

## Curriculum Vitae

**Poonam Shivdutt Kumar (Prasad)**

*(Principal Scientist, CSIR-National Environmental Engineering Research Institute-Nagpur, India)*

<i>Contact Address</i>	<i>Mail Id</i>	<a href="mailto:p_prasad@neeri.res.in">p_prasad@neeri.res.in</a> , <a href="mailto:poonam.prasad20@gmail.com">poonam.prasad20@gmail.com</a>
CTMD, CSIR-NEERI, Nehru Marg, Nagpur, India 440020	<i>Contact Phone</i>	0712-2249885, ext-580

### WORK EXPERIENCE:

Position/ Designation	From	To	Division/ Section	Laboratory/Company	Jobs/ Roles Performed
Principal Scientist	Jan 2022	Till No	Cleaner Technology & Modelling Division	CSIR-National Environmental Engineering Research Institute, Nagpur	R&D on Environmental Sensors, Internet of Things etc. Artificial Intelligence and Machine Learning
Senior. Scientist	2/08/2016	Jan 2022	Analytical Instruments Division/ Sophisticated Environmental Analytical Facility	CSIR-National Environmental Engineering Research Institute, Nagpur	R&D on Environmental Sensors, Internet of Things etc.
Scientist & Head	13/06/2013	01/08/2016	Knowledge Resource Center	CSIR-National Environmental Engineering Research Institute, Nagpur	Lead the knowledge Resource Center and R&D on Environmental aspects

Scientist 'C'	21/12/2009	12/06/2013	Environmental System Design & Modeling	CSIR-National Environmental Engineering Research Institute, Nagpur	ICT and Environment related R&D
Scientist 'B'	21/12/2006	20/12/2009	Environmental System Design & Modeling	CSIR-National Environmental Engineering Research Institute, Nagpur	ICT Management and R&D Support
Software Tester	May 2006	Aug 2006	Nokia India Pvt. Ltd.(Navi Mumbai)	Marquis Technologies	Testing of CDMA mobile phones

#### TECHNICAL SKILLS:

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Programming Languages	C,Java,C++,.Net, PHP, R, C#
Others	LabView v8.5, MultiSim, CommSim, UltiBoard, Student Workbench etc.
Operating Systems	Windows 9X/ 2000/ NT, Vista, Linux, RHEL4
Tools & Packages	MS-Office, Real Time Database, Support vector machine, KOHA, LibSys, OPAC
Web Technologies	WAMP,LAMP,XAMP

#### ACADEMICS:

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Institution And Location	Degree	Year	Field Of Study
Shobhit University-Meerut( UPTU-LUCKNOW)	B.Tech (Electronics and Communication)	2001-2005	Electronics and Comm with 82 %

Rastrasant Tukadoji Maharaj Nagpur University (RTMNU)	ME By Research (Electronics)	2008-2013	Electronics Engineering with grade "A"
National Law School of India University, Bangalore	Post Graduate Diploma in Environmental Laws(PGDEL)	2012-2014	Environmental Law
Indira Gandhi National Open University, New Delhi	Master in Information and Library Science	2016-2018	Information & Library Science

#### ACHIEVEMENTS:

- Received a fellowship under Netherlands Fellowship Programme for attending a Short course on "Data Driven Modeling and Real Time Control of Water Systems at UNESCO-IHE from 2<sup>nd</sup> March 2015-20<sup>th</sup> March 2015
- Received INSA Visiting Scientist Fellowship (VSF) by Indian National Science Academy, New Delhi for conducting research work at Indian Institute of Science, Bangalore for two months from 17<sup>th</sup> June 2019-16<sup>th</sup> August 2019
- Lead Knowledge Resource Center at CSIR-NEERI, which include activities like knowledge base Institutional repository management, KOHA Management, LibSYS and policy matters related to research publication
- Nodal officer for the CSIR Transformation project ONECSIR in which CSIR-NEERI has won bronze medal in CSIR ERP AWARDS 2012 on the occasion of CSIR@70 Foundation Day Celebrations
- Won certificate of merit award for the term paper in the 10th foundation Training Program for scientist and technologist sponsored by DST at IIPA, New Delhi.
- Eighth Rank holder (B. Tech) in UPTU-Lucknow.
- Won certificates of merit for topping class 10th and 12th by GM, NTPC, SSTPS
- Scholarship from high school onwards.
- Got 2<sup>nd</sup> prize in a short circuit competition held at IIT-Delhi TRYST-2004 Fest.
- Got prize in Youth Parliament, Skit competition held at NTPC.
- Got certificates from Paryavaran Ratna and United Nation Information test.
- Student Coordinator of College Placement Cell.
- Held the position of *Joint Secretary* of the college level electronic society, named "*Electrosiety*".
- Had been the Class Representative at both school and college levels.

#### **PROJECT WORKED/WORKING ON:**

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- LoWPAN (IoT) compliant sensor modules network for monitoring of poisonous gases in industrial environment
- Administer and Manage UP Jal Nigam Laboratories for Chemical and Bacteriological Testing of Drinking Water Sources in all Districts [75] of Uttar Pradesh
- Smart Disposal, Incineration, & Carbonisation System (SMART-DISC) for menstrual waste-FTT
- WoW Rhythm: A project by women for women for safe handling and disposal of menstrual waste
- Strategically design green belt development along with highways and its performance evaluation towards eco capital build-up
- Feasibility study and implementation of Sensor Grid for Air quality & Noise quality (SGAN) monitoring in Delhi & its validation with conventional systems
- Integrated low cost water sensors for real- time river water monitoring and decision-making
- CSIR Knowledge Gateway & Open Source Private Cloud Infrastructure (KNOWGATE)
- GIS based Solid Waste Management Information System for Indian Cities (SWIS-GIS).
- Remote access of analytical instruments at central instrumentation facility in general and Gas Chromatograph in particular using LAN facility.
- GIS based web application for the Indian Environmental System.
- Designing of a scientific rapid composting facility and development of a comprehensive waste management system for NEERI residential colony.
- Preparing Environmental Framework for Water Quality Status of water bodies in Maharashtra with recourse to Analytical/Statistical tools.
- Nodal officer for the National Knowledge Network (NKN) initiative of Gol.
- ERP preparation, planning and implementation (ONECSIR) an enterprise transformation project of CSIR at the Lab.
- R&D studies for sustainable process performance and optimization of pilot plant composting facility (4T capacity) built for rapid composting of household organic wastes of the NEERI residential colony.
- Software tool/framework for Water Quality Analysis of Indian Rivers + Interactive dedicated Webpage development for Clean Water proposal
- Design and development of an informative and interactive portal/framework for monitoring and updation of Bioenergy-Waste to wealth theme activity

#### **PRESENTATIONS AND PAPERS:**

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- A tutorial titled "Secure computing" presented at International conference on Information & Technology (ICIT-08) held on 17<sup>th</sup> Dec 2008 in Bhuvaneshwar.
- Poster presentation: GIS based modeling for Environmental Impact Assessment: The Recent Trends, Ritesh Vijay, D. R. Satapathy, A. Sharma, P. Prasad and R. A. Sohony

International Conference on “Recent Trends in Environmental Impact Assessment”, NEERI, Nagpur November 23-25, 2008.

- Lectures delivered in Rajbhasha Vikas Parishad, Nagpur on Unicode.
- Presented a paper titled “Online instrument controlling and information management system” presented in International Conference on Instrumentation (ICI-2009) & National Symposium on Instrumentation (NSI-34) during 21-23 January 2010.
- G L Bodhe, Poonam J Prasad, Online Instrument Controlling and Information Management System, Journal of Instrument Society of India, Bangalore, Vol.40, No.2, pp 119-121, 2010
- Poonam Prasad, Meenal Chaurasia, R.A.Sohony, Indrani Gupta, Rakesh Kumar, Software framework for the water quality analysis of river, sea water and ground water, International Conference on Recent Developments in Environmental Impact Assessment & Integrated Approach for Carbon Management-Solutions Technology Development and Pollution Abatement RDEIA-IACM, CSIR-NEERI, Nagpur, 2012.
- Poonam Prasad, Meenal Chaurasia, R.A.Sohony, Indrani Gupta, Rakesh Kumar, Web based framework for water quality analysis of surface water, National Seminar on Environmental Pollution and Remedies, Deogiri College, Aurangabad, 2011.
- Poonam J. Prasad, Satish J. Dabe, Santosh P. Ghuge, Asheesh Sharma, Kanchan Kumari, Noor Khan, Prince Williams and NEWRONS, ‘SAFE AND SUSTAINABLE MANAGEMENT OF MUNICIPAL SOLID WASTE IN CSIR-NEERI CAMPUS’, 1st International Brainstorming Workshop on Waste to Energy in India, August, 24-25, 2012, Organized by National Environmental Engineering Research Institute, (NEERI) India in association with Earth Engineering Centre, Columbia University, USA
- Poonam J Prasad “Information Communication Technology (ICT) - Its waste and consequence” in IJETM Special Issue on Science, Engineering and Management of Solid Waste and Wastewater, DOI: 10.1504/IJETM.2012.049234 Publication date: 2012-09-01
- Poonam Prasad, G.L. Bodhe, TRENDS IN LABORATORY INFORMATION MANAGEMENT SYSTEM, Chemometrics and Intelligent Laboratory Systems, DOI information: 118. pp. 187-192. ISSN 0169-7439
- Poonam Prasad, Meenal Chaurasia, R. A. Sohony, Indrani Gupta & R. Kumar, Water Quality Analysis of Surface Water: A Web approach, Environmental Monitoring and Assessment, 2013 Jul;185(7):5987-92
- Poster Presentation at Indian Science Congress Jammu on the topic “Green IT: Crafting Pathway for Sustainable & Inclusive Development” at Rastriya Vigyan sancharak Sammelan, Feb 2014
- Sushant Wath and Poonam Prasad, A REVIEW ON WATER RESOURCES AVAILABILITY AND ITS MANAGEMENT PRACTICES IN INDIA, JOURNAL OF ENVIRONMENTAL SCIENCE AND ENGINEERING (JESE), 2014 accepted
- Poonam Prasad, (2015), "Recent trend in wireless sensor network and its applications: a survey", Sensor Review, Vol. 35 Iss, pp. 229 - 236

- Poonam Prasad, Recent Trends in Real Time Control System for water quality estimation: A review, Journal of Instrument Society of India, Bangalore, accepted, December 2016
- Poonam Prasad, Amit Dalal, Water Quality estimation using statistical and software tools: An ICT intervention, Adjunct Proceedings of the 29th EnviroInfo and 3rd ICT4S Conference 2015 Copenhagen, Denmark, September 7-9, 2015
- Sunil Gulia, Poonam Prasad, S.K. Goyal, and Rakesh Kumar, Sensor based Wireless Air Quality Monitoring Network - A Smart Tool for Urban Air Quality Management: A Case Study of Highly Urbanized Megacity, Delhi, India, Air Sensors International Conference, 12-14 Sept 2018
- Poonam Prasad & Rakesh Kumar, Internet of Things (IoT) for Air Environment Monitoring: A study, Air Sensors International Conference, 12-14 Sept 2018
- Ananth S. & Poonam Prasad, Natural Dye Synthesised TiO<sub>2</sub> Nano particles for efficient green energy harvesting, International conference on applied Nano Science & Nanotechnology (ICANN-2019) sponsored under RUSA phase 2.0 Scheme, 18-19 March 2019, ISBN 978-81-937479-2-6
- Javeriya Abdulnabi Shaikh, Poonam Prasad, Dr. Ravi Tiwari, IOT Enabled System for better Environmental Monitoring, International Journal for research in Applied Science and Engineering Technology, Volume 7, Issue V, May 2019
- Poonam Prasad & Abhijeet Dhawale, Internet of Things (IoT) based e-nose system for obnoxious gas monitoring, IV- International Conference on Sustainable Energy & Environmental Challenges (IV-SEEC), hosted by CSIR-NEERI during Nov. 27-29, 2019
- Sunil Gulia; Poonam Prasad; S.K. Goyal; Rakesh Kumar, Sensor based Wireless Air Quality Monitoring Network (SWAQMN) - A Smart Tool for Urban Air Quality Management, Air Quality, Atmosphere & Health, Volume 11, Issue 9, September 2020, Pages 1588-1597, IF- 3.763

#### **TRAINING PROGRAMME ATTENDED:**

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- Attended a five-day workshop on e-Suraksha - A Practical Approach on Network Security during Jan 21-25, 2008 at JNTU Campus, Old Library Building, Kukatpally, Hyderabad conducted by C-DAC Hyderabad.
- Attended a training programme on "Build your own Wi-Fi/WiMAX Campus Wide Network" during October 8-9, 2007 at Bhosari, Pune organized by Science and Technology Park.
- Attended a programme on Decision Support Tools & Techniques from April 28-May 02, 2008 at ASCI, Hyderabad.
- Attended a One-Week Advanced Training Programme on "Cyber Laws, Information Security and Computers for Scientists & Technologists" organized by IIPA, Delhi from 09/06/2008 to 15/06/2008.
- Attended training from 3/11/2008 to 07/11/2008 organized by Rajbhasha Vikas Parishad, Nagpur on Unicode.
- Participated in 10<sup>th</sup> Foundation Training Programme for Scientists & Technologists sponsored by DST from 8 Nov 2010 to 28 Jan 2011.

- Attended GARUDA-NKN Partners meet on 15-16 July 2011 at Clarks Exotica, Bangalore NKN-Garuda, Bangalore.
- Participated in National Instruments (NI) training program on Real Time instrumentation, Mumbai, 28 Nov 2011 and 29 Nov 2011.
- Participated in Training Programme on Harnessing Leadership among Woman Scientists and Technologists B & C during February 20-24, 2012 under Women Component Plan of scheme National Programme for Training of Scientists and Technologists working in Government Sector, sponsored by DST
- Participated in Interactive Workshop on Economic Development and Atmospheric Pollution IIASA-TIFAC-NEERI Workshop, 6th to 9th February 2012, CSIR-NEERI, Nagpur.
- Attended a 3 days' awareness course on Quality, Environment, Health & Safety Management Systems as per ISO 9001:2008, ISO 14001:2004 & OHSAS 18001:2007 Standard at NEERI, Nagpur from 7<sup>th</sup> to 9<sup>th</sup> May 2012.
- Attended Engineering and Science Innovation Summit 2012 by National Instruments (NI) held in Nagpur on 29th May 2012.
- Participated in The IT Nodal Officers Meet at CSIR-SERC, Chennai (Nov 29 & 30, 2012)
- Participation in the Second NKN Annual workshop at IISc, Bangalore held from 17<sup>th</sup> Oct - 19<sup>th</sup> Oct 2013
- Participation in the Third NKN Annual workshop at IIT, Guwahati held from 15<sup>th</sup> Dec - 17<sup>th</sup> Dec 2014
- Participated in one-day workshop on Bigdata analytics on 15<sup>th</sup> Feb 2014 at Knowledge park, C-DAC, Bangalore
- Invited as a speaker in IOTSHOW at India Electronics Week 2019 organized from 26<sup>th</sup> to 28<sup>th</sup> February 2019, KTPO, Bangalore on the topic "IoT for Environmental application"
- Participated in DST-UKERI- IEEE workshop on 1st Nov.2018 at IIT Delhi on Emerging Sensor Technologies and Data Analytics for Air Quality Monitoring
- Selected as a subject expert on Interdisciplinary Cyber Physical System by DST
- Invited as a speaker the UGC sponsored program (The UGC- Human Resource Development Centre), *Refresher Course in Environmental Studies (I. D.) (For all subjects)* for teacher participants during 20<sup>th</sup> August 2018 to 12<sup>th</sup> Sept. 2018 at Sant Gadge Baba Amravati University, Amravati
- Participated in 7th Annual IoT & AI Innovation India Conclave & Exhibition Nov, 2018, Bangalore
- Participated in Carrying capacity workshop on 29 Nov 2018, Delhi organized by DZC, CSIR-NEERI
- Attended a conference on Research for Resurgence at VNIT, Nagpur on -2016
- Technical Member in BIS ETD-43, Standardization of environmental aspects of electrical and electronics products sectional committee, ETD-43

- Invited speaker in IoT Show India Conclave <https://iot.electronicsforu.com/content/tech-trends/iot-for-environmental-monitoring-need-and-challenges-in-india/> article published in IoT show workshop by electronics for you, Feb 2019
- Attended Seventh meeting of ETD-43 STANDARDIZATION OF ENVIRONMENTAL ASPECTS FOR ELECTRICAL AND ELECTRONIC PRODUCTS (Online) on 27-7-2021
- Participated in World Standards Day 2021 is 'Our shared vision for a better world' with reference to Standards for Sustainable Development Goals on 14 Oct 2021
- Guest Speaker on the occasion of World Standard Day in Nagpur on 14 Oct 2021
- Participated in ETD 43 International Electrotechnical Commission Technical Committee (IEC TC) 111 plenary international meeting on 27-30 Sep 2021
- Attended virtual workshop on the topic 'Made in India for the World - BIS Contribution to International Standardization' on 23 Dec 2021 at 14:30 hrs (IST)
- Attended General Management Programme for Scientists sponsored by Department of Science and Technology is scheduled from 6th December to 17th December 2021 by ASCI, Hyderabad Administrative Staff College of India
- Attended webinar on 'Cost-effectiveness of air pollution control interventions for Delhi' 'Cost effectiveness of air pollution control interventions for Delhi' by Bloomberg Philanthropies, TERI (The Energy and Resources Institute) on 9 December, 2021
- Attended ISO 9001 QMS Internal Auditor Training - CSIR NEERI, Internal Auditors and Divisional Representative from 11th & 12th November
- Participated in MSME Meet: 5th January 2022 of CSIR-NPL, New Delhi

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- a) CSIR-NEERI clean water Portal V.1.1.
- b) CSIR-NEERI Biodiversity Portal V.1.1
- c) CSIR-NEERI Industrial Emission Inventory V.1.1
- d) CSIR-NEERI online Instruments Booking Portal

#### PROFESSIONAL MEMBERSHIP

Committee	Position	Period
Member of Indian Association of Environmental Management (IAEM)	Member	Life Membership
Instrument Society of India	Member	Life Membership
The Indian Science Congress Association	Life Member	Life Membership



## INTERNATIONAL VISITS/ FELLOWSHIPS

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- Participated in the Exposure visit of Indian Scientists/Technologists from India to Japan by the Department of Science and Technology, Ministry of Science and Technology, Government of India, 21 September to 29 September 2012
- NFP fellowship award for attending the short course at UNESCO-IHE, Delft, The Netherlands from 28<sup>th</sup> Feb2015-20<sup>th</sup> Mar 2015
- Participated in IoT Asia 2017 from 29-30 March 2017 in Singapore
- Received INSA Visiting Scientist Fellowship (VSF) by Indian National Science Academy, New Delhi for conducting research work at Indian Institute of Science, Bangalore for two months from 17<sup>th</sup> June 2019-16<sup>th</sup> August 2019