Curriculum Vitae

Name	:	Dr.	Parul	Raturi

Father's name : Dhiraj Mani Raturi

- Mother's name : Sushila Raturi
- Address : Department of Physics, IIT Delhi,Hauz Khas , New Delhi-110016,India



E-mail ID : parulatcollege@gmail.com

Website link : https://drparulraturi.com/ Current Position: Assistant Professor (Physics) at Department of higher education Uttarakhand

Academic Qualification:

July 2014 to July 2020: Ph.D., Department of Physics, Indian Institute of Technology Delhi, India

Research topic: "Investigation of wetting properties of metal oxide nanostructures for wastewater", Supervisor : Prof. J. P. Singh. (Thesis submission : September 2019. Defended : July 2020, CGPA : 8.25)

July 2011-July 201	3 : M.Sc. Physics , Pt. L.M.S. Govt. P.G. College, Rishikesh, Uttarakhand (86.5%, 1 st
	class)
July 2008-July 201	1 : B.Sc., Pt. L.M. S. Govt. P. G. College, Rishikesh, Uttrakhand (77.2%, 1 st class)
June 2008	: Intermediate, non-medical Govt. Girls Inter College, Rishikesh, Uttrakhand
	Board (82.6%,1 st class)
June 2006	: Highschool, Govt. Inter College Ghumeti Dhar Tehri Garhwal, Uttarakhand Board
	, Uttarakhand , (74.3%,1 st class)

Work Experience

July 2020 to present : Assistant Professor (Physics) at Department of higher education Uttarakhand Government.

December 2019 to June 2019 :Project Scientist at NRF (Nanoscale research facility, IIT Delhi, New Delhi

January 2015-December 2015 : Teaching Assistant at IIT Delhi, New Delhi, India.

Awards and Achievements

- Best Presentation Award in Departmental Symposium held at IIT Delhi, New Delhi, India.
- Qualified for Junior Research Fellowship in the National Eligibility Test, Dec.2013, conducted by Council of Scientific and Industrial Research (CSIR), Govt. of India.
- Senior Research Fellowship (SRF), Department of Science and Technology, India, Govt. of India
- Qualified Graduate Apttitude Test Examination (GATE) 2014 and secured Rank-165
- Qualified JEST -2014 and Secured Rank -44
- Qualified National eligibility test lecturership (NET -LS) December 2012(AIR- 102) and June 2013(AIR-43)
- Selected for SHE (Scholarship for higher education) Inspire Scholarship award for 2011-2013 in M.Sc.
- Selected for SHE(Scholarship for higher education) Inspire Scholarship award for 2008-2011 in B.Sc.
- Selected for state level **Ekikrit scholarship** for 2004-2008.
- Selected for **AORC**(**Assured opportunity for research careers**) fellowship launched by Department of science and technology to pursue Ph.D.
- Qualified **IIAST-2013**(Indian institute of Astrophysics screening test-2013).
- Best Poster presentation award NANO INDIA -2017 held in Delhi
- Best oral presentation award in ISFM-2018 (Internation symposium on functional materials) held at Chandigarh.
- 24-7 video presentation award of worth 400 USD in MRS Fall meeting 2018 held in Boston USA.
- Best poster award in SNAIA-2019 held in Paris, France.
- Participated in NEP(New education Policy) Quiz organized by Vidya Bharti and contributed as ambassador for the promotion of New Education Policy.
- Awarded **Young scientist award** 2022 by UCOST(Uttarakhand state council of Science and technology)

Research Experience

- Nanostructures growth: Studied the growth and nanostructures surface morphological characterization of metal and metal oxides like: Zinc oxide and strontium titanate, Silver, silicon.
- Water wetting: Study of water wetting properties on metal oxide nanostructures and preparation of superhydrophobic and superhydrophilic nanostructures.
- Vacuum Deposition : Hands on experience of working on various vacuum deposition techniques such as Thermal Glancing angle deposition, E beam Glncing angle deposition.

• **Patterning of the substrate** : I have experience on patterning by using the lithography.Moreover I have experience of pattern transfer from DVD, CD and Blue ray template to any flexible polymer

Skills and techniques

- **Oblique Angle Deposition**: Hands on experience on growth of metal nanostructures by using Oblique angle deposition . Moreover I have Hands on E beam and thermal evaporator.
- Hands on experience of patterning by using maskless lithography.
- Experience in the growth of Zinc oxide nanostructures by using Chemical Vapor Deposition.
 - Ample **experience in operation and handling** of various characterization techniques such as,
 - \circ $\,$ Scanning Electron Microscope (ZEISS EVO 50) , Energy dispersive X-Ray $\,$
 - Atomic Force Microscopy
 - Oil content analyzer
- 3.5 years experience of working in class 100 and class 1000 cleanroom
- On the top of that I have understanding of , XRD(X-ray diffraction) , EDAX(Energy dispersive xray spectroscopy) , FTIR (Fourier transform infrared spectroscopy), Thermo gravimetric analysis(TGA) ,Inductively couled plasma mass spectroscopy(ICPMS). I have been also exposed to electro chemical measurements while working on metal doped strontium titanate system for study of its photo electrochemical properties.
- Assisted my supervisor for reviewing the journal articles as well as in writing projects
- Computer skills: Origin, excel, image J, nanoscope analysis, Gwaddion, intellicad

Patent and Publications in International Journals

- P. Raturi, K. Yadav, J.P. Singh, ZnO-Nanowires-Coated Smart Surface Mesh with Reversible Wettability for Efficient On-Demand Oil/Water Separation, ACS Appl. Mater. Interfaces. 9 (2017) 6007–6013. IF 8.4
- P. Raturi, J.P. Singh, An intelligent dual mode filtration device for separation of immiscible oil/water mixtures and emulsions, **Applied Surface Science**. 484 (2019) 97–104. **IF 5.1**
- Leeladhar, P. Raturi, J.P.Singh, Sunlight-driven eco-friendly smart curtain based on infrared responsive graphene oxide-polymer photoactuators, Scientific Reports. 8 (2018) 1–9. IF 4.1
- Leeladhar, P. Raturi, P. Kumar, J.P. Singh, Graphene-polydimethylsiloxane/chromium bilayer-based flexible, reversible, and large bendable photomechanical actuators, **Smart Mater. Struct**. 26 (2017) 095030. **IF 3.5**

- P. Raturi & J. P. Singh "Understanding the wetting properties of nanostructured strontium titanate and its application for recyclable oil/water separation, Advanced Powder Technology. 31(2020)1342-1348. IF .3.25
- Jyoti Yadav; Parul Raturi; Sarjana Yadav & J.P. Singh "Zig-zag Ag2S Nanostructures for Superior Optical Absorption and Photoelectrochemical Water Splitting Performance, Renewable Energy, 179(2021), 2256-2266, IF: 8.3
- P. Raturi & J.P. Singh "Superhydrophilic adsorbent for lead removal from water (under process)
- Patent granted entitled "Recyclable Smart Mesh for On DemandSeparation og Oily water" patent No.:335730

Books publications :

1. Parul Raturi , Bijit Choudhuri & P. Chinnamuthu,Smart sensor systems for military and aerospace applications, In P. Satyakam et al.(eds.), Sensors for next generation electronic system and technologies , CRC Press, 1st Edition2023, ISBN9781003288633,CRC press https://doi.org/10.1201/9781003288633 .

2. Parul Raturi , Iliyas Khan, Gaurav joshi , samir kumar & Sachin gupta, Ferrite Nanoparticles for Sensing Application, Part of the material horizons :from nature to Nanomaterials book series In P.Sharma et al(eds.), Engineered Ferrites and Their Applications, 2023(151-187), ISBN 978-981-99-2582-7, Springer Nature Singapore Pte Ltd., https://doi.org/10.1007/978-981-99-2583-4_9

Conference Presentations

- *"ZnO nanowires based superhydrophilic mesh for oil water separation"***Parul Raturi.** Kavita Yadav and J.P. Singh : International Conference on Soft Materials,MNIT Jaipur, India (December 2016). (**Poster presentation**)
- *"Application of Annealing in different gas envoirnment Based Wettability Switching for Oil/Water Mixture Separation","* **Parul Raturi.** Kavita Yadav and J.P. Singh : Nano India 2017 Conference ,IIT Delhi , India(March 2017). (Best Poster presentation award)
- "Smart Surface Mesh with Reversible Wettability for Efficient on Demand Oil/Water Separation", **Parul Raturi.** Kavita Yadav and J.P. Singh : ICMAT -2017 Conference ,Singapore, India(June 2017). (**Poster presentation**)
- "An Inorganic Mesh-Based Dual Mode Filtration Device for Separation of Immiscible Oil/

Water Mixture and Emulsions", **Parul Raturi** and J. P. Singh, ISFM 2018, Chandigarh, India(April 2018).(**Best Oral presentation award**)

- "An Intelligent Dual Mode Reversible Filtration Device for Separation of Immiscible Oil/ Water Mixtures and Emulsions", MRS 2018, Parul Raturi and J. P. Singh, Boston, USA(November 2018).(24-7 Video presentation award)
- "Study of Behaviour of Water Droplet with Surface Temperature on the Nanostructures Grown by Glancing Angle Deposition", ICNAN 2018, Parul Raturi and J.P. Singh, Vellore, India (November 2019).(Oral presentation)
- "Superhydrophilic adsorbent for lead removal from water ", SNAIA 2019, Parul Raturi and J.P. Singh , Paris , France (December 2019). (Best Poster presentation award)

Workshops/Seminars attended

- Workshop on "Nano Lithography and Nanofabrication", jointly organizes by Nano scale research facility-IIT Delhi and RAITH GmbH Germany, in IIT Delhi, New Delhi, India, October 2015.
- Attended a 21 days **SERC school** on "*Single Crystall of Functional Materials & Their Applications*", SSN College of Engineering ,Kalvakkam Chennai, India, September2015.
- Attended DST review meeting, Chandigarh , India (September 2019)

Conference / Worshop organized

1.Organizing Committee member of the International Conference on Management, Education and Emerging Technology" (MEET-2022) organized by Core Research Foundation (CRF) held on 18th -19th May, 2022 in Bali,(hybrid mode conference)

2.Coordinated the one day workshop on the topic Integrated approach in Science and Technology for a Suistainable future organized by UCOST & Lakshya Society on the occasion of Science day (28 February 2022)

3. A workshop regarding the virtual lab establishment in our college (Degree college Devprayag)is propsed with IIT Delhi tentatively to be help in the month of the September of this year .

Faculty Development Programme:

1.AICTE Training And Learning (ATAL) Academy Online Elementary FDP on "Nano-Sensors" from 2021-07-05 to 2021-07-09 at Indian Institute of Technology Jodhpur

2.AICTE Training And Learning (ATAL) Academy Online Elementary FDP on "Next-Generation Applications of Artificial Intelligence and Machine Learning for Smart IoT Applications (NxGA-AIM 2021)" from 18/10/2021 to 22/10/2021 at New Horizon College of Engineering

3.AICTE Training And Learning (ATAL) Academy Online Elementary FDP on "Novel Materials" from 01/11/2021 to 05/11/2021 at RAVENSHAW UNIVERSITY

Invited talk

Delivered an invited talk on Research Methodology : Meaning ,Definition and Characterstics in a webinar organized by P.G. College Shivpuri , Madhyapradesh

References

Prof. J. P. Singh, (Ph.D. Supervisor)
Professor,
Department of Physics
Indian Institute of Technology Delhi, Hauz Khas,
New Delhi 110016, India
+91-11-2659-1323, jpsingh@physics.iitd.ac.in

Declaration:

I hereby declare that the above information is true to the best of my knowledge.