


Brief Biodata

Name: Dr. Priyanka H. Maheshwari

Designation:	Principal Scientist	
DP No. and Name:	4.03, Advanced carbon products and Metrology Section	
DU No. and Name:	4, Division of advanced Materials and Device Metrology	
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Date of Joining CSIR-NPL:	29th Nov. 2007	
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Research Area/ Interest

1. Development of porous conducting carbon paper, catalyst and bipolar plate for fuel cell applications,
2. Development of carbon-based anode for rechargeable Li-ion/ Na-ion batteries.
3. Development of bio-waste derived activated carbon and their composites for super-capacitor applications.
4. Synthesis and modification of multiwalled carbon nanotubes and development of multifunctional carbon nanotubes based nano composites.
5. Development of activated carbon for water purification.

Educational Qualifications

(Please write latest qualification first)

Degree	Subject	University/ Institute	Year
Ph.D.	Physics	Delhi University	2008
NET	Physics	CSIR-UGC	2003
M.Sc.	Physics	MDS University/ Government College, Ajmer	2002
B.Sc.	Physics, Chemistry, Mathematics	MDS University/ Government College, Ajmer	2000

No. of Publications

No. of Publications in SCI Journals	No. of Publications in non-SCI Journals	No. of Publications in Conference Proceedings	Books	Total
31	1	48	1	81

Academic / Research Experience

Grade / Post	Institute	Duration		Research Field
		From	To	
Principal Scientist	CSIR-NPL, New Delhi	4 th Dec 2018	Till date	Development of Carbon Materials for Energy, Industrial & Societal Applications
Senior Scientist	CSIR-NPL, New Delhi	4 th Dec 2014	3 rd Dec 2018	Development of Carbon Materials for Energy, Industrial & Societal Applications
Scientist	CSIR-NPL, New Delhi	4 th Dec 2010	3 rd Dec. 2014	Development of carbon materials for energy applications
Jr. Scientist	CSIR-NPL, New Delhi	29 th Nov 2007	3 rd Dec 2010	Development of carbon materials for energy applications

Selected Publications

1. Processing of carbon composite paper as electrode for fuel cell, R. B. Mathur, **Priyanka H. Maheshwari**, T. L. Dhami, R. K. Sharma, C. P. Sharma, J. Power Sources, 161 (2006) 790 – 798.
2. Characteristics of the Carbon Paper heat treated to different temperatures and its influence on the performance of PEM Fuel cell, R.B. Mathur, **Priyanka H. Maheshwari**, T.L. Dhami, R.P. Tandon, Electrochimica Acta, 52 (2007) 4809 – 4817.
3. Fabrication of high strength and low weight composite bipolar plate for fuel cell applications, **Priyanka H. Maheshwari**, R.B. Mathur, T.L. Dhami, Journal of Power Sources, 173 (2007) 394 – 403.
4. Improved performance of PEM fuel cell using carbon paper electrode prepared with CNT coated carbon fiber, **Priyanka H. Maheshwari**, R. B. Mathur, Electrochimica Acta 54 (2009) 7476 – 7482.
5. Solar powered lithium-ion battery incorporating high performing electrode S. Gopukumar, C. Nithya, **P. H. Maheshwari**, R. Ravikumar, R. Thirunakaran, A. Sivashanmugam, S. K. Dhawan and R. B. Mathur, RSC Advances 2 (2012) 11574-11577.

6. Development of free standing anodes of high aspect ratio carbon materials for rechargeable Li-ion batteries, **Priyanka H. Maheshwari**, C. Nithya, Shilpa Jain, R. B. Mathur, *Electrochimica Acta* 92 (2012) 55-63.
7. Enhanced performance of PEM Fuel Cell using MWCNT reinforced Carbon Paper, **Priyanka H. Maheshwari**, R. B. Mathur, *RSC Advances* 4 (2014) 22324-22333.
8. CNTMembrane as a Free Standing Electrode for PEM Fuel Cell, **Priyanka H. Maheshwari**, Chanchal Gupta, Vinod Selvaganesh, R. B. Mathur, *J. Electrochem. Soc.* 2014 volume 161, issue 12, F1146-F1153
9. Development of Multiwalled Carbon Nanotubes (MWCNT) Platinum nanocomposite as efficient PEM Fuel cell catalyst, Chanchal Gupta, **Priyanka H. Maheshwari***, S. R. Dhakate, *Mater Renew Sustain Energy* 5 (1) (doi: 10.1007/s40243-015-0066-5)
10. Highly purified CNTs: An Exceedingly Efficient Catalyst Support for PEM Fuel Cell, Chanchal Gupta, **Priyanka H. Maheshwari***, Divya Sachdev, A. K. Sahu, S. R. Dhakate, *RSC Adv.*, 6, 2016, 32258 – 32271.
11. A. Saini, **P.H. Maheshwari**, S.S. Tripathy, S. Waseem, S. Dhakate, Processing of rice straw to derive carbon with efficient de-fluoridation properties for drinking water treatment, *Journal of Water Process Engineering*, 34 (2020) 101136.
12. Recent advances in biomass derived activated carbon electrodes for hybrid electrochemical capacitor applications: Challenges and opportunities, Prashant Dubey, Vishal Srivastava, **Priyanka H. Maheshwari***, Shanshank Sundriyal; *Carbon* 170, 1 – 29 (2020).
13. Carbon Paper as a Promising Free Standing Anode for Sodium Ion Batteries, S. Waseem , C. Nithya, **P. H. Maheshwari***, S. R. Dhakate, *Journal of Electrochemical Society* 167, 160538 (2020)
14. A Novel Alum impregnated CaO/ carbon composite for de-fluoridation of water, Amit Saini, **Priyanka H. Maheshwari***, S.S. Tripathy, Sadiya Waseem, Ashish Gupta, S. R. Dhakate. *Journal of Groundwater for Sustainable Development*, *Groundwater for Sustainable Development* 14 (2021) 100622.
15. Prashant Dubey , Vishal Shrivastav, Ashwinder Kaur, **Priyanka H. Maheshwari***, and Shashank Sundriyal. "Human hair derived heteroatoms doped porous carbon electrodes for supercapacitors: Investigation via surface and diffusion charge contribution." *Energy & Fuels* , 2022, 36, 1, 626–637(I.F.-3.421)

Patents

1. Indian patent on “ A process for making conducting carbon composite electrode suitable for fuel cell applications” Dr. R. B. Mathur, Dr. T. L. Dhami, **Ms. Priyanka H. Maheshwari**, Dr. A. K. Gupta, Dr. J. Rangarajan, Dr. R. K. Sharma, Dr. C. P. Sharma. **Patent No. 286113** (Granted on 07.08.2017).
2. “Cathode material and lithium ion battery therefrom”, S.Gopukumar, C.Nithya, R.Thirunakaran, A.Sivashanmugam, Sundeep KumaIr Dhawan, Rakesh Behari Mathur, **Priyanka H. Maheshwari** PCT filing 29/03/2011.Filed in: Europe: patent no. EP2630686 B1(11/03/2015); China patent No. CN103380529B (07/09/2016), Granted in US: Patent No. US 9,882,206 B2 (30/01/2018); South Korea Patent no. KR101895641B1 (05/09/2018).
3. Applied for Patent on “Light Weight, Flexible carbon based heaters”, Dr. R. B. Mathur, **Dr. Priyanka H. Maheshwari**, and Dr. J. C. Sharma. 0617DEL2009 (filed on 27.03.2009). (15NF2009).
4. Applied for patent on “Carbon nanotube-metal nanocomposites as flexible, free standing, binder free high performance anode for li-ion battery”, **Priyanka Heda Maheshwari**, Indu Elizabeth, B. P. Singh, chanchal gupta, R. B. Mathur, Gopukumar Sukumaran. Filling date June 12, 2014, serial no. 1592/DEL/2014.

Current Activities

(Not more than 100 words)

Development of porous conducting carbon paper for fuel cell applications.

Development of biowaste derived activated carbon and their composites for supercapacitor applications.

Development of particle board material from paddy waste.

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

1. Recipient of the **NRDC National Meritorious Invention Award 2018**
2. Recipient of the **CONNECT Follow up grant** by the **Alexander von Humboldt Foundation**, Germany, for working visits to Prof. Christina Roth (Freie University, Berlin) and Dr. Roswitha Zeis (Helmholtz Institute, Ulm) in July 2015.
3. Awarded the “**CSIR Young Scientist Award 2012**” in the field of Engineering Sciences for the development of advanced carbon materials for future clean energy requirements of the country, on the occasion of 70th CSIR foundation Day at Vigyan Bhawan, New Delhi on 26th September 2012.
4. Awarded the “**Sushil Kumar Biyani – Gold Medal**” for achieving highest marks in “Bachelor of Science Exam 2000” from Maharshi Dayanand Saraswati University, Ajmer on 30 Sep 2005.

Contributions to AcSIR

Ph. D. s guided: 2 (awarded), 1(submitted), 3 (on-going)
RA/ M. Tech./ B. Tech./ M. Sc./etc. guided: 13

Membership of Professional Societies/ Institutions

Member of -

- Indian Carbon Society
- The Society for Polymer Science, India
- Metrology Society of India

Any other Information

(Not more than 100 words)

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