


Brief Biodata

Name: Dr. Parveen Saini

Designation:	Sr. Principal Scientist	
DP No. and Name:	4.01; PV-Metrology	
DU No. and Name:	4.0; Advance Materials and Devices Metrology	
Email:	pkasaini@nplindia.org	
Date of Joining CSIR-NPL:	16/08/2004	
Phone (office)	+91-01145609505 / 8627 / 9401	

Research Area/ Interest

- 1) Management and recycling of waste materials (Plastic Waste, E-Waste, Solar Panels Waste, Battery Waste, Agro/bio-Waste) and the exploitation of recovered materials for technological applications via waste to wealth strategy.
- 2) Designing of conjugated polymers and based nanocomposites for Antistatics, ESD, EMI shielding, Anticorrosion, Supercapacitors and water purification applications
- 3) Designing of graphene analogues and based nanocomposites, hydrogels and aerogels for EMI shielding, Supercapacitor, Water Purification and miscellaneous other applications
- 4) Designing of Nanostructured Compositions for self-cleaning coatings and anticorrosion compositions
- 5) Recycling of Waste Pharmaceutical Blisters, Multilayer Plastic (MLP) Packagings and Biopolymeric Wastes
- 6) Development of Biodegradable Polymeric Materials and Hydrogels/Aerogels for Technological Applications

Educational Qualifications

(Please write latest qualification first)

Degree	Subject	University/ Institute	Year
PhD	Polymer Science and Engineering	Indian Institute of Technology Delhi (IITD), Delhi	2012
B.Tech.	Polymer Science and Chemical Technology	Delhi College of Engineering (DCE), Delhi University	2002

Academic / Research Experience

Grade / Post	Institute	Duration		Research Field
		From	To	
Graduate Engineer Trainee	Shriram Institute for Industrial Research, Delhi	Dec-2002	Mar-2004	Rubber, Plastics, Papers and Textiles
Jr. Scientist	CSIR-NPL, Delhi	Aug-2004	Aug-2007	Conjugated Polymers, Carbon Nanomaterials, Nanocomposites for Antistatics, EMI shielding & Anticorrosion Materials
Scientist	CSIR-NPL, Delhi	Aug-2007	Aug-2011	Conjugated Polymers, Carbon Nanomaterials,

				Nanocomposites for Antistatics, EMI shielding & Anticorrosion Materials
Sr. Scientist	CSIR-NPL, Delhi	Aug-2011	Aug-2015	Conjugated Polymers, Carbon Nanomaterials, Nanocomposites for Water Purification, Antistatics, ESD, EMI shielding, Supercapacitors and Anticorrosion Coatings
Principal Scientist	CSIR-NPL, Delhi	Aug-2015	Aug-2021	Conjugated Polymers, Carbon Nanomaterials, Nanocomposites, E-waste, Solar PV waste, Battery Waste, Plastic/Agro-Waste Management, Waste to wealth, for Water Purification, Antistatics, ESD, EMI shielding, Energy Storage, Anticorrosion Coatings and Self Cleaning Applications
Sr. Principal Scientist	CSIR-NPL, Delhi	Aug-2021	Till Date	Conjugated Polymers, Carbon Nanomaterials, Nanocomposites, E-waste, Solar PV waste, Battery Waste, Plastic/Agro-Waste Management, Waste to wealth, for Water Purification, Antistatics, ESD, EMI shielding, Energy Storage, Anticorrosion Coatings and Self Cleaning Applications

No. of Publications:

No. of Publications in SCI Journals	No. of Publications in non-SCI Journals	No. of Publications in Conference Proceedings	Books	Total
60	10	50	2 (Edited books), 15 (book chapters)	137

Selected Publications

1. Chitra, Dheeraj Sah, **Parveen Saini**, Sushil Kumar, Extraction and analysis of back-sheet layer from waste silicon solar modules, Chemical Reports, 4, 2022, 2556-263, **IF: TBD, Cited: 0**
2. Chitra, Dheeraj Sah, **Parveen Saini**, Sushil Kumar, Recovery and analysis of polymeric layers from waste solar modules by chemical route, Solar Energy, 244, 2022, 31-39,

IF:5.742, Cited: 0

3. N Chadha, MY Bhat, SA Hashmi, **Parveen Saini**, Fe₃O₄/graphene-oxide/chitosan hybrid aerogel based high performance supercapacitor: effect of aqueous electrolytes on storage capacity & cell stability, *Journal of Energy Storage* 46, 2022, 103789, **IF:6.583, Cited: 1**
4. N. Chandha and **Parveen Saini**, Post synthesis foaming of graphene-oxide/chitosan aerogel for efficient microwave absorbers via regulation of multiple reflections, *Materials Research Bulletin*, 148 (5), 2021, 111458, **IF:4.58, Cited: 2**
5. Chitra, Dheeraj Sah, Kalpana Lodhi, Chander Kant, **Parveen Saini**, Sushil Kumar, Structural composition and thermal stability of extracted EVA from silicon solar modules waste, *Solar Energy*, 211, 2020, 74-81, **IF:5.742, Cited: 5**
6. **Parveen Saini**, Historical review of advanced materials for electromagnetic interference (EMI) shielding: Conjugated polymers, Carbon nanotubes, Graphene based Composites, *India J Pure and Applied Physics*, 57 (5), 2019, 338-351, **IF:0.923, Cited:13**
7. **Parveen Saini** and M Arora, Formation mechanism, electronic properties & microwave shielding by nano-structured polyanilines prepared by template free route using surfactant dopants, *Journal of Mater. Chem. A*, **1, 2013**, 8926-8934, **IF:12.73, Cited: 86**
8. R Kumar, SR Dhakate, T Gupta, **Parveen Saini**, BP Singh, RB Mathur, Effective improvement of the properties of light weight carbon foam by decoration with multi-wall carbon nanotubes, *Journal of Mater. Chem. A*, **1 (2013)** 5727-5735, **IF:12.73, Cited: 132**
9. Pawan Verma, **Parveen Saini**, Rajender Singh Malik and Veena Choudhary, Excellent electromagnetic interference shielding and mechanical properties of high loading carbon-nanotubes/polymer composites designed using melt recirculation equipped twin-screw extruder, *Carbon*, **89**, 2015, 308-317, **IF:9.594, Cited: 156**
10. **Parveen Saini**, M Arora, G Gupta, BK Gupta, VN Singh, V Choudhary, High permittivity poly-aniline-barium titanate nanocomposites with excellent electromagnetic interference shielding response, *Nanoscale*, 5 (2013) 4330-4336, **IF:7.790, Cited: 224**
11. Pawan Verma, **Parveen Saini** and Veena Choudhary, Designing of carbon nanotube/polymer composites using melt recirculation approach: Effect of aspect ratio on mechanical, electrical and EMI shielding response, *Materials and Design*, **88, 2015**, 269-277, **IF:7.991, Cited: 105**
12. **Parveen Saini**, Veena Choudhary, B.P. Singh, R.B. Mathur and S.K. Dhawan, Polyaniline-MWCNT nanocomposites for microwave absorption and EMI shielding, *Material Chemistry and Physics*, 2009, 113, 919-926, **IF:4.094, Cited: 654**
13. **Parveen Saini**, Veena Choudhary, N. Vijayan and R.K. Kotnala, Improved Electromagnetic Interference Shielding Response of Poly (aniline)-Coated Fabrics Containing Dielectric and Magnetic Nanoparticles, *Journal of Physical Chemistry C*, 116 (2012) 13403, **IF:4.126, Cited: 313**
14. **Parveen Saini**, Veena Choudhary, B.P. Singh, R.B. Mathur and S.K. Dhawan, Enhanced microwave absorption behaviour of polyaniline-CNT/polystyrene blend in 12.4-18.0 GHz range, *Synthetic Metals*, **161**, 1522, 2011, **IF:3.266, Cited: 286**
15. **Parveen Saini**, Veena Choudhary, K.N. Sood and S.K. Dhawan, Electromagnetic interference shielding behavior of polyaniline/ graphite composites prepared by in-situ emulsion pathway, *Journal of Applied Polymer Science*, 2009, 113, 3146-3155, **IF:3.125, Cited:127**
16. Shailaja Pande, B. P. Singh, R. B. Mathur, T. L. Dhani, **Parveen Saini** and S. K. Dhawan, Improved Electromagnetic Interference Shielding Properties of MWCNT-PMMA Composites using Layered Structures, *Journal of Nanoparticle Research*, **4**, 327, 2009, **IF:2.253, Cited:199**

Patents: 9

1. A Novel Copolyaromatic Amine, Process of Preparation Thereof and a Composite Therefrom, India, **Granted Patent Number: 271553, Granted on 29/02/2016**, S. K. Dhawan, **Parveen Saini** and Rajesh Jalan (Joint patent between **Reliance Industries Ltd.**, Mumbai and **CSIR-NPL**)
2. Conducting Polymer paints and coating compositions for corrosion protection of iron, India, 0537DEL2010, **Granted Patent Number: 277928**, Granted on 23/12/2016, S. K. Dhawan, S. Sathiyana-yanan, S. Azim, **Parveen Saini** and S. Radhakrishnan, (**Technology transferred** to M/s Krishna Conchem Products Pvt. Ltd., Mumbai)
3. Conducting copolymer ferromagnetic composite and a process for the preparation thereof, US and India, 1362DEL2008, **US2009/0302263, Granted on 02/10/2012**, S.K. Dhawan, K. Singh, N. Sobti, Anil Ohlan, **Parveen Saini**, B. Gupta, R.P. Pant, R.K. Kotnala and P.C. Kothari
4. Electromagnetic Interference (EMI) Shielding Nanocomposites with Enhanced Absorption Based on Superparamagnetic particles Decorated Porous Carbon, India, 2754DEL2013, **Parveen Saini**, R. K. Kotnala, Sunil Kumar Barala, Manju Arora, R. P. Pant
5. Magnetic Nanoparticles Decorated Activated Carbon Nano-composites for Purification of Water, US, PCT and India, 2891DEL2013, **Parveen Saini**, Manju Arora, R. K. Kotnala, Sunil Kumar Barala, R. P. Pant, Chandni Puri
6. Lightweight carbon foam as foams as electromagnetic interference (EMI) shielding and thermal interface material for aerospace applications, US and India, 3615DEL2012, SR Dhakate, Rajeev Kumar Singh, RB Mathur **Parveen Saini**
7. Lightweight high electromagnetic interference (EMI) shielding material based on carbon nanotubes reinforced polymer composites, India, 1793DEL2011, B. P. Singh, Parveen Garg, Shailaja Pande, R. B. Mathur, **Parveen Saini** and S. K. Dhawan
8. Electrostatic dissipative foams and process for the preparation thereof, US, PCT and India, 0944DEL2014, **Parveen Saini**, Chandni Puri and Manju Arora
9. A scalable and environment friendly process for the recycling of pharmaceutical blister packaging for recovery of metallic & polymeric fractions and their exploitation for technological applications, India and SAARC countries, 0162NF2022 31/08/2022, **Parveen Saini**, Anuj, Neha and Sushil Kumar

Current Activities

(Not more than 100 words)

- 1) Management and recycling of waste materials (Plastic Waste, E-Waste, Solar Panels Waste, Battery Waste, Agro/bio-Waste) and the exploitation of recovered materials for technological applications via waste to wealth strategy.
- 2) Designing of conjugated polymers and based nanocomposites for Antistatics, ESD, EMI shielding, Anticorrosion, Supercapacitors and water purification applications
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- 4) Designing of Nanostructured Compositions for self-cleaning coatings and anticorrosion compositions

Honour(s)/Award(s)/ Fellowship(s)

CSIR Young Scientist Award, Engineering Sciences, 2013

Contributions to AcSIR

Professor of Engineering Sciences in AcSIR and Course Coordinator for advance course titled “Advance Polymer Science and Engineering”

Membership of Professional Societies/ Institutions

- 1) Member of Polymer Processing Society
- 2) Member of Materials Research Society of India

Any other Information

(Not more than 100 words)

- 1) Edited Book titled “*Fundamentals of Conjugated Polymer Blends, Copolymers and Composites: Synthesis, Properties and Applications*” ISBN: 9781118549490 John Wiley & Sons, Inc., Hoboken, NJ, USA. The Foreword for the book is written by world renowned scientist and “*Father of Organic Electronics*” Sir Prof. Richard H. Friend, Cambridge University, UK. The book is receiving good readership, reviews & citations, and doing good in terms of sale with Royalty returns.
- 2) **Editorial Board member** of several international journals including American Journal of Nanoscience and Nanotechnology, International Journal of Material Science and Applications, Journal of Environmental Biotechnology Research etc. Also regular **reviewer for several international journals** like Polymers for Advanced Technologies, Applied Polymer Science, ACS Applied Materials and Interfaces, Journal of Materials chemistry-A, etc.