transport Related Air Pollutants Modelling for an Urban Area". *Journal of the Indian Roads Congress*, 63(2): 289-326.
11. **Sharma,N.**, Chaudhry K.K., and Chalapati Rao C.V. (2004). Vehicular Pollution Prediction Modelling – A Review of the Highway Dispersion Models. *Transport Reviews*, 24(4): 409 - 435 .
12. **Sharma, N.**, Chaudhry K.K., and Chalapati Rao C.V. (2005). Vehicular Pollution Modelling in India. *Journal of the Institution of Engineers (India)*, 85: 46-63.
13. **Sharma,N.**, Chaudhry K.K., and Chalapati Rao C.V.(2005) Air pollution dispersion studies through Environmental Wind Tunnel (EWT) investigations : A review . *Journal of Scientific and Industrial Research*, 64: 549-559.
14. **Sharma,N.**, Chaudhry K.K., and Chalapati Rao C.V.(2005) Vehicular pollution modelling using artificial neural network technique: a review . *Journal of Scientific and Industrial Research*, 64: 637-647.
15. **Sharma,N.**, Chaudhry K.K., and Chalapati Rao C.V.(2005). Study of the vehicular pollution dispersion phenomena in an urban street canyon by using Environmental Wind Tunnel (EWT) technique , *Indian Journal of the Environmental Management*, 32 (13): 190-203.

16. **N. Sharma**, P. Nair and S. Gangopadhyay (2007). Environmental Impact Assessment of Road Projects: Salient Features Under Revised Notification (September 2006) . Journal of the Indian Roads Congress, 68(3):253-270.
17. **Sharma, N.**, Gangopadhyay, S. and Singh, A. (2008). Environmental Impacts of Road Transport - An Indian Scenario. "Indian Highways", January, 2008, pp 17-30.
18. **Sharma, N.**, Dhyani, R. and Gangopadhyay S. (2009). "Review of Environmental Laws and their Applicability to Road/Highway Projects". Journal of the Indian Roads Congress 70(2):165-185.
19. **Sharma, N.**, Dutt Dev, P., Gangopadhyay, S. and Dhyani, R. "Paryavaran Prabhaav Moolyaankan Evam Paryavaran Prabandhan" (2009). Bhartiya Vaigyanik Evam Audyogik Anusandhan Patrika (National Institute of Science Communication and Information Resources, CSIR) 17(2):101-107 (**Hindi Paper**)
20. **Sharma, N.**, Dutt Dev, P., Dhyani, R and Gangopadhyay, S. (2009). "Sadak Evam Rajmarg Ka Paryavaran Prabhaav Moolyaankan\_Bhartiya Vaigyanik Evam Audyogik Anusandhan Patrika, National Institute of Science Communication and Information Resources, CSIR) 17(2):108-116 (**Hindi Paper**)
21. **Sharma, N.**, Shukla, A., Dhyani, R. and Gangopadhyay, S. (2010). "Environmental Impact Assessment and Environmental Clearance Process for Road & Highway Projects in India", Civil Engineering & Construction Review, 23: 86-96.
22. **Sharma, N.**, Gangopadhyay, S. and Dhyani, R., (2010) "Methodology for Estimation of CO<sub>2</sub> Reduction from Mass Rapid Transit System (MRTS) Projects" by **Journal of Scientific and Industrial Research, 69(8): 586-593.**
23. **Sharma, N.**, Gangopadhyay, S. Dhyani, R. and Bhan, C. (2011). Environmental and Road Safety Considerations During Transportation of Hazardous Materials by Road" . **Indian Highways**, Feb. 2011, pp59:76.
24. नीरज शर्मा, पुष्पिन्द्र कौर, रजनी ध्यानी, एवं एस गंगोपाध्याय 2011 "भारत में परिसंकटमए सामग्रियों के सड़क परिवहन के दौरान पर्यावरण संरक्षण, सड़क सुरक्षा मुद्दे एवं संबन्धित नियम" भारतीय वैज्ञानिक एवं औद्योगिक अनुसंधान पत्रिका, 19(1):15-30
25. **Sharma, N.** and Dhyani, R. (2012). Environmental Impact Assessment(EIA) and Environmental Clearance Process for Road & Highway Projects in India, **Souvenir** (CSIR-CRRI Diamond Jubilee , July , 2012), pp 131-134.
26. Kumar P V, Singh A, **Sharma N** and Sekhar C R (2013). Evaluation of Variability of On -Roads Vehicle Fuel Consumption Under Controlled Conditions" **International Journal of Emerging Technology and Advanced Engineering, 3(2) : 84-88**
27. **Sharma, N.**, Dhyani, R., Biswas, S. and Singh A. (2013) Issues Related to "Forest Clearance" for Road and Highway Projects, **Indian Highways**, Feb. 41(2):61-81.

28. **Sharma N., Kaur P., Dhyani R. and Gangopadhyay S. (2012)** Land Acquisition and Resettlement & Rehabilitation (R & R) Issues Related to Road and Highway Projects in India, **Journal of Indian Road Congress, (Oct.-Dec.,2012)** 73(3):375-393
29. **Sharma, N.(2012)**, Environmental considerations in Planning and Design of highways. Presentation made in 72<sup>nd</sup> Annual Session of IRC at Lucknow(UP)(Nov.5<sup>th</sup>, 2011), **Journal of the Indian Roads Congress,(April-June, 2012)**72(4):398-401.
30. नेहा चौधरी, डॉ नीरज शर्मा, रजनी ध्यानी, डॉ अनिल सिंह (2012). “प्रयोगशाला में सुरक्षात्मक कार्यप्रणालियाँ” **भारतीय वैज्ञानिक एवं औद्योगिक अनुसंधान पत्रिका, 20(2):225-232। (दिसम्बर , 2012)**
31. नीरज शर्मा, एस.बिस्वास, रजनी ध्यानी, एवं अनिल सिंह (2013), “भारत वर्ष में सड़क परियोजना हेतु वन अनापत्ति प्रक्रिया”. **सड़क दर्पण, 9(1):1-8.**
32. **Sharma, N., Dhyani, R and Gangopadhyay, S. (2013)** Critical Issues Related to Metro Rail Projects in India, **Journal of Infrastructure Development, 5(1): 67-86**
33. **Sharma Niraj, Gulia Sunil, Dhyani Rajni & Singh Anil (2013).** Performance Evaluation of CALINE 4 Dispersion Model for an Urban Highway Corridor in Delhi. **Journal of Scientific and Industrial Research, 72 : 521-530. (SCI)**
34. Dhyani. R., Singh, A., **Sharma, N.** and Gulia, S. (2013), Performance evaluation of CALINE 4 model in a hilly terrain – A case study of highway corridors in Himachal Pradesh, **International Journal of Environment Pollution, 52(3/4): 244-262. (SCI)**
35. सिन्हा, एस., नीरज शर्मा, रजनी ध्यानी, एवं अनिल सिंह (2013), “सड़क / राज मार्ग परियोजनाओं में जैव विविधता अध्ययन का महत्त्व”, **भारतीय वैज्ञानिक एवं औद्योगिक अनुसंधान पत्रिका, 21(2):135-149.**
36. Malik, D., Saxena, M & **Sharma, N.** (2014). Assessment of Traffic Impact on Ambient Air Quality in Gurgaon City” **International Journal of Management & Social Sciences, 3(2):93-106**
37. Malik, D., Saxena, M & **Sharma, N.** (2014). Assessment of vehicular Impacts on Ambient Air Quality Due to Seasonal Variations : a Case study of Gurgaon City, **International Journal of Social & Allied Research, 2(2):53-60**
38. Pradeep. P.V., Sekhar, C.R, Singh, A. & **Sharma, N.**(2014). Understanding Variability of Fuel Consumption in Vehicle, **Project Stream Magazine, 1(1):25-26.**
39. **Niraj Sharma, Anil Singh, Rajni Dhyani & Shweta Gaur (2014).** Emission Reduction from MRTS Projects - A Case Study of Delhi Metro. **Atmospheric Pollution Research, 5(4):721-728. (SCI)**
40. Dhyani, R., Gulia, S., **Sharma, N.** and Singh A. (2014). Air Quality Impact Assessment of a Highway Corridor Through Vehicular Pollution Modelling, **International Journal of Renewable Energy & Environmental Engineering, 2(2): 93-99.**
41. Malik, D., Saxena, M & **Sharma, N.** (2014). Environmental Management Plan for Setellite Town of Gurgaon, **Management & Change (Journal of IILM Institute for Higher Education), 18(1):55-**



42. **Sharma, N.,** Gaur, S., Dhyani. R. and Singh A. (2016). Protected Areas in Urban Cities: Challenges in the Developing World [**Environment, Development & Sustainability**, Volume 18 (1): 295-310.
43. Shweta Gaur, **Niraj Sharma,** Rajni Dhyani & Anil Singh (2013). Environmental Auditing as a Risk Management Tool: Case Study of an Automobile Axle Manufacturing Unit in India by **(Accepted for publication in Environmental Engineering & Management Journal) (Dated Jan. 20<sup>th</sup>, 2015) (Impact Factor 1.268, Published from Romania) (SCI)**
44. संजीव कुमार सिन्हा, रजनी ध्यानी, नीरज शर्मा एवं श्वेता गौड़ (2015) “सड़क निर्माण में पुनर्चकृत सामग्रियों के उपयोग का पर्यावरणीय महत्व” लेख प्रकाशन के हेतु **भारतीय वैज्ञानिक एवं औद्योगिक अनुसंधान पत्रिका, 23(1):16-23**
45. नेहा चौधरी, डॉ नीरज शर्मा, डॉ अनुराधा शुक्ला (2015) “ डीजल इंजन मोटर वाहनों से उत्सर्जित ब्लैक कार्बन (सूट पार्टिकलस) का पर्यावरण पर प्रभाव ” **भारतीय वैज्ञानिक एवं औद्योगिक अनुसंधान पत्रिका , 23(1):54-58**
46. Dhyani, R., **Sharma, N.** and Singh A. "**Assessment of Fuel Choices in a Typical Rural Hilly Region of Uttarakhand, India**". International Journal of Sustainable Development (Communicated)
47. रजनी ध्यानी, नीरज शर्मा, अर्चना वैश्य एवं मोनू, "**उत्तराखंड के ग्रामीण पहाड़ी क्षेत्रों में ईंधन के विकल्प और उससे महिलाओं के स्वास्थ्य पर होने वाले प्रभाव**". भारतीय वैज्ञानिक एवं औद्योगिक अनुसंधान पत्रिका, सी एस आई आर-राष्ट्रीय विज्ञान संचार एवं सूचना स्रोत संस्थान में प्रकाशन हेतु भेजा गया है।
48. Sharma, N., Kumar, P.V.P., Singh, A., **Dhyani, R.,** Sekhar, C.R, Ravinder, K. and Monu (2015). **Measurement of Idling Fuel Consumption and Estimation of Emission at Selected Signalized Intersections in Delhi.** Communicated to International Journal of Sustainable Transportation

#### **Research papers /Presented in Seminars/ Symposia/ Conferences**

1. **Sharma, N.** and Jain, R.K. (1989).“Ambient Air Quality of Jabalpur City” Paper Presented in Fourth Young Scientists Congress, Organised by Awadesh Pratap Singh University, Rewa (M.P.) India, Feb 28-March 2, 1989.
2. **Sharma, N.,** Singh, A. and Sarin, S.M. (1995) “Air Pollution Due to Vehicular Traffic in Delhi” – Paper presented in the Seminar on “Environment in the Third World : Critical Challenges”. Organized by Academy of Third World Studies, Jamia Millia Islamia, New Delhi, March 8-9, 1995.
3. **Sharma, N.,** Singh,A. and Sarin, S.M. (1995).“Photochemical Smog Formation in an Urban Atmosphere” Paper Presented in the Seminar on “Environment in the Third World: Critical Challenges”. Organised by Academy of Third World Studies, Jamia Millia Islamia, New Delhi, March 8-9, 1995.

4. Sarin, S.M., **Sharma, N.** and Singh, A. (1996) "Vehicular Pollution in Metropolitan Cities in India". Proceedings of the National Seminar on Pollution Control for Sustainable Development and Human Health", Organised by Institution of Engineers, Jabalpur, (M.P.), 12-13 Oct, 1996.
5. Singh, A., **Sharma, N.**, Shanmugam, P., Shukla A. and Sarin S.M. (1998) Status of Air Quality at Selected Intersections in Delhi. Proceedings of the National Seminar on Road Transportation Issues and Strategies held at Patiala, 23-24 October 1998, pp 161-173.
6. **Sharma, N.** and Chaudhry, K.K. (1999) Wind Tunnel Study of Stack Dispersion in the Neutrally Stabilised Boundary Layers. Proceedings of the 11<sup>th</sup> ISME Conference on Mechanical Engineering – Trends in Mechanical Engineering Education & Research, IIT Delhi 3-5 Feb. 1999.
7. **Sharma, N.**, Chaudhary, K.K. and Chalapati Rao, C.V. (2000) .Application of wind tunnel to air Pollution problems. Journal of the Institution of Engineers (India), 60: 35 - 43. *(Awarded as the best research paper in Environmental Engineering by the Institution of Engineers (India) Calcutta at the fifteenth Indian Engineering Congress held at Hyderabad from 18<sup>th</sup> – 21<sup>st</sup> December 2000).*
8. **Sharma, N.** and Chaudhry, K.K. (2000) "Air Pollution Studies through Environmental Wind Tunnel (EWT) Technique and Its Status in India" Proceedings of the National Seminar on Industrial Pollution and Control (IPC-2000). Department of Chemical Engineering & Technology, Banaras Hindu University (BHU), Varanasi, February, 18-19, pp 56-65.
9. Sikdar, P.K. and **Sharma, N.** (2000) "Road Transport and the Environment – An Indian Scenario." The 2<sup>nd</sup> World Congress on Environment Management, Organised by World Environment Foundation, 2<sup>nd</sup> – 3<sup>rd</sup> June, 2000, New Delhi.
10. **Sharma, N.**, Chaudhary, K.K. and Chalapati Rao, C.V. (2001). Significance of Environmental Wind Tunnel (EWT) technique in air pollution studies: the Indian context. Proceedings of the International Conference on Mechanical Engineering, Bangladesh University of Engineering and Technology (BUET) Dhaka, Bangladesh, Dec. 26- 29<sup>th</sup>, 2001, pp 19-25.
11. **Sharma, N.**, Singh, A., Sarin, S.M. and Shukla, A. (2000) "Recent Initiatives to Control Vehicular Emissions in Delhi". Proceedings of the International Seminar-cum-Workshop on Environmental Issues of Industrial Infrastructure Development Organized by Centre for Development Research and Training (CENDERET), Xavier Institute of Management, Bhubaneswar held on November 16-18<sup>th</sup> 2000.
12. Chaurasia, V.K., Singh, A., **Sharma, N.** and Sarin, S.M. (2000). "Nai Sahastrabdi main Petroleum Udogh Ka Paridrashaya aur Sambhavit Vikalp: Bhartiya Sandharbh Main (In Hindi)". Proceedings of the Tiritiya Rastriya Vaganik Sangosthi, Organised By Indian Oil Corporation (IOC), R& D Centre Faridabad, New Delhi, September, 6<sup>th</sup>, 2000, New Delhi.
13. **Sharma, N.**, Sharma, K., Rao, I.P., Shukla, A. (2003). "GIS Applications in Air Pollution Modelling". Proceedings of the 6<sup>th</sup> International Conference 'Map India 2003', Organised by CSDMS, New Delhi, Jan 28-31<sup>st</sup>. (Website [www.mapindia.org](http://www.mapindia.org)) (Also Available on CD).

14. Reddy, T.S., **Sharma, N.**, Bhandari, K. and Shukla, A. (2003). *CNG- Satat Vikas Haitu Vakalkip Edhan. National Seminar on Sadak Yataayat Avam Pradushan*. Organised by CRRI New Delhi, September 19<sup>th</sup> –20<sup>th</sup> 2003, New Delhi, pp 136-148.
15. **Sharma, N.**, Chaudhry K.K. and Chalapati Rao C.V. (2004). Experimental Investigation to Study the Effects of Vehicle-Induced Mixing on the Pollution Dispersion in Urban Street Canyon Using Environmental Wind Tunnel (EWT) Technique. Proceedings of the Second National Conference on Wind Engineering (NCWE- 04) Nagpur, India, February 12<sup>th</sup> -14<sup>th</sup>, 2004, pp 367- 376.
16. **Sharma, N.**, Chaudhry K.K. and Mukhopadhyay, S. (2004). Vehicular Pollution Prediction Modelling Using Artificial Neural Network (ANN) Technique. Proceedings of the Second National Conference on Wind Engineering (NCWE- 04) Nagpur, India, February 12<sup>th</sup> - 14<sup>th</sup>, 2004, pp 476- 484.
17. **Sharma, N.**, Chaudhry K.K. and Chalapati Rao C.V. (2006). “Physical modelling of vehicular pollution dispersion in an isolated urban street canyon under heterogeneous traffic conditions and its simulation by Artificial Neural Network (ANN) technique”. Proceedings of the 4th International Symposium on Computational Wind Engineering (CWE2006), Yokohoma (Japan), July 16<sup>th</sup>-19<sup>th</sup>, 2006. Available on [www.wind.arch.kougei.ac.jp/cwe2006/new.php](http://www.wind.arch.kougei.ac.jp/cwe2006/new.php).
18. Kanthasamy P. And **Sharma N.** (2006). Vehicular Emission Control- Evaluation of Emission Characteristics of In-use vehicles in Delhi City. National Conference on Environmental Conservation (NCEC-2006), September 1-3, 2006, Birla Institute of Technology and Science (BITS), Pilani, pp 121-128.
19. **Sharma, N.** and Gangopadhyay, S.G. (2007). Methodology for Estimation of Vehicular Emission Load Along An Urban Corridor”. National Conference on Sustainable Urban Transportation: Issues and Management Strategies (SUTRIMS 07), (December 28<sup>th</sup> -29<sup>th</sup>, 2007), SVNIT Surat, pp IV 78 -84.
20. Pradeep Kumar, P.V., Singh, A., **Sharma, N.** and Bhan, C. (2007). [“I&M Practices for Vehicular Pollution Control”](#). National Conference on Sustainable Urban Transportation: Issues and Management Strategies (SUTRIMS 07), (December 28<sup>th</sup> -29<sup>th</sup>, 2007), SVNIT Surat. pp IV 85-92.
21. Sunil, **Sharma, N.**, Kaushik, C.P. (2008). Vehicular Pollution Modelling Using CALINE-4 Model. National Conference on Sustainable Urban Environment: Issues and Management Strategies (SUTRIMS 08), (February 26<sup>th</sup> -28<sup>th</sup>, 2008), SVNIT Surat. pp V 59-67.
22. **Sharma, N.**, Chaudhry, K.K. and Dhyani, R. (2008). Environmental Impact Assessment as a Tool for Sustainable Development. Proceedings of the National Conference on “Revolution in Chemistry: Green Chemistry”. Organised by Institute of Technology and Management (ITM), Gurgaon (**Dec. 18<sup>th</sup>, 2008**), pp 113-128.
23. Sharma, N., Shukla, A. Dhyani, R. and Gangopadhyay, S. (2010). “Estimation of Emission Reduction from MRTS Projects”. Proceedings of the “Conference on Infrastructure, Sustainable Transportation and Urban Planning” (CISTUP2010), IISc. Bangalore (Oct. 18<sup>th</sup> - 20<sup>th</sup>, 2010)

24. **N. Sharma**, S. Gulia, C.P. Kaushik and Rajni Dhyani (2011) "Vehicular Pollution Modeling & Estimation of Emission Load Along a Proposed Metro Rail Corridor International Conference of Transportation Research Group of India (CTRG-2011) (Dec. 7<sup>th</sup> – 10<sup>th</sup>, 2011, Bangalore, India)
25. **नीरज शर्मा**, रजनी ध्यानी, सुमी बिस्वास, अनिल सिंह ( 2012), "पर्यावरण अनापत्ति प्रक्रिया द्वारा पर्यावरण संरक्षण: भारतीय परिपेक्ष्य", समाजिका, pp: 42-49, सीएसआईआर सीसीएमबी आईआईसीटी एव, एनजीआरआई हैदराबाद द्वारा आयोजित 3 दिवसीय (अगस्त 22-24, 2012) शस्युक्त राष्ट्रीय वैज्ञानिक हिंदी संगोष्ठी (सीएसआईआर अनुसंधान :सामाजिक संदर्भ), हैदराबाद
26. **Sharma N.**, Dhyani R., Biswas S. and Singh A. (2012) Environmental Clearance for Infrastructure Projects in India. Twenty-Eighth & National Seminar on Role of Infrastructure for Sustainable Development, The Institution of Engineers (India), Roorkee, IIT Roorkee Campus, 12-14 Oct. 2012.
27. संजीव कुमार सिन्हा, डा. नीरज शर्मा एवं डा. अनिल सिंह (2012) **सुचारू एवं सुरक्षित परिवहन व्यवस्था हेतु कोहरे के पूर्वानुमान में सोडार का महत्व**, रेडियो एवं वायु मंडलीय विज्ञान के विभिन्न आयामों पर परिचर्चा : राष्ट्रिय संगोष्ठी 2012, राष्ट्रिय भौतिकी प्रयोगशाला , नई दिल्ली , 7-8 नवम्बर 2012
28. Dhyani, Rajni, Gulia Sunil, **Sharma Niraj**, Singh Anil. (2014) Air Quality Impact Assessment of a Highway Corridor through Vehicular Pollution Modelling. (International Conference on Environment & Sustainable Technologies (ICEST-2014) (Manipal, Karnataka, Jan, 3-5<sup>th</sup>, 2014).
29. Malik, D., Saxena, M & **Sharma, N.** (2014). Environmental Management Plan for Setellite Town of Gurgaon, IILM Conference on Responsible Management Education & Practice, New Delhi (Jan.10<sup>th</sup>-14<sup>th</sup>, 2014)
30. Gaur, S., Dhyani, R., **Sharma, N.** and Singh A. (2014) Green Buildings: An Analysis of Sustainability Efforts in India, Proceedings (Compilation of Abstracts) of International Conference on Innovations and Advances in Civil Engineering Towards Green and Sustainable Systems (INACES-2014), Coimbatore Institution of Technology, 28-30 April, 2014, pp GEE II.
31. Pradeep Kumar, P.V.,Singh, A., **Sharma, N.& Sekhar, R.(2015)**. Evaluation of Idling Fuel Consumption of Vehicles Across Different Cities. Second National Conference & workshop on "Recent Trends in Traffic Engg. (RATE, 2015) (July 3<sup>rd</sup>-4<sup>th</sup>, 2015) SVNIT, Surat(Gujrat, India) (Paper No. 103)
32. **Sharma, N.**, Kumar, P.V.P., Singh, A. and Dhyani, R. "**Fuel Loss and Related Emissions due to Idling of Motorized Vehicles at a Major Intersection in Delhi**". International Conference on Water, Environment, Energy and Society, March 15 – 18, 2016 in Bhopal, M.P., India.
33. Dhyani, R. and **Sharma, N.** "**Meteorological Factors influencing dispersion of vehicular pollution in a typical highway conditions**". International Conference on Water, Environment, Energy and Society, March 15 – 18, 2016 in Bhopal, M.P., India.

#### **d. Any Other information**

##### **Visits Abroad**

- i. Deputed to France (Environment s. a.) (14<sup>th</sup> - 26<sup>th</sup> March, 1999) for training on “Operation and Preventive Maintenance” of air pollution monitoring equipments.
- ii. Deputed to Bangladesh(Dec. 25<sup>th</sup> - 30<sup>th</sup>, 2001) to attend and present research paper in the “International Conference on Mechanical Engineering” at University of Engineering and Technology (BUET) Dhaka, Bangladesh, Dec. 26- 29<sup>th</sup>, 2001.
- iii. Deputed to Newcastle University UK (Nov. 26<sup>th</sup> – Nov.1<sup>st</sup> , 2011) to attend UKIRI Stakeholders Workshop on “Sustainable Air Quality Management Strategies in UK and India: Monitoring, Modelling & Management (M<sup>3</sup>),Jointly Organised by British Council, UKIERI( UK-India Education and Research Initiative), Newcastle University and IIT Delhi.

##### **Research Guidance/ Supervision/Guest Teaching Faculty**

- i. Designated as Professor in AcSIR-CRRI
- ii. Technical Training to B.E./ M.Tech / M.Sc. students from IIT Roorkee, IIT Delhi, I.P.University Delhi Jamia Hamdard University, Delhi,Indian School of Mines Dhanbad.
- iii. Extenal examiner for M.E /M. Tech. /M.Sc. Thesis (IIT Delhi, Jabalpur University/ I.P. University, Delhi).
- iv. Project supervision for B.E. / M.Tech / M.Sc. students from IIT Roorkee, IIT Delhi, I.P.University Delhi, Jamia Hamdard University, Delhi, Thapar Institute of Engineering and Technology, Patiala.
- v. Paper setter for various Civil/Environmental Engineering and Diploma courses for Board of Technical Education, G.N.C.T. Delhi.
- vi. Guest Teaching Faculty at Jamia Millia Islamia (JMI) New Delhi, for M.Tech, IV<sup>th</sup> Semester Course on “Air Pollution Control & Devices”.
- vii. Guest Teaching Faculty at TERI University New Delhi, for M.Sc. (Environmental Management) and MA (Sustainable Development Policy).
- viii. Guest Teaching Faculty at AcSIR-CRRI for M.Tech (Transportation Engg. Programme).

##### **PhD. Thesis Supervision (Under Progress)**

- i. PhD Research Programme under AcSIR, Name of the Candidate: Ms. Rajni Dhyani, Place of Research: CRRI, New Delhi, Topic of the Proposed Research: Performance Evaluation and Sensitivity Analysis of Vehicular Pollution Dispersion Modelling Under Mixed Traffic Conditions
- ii. Mr.Deepak Malik (Enrollment No. P020108002), College of Engineering, University of Petroleum and energy studies, Dehradun, Topic of Research : “Assessment of Impact of Vehicular Pollution on Ambient Air quality : A Case Study of Gurgaon City” (Degree Awarded)

##### **Thesis (M.S./M.Tech) Supervised (2002 Onward)**

1. “A Study on Transport Related Air Pollution” Dissertation Submitted for the Partial Fulfillment of M.Tech. Degree (Transportation Engg.), Deptt. Of Civil Engg., IIT Roorkee by Mr. V. Roberts R. (Feb., 2002)(Joint Supervision With Prof. M. Parida & Dr. S.S. Jain)
2. “Vehicular Pollution Modelling using Caline-4 model and its Sensitivity Analysis” Dissertation Submitted for the Partial Fulfillment of M.S. Degree (Environment Management), Guru Gobind

Singh Indraprastha University, New Delhi, By Ms. Nidhi Sharma (July, 2004) ) (Joint Supervision With Dr. P. Sharma)

3. "Air Pollution Modeling Along the Faridabad-Badarpur Corridor of NH-2 Using Caline-4 Model". Dissertation Submitted for the Partial Fulfillment of M.S. Degree (Environment Management), Guru Gobind Singh Indraprastha University, New Delhi, By Ms. Sangeeta Bansal (July,2006) (Joint Supervision With Dr. P. Sharma)
4. "Vehicular Emission Control – A case Study of Evaluation of Emission Characteristics of in- Use Vehicles in Delhi City". Dissertation Submitted for the Partial Fulfillment of M.S. Degree, Birla Institute of Technology & Sciences (BITS), Pilani, Rajasthan by Mr. K. Kanthaswamy (November, 2006)
5. "Study of Factors Affecting Fuel Consumption and Emission of Indian Vehicles" Dissertation Submitted for the Partial fulfillment of PG Diploma of M.Tech by Institute of Engineers (India) by Mr. P V Pradeep Kumar (March, 2007) (Joint Supervision With Prof. R.A. Khan, Jamia Millia Islamia, New Delhi).
6. "To Estimates the Vehicular Pollution Load and to carry out vehicular pollution dispersion along Bahadurgarh - Rohtak Highway Corridor of NH-10". (Sept.2008) by Mr. Sunil Gulia, M. Tech, Guru Jambheshwar University of Science & Technology, Hisar (Haryana).
7. "Transport Measures to Control Air Pollution: A Case Study of Noida Metro Rail Corridor", Dissertation Submitted for the Partial Fulfillment M.Tech. (Environmental Engg.) by Institute of Engineers (India) by Mr. A. Agrahari (Feb., 2011) (Joint Supervision With Prof. Siraj Ahmad, Jamia Millia Islamia, New Delhi).
8. "Sensitivity Analysis of CALINE 4 Highway Dispersion Model Under Mixed Traffic Conditions" Dissertation Submitted for the Partial Fulfillment M.E. (Environmental Engg.) Deptt. of Civil & Environmental Engg., Delhi College of Engineering by Ms. Anchal Aggrawal (University Roll No.9101) (July,2011) (Joint Supervision With Prof. R. Mehrotra & Prof. A. K. Haritash, Delhi College of Engineering)
9. "EIA of Metro Rail Corridor between Kalindikunj - Botanical Garden Stretch of Metro Phase III". Dissertation Submitted for the Partial Fulfillment of MSc. Degree by Ms. Ipshita Bhattacharya (Deptt. of Natural Resources Management TERI University, New Delhi) (Joint Supervision With Prof. Suresh Jain & Prof. P. K. Joshi, TERI University, New Delhi) (June,2012).