

ANIL KUMAR VERMA, PhD

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**CAREER OBJECTIVE**

- To secure a challenging position that utilizes my Teaching, Research, Technical & Professional skills and contributes to the overall growth of the organization.

ACADEMIC QUALIFICATIONS

- **Ph.D. (2020)** in **Electronics** from School of Studies in Electronics & Photonics, Pt. Ravishankar Shukla University, Raipur (Chhattisgarh).
Entitled: “**Modeling and Fabrication of Bulk Hetro-Junction (BHJ) Organic Solar Cells**”
- Qualified “**UGC-NET**” in **Electronic Science** for Lectureship and Assistant Professor (June-2013, June-2014 and December-2014) conducted by UGC-New Delhi.
- **M.Sc.(2006)** in **Electronics** from Deen Dayal Upadhyaya Gorakhpur University, Gorakhpur (Uttar Pradesh) with **First Division** (69.92%).
- **B.Sc.(2004)** in Electronics, Physics from Deen Dayal Upadhyaya Gorakhpur University, Gorakhpur (Uttar Pradesh) with **First Division** (65.06%).
- **12th(2001)** in Science (Mathematics) from Madhyamik Shiksha Parishad Uttar Pradesh Board with **First Division** (60.60%).
- **10th(1999)** in Science from Madhyamik Shiksha Parishad Uttar Pradesh Board with **First Division** (65.17%).

TEACHING EXPERIENCES

- Working as an **Assistant Professor** [Guest], **School of Studies in Electronics & Photonics, Pt. Ravishankar Shukla University, Raipur (C.G.)** from 06 January, 2021 to till date.
- Worked as **Assistant Professor** [Adhoc], Department of Physics, **LCIT College of Commerce & Science, Bilaspur (C.G.)** from 22 July, 2019 to 30 June, 2020.
- Worked as **Assistant Professor** [Guest], School of Studies in Electronics & Photonics, **Pt. Ravishankar Shukla University, Raipur (C.G.)** from 09 October, 2013 to 30 April, 2019.
- Worked as **Assistant Professor** [Adhoc], Department of Electronics, **Maharana Pratap Post Graduate College, Gorakhpur (U.P.)** from 16 July, 2011 to 31 July, 2013.

SOFTWARE PROFICIENCIES

❖ Assembly Languages	: 8085, 8086, 8051
❖ Computer Languages	: C, C++
❖ Operating System	: Windows-10/7/Vista/ XP/2000/9X, DOS 6.0
❖ Software Tools	: MatLab, VHDL, MicroSim, Tanner, ATLAS(Silvaco)

TEACHING SKILLS & RESEARCH INTERESTS

- ❖ Physics/Electronics/Material Science ↔ Microelectronics, Digital & VLSI Design
- ❖ Energy Harvesting: Organic Solar Cells ↔ Device Simulation and Fabrication

ACADEMIC PROJECT

1. “**Simulation, Fabrication & Characterization of Bulk Hetro junction (BHJ) Inverted Organic Solar Cells**” Research User, Indian Nanoelectronics User Program (INUP) Funded by MNRE, Govt. of India, Center of Excellence in Nano electronics, IIT-Bombay.
2. “**Design & Simulation of 4-T CMOS SRAM Cells.**” for M.Sc. (Electronics)-IVth Sem. Project Trainee at Centre for Research in Microelectronics (CRME), Department of Electronics Engineering, IIT-BHU.

JOURNAL

1. “Effect of ZnO ETL and MoO₃ HTL with PCDTBT:PC₇₀BM-based BHJ organic solar cells”. **Verma AK**, Shukla N and Tiwari S. *Nanomaterials and Energy*, Volume 9, Issue 2, 2020.
DOI: <https://doi.org/10.1680/jnaen.18.00021>
2. “Preparation, Fabrication and Characterization of Sol-Gel ZnO Thin Films for Organic Solar Cells”. **Verma AK**, Sahu S, Patel M and Tiwari S. *Journal of Ravishankar University (Part-B: Science)*, 33(1), pp. 24-30, 2020.
3. “Enhanced photovoltaic performance via co-sensitization of ruthenium (ii)-based complex sensitizers with metal-free indoline dye in dye-sensitized solar cells” Sahu S, Patel M, **Verma AK**, Singh SP, and Tiwari S. *Organic Photonics and Photovoltaics* 5, no. 1 (2017): 9-15.
DOI: <https://doi.org/10.1515/oph-2017-0002>
4. “Enhanced Photovoltaic Performance of Dye Sensitized Solar Cells via Sensitization of Nanocrystalline TiO₂ Films with metal free Indoline Dye.” Sahu S, **Verma AK**, Patel M and Tiwari S. *Journal of Ravishankar University-Part B Science*, 30(1&2), 78-81, 2017.
5. “Study of light trapping geometries for different structure of photoanode in dye-sensitized solar cells.” Sahu S, Patel M, **Verma AK** and Tiwari S. *International Journal of Scientific & Engineering Research* Volume 8, Issue 7, 188-192, 2017.

BOOK CHAPTER

1. “Recent advances in polymer solar cells”. **Verma AK**, Agnihotri P, Patel M, Sahu S and Tiwari S (2017) In *Recent Advances in Photovoltaics* (Ramrakhiani M (ed.). Materials Research Forum LLC, Millersville, PA, USA, pp. 299–309. DOI: <http://dx.doi.org/10.21741/9781945291371-10>
2. “Advancement in Simulation & Modeling of Organic Solar Cells”. Patel M, Sahu S, **Verma AK**, Pathak S and Tiwari S (2017) In *Recent Advances in Photovoltaics* (Ramrakhiani M (ed.). Materials Research Forum LLC, Millersville, PA, USA, pp.310-333.
DOI: <http://dx.doi.org/10.21741/9781945291371-11>
3. “Quantum Dot as Light Harvester Nanocrystals for Solar Cell Applications”. Patel M, Sahu S , **Verma AK**, Agnihotri P, Singh SP, Narayan R and Tiwari S (2017). In *Recent Advances in Photovoltaics* (Ramrakhiani M (ed.). Materials Research Forum LLC, Millersville, PA, USA, pp.117-133. DOI: <http://dx.doi.org/10.21741/9781945291371-4>

CONFERENCE PROCEEDING

1. "Solution processed solar cells based on in-situ synthesis of CdSe quantum dots." Patel, Mohan, Swati Sahu, **Anil Kumar Verma**, and Sanjay Tiwari. In *International Conference on Energy, Communication, Data Analytics and Soft Computing (ICECDS)*, pp. 1683-1687. IEEE, 2017.
DOI: [10.1109/ICECDS.2017.8389735](https://doi.org/10.1109/ICECDS.2017.8389735)
2. "Analytical study of current density-voltage relation in dye-sensitized solar cells using equivalent circuit model." Sahu, Swati, Mohan Patel, **Anil Kumar Verma**, and Sanjay Tiwari. In *International Conference on Energy, Communication, Data Analytics and Soft Computing (ICECDS)*, pp. 1489-1493. IEEE, 2017. DOI: [10.1109/ICECDS.2017.8389693](https://doi.org/10.1109/ICECDS.2017.8389693)
3. “Fabrication and Characterization of Novel Inverted Organic Solar Cells Employing ZnO ETL and MoO₃ HTL.” **Anil Kumar Verma**, Pooja Agnihotri, Mohan Patel, Swati Sahu and Sanjay Tiwari. *International Conference on Fibre Optics and Photonics*, pp. Tu4A-18. Optical Society of America, 2016. DOI: <https://doi.org/10.1364/PHOTONICS.2016.Tu4A.18>

4. "Optoelectronic Simulation for Light enhancement of P3HT:PC₇₀BM Conventional BHJ OSCs." Pooja Agnihotri, **Anil Kumar Verma**, Mohan Patel, Swati Sahu and Sanjay Tiwari. International Conference on Fibre Optics and Photonics, pp. Th4B-4 Optical Society of America, 2016.
DOI: <https://doi.org/10.1364/PHOTONICS.2016.Th4B.4>
5. "Fabrication and Characterization of CdSe Quantum Dot- Sensitized Solar Cells by Successive Ionic Layer Adsorption and Reaction (SILAR) Process." Mohan Patel, Shiv Prakash Sahu, Swati Sahu, **Anil Kumar Verma**, Pooja Agnihotri, and Sanjay Tiwari. International Conference on Fibre Optics and Photonics, pp. W3A-37. Optical Society of America, 2016.
DOI: <https://doi.org/10.1364/PHOTONICS.2016.W3A.37>
6. "Fabrication and characterization of nanoporous TiO₂ layer on photoanode by using doctor blade method for dye-sensitized solar cells." Swati Sahu, Rajesh Awasthy, Mohan Patel, **Anil Verma**, Pooja Agnihotri and Sanjay Tiwari. International Conference on Fibre Optics and Photonics, pp. Th3A-9. Optical Society of America, 2016.
DOI: <https://doi.org/10.1364/PHOTONICS.2016.Th3A.9>
7. "Investigating the influence of porosity on performance of dye-sensitized solar cells." Swati Sahu, **Anil Verma**, Mohan Patel, Rajesh Awasthy and Sanjay Tiwari. International Conference on Fibre Optics and Photonics, pp. T3A-73. Optical Society of America, 2014.
DOI: <https://doi.org/10.1364/PHOTONICS.2014.T3A.73>

CONFERENCE, SEMINAR, WORKSHOP, SYMPOSIUM PRESENTED

1. **Anil Kumar Verma**, Mohan Patel, Sanjay Tiwari, "Recent status and development of Polymer Solar Cells (PSCs)." In India International Science Festival, Dec 8-11, 2016, CSIR- NPL Delhi.
2. **Anil Kumar Verma**, Mohan Patel, Sanjay Tiwari: Modeling and Simulation of high power Semiconductor Devices, National Conference on Recent Trends in Photonics (NCRTP-2014), Pt. Ravishankar Shukla University, Raipur (C.G.).
3. **Anil Kumar Verma** "Three dimensional integrated circuit technology: 3D-IC" Workshop organized by Maharana Pratap Post Graduate College, Gorakhpur (Uttar Pradesh).
4. **Anil Kumar Verma**, Nishant Tripathi "Analysis & Design of Frame Grabber for Image Processing" for Recent Advances in Digital & Analog Signal Processing (RADASP-2012), DDU Gorakhpur University, Gorakhpur (Uttar Pradesh).

SEMINAR, WORKSHOP, CONFERENCE, SYMPOSIUM PARTICIPATED

1. Participated Workshop on "Entrepreneurships in Renewable Energy technologies for Chhattisgarh Tribal" (19-24 September, 2016) organized by Renewable Energy Technology & Management, Pt. Ravishankar Shukla University, Raipur (C.G.).
2. Participated in "Chhattisgarh Young Scientist Congress-2016, Jointly Organized by Chhattisgarh Council of Science and Technology & Bilaspur University, Bilaspur (C.G.)
3. Participated Familiarization Workshop on "Nanofabrication Technologies (18-20 May, 2015)" organized by Indian Nanoelectronics User Programme (INUP), CeNSE, Indian Institute of Science-Bangalore.
4. Participated National Workshop on "Operation and maintenance of Laboratory Equipments 19-23 Jan., 2015 (NWOMOLE-2015)" Jointly organized by SOS in Electronics & Photonics, Pt. R.S.U., Raipur (C.G.) and WRIC-Mumbai.
5. Participated Familiarization Workshop on "Fabrication on Nanotechnology (28-30 November, 2014)" organized by Indian Nanoelectronics User Programme (INUP), IIT-Bombay, Mumbai.
6. Participated "Workshop on X-ray Diffraction and its application to Material science (1-3 August, 2014)" organized by National Institute of Technology (NIT), Raipur (C.G.).
7. Participated "Workshop on Photovoltaic Devices Molecule to Device (9-10 June, 2014)" organized by CSIR-National Chemical Laboratory, Pune.

8. Participated National Seminar on “VLSI: Design and Fabrication Aspects (23-25 October, 2013)” Sponsored by AICTE, New Delhi, Organized by CIET, Raipur (C.G.).
9. Participated National Workshop on “Research Methodology in Basic Science, Engineering & Technology (29 August to 02 September, 2013)” organized by Association of Indian University & Pt. Ravishankar Shukla University, Raipur (C.G.).
10. Participated Workshop on “Timing Analysis of Digital VLSI Circuit (3-4 November, 2012)” organized by Indian Institute of Information Technology (IIIT), Allahabad (U.P).

SHORT TERM COURSE & TRAINING

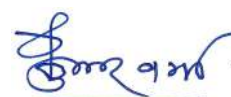
1. Hands on Training Workshop on “Nanofabrication Technologies (21-29 May, 2015)” organized by Indian Nanoelectronics User Programme (INUP), Indian Institute of Science-Bangalore.
2. A short course on “Flexible Electronics (7-12 July, 2014)” Organized by Samtel Center for Display Technology (SCDT)-Indian Institute of Technology, (IIT) Kanpur (Uttar Pradesh).
3. A short term course on “MatLab Based Design & Implementation of Advanced Control, Signal & Image Processing Algorithms(16-21 August.2013)” organized by Department of Electrical Engineering, National Institute of Technology-Raipur (C.G).
4. Summer Training on “Embedded System (2-31 May, 2006)” from DOEACC Centre-Gorakhpur (Uttar Pradesh).
5. Two month training on ‘C’ Language from Swami Vivekanand Institute of Information Technology (SVIIT), Gorakhpur (Uttar Pradesh).

MEMBERSHIPS

1. Regular Fellow (Membership No. 1358) of Optical Society of India.
2. Life Member (Membership No.147) of Chhattisgarh Vigyan Bharati.

PERSONAL PROFILE

Full Name	: Anil Kumar Verma
Father’s Name	: Ram Prit Verma
Mother’s name	: Poonam Devi
Marital Status	: Married
Sex	: Male
Nationality	: Indian
Category	: OBC
Date of Birth	: 20-07-1984



(Anil Kumar Verma)