

## BIO-DATA

Name : Dr. Sanjay Deori

Designation : Principal Scientist & Group Leader

Qualification : PhD (Civil Engineering), IIT Guwahati (Assam)  
M.Tech. (Transportation Engineering), IIT Kharagpur (West Bengal)

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Research Interest: Highway Engineering & Materials and Geo-Technical Engineering

### Experience / Employment:

- Scientist 'B', CSIR- Central Road Research Institute (CRRI), New Delhi, Dec 1999-Dec 2003
- Scientist 'C', CSIR- Central Road Research Institute (CRRI), New Delhi, Dec 2003-Dec 2008
- Scientist 'E-1', CSIR-Central Road Research Institute (CRRI), New Delhi, Dec 2008- July 2011
- Senior Scientist, CSIR-North-East Institute of Science and Technology (NEIST), Jorhat , Assam, July 2011- Dec 2013
- Principal Scientist, CSIR-North-East Institute of Science and Technology (NEIST), Jorhat , Assam, Dec 2013 to till date

### List of Publications:

- Deori, Sanjay, Choudhary, Rajan, Tiwari, Devesh and Kumar, Abhinay, "HDM-4 Deterioration Modelling: Validation and Adoption for Flexible Pavements with Modified Bituminous Road Surfacing", accepted for publish in The Baltic Journal of Road and Bridge Engineering, February 2019.
- Deori, Sanjay, Choudhary, Rajan, Tiwari, Devesh and Gangopadhyay, S, "Calibration of HDM-4 Pavement Performance Models for Indian National Highways", published in The International Journal of Pavement Engineering & Asphalt Technology (PEAT), ISSN 1464-8164, Volume: 19, Issue: 1, May 2018, pp 23-35.
- Deori, Sanjay, Choudhary, Rajan, Tiwari, Devesh and Gangopadhyay, S "Deterioration Modelling of Flexible Pavement having Modified Bitumen in Wearing Course" published in International Journal of Pavement Engineering (IJPE) in July 2016. Publisher: Taylor & Francis; Peer Review International Journal, ISSN No.1029-8436.

- 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”, published in Indian Highways, Indian Roads Congress (IRC) Journal, New Delhi, May, 2010.
- 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, Highway Research Board, Indian Roads Congress.
- Jain, P.K., Deori, Sanjay, Singh, A.P., Das, Shankh, “Studies on Behaviour of Different Bituminous Binders in Tack Coat Applications”, published in Indian Highways, Volume 36 No.3, March, 2008, Indian Roads Congress, New Delhi.
- Deori,S., Choudhary, R., Tiwari, D., and Gangopadhyay, S., “Evaluation of Flexible Pavement Performance using Laser based Multifunction Automated Road Survey System”. 14<sup>th</sup> Annual International Conference on Asphalt, Pavement Engineering and Infrastructure, Liverpool John Moores University, February11-12, 2015, Liverpool, UK.
- Deori, Sanjay, Rao, Y.V., Sharma, B.M. , Pokhriyal, S.P., “Microsurfacing – An Effective Treatment for maintenance of City Roads in Delhi”, 5<sup>th</sup> World Congress on Emulsion, October 12-14 2010 , Lyon , France.
- Jain, P.K., Kamraj, C., Deori, Sanjay and Sikdar, P.K., “Evaluation of High Performance Rubber Modified Bituminous Mixes for Structural layers of Flexible Pavements.” Published in 8<sup>th</sup> International Conference on “Applications of Advanced Technologies in Transportation (AATT)” Beijing, China, May 26-28, 2004.
- Deori, Sanjay, Choudhary, Rajan, Tiwari, Devesh and Sitaramanjaneyulu, K., “Deterioration Modeling of Flexible Pavements with Modified Bitumen”, Third International Conference on Construction in Developing Countries (ICCIDC–III) “Advancing and Integrating Construction Education, Research & Practice” July 4-6, 2012 Bangkok, Thailand.
- Deori, Sanjay, Jain, P.K., and Sharma,B.M., “Use of Natural Rubber Modified Bitumen Emulsions in Road Maintenance -- A Step Forward in the Direction of Eco- Effectiveness”, 1<sup>st</sup> International Bitumen Conference, Tehran, Iran, October 18-19, 2008.
- Jain, P.K., Nagabhushana, M.N., Deori, Sanjay and Kamaraj, C.,“Performance of Natural Rubber Modified Bitumen in India – A Pilot Study”, 4<sup>th</sup> Congress Euroasphalt & Eurobitume 2008, Copenhagen, Denmark.
- Deori. S., Choudhary, R., Tiwari, D., and Kumar, A. “Deterioration Modelling of Flexible Pavements using HDM-4”. National Conference on Roads and Transport (NCORT-2017), Indian Institute of Technology Roorkee, October 14-15, 2017, Roorkee, India.
- Deori, Sanjay, Choudhary, Rajan, Tiwari, Devesh and Gangopadhyay, S “Field Performance Study on Modified Bituminous Road sections of National Highway Corridors”, 3<sup>rd</sup> Conference of Transportation Research Group of India (CTRG), December 17-20, 2015, Kolkata, West Bengal, India.
- Deori, Sanjay, Choudhary, Rajan, Tiwari, Devesh and Gangopadhyay, S.,“HDM-4 Pavement Deterioration Modelling for Ahmedabad-Vadodara Expressway”, International Conference (ICSCI 2014) on “Sustainable Civil infrastructure” organized by IIT Hyderabad and ASCE (American

Society of Civil Engineers) India Section, October 17 – 18, 2014, Hitex, Hyderabad, Telangana, India .

- Deori, Sanjay and Reddy, K.S., “Laboratory Evaluation of Stone Matrix Asphalt Mixes.” published in the proceedings of National Conference on “Civil Engineering System, 2006”, June 1-3, 2006, Organized by Department of Civil Engineering, University College of Engineering, Osmania University, Hyderabad, India.
- Deori, Sanjay, Das, Shankh, Jain, P.K., and Sikdar, P.K., “Engineering Properties of Cellulose Fiber Modified Bituminous Mixes.” Published in Proceedings of the “POLY BUILT 2003” Symposium on Advances in Polymeric Building Materials , organized by Central Building Research Institute , Roorkee, India, March 6-7, 2003.
- Deori, Sanjay, Choudhary, Rajan, Tiwari, Devesh and Sharma, B.M. “A Critical Review of Flexible Pavement Performance Prediction Models”, International Conference on Advances in Materials and Techniques for Infrastructure Development (AMTID 2011) NIT Calicut, India, June 22-24, 2011.
- Deori, Sanjay, Basumatari, Dipak, Borah Nibir, Pran and Das, Rajib, "Construction and Maintenance of Roads using Cold Mix in High Rainfall Area - A Case Study", 1<sup>st</sup> International Conference on Infrastructure Development ICID-2018 organised by Jorhat Engineering College, Jorhat, December 21-22, 2018.
- Deori, Sanjay, Sharma, B.M, Rao, Y.V., Gangopadhyay, S., “Indian Experiences on Microsurfacing : An Innovative Technology for Reduction of Greenhouse Gas Emissions”, International Seminar on “ Reducing Carbon Footprint in Road Construction”, India Habitat Centre , New Delhi, February 17 – 19, 2011.
- Deori, Sanjay, Dipak Basumatari, Pranab Barkakati and Dr. P.G. Rao, “Indian Experiences on the use of Modified Binders in Flexible Pavements Construction”, Seminar on ‘Model Concepts for Improved Habitat in North-East’, September 24, 2011, Shillong.
- Basumatari, Dipak, Deori, Sanjay, Buragohain, Khirod, Borah, Nibir Pran and Das, Rajib, "Energy Efficient Buildings : An overview", 1st International Conference on Infrastructure Development ICID-2018 organised by Jorhat Engineering College, Jorhat , December 21-22, 2018.
- Raj, Leon, J., Bhavani, Katari Durga, M.L., Rao Sai Ranga and Deori, Sanjay, "Shear strength expression for RC corbels", 1st International Conference on Infrastructure Development ICID-2018 organised by Jorhat Engineering College, Jorhat, December 21-22, 2018.
- Dipak Basumatari, Deori, Sanjay, Barkakati, Pranab and Rao, P.G., “ Green Building”, Seminar on ‘Model Concepts for Improved Habitat in North-East’, September 24, 2011, Shillong.

#### List of Major Projects completed:

- Study and development of soil modification or stabilization techniques for various types of soil used in construction activities in and around Jorhat and in some selected areas of Assam, CSIR-12th Five Year Plan In-House Project.
- Post Disaster Management Design and Development of Transitory Houses for Disaster Vulnerable Rural Sectors in the North Eastern Region, CSIR- 12th Five Year Plan (Network Project).

- Seismic Vulnerability Assessment of Major Cities in North-Eastern India, Sponsored by NEC, Shillong.
- Performance Evaluation of River Brahmaputra Bed Materials for Use in Construction of Road Embankment, Subgrade and Subbase, sponsored by Department of Science & Technology, New Delhi.
- Development of Methodology for Manufacturing Modular Bricks from River Brahmaputra Bed Material, sponsored by Department of Science & Technology, New Delhi.
- Modular Brick from Brahmaputra River bed sand, (Fast Track Translational Project) sponsored by CSIR.
- Soil Investigation for LPG Mounded Bullets and Bio-Refinery Plant Area at NRL, sponsored by Numaligarh Refinery Limited, Golaghat, Assam. .
- Soil Investigation for recycling Treatment Plant at NRL sponsored by Numaligarh Refinery Limited, Golaghat, Assam.
- Performance Evaluation Report on Rural Roads Constructed Using Bitchem Cold Mix in Different District of Assam, sponsored by M/s Bitchem asphalt Technologies Limited , Guwahati, Assam.
- Development of Management System for Maintenance, Planning and Budgeting of High Speed Road Corridors, 11<sup>th</sup> Five Year Plan CSIR-Supra-Institutional Project.
- Development of GIS Based National Highway Management System, sponsored by Ministry of Shipping, and Road Transport and Highways (MOSRTH), New Delhi, Govt. of India.
- Pavement Performance Study-Study on New Pavement Sections (Phase-I), sponsored by Ministry of Road Transport and Highways (MoRT&H) ,Govt. of India.
- Performance Evaluation of Crumb Rubber Modified Bitumen in Bituminous Concrete on Delhi-Jaipur Section of NH-8, sponsored by National Highways Authority of India (NHAI), Gurgaon.
- Construction Supervision of Quality Control During Execution of Microseal at Prithviraj Road and Windser Place Round About in Delhi, sponsored by New Delhi Municipal Council(NDMC), New Delhi.
- Performance Study of Natural Rubber Modified Bitumen in Road Surfacing, sponsored by Rubber Board, Ministry of Commerce, Govt. of India.

Major events organized:

- Organized one day national workshop on *“Sustainable Technologies for Road Construction in North East”* jointly with CSIR-CRRI, New Delhi and Public Works Department (PWD), Assam, September 19, 2011, CSIR-NEIST, Jorhat.
- Organized two day national workshop on *“Sustainable Technologies for Road Construction in Tripura, North East”* jointly with CSIR-CRRI, New Delhi and Public Works Department (PWD), Trpura, February 4-5, 2012, Agratala, Tripura.
- Organized two day workshop on *“Development of Civil Infrastructure Technologies for North Eastern Region”* sponsored by Department of Science and Technology (DST), New Delhi February 28 – 29, 2012, CSIR-NEIST, Jorhat,.
- Organized three day national conference *“Conference on Road and Transportation Technologies for North-East Region (CORTNE2013)”* jointly with CSIR-CRRI, New Delhi; Public Works Department, Assam; and M/s Bitchem Asphalt Technologist Limited, Guwahati, February 22-24, 2013, Maniram Dewan Trade Centre, Guwahati, Assam.
- Organized two day workshop on *“Technologies for North East Region and Implementation Framework (TIF)”* jointly with CSIR-CRRI, New Delhi and Public Works Department, Sikkim and M/s Bitchem Asphalt Technologies Limited, Guwahati, July 08-09, 2013, Chintan Bhawan, Gangtok, Sikkim.
- Organized one day national workshop on *“Recent Developments in Civil and Earthquake Engineering (RDCEE-18)”*, April 9, 2018, CSIR-NEIST, Jorhat.

Recognitions received:

- Certification of appreciation has been awarded as an inventor for the technology developed and commercialization of "*Modular Brick from Brahmaputra River Bed Material*" for the year 2017-18 on 57<sup>th</sup> CSIR-NEIST Foundation Day (March 18, 2018).

Professional Affiliations:

- Indian Roads Congress – Life Member

International Assignment:

- Technical Training programme on Accelerated Pavement Testing Facility (APTF) at Built Environment Department in CSIR South Africa at Pretoria, May 31, 2009 to August 1, 2009.