

## **Bio-Data of Dr. Niraj Sharma, Sr. Principle Scientist, CSIR-CRRI**

<b><u>Name</u></b>	<b>Dr. Niraj Sharma</b>
<b><u>Occupation/Position/Post</u></b>	<b>Senior Principal Scientist,</b> Transport Planning & Environment Division & <b>Professor AcSIR</b> (Academy of Scientific and Innovative Research); <b>CSIR-CRRI, (Faculty of Engineering Sciences)</b> CSIR-Central Road Research Institute (CSIR-CRRI), N. Delhi
<b><u>Affiliation/Organization</u></b>	
<b><u>Address</u></b>	<b><u>Official</u></b> <b>Senior Principal Scientist, TPE Division</b> CSIR-Central Road Research Institute (CRRI) P.O. CRRI, Mathura Road NEW DELHI –110025 (INDIA) <b><u>Residential</u></b> Type IV/1, CRRI Colony, Multistorey Building, Maharani Bagh, New Delhi - 110065
<b><u>Telephone</u></b>	
(Official and Residential)	011-26846976, 26312268 (O) 011-26847138 (R)
Mobile	91-98102 83013
<b>FAX</b>	011-26845943,26830480
<b>E-MAIL</b>	sharmaniraj1990@rediffmail.com neeraj.crri@nic.in
	<b><u>Personal</u></b>
<b><u>Date of Birth</u></b>	May 31 <sup>st</sup> , 1965
<b><u>Citizenship</u></b>	Indian
<b><u>Sex</u></b>	Male
<b><u>Marital Status</u></b>	Married
<b><u>Area of Specialization</u></b>	Air/Vehicular Pollution Monitoring & Modelling, Environmental Impact Assessment (EIA) of Infrastructure Projects, Environmental Laws, Transportation of Hazardous Materials - Safety Requirements, Air Pollution Studies through Environmental Wind Tunnel (EWT) Technique
<b><u>Current Area of Interest</u></b>	EIA & Environmental Clearance of Infrastructure & Building Projects, Vehicular Pollution Modelling & Health Aspects, Idling Fuel Consumption & Emission Modelling, Environmental Aspects of Metro Rail Projects, Carbon Foot Print of Road/Highway Projects

### Education Qualifications

<b>Degree</b>	<b>Year of Passing</b>	<b>University/Instt.</b>	<b>Subjects</b>	<b>Div/Class/Grade</b>
<b>B. E. (Civil Engg.)</b>	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%)
<b>M.E.(Civil Engg. with Specialization in Environ. Engg.)</b>	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>Ph. D.(IITD)</b>	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)

### Details of Service

<b>Grade/Post</b>	<b>From</b>	<b>To</b>	<b>Estt./Lab/Institution</b>
<b>Lecturer (Civil Engineering)</b>	24.01.1989	15.07.1990	Govt. Engineering. College, Jabalpur (M.P.), Board of Technical Education, Govt. of M.P.- 482011
<b>Research Scholar (EIA Division)</b>	16.07.1990	19.08.1992	CSIR- National Environmental Engineering Research Institute (CSIR-NEERI), Nagpur-440020
<b>Scientist 'B', Group - IV (I)</b>	20.08.1992	19.08.1997	CSIR- Central Road Research Institute (CSIR-CRRI) New Delhi-110025
<b>Scientist 'C', Group – IV (2)</b>	20.08.1997	19.08.2002	CSIR-Central Road Research Institute, (CSIR-CRRI) New Delhi-110025
<b>Scientist 'E-I', Group – IV (3)</b>	20.08.2002	19.08.2007	CSIR- Central Road Research Institute, (CSIR-CRRI) New Delhi-110025
<b>Scientist 'E-II', (Pr.Scientist) Group – IV (4)</b>	20.08.2007	19.08.2013	CSIR-Central Road Research Institute, (CSIR-CRRI) New Delhi-110025
<b>Scientist 'F', (Sr. Pr. Scientist) Group – IV (5)</b>	20.08.2013	Contd.	CSIR-Central Road Research Institute, (CSIR-CRRI) New Delhi-110025

## **Important Administrative Responsibilities Undertaken at CRR I (HoD/Chairman /Member)**

- (i) HoD (Environmental Science Division)
- (ii) HoD ( Civil)
- (iii) HoD TSD (Technical Services Division)
- (iv) Secretary, CRR I GH/ Canteen Committee
- (v) Chairperson (Student Welfare) (ACSIR-CRR I)
- (vi) Member Library Committee
- (vii) Member House Allotment Committee (HAC)
- (viii) HOD (Horticulture)
- (ix) HoD (Electricals)
- (x) Chairperson, EPBAX Committee
- (xi) Chairman (Scientist Recruitment Committee)
- (xii) Chairman/Member of Various Fact Finding Committees (FFCs)
- (xiii) Chairman for Recruitment of Hindi Translator at CRR I
- (xiv) Member of various Selection and Promotion Committees at CRR I/Other CSIR Laboratories
- (xv) Member, Committee for the Finalization of Master Plan of CRR I
- (xvi) Member, Implementation of MoU Between CRR I and HRS Chennai (Member)
- (xvii) Member, Various Technical Committees for Purchase of Equipments & Related to Creation and Maintenance of Infrastructure/ facilities at CRR I
- (xviii) Chairperson, OB and Bank Reconciliation Committee
- (xix) Chairperson, Installation of Flux Tower by NPL for the MoES Project at CRR I Office Campus
- (xx) Chairperson, Vehicle Disposal/Condemnation Committee
- (xxi) Member, Implementation of MoU with HRS(Highway Research Station) Chennai

### **Member of Various Technical Committees :**

1. Member of the Expert Appraisal Committee (EAC) on CRZ, Infrastructure & Miscellaneous Projects, New Construction and Industrial Estate Projects (MoEF Govt. of India) **(2007-13)**
2. Member of the **"Kasturirangan Committee"** formed the MoEF (Ministry of Environment & Forests, Govt. of India) under the Chairmanship of Prof. Kasturirangan, Meluxmber Planning Commission, Govt. of India, to review the provisions of EIA notification, 2006 relating to Building, Roads and SEZ Projects and OM issued by the MoEF on High - Rise buildings **(May,2013)**
3. Member of the "Project Review and Supervisory Group" Constituted by Ministry of Human Resources Development (MoHRD), Department of Higher Education, Govt. of India for the Project entitled: "e - Content Generation for Post-Graduate Programme in Environmental Sciences" by TERI University **(2014-15)**
4. Technical Committees of IRC( Environment Committee) (Corresponding Member) (2014-16)
5. Member of Technical Committee on "Fly Ash Utilization" of Central Electricity Authority, Ministry of Power , Govt. of India ( as CRR I Nominee) **(2014-15)**
6. DST committee on Control of Air Pollution in Delhi (CPCB-EPC funding) (2018)

### **Awards/ Scholarships/Fellowships**

1. Awarded merit certificate for securing high position in higher secondary examination conducted by Board of Secondary Education (MP).(1981)
2. Awarded GATE Scholarship by Human Resources Ministry (HRD), Govt. of India, to pursue M.E. Degree. (1986).
3. Research Fellowship (EIA Division) at National Environmental Engineering Institute (NEERI), Nagpur, India.(1990).
4. 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.
5. 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 .
6. 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)**
7. 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)**
8. 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.**
9. **Member of the Expert Appraisal Committee (EAC)** on CRZ, Infrastructure & Miscellaneous Projects, New Construction and Industrial Estate Projects (**MoEF Govt. of India**) (**2007-2013**).
10. Fellow of the Institution of Engineers
11. The Research Paper entitled "**Estimation of Fuel Consumption During Idling of Vehicles at Intersection – A Case Study Before and After Campaigning on Switching Off Behaviour**" by Mukti Advani, Purnima Parida and Niraj Sharma, was awarded as "**Best Paper**" Under the Theme "**Traffic Engineering**" presented in the **International Conference " Transportation Infrastructure Projects – Conception to Execution (TIPEC – 2019) held During 7<sup>th</sup>-10<sup>th</sup> January, 2019 at IIT Roorkee.**

### **Publications/Technical Reports**

1. Authored more than 85 Research Papers in Different National & International Journals
2. Involved in More than 65 Technical Reports/Consultancy Reports as Project Leader/Member of the Team  
**( Detailed List Provided as Annexure-I)**

### **Reviewer of Various International Journals;**

1. Atmospheric Environment
2. Transportation Research (Part D): Transport and Environment (Elsevier)
3. Air Pollution Research
4. International Journal of Environment and Sustainable Development (Inderscience)
5. Atmospheric Pollution Research [*Publication of Turkish National Committee for Air Pollution Research and Control (TUNCAP)*]
6. International Journal of Environment and Sustainable Development (Inderscience)
7. *MAPAN (Journal of Metrology Society of India)*
8. Journal of Cleaner Production
9. Science of the Total environment
10. Journal of Environmental Engineering
11. Journal of Environmental Science & Technology

### **Membership of 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 |

### **Visits Abroad**

1. 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.
2. 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.
3. 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**

1. Designated as Associate Professor in AcSIR-CRRI
2. 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.
3. External examiner for M.E /M. Tech. /M.Sc. Thesis (IIT Delhi, Jabalpur University/ I.P. University, Delhi).
4. 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.
5. Paper setter for various Civil/Environmental Engineering and Diploma courses for Board of Technical Education, G.N.C.T. Delhi.

6. Guest Teaching Faculty at Jamia Millia Islamia (JMI) New Delhi, for M.Tech, IV<sup>th</sup> Semester Course on “Air Pollution Control & Devices”.
7. Guest Teaching Faculty at TERI University New Delhi, for M.Sc. (Environmental Management) and MA (Sustainable Development Policy).
8. Guest Teaching Faculty at AcSIR-CRRI for M.Tech (Transportation Engg. Programme).

### **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 (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).
10. "Assessment of Idling Fuel Consumption and Delay for a Typical Vehicle at Various Signalized Intersections in Delhi" (Mr. Bhudhrani Ronak Singh, M.E. Transportation Engg. and Technology, Parul Institute of Engg. and Technology, Vadodra) (July, 2015-May, 2016)
11. "Performance Evaluation of CALPUFF Model For An Urban Area" (Mr. Umesh Kumar, Deptt. of Civil Engg. IIT Delhi ( M.Tech. Thesis) (Co-Supevisor, alongwith Prof. M. Khare) ) **(June, 2016)**

#### **RA Fellowship - Mentorship**

1. **CSIR- RA Fellowship (2018-21): Dr(Ms) Rajni Dhyani**, TPE Div. CSIR-CRRI New Delhi . **Title of the Project** " Air Quality and Human Health Exposure Assessment at Selected Traffic Intersections in Delhi" **(April, 2018)**

#### **PhD. Thesis Supervision**

- (i) **PhD Research Programme under AcSIR-CRRI , Name of the Candidate:** Ms. Rajni Dhyani, **Place of Research:** CRRI, New Delhi, **Topic of the Research:** Performance Evaluation and Sensitivity Analysis of Vehicular Pollution Dispersion Modelling Under Mixed Traffic Conditions **(PhD Awarded in June, 2017)**
- (ii) **Mr. Deepak Malik (Enrollment No. P020108002) , College of Engineering, University of Petroleum and Energy Studies (UPES), Dehradun, Topic of Research** : "Assessment of Impact of Vehicular Pollution on Ambient Air quality : A Case Study of Gurgaon City" **(PhD Awarded in May, 2014)**

## **ANNEXURE -I**

### **INVOLVMENT IN SPONSORED R&D and CONSULTANCY PROJECTS**

#### **CSIR- National Environmental Engineering Research Institute (NEERI), Environmental Impact Assessment (EIA) reports**

1. EIA of Stone Quarry operations at Rangat Bay, Middle Andaman, Sponsored by ALHW Port Blair, South Andaman (1990).
2. Rapid EIA of Construction of Berth 3 & 4 at Haddo Wharf, Sponsored by ALHW Port Blair, South Andaman (1990).
3. Rapid EIA of Construction of Phoenix Bay, Sponsored by ALHW Port Blair, South Andaman (1990).
4. EIA of Reliance Petrochemical Limited, Hazira Surat, Gujrat, Sponsored by Reliance Group of Industries (1991).
5. EIA of Narora Nuclear Power Plant, Sponsored by Nuclear Power Corporation, Mumbai (1991).
6. EIA of Visakh Refinery, Sponsored by HPCL, Vishakhapatnam (1991).
7. EIA of RPG Petrochemicals Ltd., Madras, Sponsored by RPG groups of industries (1991).
8. EIA of Middle Vaitarna Dam project, Sponsored by Municipal Corporation of Greater Bombay (1991).
9. EIA of Sandur Manganese and Iron Ore Mines, Bellary, Karnataka (1991).
10. EIA of the Expansion of National Fertilizers Ltd. (NFL), Vijaipur, Guna, (M.P.) (1992).
11. EIA for Environment Management Plan for Construction Phase Impacts of Bombay Sewerage Projects, Sponsored by Municipal Corporation of Greater Bombay (1992).
12. EIA of Hindustan Organic Chemical Ltd., Ambalamugal, Cochin, Sponsored by HOCL, Cochin (1992).

#### **CSIR-CENTRAL ROAD RESEARCH INSTITUTE (CRRI) REPORTS**

2. Transportation of Hazardous Materials – Safety Requirements (1992) (In – house R&D Project).
3. Road Transport and Global Climatic Changes, Sponsored by Council of Scientific and Industrial Research (CSIR) Steering Group on Global Changes, New Delhi, India (1994).
4. Status of Ambient Air Quality in Delhi and Jaipur (1995).
5. Training of Traffic Police Personnel in Second Generation of Metropolitan Cities in India, Sponsored by Ministry of Surface Transport, (MOST), Govt. of India (1995).
6. EIA of Delhi-Gurgaon Section of NH-8 Sponsored by M/s Kadiyali Associates, New Delhi (1998).
7. 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).

8. EIA of the Expansion of Terminal Building 2B of Indira Gandhi International Airport, Sponsored by Airport Authority of India (1998).
9. An Overview of Vehicle Emission Legislations in India (1998). )(In – house
10. 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)
11. 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.
12. 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.”
13. Investigation of Fine Particulate Matter and Ozone Levels in Darjeeling and Kolkatta (Collaborative Research Project along with NPL, New Delhi) (2003).
14. ISRO – GBP Project on Trace Gases and Aerosols (Collaborative Research Project). Sponsored by ISRO -GBP Programme (2004)
15. 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).
16. Vehicular Pollution Monitoring at Selected Intersections in Delhi, Consultancy Project Sponsored by Society of Indian Automobile Manufacturers (SIAM), New Delhi (May, 2005).**(SSP-4429)**
17. Environmental Impacts of the Road Transport (CSIR Network Project) (2007)
18. Multiscale Modelling Platform for Environmental Forecasting and Management (Vehicular Emission Modelling Component) (CSIR Network Project along with CMMACS, Bangalore) (2007).
19. 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)**
20. 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).
21. 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)**
22. Environmental & Road Safety considerations During Transportation of Hazardous Materials by Road (In – House Project) **(OLP0401) (2005 –Contd.)**
23. EIA study for proposed Metro Bhawan, Barakhamba Lane, Connaught Place Sponsored by the Delhi Metro Rail Corporation (DMRC) New Delhi (2006) **(CNP-1377).**

24. Technical advice for a portion of peripheral road alignment at Gottigere Lake, Bangalore Sponsored by Nandi Infrastructure Corridor Enterprise Limited, Bangalore (Karnataka) (2007).**(CNP 1425)**
25. 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). (
26. EIA for proposed IT Park, Block III, Shastri Park, Delhi sponsored by the Delhi Metro Rail Corporation (DMRC) New Delhi (2007-08).**(CNP-1478)**
27. Evaluation of Emission Characteristics of In-Use Vehicles( In-House Project)**(OLP-0447) (2008)**
28. Effect of Over- Loading on Fuel Consumption, Sponsored by Ministry of Shipping, Road Transport & Highways( MoRTH) **(2008) (SSP-4479)**
29. 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)**
30. “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.)**
31. **(Modified)** Technical advice for a portion of peripheral road alignment at Gottigere Lake, Bangalore Sponsored by Nandi Infrastructure Corridor Enterprise Limited, Bangalore (Karnataka) **(2009).**
32. 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).**
33. Feasibility Study to Examine the Possibility for Installation of Weigh in Motion (WIM) System at Various Entry Points of Delhi **(OLP-463) (2009)**
34. EIA of Rehabilitation Centre at Bhai Veer Singh Marg, Sponsored by Delhi Metro Rail Corporation Limited (DMRC) **Delhi, (CNP-1600) (June, 2009 - Contd.)**
35. 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).**
36. “Environmental Risk Assessment and Safety Considerations in Transportation of Hazardous Materials by Road **(OLP - 0402) (August, 2010)**
37. 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)**
38. Environmental Impact Assessment Study for Preparation of Detailed Project Report for Proposed Metro Phase III” **(CNP-1609)( Dec.2010)**
39. 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)**

40. Assessment of Atmospheric Pollutants Exposure to the Golden Temple In-House **Project Co-Leader (OLP-0518) (On-going) (Feb., 2012)**
41. Special Training Programme on Air & Noise Pollution Modelling for Environmental Professionals at CRRl, (Oct. 29<sup>th</sup>- Nov.1<sup>st</sup> , 2012) **(Oct.-Nov., 2012) (CNP-1869)**
42. 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)**
43. 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)**
44. 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)**
45. 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 Kishangargh - 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)**
46. 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)**
47. Development of Parking and Traffic Management System at CRRl Campus **(In-House - OLP 0564) Member (PL- Ashutosh Kr, TRE Div, & Project. Co- Leader Mukesh Kumar- Civil Section) (Jan-Oct. 2015)**
48. Procurement of Air Pollution Mobile Van Fitted with State of Art Pollutant Specific Air Quality Analyzers for Monitoring and Assessment(**OLP-573) (Project Leader)(Aug.2015)**
49. Estimation of Fuel consumption during Idling of vehicles at Bhikaji Cama Place Intersection, New Delhi and Savings After Employing Suitable Mitigation Measures' **Sponsored** by Petroleum Conservation Research Association of India(PCRA) **(GAP-4555) (May. 2018)**
50. Evaluation of Fuel Consumption for Given Driving Pattern (in-House Project) **(OLP-0577) (July, 2016-May, 2019)) (Member)**
51. Consultancy Services for Designing and Tendering for NEERI Campus Roads (MIS 0021) **(Member) (Nov., 2016)**
52. Establish Research Network on Vehicular Emission Reduction(EARNOVER-2017), Sponsored by M/s Shakti Foundation, New Delhi **(CNP-2247) (Oct. 2016) (Member)**

53. Impact of Road Condition on fuel consumption of vehicle, **Sponsored** by Petroleum Conservation Research Association of India(PCRA) **(GAP-4564) (March, 2017-May, 2019) (Member)**
54. Megacity Delhi Atmospheric Emission Quantification, Assessment and Impacts **(Delhi Flux Project)** Collaboration with NPL-CSIR, CSIR-NEERI, IITR, IITK) (CSIR-CRRI Non-Funding Partner) (UK Partners : University of York, Centre for Ecology & Hydrology, Natural Ecology Research Council, Edinburg, UK) (Funds to CRRI will be received from CSIR-NPL (2017-2021), **Sponsored by MoES, Govt. Of India , NERC(UK) (Under the Auspices of Newton – Bhabha Fund** (Ref: MoES/16/19/2017-APHH(Delhi Flux Dated 9.10.2017 **(Role : Member, CSIR-CRRI Representative)**
55. Clean Air for Delhi Through Intervention, Mitigation and Engagement **(CADTIME)** Participating Agencies: IITM, IITB, CSIR-NEERI) (UK Partners: Newcastle University, University of West of England) (2017-2021), **Sponsored by MoES, Govt. Of India , NERC(UK) (Under the Auspices of Newton - Bhabha Fund** **(Role :Member, CSIR- CRRI Representative)**
56. **An Integrated Study of Air Pollutant sources in Delhi (ASAP-Delhi) ( Participating Institute – IITD, CSIR-NPL, CSIR-NEERI ( CRRI- Major Stakeholder) (UK Partner- University of Birmingham, University of Surrey) (2017-2021). Sponsored by MoES, Govt. Of India , NERC(UK) (Under the Auspices of Newton - Bhabha Fund** **(Role : Member, CSIR- CRRI Representative)**
57. Evaluation of Dust Suppressant , **Sponsored by M/s Nitto Japan (CNP- 2379) ( March, 2018) (Member)**
58. Estimation of Fuel Losses and Assessment of Air Quality at Selected Traffic Intersection(s) in Delhi. **Project Funded** by CPCB, New Delhi Under **EPC (Environment Protection Charge) Funds in Delhi - NCR** ( May, 2018) **(Project Leader) (GAP-4611)**
59. Switching Off Behavior & Awareness Campaign and Related Studies at 100 Busiest Traffic Intersections in Delhi, **Sponsored by Petroleum Conservation Research Association (PCRA), New Delhi ( SSP-4589) ( July, 2018) ( Member)**
60. Quantification of the Reduction of Air Pollution Level Due to Avoidance of Vehicular traffic on Eastern Peripheral Expressway (EPE) **(SSP- 4592) (Sept. 2018) ( Member)**
61. Modernization and Infrastructure Up gradation of R&D facilities for Pavement & Environmental Engg. **(OLP-0612) ( 01/04/18 – 31/03/20)**
62. Development of Methodology for Traffic Circulation Plans Around Metro Stations and Their Impact Quantification Using Microscopic Simulation **Sponsored by Petroleum Conservation Research Association (PCRA), New Delhi. (GAP-4623) (March, 2019)**

## **OTHER PROFESSIONAL ACTIVITIES**

### **Research Work carried out at Indian Institute of Technology (IIT), Delhi**

1. Wind tunnel applications to environmental problems, Sponsored by Council of Scientific and Industrial Research (CSIR), New Delhi (1997).
2. Wind tunnel study of emission characteristics from the industrial stacks of NFL Vijaipur, (M.P.) complex and its comparison with the field data, Sponsored by National Environmental Engineering Research Institute (NEERI), Nagpur (1998).
- 3 Physical Simulation of vehicular pollution dispersion in an isolated urban street canyon under heterogeneous traffic conditions (2005) **(PhD Research Topic)**

**Research Papers Published in Journals /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. 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.
6. 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.
7. 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.
8. 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.
9. 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.
10. **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.
11. 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.
12. 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.
13. **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).
  14. **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.
  15. 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 .
  16. **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.
  17. Sarin, S.M., Singh, A., **Sharma, N.**, Sharma, K. and Shanmugham, 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.
  18. **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, Bhubnasewar held on November 16-18<sup>th</sup> 2000.
  19. 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)
  20. **Sharma, N.** and Sarin, S.M. (2000). "*Raj Margo Par Chalte Mobile Bombs (In Hindi)*". Yantriki World, June, 2000, pp 10 -14.
  21. 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.
  22. 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.

23. **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).
24. 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 CRRRI New Delhi, September 19<sup>th</sup> –20<sup>th</sup> 2003, New Delhi, pp 136-148.
25. **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.
26. **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.
27. **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 .
28. **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.
29. **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.
30. **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.
31. **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.
32. **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).
33. 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.

34. **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.
35. **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 pp IV 78 -84.
36. 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.
37. **Sharma, N.**, Gangopadhyay, S. and Singh, A. (2008). Environmental Impacts of Road Transport - An Indian Scenario. "Indian Highways", January, 2008, pp 17-30.
38. Sunil, **Sharma, N.**, Kaushik, C.P. (2008). Vehicular Pollution Modelling Using CALINE-4 Model. National Conference on Sustainable Urban Environment: Issues and Management Strategies (SUERIMS 08), (February 26<sup>th</sup> -28<sup>th</sup>, 2008), SVNIT Surat. pp V 59-67.
39. **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**), pp113-128.
40. **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.
41. **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**)
42. **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**)
43. **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.
44. **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.
45. 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)

- 46. 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.
- 47. 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 संबंधित नियम" **भारतीय वैज्ञानिक एवं औद्योगिक अनुसंधान पत्रिका**, 19(1):15-30
- 48.N. Sharma, S. Gulia, C.P. Kaushik & 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)
- 49.**  (2012),“”, , pp: 42-49, 3 (22-24, 2012) :),
- 50.Sharma, N. & Dhyani, R. (2012).** Environmental Impact Assessment(EIA) and Environmental Clearance Process for Road & Highway Projects in India, **Souvrier** (CSIR-CRRI Diamond Jubilee , July , 2012), pp 131-134.
- 51.Sharma N., Dhyani R., Biswas S. & Singh A. (2012)** Environmental Clearancce for Infrastrucutre Projects in India. Twenty-Eigth & National Seminar on Role of Infrastrucutre for Sustainable Development, The Institution of Engineers (India), Roorkee, IIT Roorkee Campus, 12-14 Oct. 2012.
- 52.**  (2012) : , 7-8 2012
- 53.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(3)(Special Issue) : 84-88 (ISSN 2250-2459; Available online at [www.ijeta.com](http://www.ijeta.com))  
(Paper Presented at **International Conference on Energy Resources and Technologies for Sustainable Development**, 07-09 February, 2013; Howrah, India)
- 54.Sharma, N., Dhyani, R., Biswas, S. and Singh A. (2012)** Issues Related to “Forest Clearance” for Road and Highway Projects, **Indian Highways**, 41(2):61-81.



67. 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
68. 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.
69. **Niraj Sharma**, Anil Singh, Rajni Dhyani & Shewta Gaur (2014). Emission Reduction from MRTS Projects - A Case Study of Delhi Metro. **Journal of Air Pollution Research**, 5(4):721-728. **(SCI, IF= 2.152)**
70. 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.
71. 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.
72. 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):55-72
73. **Sharma, N.**, Gaur, S., Dhyani. R. and Singh A. (2014), Protected Areas in Urban Cities: Challenges in the Developing World, **Environment, Development & Sustainability, Springer, Netherlands**, 18(1):295-310 **(SCI, IF=1.379)**
74. 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
75. □□□□ □□□□□, □□□ □□□□ □□□□□, □□ □□□□□□□ □□□□□ (2015) “ □□□□ □□□□ □□□□ □□□□□ □□ □□□□□□□□ □□□□ □□□□□ (□□□ □□□□□□□□□□) □□ □□□□□□□□ □□ □□□□□□ ” **□□□□□□ □□□□□□□□□□ □□□ □□□□□□□□ □□□□□□□□ □□□□□□□□ □□□□□□□□** , 23(1):54-58
76. 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)
77. **Sharma, N.**, Kumar, P.V.P., Singh, A. and Dhyani, R. (2016) "**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.  
( Sharma N., Pradeep Kumar P.V., Singh A., Dhyani R. (2018) “Meteorological Factors Influencing Dispersion of Vehicular Pollution in a Typical Highway Condition”.

**In: Singh V., Yadav S., Yadava R. (eds) Environmental Pollution, Water Science and Technology, Springer, Singapore77: 233-242.**

- 78.Dhyani, R. and Sharma, N. "Meteorological Factors influencing dispersion of vehicular pollution in a typical highway conditions"(2016). International Conference on Water, Environment, Energy and Society(ICWESS 2016), March 15 – 18, 2016, Bhopal (M.P.), India. (Dhyani R., Sharma N. (2018) “Meteorological Factors Influencing Dispersion of Vehicular Pollution in a Typical Highway Condition”. In: Singh V., Yadav S., Yadava R. (eds) Environmental Pollution, Water Science and Technology, Springer, Singapore 77: 65-76).**
- 79.रजनी ध्यानी, नीरज शर्मा, अर्चना वैश्य एवं मोनू (2016), "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) , 24(2):135-144**
- 80.Bhudhrani, R., Kumar, P.V.P., Sharma, N., Ravisekhar, Ch. and Dhyani, R. (2016). Analysis of Driving Pattern and Fuel Consumption at Signalized Intersections. International Conference on Transportation Planning and Implementation Methodologies for developing countries (TPMDC -2016), 19-21 December,2016. IIT Bombay (India)**
- 81.Ravindra Ojha, PremVrat and Niraj Sharma (2016). Long-term Implications of Highway Quality and Length in the Growth of Indian Manufacturing Sector: A System Dynamics Analysis. Journal of Scientific and Industrial Research, 75 : 466 – 474 (SCI, IF= 0.534)**
- 82.Dhyani, R. and Sharma, N.(2017), Sensitivity Analysis of CALINE4 Model Under Mixed Traffic Conditions. Aerosol and Air Quality Research, 17(1);314-329 (SCI, IF=2.09)**
- 83.Dhyani, R. and Sharma, N. (2017). "Assessment of Fuel Choices in a Typical Rural Hilly Region of Uttarakhand, India". International Journal of Society Systems Science (IJSSS), 10(1): 56-73 (Inderscience Publishers, UK, )**
- 84.Dhyani, R., Sharma, N. and Maity, A.K. (2017). Prediction of PM<sub>2.5</sub> along highway corridor under mixed traffic conditions using CALINE4 model. Journal of Environmental Management, 198: 24-32 (SCI, IF = 3.131)**
- 85.Dhyani, R. and Sharma, N.(2018). Vehicular Dispersion Modelling Along Road Using CALINE 4 Model: A Review (2018). International Journal of Environment Technology and Management.21(1/2) :91-110**
- 86.नीरज शर्मा, रजनी ध्यानी, (2017) "हिन्दी में वैज्ञानिक एवं तकनीकी लेखन" , केन्द्रीय सड़क अनुसंधान संस्थान, सड़क दर्पण, 15 : 17-23।।**
- 87.Shewta Gaur, Niraj Sharma, Rajni Dhyani & Anil Singh (2018). “Environmental Auditing as a Risk Management Tool : Case Study of an Automobile Axle Manufacturing Unit in India” , Environmental Engineering & Management Journal, 17(11):2695-2702 (Rominia, SCI, IF= 1.334)**



97. Advani, M, **Sharma, N.** and Chandra, S. (2019). Quantification of Improved Non-motorized transport friendly infrastructure on emission reduction: A case study of Delhi. **(Communicated to IRC, Sept. 2019)**
98. Sekhar, C.R, **Sharma, N.** Advani, M and Kumar, R. (2019). Quantification of the reduction of air pollution due to bypassing vehicular traffic: a case study of Eastern Peripheral Expressway, Delhi **(To be Communicated)**

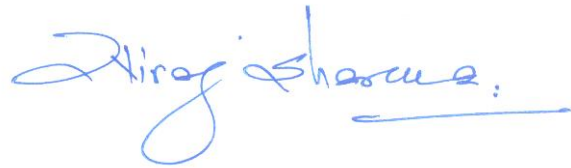
## References

**1. Prof. Satish Chandra**

Director  
CSIR-Central Road Research Institute  
Mathura Road  
New Delhi- 110025  
Phone- 011(26312268)  
Email – [director.crri@nic.in](mailto:director.crri@nic.in)

**2. Prof. Mukesh Khare**

Prof. of Environmental Engineering, Civil Engineering Department  
IIT Delhi, New Delhi -110016  
Phone- 91-11-265912129(O), 26859284®  
Email - [mukeshk@civil.iitd.ac.in](mailto:mukeshk@civil.iitd.ac.in)  
[kharemukesh@yahoo.co.in](mailto:kharemukesh@yahoo.co.in)

A handwritten signature in blue ink, reading "Dr. Raj Shasna:" followed by a horizontal line.