


Curriculum Vitae

Designation	Assistant Professor				
Address	Department of NanoSciences & Materials, Central University-Jammu, Main campus Rahyaa Suchani, District: Samba, UT-J&K, India				
Phone No Office					
Residence Mobile	+91-9419198982				
Email	<u>Vishal.nsm@cuammu.ac.in</u> vishalcujammu@gmail.com				
Educational Qualifications					
Degree	Institution			Year	
PhD	Department of Physics, University of Jammu			2011	
M.Phil	Department of Physics, University of Jammu			2005	
PG	Department of Physics, HNB Garhwal University			2002	
Career Profile					
Lecturer	Post Graduate Department of Physics, University of Jammu			2011-2012	
Assistant Professor	Mahant Bachiter Singh College of Engineering-Jammu			2012-2016	
Assistant Professor	Department of NanoSciences & Materials, Central University-Jammu			2016 (onwards)	
Administrative assignments					
<ul style="list-style-type: none"> ✚ Coordinator, Department of Nanosciences & Materials ✚ Member board of study of Nanosciences & Materials ✚ Member board of study of Physics and Astronomical Science ✚ Member board of school of basic and applied science ✚ Member admission committee ✚ Member technical committee ✚ Member department research committee ✚ Member Local Purchase committee ✚ Member Games & Support committee 					
Research interest/specialization					
<ul style="list-style-type: none"> ✚ Nanostructured materials, Piezoelectric and Multiferroic thin films/ceramics for energy harvesting applications ✚ Thermoelectric properties of nanostructured composites ✚ Semiconductor sensors for gas/chemical ✚ Preparation and characterization of single crystals ✚ Magnetism at the Nanoscale, multifunctional properties of magnetic oxides ✚ Electronic and sensing properties of graphene oxide, reduced graphene oxides 					
Subjects Taught					
M.Sc (Material Science and Technology)					
<ul style="list-style-type: none"> ✚ Semester I: Crystal Structures and Properties of Materials ✚ Semester II: Thermal Behavior of Materials ✚ Semester III: Advances in Crystal Growths ✚ Semester IV: Composite Materials ✚ PhD course: Materials characterization 					

Research Guidance				
i. Ms. Vaishali Misra (Join in august-2020)				
ii. Manisha Yadav (Join in 2020)				
PG Dissertations				
i. Manjeet Singh (2016-2018 batch)				
ii. Rohit Kumar (2016-2018 batch)				
iii. Ankita Sharma (2017-2019 batch)				
iv. Digvijay Pratap Singh (2017-2019 batch)				
v. Shoba Devi (2018-2020 batch)				
vi. Shubam Singh Slathia (2018-2020 batch)				
Research Projects (Major Grants/Research Collaboration)				
Grant agency	Title of the project	Duration of the project	Amount in Lakh	Status
CU Jammu	Development of bio-metal organic framework (BMOFs) as a novel multipurpose capturing system for natural/hazardous/fuel gases	2017-2019	5	completed
UGC	Development of multiferroic thin films for spintronic applications	2017-2020	10	ongoing
DRDO	Sensor for Detection of Nitro and Peroxide-Based Explosives	2020-2023	110.05	ongoing
Publications: Total twenty five				
List of Best SCI Publications				
i. K. K. Bamzai, Vishal Singh , Nidhi, P. N. Kotru, B. M. Wanklyn, "Micromechanical Characteristics of Flux Grown SmAlO ₃ Single Crystal", Strength of Material, 42 (2010) 387-395. : ISSN: 0039-2316 (print version) 1573-9325 (electronic version).				
ii. K. K. Bamzai, Vishal Singh , Nidhi, P. N. Kotru, B. M. Wanklyn, Dielectric Anisotropy of Flux Grown 1% Samarium Doped Gadolinium Vanadate (Sm: GdVO ₄)", Ferroelectrics, 392 (2009) 55-70. (ISSN: 0015-0193).				
iii. K. K. Bamzai, Vishal Singh , Nidhi, P. N. Kotru, B. M. Wanklyn, "Microhardness and Fracture Mechanics of Flux Grown Samarium Doped Gadolinium Vanadate (Sm: GdVO ₄)", Journal of Physics and Chemistry of Solids 71 (2010) (1428-1434).				

- iv. **Vishal Singh**, K. K. Bamzai, Nidhi, Shivani Suri, "Microstructural, Thermal and Dielectric Characteristics of Yttrium Modified Lead Titanate Ceramics" *Integrated Ferroelectrics*, 116 (2010) 82-100. (ISSN: 1058-4587).
- v. **Vishal Singh**, K. K. Bamzai, Shivani Suri, Nidhi, "Preparation, Structural and Electrical Characterization of Praseodymium Modified Lead Titanate", *Journal of Ceramic International*, 37 (2011) 2655-2662 (ISSN: 0272-8842).
- vi. Shivani Suri, K. K. Bamzai, **Vishal Singh**, "Growth and Thermal Kinetics of Pure and Cadmium Doped Barium Phosphate Single Crystal", *Journal of Thermal Analysis & Calorimetry*, 105 (2011) 229–238. (ISSN: 1388-6150).
- vii. Shivani Suri, K. K. Bamzai, **Vishal Singh**, "Dielectric and Ac Conductivity Studies on Pure and Doped Cadmium Doped Barium Phosphate Crystals", *Journal of Ferroelectrics*, 423 (2011) 94-104. (ISSN: 0015-0193).
- viii. Shivani Suri, K. K. Bamzai, **Vishal Singh**, "Synthesis, Characterization, Thermal and Dielectric Properties of Pure and Cadmium Doped Calcium Hydrogen Phosphate", *Journal of Material Chemistry and Physics*, 135(2012)158-167. (ISSN: 0254-0584).
- ix. Ajay Singh, **Vishal Singh**, K. K. Bamzai, "Structural and magnetic studies on $x\text{PbTiO}_3\text{-(1-x)}\text{SrFe}_{12}\text{O}_{19}$ composite multiferroic" *Material Chemistry and Physics*, 2015, 1-7, (ISSN: 0254-0584), <http://dx.doi.org/10.1016/j.matchemphy.2015.02.004>
- x. A Singh, S Suri, P Kumar, B Kaur, AK Thakur, **V Singh**, "Effect of temperature and frequency on electrical properties of composite multiferroic of lead titanate and strontium hexaferrite ($\text{PbTiO}_3 - \text{SrFe}_{12}\text{O}_{19}$ ", *Alloys and compounds* 764 (<https://doi.org/10.1016/j.jallcom.2018.0>), 599-615
- xi. Bharat Singh, Naresh Kumar, **Vishal Singh**, Ravender Tickoo, N. K. Gaur & Ajay Singh, Structural and Magnetic Investigations of Yb Substituted $\text{Y}_{1-x}\text{Yb}_x\text{BaCo}_4\text{O}_7$ ($0 \leq x \leq 0.5$) Compound, *J. of Integrated Ferroelectrics*, 203 (2019) 97 – 107
- xii. Ajay Singh, Balwinder Kaur, Manju Arora, **Vishal Singh** "Effect of PbTiO_3 Concentration on Structural, Paramagnetic Resonance and Magnetoelectric properties of $\text{PbTiO}_3\text{:SrFe}_{12}\text{O}_{19}$ Multiferroic Nanocomposites", *J. of Materials Chemistry and Physics*, 258 (2021) 123849, <https://doi.org/10.1016/j.matchemphy.2020.123849>

Organization of Workshops/Seminars

As organizing secretary

- ✚ National conference on materials for sustainable development and new technology (MSDNT-2017), April 28-29th, 2017, Department of Nanosciences & Materials, Central University Jammu.
- ✚ International workshop on soft materials and devices (IWSMD-2018), March 21-25th, 2018, Department of Nanosciences & Materials, Central University, Jammu

List of Invited Talks

Title of Talk	Seminars/ Conferences/Workshop
i. Electrical and magnetic behaviour of praseodymium modified lead titanate.	MAT-2017, Feb. 20-21, 2017, DIT Dehradun
ii. How does detailed balance limit of open-circuit voltage of polymer fullerene solar cells changes with temperature?	MSDNT-2017, Central University Jammu
iii. Multiferrioc a futuristic material for device application.	IWSMD-2018, Central University Jammu

Paper presentation in national/international seminars/ conferences/workshop: Total twenty

List of five paper presentation

- i. **Vishal Singh**, Balwinder Kaur, Vineeta Gupta, Sanjay Kumar, P. N .Kotru, B. M. Wanklyn, K. K. Bamzai, "Mechanical behaviour of samarium aluminate crystal by Vicker's hardness tester". International Symposium for Research Scholars on Metallurgy, Materials Science & Engineering, Dept. of Metallurgical and Materials Engineering, IIT Madras Dec 18-20, 2006
- ii. **Vishal Singh**, K. K. Bamzai, Shivani Suri and Nidhi, "XRD, SEM and Thermal Studies on Yttrium doped Lead Titanate prepared by solid State Reaction technique", National Symposium for Materials Research Scholars (MR-09), Department of Metallurgical Engineering and Material Science IIT Bombay, Mumbai, May 7 – 9, 2009, Abstract # PPC-7, pp.139.
- iii. **Vishal Singh**, K. K. Bamzai, Shivani Suri "Ferroelectric and Piezoelectric Behaviour of Pr Doped Lead Titanate" 5th International Conference on Electroceramics (ICE-2011), School of Material Science and Metallurgy, University of New South Wales, Sydney, Australia, 12-16 Dec, 2011 Abstract A11
- iv. **Vishal Singh**, K. K. Bamzai, Shivani Suri, "Preparation, characterization and dielectric study of rare earth modified lead titanate nano-particles" Department of Physics and Astrophysics, International Conference and workshop on Nanostructured ceramics and workshop (ICWNCN-2012) Delhi University, 13-16 March, 2012.
- v. Ajay Singh Dadwal, Sukhdeep Singh, **Vishal Singh** "Effect of Quantum Confinement and Surface

<p>Morphology on Enhancement of Magnetoelectric Coupling Coefficient of Multiferroic Nanocomposite of PbTiO₃-SrFe₁₂O₁₉”, “International Conference on Nanoscience and Nanotechnology (ICONN-2019)” at SRM University, Chennai, India, January 28 - 30, 2019, <i>Abstract No. 1733</i></p>
<p>Fellowships awarded</p> <ul style="list-style-type: none"> i. Senior Research Fellowship (SRF) from Defence Research and Development organization (DRDO), New Delhi from Sep.2007 to April 2010. ii. Fellowship for attending International Conference (ICE-2011) in Australia from Department of Science and Technology (DST), New Delhi. iii. Fellowship by Hungarian Academy of Sciences for attending 7th Central European Training School on Neutron Diffraction (CETS-13) at Wigner Research Centre for Physics, Budapest, Hungary
<p>Association with professional bodies</p> <ul style="list-style-type: none"> i. Material Research Society of India (MRSI) – Life member (LMB – 1941) ii. Indian Association of Solid State Chemistry & Allied Science – Life member

Vishal Singh