

CURRICULUM VITAE

Dr. Asha Sharma

Lecturer on Academic Arrangement

Department of Physics

SPPND GDC Samba

Jammu (India)

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CURRENT STATUS

- Working as a Lecturer from October 2024 to till date at SPPND GDC Samba.

EDUCATIONAL SUMMARY

- Ph.D. in Physics under the guidance of Dr. Sandeep Arya, Assistant Professor, at the Post Graduate Department of Physics, University of Jammu, Jammu- 180006, Jammu and Kashmir, India. (Research area: Synthesis and characterization of functional nanomaterials for detecting analytes in fluids.)
- M.Sc. Physics in 2013 from University of Jammu, Jammu with **80.95%** (1st rank in class). (Gold medalist)
- B. Sc. from Govt. Degree College Kathua, Jammu in 2011 with **86.24%**. (2nd position in Jammu Division)
- Higher Secondary School Examination from Infant Jesus Higher Secondary School Hiranagar, Jammu in 2008 with **90.53%**. (8th position in Jammu Division)
- Secondary School Examination from Infant Jesus Higher Secondary School Hiranagar, Jammu in 2006 with **90.4%**. (14th position in Jammu Division)

NATIONAL LEVEL FELLOWSHIP

- Inspire scholarship (Scholarship for Higher Education) by the Department of Science and Technology, India from 2008-2013.

INTERNATIONAL LEVEL FELLOWSHIP

- Indo-U.S. Fellowship for Women in STEMM (WISTEMM) Award.

ACHIEVEMENTS

- Working experience in UMass Amherst, US for a period of three months from January 05 – Apr 03, 2020.
- Featured in Stanford University's World Top two percent Most Influential Scientists ranking for the year 2023. (<https://elsevier.digitalcommonsdata.com/datasets/btchxktzyw>) (Table 1) Table 1 Authors singleyr 2022 pubs since 1788 wopp extracted 202310.xlsx

TEACHING EXPERIENCE

- Worked as Teaching Assistant from October 2016 to July 2017 at **Government College for Women, Gandhinagar, Jammu.**
- Worked as Teaching Assistant from December 2022 to May 2023 at **SPPND GDC Samba.**
- Worked as Lecturer from August 2023 to May 2024 at **SPPND GDC Samba.**
- Working as Lecturer from October 2024 to till date at **SPPND GDC Samba.**

RESEARCH EXPERIENCE

- Study and analysis of Template assisted electrochemical deposition method for synthesis of different metallic nanowires as a chemical sensor.
- Study and analysis of sol gel and solvo thermal method for the synthesis of different nanomaterials.
- Study and analysis of various characterisation techniques of nanomaterial samples such as XRD, FESEM, TEM, EDX, FTIR, PL and UV.
- Analysis of sensing activity of various nanomaterials for sensor based applications using different techniques such as differential pulse voltammetry, cyclic Voltammetry, electrochemical impedance.
- Study of wearable technology in healthcare applications.

PUBLICATIONS

| S.No. | Author (s) | Title | Name of Journal | Volume | Page | Year |
|-------|--|--|--|---------|--------|------|
| 1. | Anoop Singh, Prerna Mahajan, Asha Sharma , Aamir Ahmed, Sonali Verma, Bhavya Padha, Sandeep Arya | A Paper-Based Colorimetric Sensor for Highly Sensitive and Selective Detection of Multi-metal Ions in Water | Brazilian Journal of Physics Impact factor (1.326) | 52 (4) | 120 | 2022 |
| 2. | Anoop Singh, Asha Sharma , Sandeep Arya | Human sweat-based wearable glucose sensor on cotton fabric for real- time monitoring | Journal of Analytical Science and Technology (I.F. 2.769) | 13(1) | 11 | 2022 |
| 3. | Anoop Singh, Asha Sharma , Aamir Ahmed, Sandeep Arya | Highly selective and efficient electrochemical sensing of ascorbic acid via CuO/rGO nanocomposites deposited on conductive fabric | Applied Physics A (I.F. 2.75) | 128 | 262 | 2022 |
| 4 | Balwan Singh, Anoop Singh, Asha Sharma , Prerna Mahajan, Sonali Verma, Bhavya Padha, Aamir Ahmed, Sandeep Arya | Electrochemical sensing and photocatalytic degradation of 2,4- Dinitrophenol via Bismuth (III) oxide nanowires | Journal of Molecular Structure (I.F. 3.196) | 1255(9) | 132379 | 2022 |
| 5 | Anoop Singh, Asha Sharma , | Recent Advances in Electrochemical | Biosensors (I.F.5.42) | 11(9) | 336 | 2021 |

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|----|--|--|---|------------|---------------|-------------|
| | Aamir Ahmed, Ashok K. Sundramoorthy, Hidemitsu Furukawa, Sandeep Arya, Ajit Khosla. | Biosensors: Applications, Challenges, and Future Scope | | | | |
| 6 | Asha Sharma , Anoop Singh, Ajit Khosla, Sandeep Arya | Preparation of cotton fabric based non-invasive colorimetric sensor for instant detection of ketones | Journal of Saudi Chemical Society (I.F.3.932) | 25(1) | 101340 | 2021 |
| 7 | Anoop Singh, Aamir Ahmed, Asha Sharma , Chandan Sharma, Satya Paul, Ajit Khosla, Vinay Gupta, Sandeep Arya | Promising photocatalytic degradation of methyl orange dye via sol-gel synthesized Ag–CdS@Pr- TiO ₂ core/shell nanoparticles | Physica B: Condensed Matter (I.F.2.436) | 616 | 413121 | 2021 |
| 8 | Aamir Ahmed, Anoop Singh, Asha Sharma , Sonali Verma, Sarika Mahajan, Sandeep Arya | Investigating the thermographical effect on optical properties of Eu doped Y ₂ O ₃ : TiO ₂ nanocomposite synthesized via sol-gel method | Solid State Sciences (I.F.3.059) | 116(1978) | 106617 | 2021 |
| 9 | Asha Sharma , Aamir Ahmed, Anoop Singh, Sai Kiran Oruganti, Ajit Khosla Sandeep Arya | Review—Recent Advances in Tin Oxide Nanomaterials as Electrochemical/Chemire- sistive Sensors | Journal of the electrochemical society (I.F.4.316) | 168(2) | 027505 | 2021 |
| 10 | Asha Sharma , Sandeep Arya, Deepika Chauhan, Pratima R. Solanki, Samarth Khajuria, Ajit Khosla | Synthesis of Au-SnO ₂ nanoparticles for electrochemical determination of vitamin B12 | Journal of Materials Research and Technology (I.F.5.039) | 9(6) | 14321 | 2020 |
| 11 | Sandeep Arya, Asha Sharma , Anoop Singh, Aamir Ahmed, and Sarika Mahajan | Preparation of CdS and CdS@Zn ₃ (PO ₄) ₂ Nanocomposites by Sol- Gel Method: DFT Study and Effect of Temperature on Band Gap | Russian Journal of Inorganic Chemistry (I.F.1.312) | 65(9) | 1424 | 2020 |
| 12 | Asha Sharma , Ajit Khosla, Sandeep Arya | Synthesis of SnO ₂ nanowires as a reusable and flexible electrode for electrochemical detection of riboflavin | Microchemical Journal (I.F.4.821) | 156 | 104858 | 2020 |
| 13 | Asha Sharma , Sandeep Arya, | Sol-Gel Synthesis of Zn Doped MgO | Integrated Ferroelectrics | 205(1) | 14 | 2020 |

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|----|--|--|---|---------|--------|------|
| | Bikram Singh, Prerna, Amit Tomar, Suram Singh, Rakesh Sharma | Nanoparticles and Their Applications | (I.F.0.836) | | | |
| 14 | Prerna, Sandeep Arya, Asha Sharma , Bikram Singh, Amit Tomar, Suram Singh, Rakesh Sharma | Morphological and Optical Characterization of Sol-Gel Synthesized Ni-Doped ZnO Nanoparticles | Integrated Ferroelectrics (I.F.0.836) | 205(1) | 1 | 2020 |
| 15 | Jyoti Gupta, Sandeep Arya, Anoop Singh, Sonali Verma, Asha Sharma , Bikram Singh, Amit Tomar | Template Based Electrochemical Synthesis of Copper (Cu) Nanowires as CH ₂ Cl ₂ Sensor | Integrated Ferroelectrics (I.F.0.836) | 204(1) | 63 | 2020 |
| 16 | Bikram Singh, Sandeep Arya, Asha Sharma , Prerna Mahajan, Jyoti Gupta, Anoop Singh, Sonali Verma, Pankaj Bandhoria, Vishal Bharti | Effect of Pd concentration on the structural, morphological and photodiode properties of TiO ₂ nanoparticles | Journal of Materials Science: Materials in Electronics (I.F.2.478) | 31(1) | 65 | 2020 |
| 17 | Jyoti Gupta, Sandeep Arya, Sonali Verma, Anoop Singh, Asha Sharma , Bikram Singh, Rakesh Sharma | Performance of template-assisted electrodeposited Copper/Cobalt bilayered nanowires as an efficient glucose and Uric acid sensor | Materials Chemistry and Physics (I.F.4.094) | 238 | 121969 | 2019 |
| 18 | Asha Sharma , Sandeep Arya | Economical and Efficient Electrochemical Sensing of Folic Acid using a Platinum electrode modified with hydrothermally synthesized Pd and Ag Co-Doped SnO ₂ Nanoparticles | Journal of the electrochemical society (I.F.4.316) | 166(13) | B1107 | 2019 |
| 19 | Sandeep Arya, Mohammad Riyas, Asha Sharma , Bikram Singh, Prerna, Pankaj Bandhoria, Saleem Khan, Vishal Bharti | Electrochemical detection of ammonia solution using tin oxide nanoparticles synthesized via sol-gel route | Applied Physics A: (I.F. 2.75) | 124(8) | 1 | 2018 |
| 20 | Sandeep Arya, Asha Sharma , Bikram Singh, Mohammad Riyas, Pankaj Bandhoria, | Sol-gel synthesis of Cu-doped CdS nanoparticles and their analysis as pCdS/n-ZnO thin film photodiode | Optical Materials (I.F. 3.080) | 79 | 115 | 2018 |

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| | Mohammad Aatif, Vinay Gupta | | | | | |
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CONFERENCES AND WORKSHOP ATTENDED

- Presented a poster entitled as “Study of selenium based nanoparticles and their sensing applications” in **2nd national conference on Role of Mathematics and computer science in advancement of Physics** on Nov 10-11 2017 in GDC Kathua, J&K.
- Presented a poster entitled as “Study of metal oxide nanostructures and their applications” in two day national workshop on **Advances in Interdisciplinary Sciences** on Jan 11-12, 2018 IN Jammu University.
- Presented oral presentation entitled as “Synthesis of Tin Oxide Nanoparticles and their applications” in **1st National Conference on Recent trends in Science, Technology and Management held at Tawi Engineering College** on 24 March, 2018.
- Participated in Faculty Development program on **Energy sustainability** at IIT Jammu on June 04-06, 2018.
- Presented a Poster entitled as “Sensing applications of tin oxide nanoparticles” in **International conference on Science: Emerging scenario and future challenges**” on Sep 08-09, 2018 at NIT Hamirpur, Himachal Pradesh.
- Presented a Poster entitled as "Sol gel synthesis of Zn Doped MgO nanoparticles and their applications" in **International conference on Nano-Structred material and devices** on 17-20 December, 2018 in Delhi University.
- Oral presentation on "Electrodeposition of tin oxide nanowires for sensing applications" in **International conference on Recent Advances in Interdisciplinary Sciences** on Jan 11-12, 2019 in Jammu University.
- Presented a poster entitled as "**Template based Electrochemical synthesis of Copper nanowires as CH₂Cl₂ sensor**" in **1st National Conference on Recent advances in Sciences** on 16th february 2019 at Thakur P.G college of Education, Dhaliara (H.P), India.
- Presented a poster entitled as “**Solvothermal synthesis and characterization of TiO₂ nanoparticles**” in International Conference on Functional Materials and Simulation Techniques (ICFMST-2019) on June 07-08, 2019 in Chandigarh University, Chandigarh, India.
- Presented a poster entitled as “**Preparation and Investigation of NaYF₄/TiO₂ nanoparticles for their optical and electronic applications**” in **1st International Conference on Advancement in Engineering Sciences** on September 28-29, 2019 in SMVDU, Katra J&K.
- Presented a poster entitled as “**Functionalization of SnO₂ nanoparticles by Ag and Pd dopants**” in the **National Conference on Nano/Bio-Technology** on December 19-21, 2019 in JNU, New Delhi.
- Presented a poster entitled as “Cu-Ag bimetallic nanowires as efficient uric acid sensor” in **7th HSCA**

International Conference on Chemical, Physical and Biological Sciences on October 20-21, 2019 in Chitkara University, Himachal Pradesh.

- Presented a poster entitled as “ **Fabrication of electrochemical sensor by template assisted electrodeposition method**” in **International Web Conference on Advanced Materials Science and Nanotechnology on June 20-21, 2020** held at Web sources organized by Dept of Physics, Vinayak Vidnyan Mahavidyalaya, Maharashtra.
- Presented a poster entitled as “**Electrochemical sensing nature of Au-SnO₂ nanoparticles**” in **National E conference on Advanced research materials in Material Science** on Feb 22-23, 2021 organised by Dept of Physics, Kamaraj College, Tamilnadu.
- Participated in Two day National workshop on “**Tools and Eyes of Nanotechnology TEN-2022**” on May 18-19, 2022 organised by Department of Physics, Sant Baba Bhag Singh University Jalandhar, Punjab, India.

SKILL SET

- **Software known** : Origin Pro8.5, IMAGEJ.
- **Tools** : MS -word, MS-Excel.
- **Platforms** : Windows XP/7.

INSTRUMENTATION HANDELED

- ELECTROCHEMICAL WORKSTATION.
- SPIN COATER.
- UV Vis SPECTROPHOTOMETER.
- HYDROTHERMAL AUTOCLAVE REACTOR

PERSONAL DOSSIER

Name : Asha Sharma

Fathers' name : Raj kumar

Mothers' name : Gita Devi

Husband's name : Pawan Kumar

Gender : Female

Marital Status : Married

Languages Known : English, Hindi

Permanent address : Village and post office- Kootah, Tehsil Hiranagar, District Kathua
Pincode – 184141, Jammu and Kashmir, India.

Nationality : Indian

Present Address : Village and post office- Kootah, Tehsil Hiranagar, District Kathua
Pincode – 184141, Jammu and Kashmir, India.

(I guarantee for the authentication of the above-mentioned facts).

Asha Sharma

