

Sanjay Kumar Upadhyay

Curriculum Vitae

UGC- DAE Consortium for Scientific Research
Khandwa Road, University Campus
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OBJECTIVE :

A research associates /post-doc fellowship in the area of experimental condensed matter physics/ materials science.

SUMMARY:

- Consistent excellent academic record with first division right from the school to master's degree.
- Qualified National Eligibility Test (NET) in Physical Science conducted by CSIR-UGC (India).
- 10 publications in peer reviewed international journals.
- Presented research work at 10 National / International conferences.
- Best paper award at 9th Asian Meeting on ferroelectricity (AMF-14) held at Shanghai (China) during October, 2014.
- Best thesis presentation award by UGC-DAE Consortium for Scientific Research, Indore (India).

RESEARCH AREA:

- ✓ Multiferroic Composites
- ✓ Ferroelectrics (Electro-caloric effect and Aging behavior).
- ✓ Nanostructure multiferroic thin films.
- ✓ Preparation of ceramics with Microwave assisted radiant sintering
- ✓ Epitaxial ferroelectric thin films
- ✓ Structural Analysis using X-ray diffraction.

EXPERIMENTAL SKILLS:

- Expertise in oxide sample preparation with solid-state, sol-gel and microwave sintering.
- Expertise in preparing thin films with spin-coating and PLD technique.
- Familiarity and expertise with various measurement techniques such as ferroelectric hysteresis loops, high resolution x-ray diffraction, Mossbauer spectroscopy, Raman spectroscopy, Dielectric measurement and Magnetization.
- Measured magneto-electro (ME) coupling in the prepared ME ceramics using methods such as electric / magnetic poling of the ceramics.

COMPUTER PROGRAMM KNOWLEDGE:

- Expertise in various software programs such as FullProf program for the analysis of powder x-ray diffraction patterns,
- NORMOS for the Mossbauer spectrum analysis.
- ImagJ for SEM image.
- WxSM for AFM data.
- General software programs such as MATLAB, ORIGIN etc.

CAREER HIGHLIGHTS

Organization	UGC-DAE-Consortium for Scientific Research, Indore (India)
Designation	SRF (Senior Research Fellow)
Duration	November (2012)-Present
Organization	UGC-DAE-Consortium for Scientific Research, Indore (India)
Designation	JRF (Junior Research Fellow)
Duration	July (2010)-October (2012)

ACADEMIA

- Ph. D.** Doctor of Philosophy (Ferroelectrics, Multiferroic composites):
(Submitted, May, 2015) UGC-DAE Consortium for scientific research, Indore, India. (Title of thesis: *Preparation and study of BaTiO₃ based ferroelectric and multiferroic composites*).
- M. Phil. (2011)** Master of Philosophy (Materials Science): **8.7/10**; Devi Ahilya Vishwavidyalaya, Indore, India.
- M. Sc.(2010)** Master of Science (Physics): **7.65/10**; G. B. Pant University of Ag. & Tech., Pantnagar (Uttarakhand) India.
- B. Sc. (2007)** Bachelor of Science: **64%**; Kumaun University, Nainital (Uttarakhand) India.

AWARDS AND ACCOMPLISHMENTS

- Awarded **Best Thesis Presentation Award** at Annual day presentation of UGC-DAE CSR Indore (M.P.), India on 2nd December 2014.
- Awarded **Student Award** at 9th Asian meeting on ferroelectricity (AMF-2014) held at **Shanghai (China)** and organized by Chinese academy of science.
- Awarded **CSIR-Senior Research Fellowship** conducted by CSIR India (2014).
- Qualified **National Eligibility Test** (Lectureship) conducted by CSIR-UGC India (June- 2010); All India Rank-69.
- Qualified **Joint Entrance Screening Test** (2010); 92.3 percentile.(A joint entrance test for leading physics research centers in India).
- One of the article [**J. App. Phys., 113, 114107(2013)**] certified as fastest downloaded paper (for first 100 downloads) by editor of Journal of Applied Physics.

RESEARCH PUBLICATIONS

1. **S.K.Upadhyay, V.R. Reddy, S. M. Gupta, N. Chauhan and Ajay Gupta,** “Reduced leakage current and improved ferroelectricity in magneto-electric composite ceramics prepared with microwave assisted radiant hybrid sintering ” *AIP Advances* **5, 047135 (2015).**

2. **S.K.Upadhyay**, V.R. Reddy, P. Bag, R. Rawat, S.M. Gupta and Ajay Gupta, “Electro-caloric effect in lead-free Sn doped BaTiO₃ ceramics at room temperature and low applied fields” *Applied Physics Letter* **105**, 112907 (2014).
3. **S.K.Upadhyay**, V.R. Reddy, Ajay Gupta, V. Sathe, R.J.Choudhary, V.Ganesan and D.M.Phase, “Effect of Ni_{0.5}Zn_{0.5}Fe₂O₄ (NZFO) layer thickness on the magneto-electric properties of BaTiO₃ (BTO)-NZFO composite bilayer thin films” *Materials Research Express* **1**, 026101 (2014).
4. V.R. Reddy, **S.K.Upadhyay**, A. Gupta, A.M.Awsathi and S. Hussain, “Enhanced dielectric and ferroelectric properties of BaTiO₃ ceramics prepared by microwave assisted radiant hybrid sintering” *Ceramics International* **40**, 8333 (2014).
5. **S.K.Upadhyay**, V.R. Reddy and N. Lakshmi, “Study of (1-x) BaTiO₃ - x Ni_{0.5}Zn_{0.5}Fe₂O₄ (x=5, 10 and 15%) magneto-electric ceramic” *Journal of Asian Ceramic societies* **1**, 346 (2013).
6. V.R. Reddy, D. Kothari, **S.K.Upadhyay**, A. Gupta, N. Chauhan and A.M.Awsathi, “Reduced leakage current of multiferroic BiFeO₃ ceramics with microwave synthesis” *Ceramics International* **40**, 4247 (2014).
7. **S.K.Upadhyay** and V.R. Reddy, “Study of ferroelectric hysteresis scaling exponents in aged polycrystalline BaTiO₃” *Ferroelectrics* **445**, 147 (2013).
8. D. Kothari, **S.K.Upadhyay**, C. Jariwala, P. M. Raole and V.Raghavendra Reddy, “Reduced leakage in epitaxial BiFeO₃ films following oxygen radio frequency plasma treatment”, *Journal of Applied Physics* **113**, 214109 (2013).
9. **S.K.Upadhyay** and V.R. Reddy, “Study of 0.9BaTiO₃-0.1Ni_xZn_{1-x}Fe₂O₄ magneto-electric composite ceramics”, *Journal of Applied Physics* **113**, 114107 (2013).
10. **S.K.Upadhyay**, V.Raghavendra Reddy, Kavita Sharma, Anil Gome and Ajay Gupta., “Study of aging and de-aging behaviour of un-doped polycrystalline BaTiO₃”, *Ferroelectrics* **437**, 171 (2012).
11. Deepti Kothari, **S.K.Upadhyay**, C. Meneghini, V.R. Reddy, G. Aquilanti and A. Gupta, “Structural and magnetic study of La doped multiferroic BiFeO₃”, *AIP Conf. Proc.* **1447**, 1319 (2012).
12. **Sanjay Upadhyay**, H. Chandra, M. Joshi & D.P. Joshi, “Thermo-elastic properties of minerals at high temperature”, *Pramana J. Physics* **76**, 183 (2011).

PRESENTATIONS AT CONFERENCES (NATIONAL / INTERNATIONAL)

Oral Presentation:

1. **9th Asian Meeting on ferroelectricity (AMF-14)** held at **Shanghai (China)** during October (26-30) 2014.
2. **RSWPM-13** held at UGC-DAE-CSR Indore (M.P.) during December (23-24) 2013.
3. **13th International meeting on ferroelectricity (IMF-13)** held at **Krakow (Poland)** during September (2-6) 2013.

Poster Presentation:

1. **59th DAE-SSPS** held at VIT University, Vellore (Tamilnadu) during December (16-20) 2014.
2. **58th DAE-SSPS** held at Thaper University, Patiala (Punjab) during December (17-21) 2013.
3. **International conference on magnetic materials and application (MAGMA-2013)** held at IIT Guwahati during December (5-7) 2013.
4. **Physics of Phase transition-2013** held at UGC-DAE-CSR Indore (M.P.) during October (23-24)2013.
5. **RDMMTF-2013** held at UGC-DAE-CSR Indore (M.P.) during May (24-25) 2013.
6. **57th DAE-SSPS** held at IIT Bombay (Maharashtra) during December (3-8) 2012.
7. **56th DAE- SSPS** held at SRM University Chennai (Tamilnadu) during December (19-23) 2011.

Workshop / School:

1. **“CSR Lecture series”** held at UGC-DAE-CSR Indore during September (1-26) 2014.
2. **“Two days interaction meeting on Photo-electron spectroscopy”** held at RRCAT Indore (M.P.) during August (29-30) 2013.
3. **“Magnetic Phase Transitions & Transformation”** held at Jadhavpur University, Kolkata (West Bengal) during August (03-09)2011.
4. **“Low temperature & high magnetic field”** held at UGC DAE CSR, Indore, (M.P.) during March (13-18) 2011.
5. **“X –ray absorption spectroscopy”** held at UGC DAE CSR, Indore, (M.P.) on 23 May 2011.

PERSONAL INFORMATION

Father's name : Mr. Deep Chandra Upadhyay
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REFERENCES

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