

1. Name: SUNIL JAIN



2. Designation and complete address including emailid. Senior Principal Scientist  
Pavement Evaluation Division  
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3. Areas of Interest
- Pavement Performance Evaluation & Failure Investigations of Flexible Pavement
  - Construction Quality Assurance & Maintenance of Flexible Pavements
  - Innovative Road Construction Technologies for Flexible Pavements
  - Pavement Maintenance Management System

4. Educational Qualification – Starting from the Highest Degree

Subject	Degree	University / Institute	Year	Remarks
Transportation Engineering	Master in Engineering (ME)	University of Roorkee (now, IIT Roorkee, India)	1991	First with honors
Civil Engineering	Bachelor in Engineering (BE)	University of Roorkee (now, IIT Roorkee, India)	1989	First with honors.

5. Professional Experience - in reverse chronological order

Sl. No.	(1)	(2)	(3)	(4)	(5)
a. Name of organization	CSIR-CRRI	CSIR-CRRI	CSIR-CRRI	CSIR-CRRI	CSIR-CRRI
b. Post held with dates (in dd/mm/yyyy format)	Senior Principal Scientist	Principal Scientist	Senior Scientist	Scientist	Junior Scientist
c. Period of tenure with dates (in dd/mm/yy yyformat)	11/08/2013 to Till Date	11/08/2008 to 10/08/2013	11/08/2002 to 10/08/2008	11/08/1997 to 10/08/2002	11/08/1992 to 10/08/1997
d. Brief description of duties	Pavement Maintenance Management System (PMMS), Construction Quality Assurance, Quality Audit, Pavement Design, Failure Investigation, Functional and Structural Evaluation of Flexible Pavements and Use of Waste Materials in Flexible Pavement Construction	Pavement Maintenance Management System (PMMS), Construction Quality Assurance, Quality Audit, Pavement Design, Failure Investigation and Use of Waste Materials in Flexible Pavement Construction	Pavement Failure Investigation, Construction Quality Assurance & Implementation of Innovative Road Construction Technologies	Pavement Design, Evaluation & Failure Investigation of Flexible Pavements	Pavement Performance Studies and Construction of Flexible Pavements

## 6. Membership of Professional Bodies:

### Membership of Professional Societies / Institutions:

- |                             |                  |
|-----------------------------|------------------|
| ◆ Institution of Engineer – | Associate Member |
| ◆ Indian Roads Congress–    | Life Member      |

## 7. Achievements:

### a. Honors and Awards:

- Chancellors Gold Medal for the best student in M.E. / M. Tech / M. Arch. Courses, 1990- 91batch
- Dr. Jai Krishna Gold Medal for obtaining highest marks in all the M.E. Courses, 1990- 91batch
- University Gold Medal for standing first in first class in Transportation Engineering, 1990- 91batch

### b. Research Projects:

- Pavement Performance Study - Study on Existing Pavement Sections ( 1992 - 1994), Sponsored by MORTH.
- Pavement Performance Study - Study on New Pavement Sections ( 1994 - 2001), Sponsored by MORTH.
- 10<sup>th</sup> Five Year Plan Project entitled " New and Improved Road Technologies (2002-2009)"
- Development of GIS Based National Highways Information System (2006- 2010) Sponsored by MORTH.
- 11<sup>th</sup> Five Year Plan Project entitled "Development of Management System for Maintenance Planning and Budgeting of High Speed Corridors ( 2007-2014)"
- Laboratory Performance Evaluation of Steel Slag for usage in Flexible Pavement (2014) Sponsored by M/s TATA Steel Ltd.
- Application of Rhinophalt Preservative and its Performance Evaluation on three Toll Roads in Rajasthan & Gujarat States, Sponsored by M/s I L&FS (2010-2017)
- Performance Study on Use of Flyash in Construction of Bituminous Road Surfacing, Sponsored by NTPC, Noida (2013-2017)
- Design, Construction and Performance Evaluation of New Materials and Mixes towards Development and Upgradation of Standards / Specifications, In- House Research (2014-2017)
- 12<sup>th</sup> Five Year Plan Project entitled "Development and Application of Technologies for Sustainable Transportation" (2013-2018)
- Development of Master Curves for Hot Bituminous Mixes used in India, In- House Research (2015-2017)
- Feasibility Study of Thermocole Waste Materials in Bituminous Mixes, In- House Research (2015-2017)
- Investigation for Feasibility of Reducing the Existing Level of Carriageway of Rajpath and for needed Remedial Measures, Sponsored by CPWD (2016)
- Water Harvesting using Porous Flexible Pavements, In- House Research (2016-2019)
- Impact of Road Condition on Fuel Consumption of Vehicles, Sponsored by Petroleum Conservation Research Association (2018)
- Self - Healing Technology for Bituminous Pavements through Induction Energy, In- House Research (2016-2017)
- Evaluation of Additives GeoR Bound a Soil Stabilizer for Flexible Pavement, Sponsored by AUSTRAL Infrastructure Solution Pvt. Ltd., New Delhi (2017)
- Laboratory Evaluation of Rig Mate for Utilization of Ready to Use Pavements (2017)
- Bicycle based Road Asset Management, In- House Research (2018)
- Decay in Modulus of Stabilized Layers in Flexible Pavements (ongoing), Sponsored by UP PWD
- Development of Skid Resistance Norms for Highways in India (ongoing)
- Development of Road Maintenance Management System (RMMS) for Public Works Department, Government of Kerala (ongoing)

c. Research Publications:

1. Vasan, R. M. , Gupta A. K. and Jain Sunil " Performance Evaluation of Composite Pavements" Published in National Seminar on Fiber Reinforcement Concrete for Hydraulic Structure, organised by Information Centre for Fiber Reinforcement Composites, Madras at New Delhi, Dec. 1992.
2. Sood V. K. , Sharma B. M. , Sitaramanjanyulu K. and Jain Sunil " Some Recent Developments Towards Managing Pavements", Published in National Seminar on Emerging Trends in Highway Engineering" organised by Bangalore University, March 1995.
3. Sood V. K. , Jain Sunil, Rampal and Atar Singh, " Bitumen Emulsion for Maintenance and Rehabilitations of Flexible Pavements" , Published in National Workshop on use of Bitumen Emulsion in Road Construction - Problems and Prospects, organized by Central Road Research Institute, New Delhi, October 1997.
4. Sood V. K. , Jain P. K. , Sharma B. M. and Jain Sunil " New MOST Construction Specifications - A critical Appraisal" Published in International Seminal on New Trends in Highway Construction, organized by Indian Road Congress, New Delhi, November 1997.
5. Rampal, Jain Sunil, Jain P. K. and Sood V. K. " Environmental Pollution due to Road Construction: Causes and Remedies" Published in National Scientific Meets: Environment and Health, organized by Central Drug Research Institute, Lucknow, February, 1998.
6. Jain P. K., Sharma B.M. , Sood V. K. and Jain Sunil " Performance Related Properties of Bituminous Binders and Mixes - A Critical Appraisal" Published in Euro - Bitumen Workshop, Luxembourg, Belgium, May 1999.
7. Jain Sunil, and Sood V. K. " Axle Load Survey and Instrumentation for Maintenance of Roads" Published in Sadak Darpan Magazine, Part- IV, Central Road Research Institute, New Delhi, September, 1999.
8. Jain Sunil, Jain P. K., Arora M. R. and Sood V. K. " A Methodology for Investigation of Road Failures - Issues and Strategies" Published in National Seminar on Challenges for Road Transportation in 21<sup>st</sup> Century Leading to Fuel Economy, Patiala, February, 2001.
9. Sood V. K. Kanchan P. K. and Jain Sunil " A Suggested Approach for Vehicle Taxation" Published in International Seminar on Sustainable Development in Road Transport, New Delhi (India), November 2001.
10. Jain P. K. , Jain Sunil, Sood V. K. and Sikdar P. K. " Practice and Technologies for Maintenance of Highways - A Critical Appraisal" Published in International Seminar on Sustainable Development in Road Transport, New Delhi (India) , November 2001.
11. Sood V. K. and Jain Sunil " Effect of Overloading on Pavement Performance and Remedies" Published in Sadak Darpan Magazine, Part- V, February, 2002, Central Road Research Institute, New Delhi.
12. Jain Sunil, Rampal, Jain P. K. and Sood V. K. " Microsurfacing - Environment Pollution Free Technology" Published in National Seminar on Road Transport and Pollution, organized by Central Road Research Institute, New Delhi, September, 2003
13. Jain P. K. Jain Sunil, Sood V. K. , Sikdar P. K. and Rampal " Use of Microsurfacing for Sustainable and Fast Maintenance of Urban Arterial Roads" Published in International Seminar on Integrated Development of Rural and Arterial Road Network for Socio- Economic Growth, December, 2003.
14. Sood V. K. , Jain Sunil, An article entitled" Microsurfacing - A Cold Mix Technology for Maintenance of Roads" Published in Times Journal of Construction and Design, Mumbai, January 2004.
15. Jain P. K. , Deori, Sanjay, Jain Sunil, Rampal and Sikdar P. K. " Performance Study and Usage Guidelines for Maintenance of Urban Roads Using Microsurfacing Technology" Published in Highway Research Bulletin No. 73, October 2005.

16. Nanda P. K. , Tiwari Devesh, Jain Sunil and Sharma B. M. " Optimization of Road Materials for Conservation" Published in International Seminar on Innovation in Construction and Maintenance of Flexible Pavements, Agra, September 2006.
17. Jain, Sunil, Rampal, Ajay Pal Singh & Pramod Kumar Jain " Microsurfacing- Environmental Friendly Technology for Maintenance of Urban Arterial Roads" Published in National Seminar on Materials Vision 2010, organized by CSIR- CRRI February, 2010.
18. Jain, Sunil, Rampal, & Pramod Kumar Jain " Development of Durable Roads using Plastic Waste - A Successful Experiment on Delhi Roads" Published in National Seminar on Materials Vision 2010, organized by CSIR- CRRI February, 2010 .
19. Deori Sanjay, Jain P.K., Jain Sunil and Tiwari Devesh " Full Scale Performance Study on Crumb Rubber Modified Bitumen and Conventional Bitumen in Bituminous Concrete" Indian Road Congress, New Delhi, Vol. 38, Oct. 2010, page No. 45- 54
20. Pandey Satish, Guru Vittal U.K. and Jain Sunil "Utilization of Geosynthetic Reinforcement for Construction and Rehabilitation of Bituminous Pavement" Published in National Conference Three Decades of Geosynthetics in India, organized at New Delhi November, 2015.
21. Kumar N. , Aggarwal P. , Jain Sunil and Tiwari Devesh " A Critical Review on HDM- 4 Vehicular Emission Models, Published in National Conference on Recent Advances in Civil Engineering (RACE- 2016), 5- 6 March 2016, SVNIT, Surat, India, page No. 962-969.
22. Kumar Sampath, Tiwari Devesh, Jain Sunil and Kumar Pradeep " Self Healing Pavements – A Revolution in Pavement Materials" Published in IRF World Road Meeting (International Conference), organized by IRF at India Expo. Ltd., Greater Noida November, 2017

d. Other Responsibilities:

- Worked as Group Coordinator, Pavement Materials and Construction Technology Group, Pavement Engineering Area, CSIR - Central Road Research Institute, New Delhi(2014).
- Worked as Head, Pavement Evaluation Division, CSIR - Central Road Research Institute, New Delhi(2016-18).
- Working as Professor in the Academy of Scientific and Innovative Research ( AcSIR) as Faculty of Engineering Sciences since 27<sup>th</sup> February 2014.
- Worked as Project Leader in more than 150 Consultancy/ Technical Services Projects.
- Faculty member in number of Training Courses conducted by CSIR - CRRI, which includes in general the following lectures:
  - Structural and Functional Evaluation Techniques
  - Pavement Surface Distress - Types, Identifications, Causes and their Measures
  - Repair Techniques for Maintenance of Flexible Pavements
  - Quality Assurance and Quality Audit for Flexible Pavements