



Department: Physics

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<https://scholar.google.com/citations?user=RSEUfoEAAAAJ&hl=en>

Dr. Sudheer Singh Rawat
Assistant Professor

Qualification

Ph. D (2023): - Physical Sciences, CSIR-National Physical Laboratory, New Delhi, India

CSIR-NET (2019): - Physical Sciences, Council of Scientific & Industrial Research (CSIR)

GATE (2015): - Physics, IIT/NCB

U-SET (2015): - Physical Sciences, Kumaun University

M. Sc (2013): - Physics, HNB Garhwal University (Central University), Srinagar Garhwal,
80.12% (1st Class)

B. Sc (2011): - Physics, Chemistry, and Mathematics, HNB Garhwal University (Central
University), Srinagar Garhwal, **73.33%** (1st Class)

Intermediate (2008): - Physics, Chemistry, Mathematics, English, and Hindi, GIC
Agastyamuni, Rudraprayag, Uttarakhand Board, **85.00%** (1st Class with honors)

Areas of Interest/ Specialization

Organic Electronics:

Organic Photo-voltaic

Organic magneto-conductance

Experience

2020 (July)–Current: Assistant Professor, Department of Physics, Government Post Graduate College Thalain, Pauri Garhwal, Uttarakhand, India, 246285

Awards & Honours

DST INSPIRE Fellowship:

SRF (2018): - Physical Sciences, Department of Science & Technology (DST)

JRF (2016): - Physical Sciences, Department of Science & Technology (DST)

Peer-Reviewed Publications

1. **Rawat, S.S.**, Kumar, A., Swami, S.K., Srivastava, R., Khanna, S.P. and Suman, C.K., (2022). "Investigation of Magneto-conductance Transition Effect in Copper Phthalocyanine Thin Films: Electrical Impedance Study." In *Proceedings of the International Conference on Atomic, Molecular, Optical & Nano Physics with Applications: CAMNP 2019*, Springer Nature, Vol. 271, p. 253.
2. **Rawat, S. S.**, Rana, A., Kumar, A., Swami, S. K., Srivastava, R. and Suman, C. K. (2022). "Magneto-electrical properties of nickel phthalocyanine thin film and its application in organic solar cells." *Solar Energy* 231, 623-629.
3. Kumar, A., Swami, S. K., **Rawat, S. S.**, Singh, V. N., Sinha, O. P., & Srivastava, R. (2021). "Mixed bismuth-antimony-based double perovskite nanocrystals for solar cell application." *International Journal of Energy Research*, 45(11), 16769-16780.
4. **Rawat, S. S.**, Kumar, A., Srivastava, R., & Suman, C. K. (2020). "Efficiency Enhancement in Organic Solar Cells by Use of Cobalt Phthalocyanine (CoPc) Thin Films." *Journal of nanoscience and nanotechnology*, 20(6), 3703-3709.
5. **Rawat, S. S.**, Rana, A., Swami, S. K., Srivastava, R., & Suman, C. K. (2020). "Investigation of negative magneto-conductance properties of cobalt phthalocyanine thin films." *SN Applied Sciences*, 2(4), 1-8.

6. Kumar, A., Rawat, S. S., Swami, S. K., Singh, V. N., & Srivastava, R. (2020). "**Benzoyl halide as alternative precursor for synthesis of lead free double perovskite Cs₃Bi₂Br₉ nanocrystals.**" *Journal of nanoscience and nanotechnology*, 20(6), 3802-3808.
7. Ramar, M., Rawat, S. S., Srivastava, R., & Suman, C. K. (2017). "**AC Impedance Spectroscopy Studies of PtPc Doped Alq 3 Thin Film.**" *In Recent Trends in Materials Science and Applications*, Springer, Cham, pp. 383-390
8. Ramar, M., Rawat, S. S., Srivastava, R., Dhawan, S. K., & Suman, C. K. (2016). "**Impact of Cross Linking Chain of N, N-bis (naphthalen-[-y])-N, N-bis (phenyl)-benzidine on Temperature dependent Transport Properties.**" *Adv. Mater. Lett*, 7, 783-789.

Workshop/ Poster Presentation in Conferences

1. Participated in the "**Training Programme on Advanced Spectroscopy**" workshop on 19th July 2022, Organized by CSIR-National Physical Laboratory, New Delhi.
2. **International Conference on Atomic, Molecular, Optical & Nano Physics with Applications (CAMNP 2019)**, organized by the Department of Physics, DTU, New Delhi, December 18th -20th, 2019.
S. S. Rawat, Ashish Kumar, Sanjay Kumar Swami, R. Srivastava, C. K. Suman
3. Participated in the Authoring **Workshop "A Better Approach to Quality Publications"** on 13th September 2019, Organized by CSIR-National Physical Laboratory in collaboration with IEEE.
4. Participated in AWSAR (**Augmenting Writing Skills for Articulating Research**) Workshop on Popular Science Writing on 01 July 2019 at Indian Institute of Technology, New Delhi, organized by DST, VP and IITD
5. **International Conference on Energy, Functional Materials and Nanotechnology & Sustainable Environment Management – 2019**
S. S. Rawat, Ashish Kumar, Deen Dayal, R. Srivastava, C. K. Suman
(ICEFN & SEM 2019, Kumaun University, Nainital, Uttarakhand, India)
6. **Synthesis of double perovskite cubic nanocrystal of Cs₂NaInCl₆ by using hot injection method for optoelectronic applications**

Ashish Kumar, **S. S. Rawat**, Dinesh Singh, V. N. Singh, Ritu Srivastava, ICAM -2019 on March 6, 7 held at JMI New Delhi.

7. India Japan Workshop on Biomolecular Electronics and Organic Nanotechnology for Environment Preservation-2018

(IJWBME 2018, CSIR - National Physical Laboratory, New Delhi, India)

8. National workshop on Energy Efficiency of Solar Photovoltaic Systems -2018

(EESPV 2018, CSIR - National Physical Laboratory, New Delhi, India)

9. National Workshop on Materials Metrology for Sustainable Society-2018

(NWMMSS 2018, CSIR - National Physical Laboratory, New Delhi, India)

10. Measurements of electrical Parameters for phthalocyanine buffer layer Solar cells

(NCEEM 2018, CSIR - National Physical Laboratory, New Delhi, India)

S. S. Rawat, R. Srivastava, C. K. Suman, V. N. Ojha

11. Worked as an active resource person during Short Term Course on “Organic Photovoltaics & Electronics Technology 2018” (OPET 2018, CSIR – National Physical Laboratory, New Delhi, India)

12. Study of resistance tuning in organic solar cells and its impact on efficiency (NECSA 2018, PDPU, Gandhinagar, Gujrat, India)

S. S. Rawat, R. Srivastava, S. N. Sharma, C. K. Suman

13. Efficiency enhancement in organic solar cells by use of Nickel phthalocyanine thin films (ICTF 2017, CSIR - National Physical Laboratory, New Delhi, India) **S.S. Rawat,**

F. Waseem, Z. Ahmad, S.S. Islam, G. D. Sharma, J. P. Tiwari, R. Srivastava, S.N. Sharma, C. K. Suman

14. Study of opto-electrical properties of PEAPOD and P3HT matrix thin films (ICTF 2017, CSIR- National Physical Laboratory, New Delhi, India) K. K. Mishra, **S.S. Rawat,**

Sheenam, J. P. Tiwari, R. Srivastava, S. N. Sharma, C.K. Suman

15. Worked as an active resource person during Short Term Course on “Organic Photovoltaic & Electronics Technology 2017” (OPET 2017, CSIR - National Physical Laboratory, New Delhi, India)

16. Worked as an active volunteer in “India International Science Festival” (IISF 2016, CSIR-National Physical Laboratory, New Delhi, India)