CURRICULUM-VITAE

Dr. Onkar Nath Verma 

Assistant Professor

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Academic Profile:

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| **Exam.**  | Board/University | **Year** | **% / Grade & Div.** | **Subjects** |
| B.Sc. | Deen Dayal Upadhyay Gorakhpur University, Gorakhpur | 2006 | 66.83 %First | Maths and Physics |
| M.Sc. | Deen Dayal Upadhyay Gorakhpur University, Gorakhpur  | 2008 | 66.33 %First | Physics |
| Ph.D. | Indian Institute of Technology (BHU) Varanasi, Varanasi | 2012-17 | 10 CGPA | Investigations of lanthanum aluminate based electrolyte materials for SOFC |

Other Achievements:

1. Qualified JEST (88 percentile) in 2010.
2. Graduate Aptitude Test in Engineering GATE (AIR 179) in 2012.
3. Qualified NET, BARC (DGFS/OCES) Exam in 2012.

**Research and Teaching Experience:**

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| **Duration** | **Organisation** |
| **2010 to 2012**(Project Assistant Level II) | National Physical Laboratory, New Delhi |
| **2018 to 2020**Assistant Professor | Sri Mata Vaishno Devi University, Katra, India |
| **2020 to 2023**Guest Faculty | Central University of Jammu, Jammu, India |
| **26/07/2023 to till date**Assistant Professor | Central University of Jammu, Jammu, India |

## Research Experience: 8 years (including research during PhD periods).

**#** Member of the **editorial board** in **World Journal of Applied Physics (WJAP, ISSN: 2637-6008)** for one years from August 2018-July 2019.

**Project supervisor of PG students (M.Sc. Physics):**

14 students (year 2018-2022) under the following mini projects:-

**(a)** Single axis sun tracking system using microcontroller ATmega328. **(b)** Water detector using 555 timer IC. **(c)** Dual axis sun tracking system using microcontroller ATmega328. **(d)** Heart beat sensor using IC LM358. **(e)** wireless power transmission **(f)** step-down transformer

**Experience of Working on Various Instruments, Measurement/Characterization and Analysing the Data:**

1. Citrate Nitrate Auto Combustion Synthesis Techniques.
2. Tape Casting Techniques by Doctor Blade.
3. Handling of XRD instruments (Rikagu, Miniflex II) and Rietveld refinement (Fullprof Techniques).
4. DTA/TGA data Analysis Techniques.
5. XPS data Analysis.
6. SEM and TEM data Analysis.
7. Electrical Conductivity: (a) Conductivity spectroscopic technique (J P Law, Ghosh Scaling, Modulus Spectra etc.) (b) Impedance spectroscopic technique (Cole-Cole techniques, z-view software)

###### Papers Published/Accepted:

1. Study of ion dynamics in lanthanum aluminate probed by conductivity spectroscopy, **Onka Nath Verma**, Nitish Kumar Singh, Raghvendra and Prabhakar Singh, RSC Advances,5 (2015) 21614-21619 **[I.F. 3.825].**
2. A comparative study of aqueous tape and pellet of (La0.89Ba0.01Sr0.1Al0.9Mg0.1O3-δ) Electrolyte material, **Onkar Nath Verma**, Priyanka A. Jha and Prabhakar Singh, Physica B,521 (2017) 230 – 238**[I. F.- 1.386].**
3. A structural-electrical property correlation in A-site double substituted lanthanum aluminate, **Onkar Nath Verma**,Pardeep K Jha and Prabhakar Singh, Journal of Appllied Physics,122, 225106 (2017)**[I.F. 2.068].**
4. Correlation between piezoelectric and magnetic properties of Fe and Sm co-substituted potassium niobate piezoelectric ceramics, Madhvi Swami, **Onkar nath Verma**, Priyanka A. Jha and Prabhakar Singh, Journal of Physical Chemistry and Chemical Physics, **20**, (2018) 18800-18810 [**I.F. 3.906]**.
5. Influence of iso-valent‘Sm’ double substitution on the ionic conductivity of La0.9Sr0.1Al0.9Mg0.1O3-δ ceramic system, **Onkar Nath Verma**, Priyanka A. Jha, Pragati, Pardeep K. Jha and Prabhakar Singh, Journal of Material Chemistry and Physics, 241 (2020) 122345 [**I.F. 2.781**]
6. [Influence of Ba Doping on the Electrical Behaviour of La 0.9 Sr 0.1 Al 0.9 Mg 0.1 O 3− δ System for a Solid Electrolyte](https://link.springer.com/article/10.1007/s11664-020-08653-2), **Onkar Nath Verma**, Saurabh Singh, Vivek K Singh, M Najim, Raghvendra Pandey, Prabhakar Singh, Journal of Electronic Materials,1-12, Springer US, (2021) [**I.F. 1.774**]
7. Application of LIBS to Elemental Analysis and Mapping of Plant Samples, V K Singh, N Sharma, **O N Verma**, Y Lee, Atomic Spectroscopy 42 (2021), 99-113 **[I.F. 3.4666]**
8. [Gold (Au)-Doped Lead Sulfide-Polyvinyl Alcohol (PbS-PVA) Nanocomposites for High-Performance, Flexible Memristors](https://link.springer.com/article/10.1007/s11664-022-09740-2), Surbhi Pathania, Jehova Jire L Hmar, Vinay Kumar, **Onkar Nath Verma**, Tanuj Kumar, Chinnamuthu Paulsamy, Journal of Electronic Materials 51, 4964–4977 (2022) [**I.F. 1.774**]
9. Ion transport and one-dimensional ion migration in lanthanum silicate apatite (La9.67Si6O26.5), Ashish Kr Yadav, **Onkar Nath Verma**, Raghvendra Pandey, Neetu Jha, Prabhakar Singh, Applied Physics A, [**I.F. 2.983**]

**Papers Published as Conference Proceedings.**

1. “Study of lanthanum aluminate for cost effective electrolyte material for SOFC” **Onkar Nath Verma**, A. K. Shahi, and P. Singh, AIP Conf. Proc. 1953, 030240 (2018).
2. Singh, S., Pandey, R., **Verma, O. N**., & Singh, P. (2022). Development of La and Mo Co-Doped SrTiO 3 as Novel Anode Material for Solid Oxide Fuel Cell Applications. In *Advanced Functional Materials and Devices: Select Proceedings of AFMD 2021* (pp. 283-292). Springer Singapore.

**Conferences/Seminars/Symposia/Workshops attended/participated:**

1. I have participated one day workshop (**8th February 2020**) on Arduino conducted by IIT Bombay under **PMMMNMTT scheme of MHRD**, Govt. of India at SMVD University, Katra.
2. I have orally presented the paper “**Electroding effect on the conductivity of iso-valent doubly doped LaAlO3**” in **6th international conference ICRTAET 2019** from 17th-18th January 2020 at SMVD University, Katra.
3. I have participated one day workshop (**9th November 2019**) on Arduino conducted by IIT Bombay under **PMMMNMTT scheme of MHRD**, Govt. of India at SMVD University, Katra.
4. Presented the paper entitled “**X-ray photoelectron spectroscopy of gallstones**” in **1st international conference on advancement of engineering sciences (AES2019)** from 28-29th September 2019 at SMVD University, Katra.
5. Oral presentation in **5th international conference ICRTAET** at SMVDU, Katra on 25-26 Oct, 2018.
6. participated in **TEQIP-III** sponsored **Faculty Development program** at SMVDU, Katra (17-21 Dec, 2018).
7. participated as poster presentation in **NTNA-2018** at ARSD College, University of Delhi, New Delhi, (27 Sep, 2018).
8. Participated in the **“Global Initiative of Academic Networks (GIAN)”** short course on fuel cell technology at IIT Gandhinagar, Gujrat from 5 to 9 Decembr 2016.
9. Participated in the **“Oral presentation”** on **“national seminar on Different aspects of Radio and Atmoshperic sciences”**in Hindi language at **National Physical Laboratory, New Delhi**from 08 to 09 November 2012.
10. Participated in **“Poster presentation”**on 25-26 February 2017 at Department of physics, IIT (BHU) Varanasi in 2017.
11. Participated in **“Poster presentation”**on 2-3 April 2016 at Department of physics, IIT (BHU) Varanasi in 2016 and presented a poster entitled **“Fabrication of electrolyte materials for SOFCs**and got the **third prize**.
12. Participated in **“20thsymposium and workshop on Thermal Analysis HERMANS-2016”** organized by **IIT (BHU) Varanasi** and **BARC Mumbai**, at IIT (BHU) from 18 to 22January 2016 and presented a poster entitled **“Preparation and characterization of lanthanum aluminate based electrolyte material ”**.
13. Participated in International conference on **“Advances in Biological System and Materials Science in Nanoworld (ABSMSNW-2017)”** at IIT (BHU) Varanasi from 19 to 23 February 2017 and presented a poster entitled **“Structral end electrical properties of LSAM as electrolyte material for SOFCs”**.
14. Participated in **“National Seminor on Analytical Techniques for Synthesis and Characterization of Materials (ATSCM-2015)” and presented a poster** on **“synthesis and characterization of LaAlO3material for SOFC”** organized by Sree VidhyadhirajaNSS college at Vazhoor **Kerala**on26-27 February 2015.