

NAME: **Dr. Saubhagyalaxmi Behera**

Designation: **Associate Professor**

Qualification: **M.Sc, Ph.D.**

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About Me

Dr. Saubhagyalaxmi Behera is an Associate Professor at the Department of Physics, SoAS, Centurion University of Technology and Management. She has completed her Ph.D degree in experimental condensed matter physics in 2014 from Sambalpur University. Her current research area includes ferroelectrics, multiferroics, polymer composites, ternary phase polymer nanocomposites, rare earth manganites and orthoferrites. She has guided 4 Ph.D scholars, 12 M.Phil scholars and 50 nos of Master degree projects. She has 22 years of teaching and 11 years of research experience. Dr. Behera has published 5 book chapters, 2 conference proceedings, and more than 46 numbers of research papers in peer-reviewed journals of national and international repute. She is currently supervising 2 Ph.D. Scholars also. She has also achieved Provost Research Award 2023 (Distinguished Achiever Award) given by Centurion University. She has organized 3 National and 1 International conference. She is an active Life Member of the Orissa Physical Society (OPS).

AREA OF INTEREST

- **Polymer composites for energy storage and harvesting**
- **Ternary phase polymer composites for solid state electrolyte in Battery**
- **Rare earth orthoferrites**
- **Piezonano ceramics**

COURSES TAUGHT

- Material Behaviour of Nanostructure- CUTM1406
- Corrosion and advanced coating application- CUTM 1404.
- Energy storage materials- CUTM1399
- Photovoltaic technology and nanocatalysts-CUTM 1401.

- Electrodynamics and Relativistic Theory –CUNT 2463.
- Atomic and Molecular Physics-CUNT2461
- Mechanics - CUTM 1484
- Solid State Physics- CUTM1494
- General Physics-II- UGFS S2-P2
- Physics-CUTM4179

TEACHING EXPERIENCE: 22 years

RESEARCH EXPERIENCE: 11 years

ADMINISTRATIVE/EXECUTIVE EXPERIENCE: 22 years

AWARDS & HONORS

i. Provost Research Award 2023 (Distinguished Achiever Award) given by Centurion University.

ii. Good Performer Award 2022 (Contribution to University) given by Centurion University.

RESEARCH GUIDANCE:

Ph.D.: 6 scholars(4 awarded)

M.Phil.: 12students

M.Sc.: 50students

RESEARCH GRANTS: Synthesis and Characterization of Piezoelectric Nanogenerators for Wearable Electronic, applied to DST SERB SURE

PUBLICATIONS

JOURNAL PUBLICATIONS: 46 (SCI=39 +UGC Care 7)

BOOK PUBLICATIONS: 5 book chapters

List of Publications

Sl. No.	Author(s)	Title	Name of Journal	Volume	Page	Year
1.	S. Mohanty, S.Behera* et.al	Effect of low-Ni substitution on optical, dielectric and magnetic properties of double perovskite $\text{Mg}_2\text{FeNbO}_6$,	Inorganic Chemistry Communication	30	1124	2024
2.	S.Mohanty, S Behera*	Dielectric, electrical and optical properties of a Ni-substituted double perovskite ceramic.	Ferroelectrics	618	259-273	2024
3.	S.Devi, S.Moharana, S.Behera*	Dielectric and Electrical Behaviour of Praseodymium Based Tungsten Bronze Ceramics	Macromolecular Symposia	413 (2)	2300105	2024
4.	L.Priya, S.Behera* , S.Parida et.al	Structural, dielectric, and ferroelectric properties of a hot-pressed $\text{P(VDF-TrFE)-(0.67BiFeO}_3\text{–0.33BaTiO}_3\text{)}$ composite.	J.Mat.Sc: Mat.in Elect	35	262-271	2024
5.	L.Priya, S.Behera* , S.Parida et.al	Flexible $\text{P(VDF-TrFE)/BNT-BT}$ composite films and their dielectric, ferroelectric and energy storage properties	J.Material Research.	39	2553	2024

6.	S.Parthasarathy, S.Behera*, S.Moharana	Dielectric, Ferroelectric, and Energy Storage Properties of Solvent Casted P(VDF-TrFE) Film 1-10/	Iranian Journal of Science	https://doi.org/10.1007/s40995-024-01711-y/2024	1-10	2024
7.	H.Chauhan, S. Parthasarathy, B.N, Parida & S.Behera et.al.	Unveiling the potential of a novel inorganic perovskite for NTC thermistor and energy-storage applications.	Inorganic Chemistry Communications	170	113127	2024
8.	R.Paikray, T.Badapanda, S.Behera et.al	Analysis of Structural, Photoluminescence, and Colorimetric Performance of Gd-Incorporated BNT Ceramic.	Journal of Fluorescence, 2023	doi.org/10.1007/s10895-023-03544-1	1085	2023
9.	L.Priya, S.Behera*, S.Parida et.al	Advances in P(VDF-TrFE) Composites: A Methodical Review on Enhanced Properties and Emerging Electronics Applications	Condensed Matter	8	105	2023
10.	S. Mohanty, S.Behera*	Multifunctional properties of transition metal based double perovskite ceramics,	Chemical Physics Impact	7	100259	2023
11.	S. Devi, S.Saparjya S. Behera*	Crystal structure, dielectric and impedance studies of a new lead free tungsten bronze ferroelectric oxide	Ferroelectrics	587	104-117	2022
12.	G. K. Sahu, S. Behera S. R. Mishra	Investigations on structure, dielectric and ferroelectric properties of SrBi ₂ Ta ₂ O ₉ ceramic via A-site defect engineering	Phase Transition	95	445-455	2022
13.	S. Behera, B. N. Parida R. K. Parida R. Padhee	Synthesis and characterization of lead-free double perovskite Mg ₂ LaVO ₆	J. Mat. Sci; Mat. Elect.	33	7691-7700	2022
14.	S. Mohanty, S. Behera*, S. Sen, B.N. Parida, R. Singh.	Dielectric, Optical, and Magnetic Behaviors of Magnesium Iron-Based Double Perovskite	ECS Journal of Solid State Science and Technology	11	113003	2022
15.	S. Mohanty, S. Behera*, S. Sen, B.N. Parida	Multiferroic and optical characteristics of Mg ₂ (Fe _{0.85} Ni _{0.15})NbO ₆ for possible energy storage application	J. of Mat Sci: Materials in Electronics Letters	33	23770-23780	2022
16.	G. K. Sahu, S. Behera*, V. Senthil, T. Badapanda	Investigation of Dielectric, Ferroelectric and Conduction Behavior of Dy ³⁺ -Substituted SrBi ₂ Ta ₂ O ₉ Bismuth Layer Structured Ceramics	ECS Journal of Solid State Science and Technology	11	083011	2022
17.	S. Saparjya, S. Behera, T. Badapanda B. Behera. R. Padhee,	Understanding the impact of Gd ³⁺ substitutions on the enhancement of dielectric and electrical behaviour of lead-free Ba _{0.85} Ca _{0.15} Zr _{0.1} Ti _{0.9} O ₃ ceramics	Ferroelectrics	598	79-95	2022

	P.R.Das					
18.	S.Swain, S.Behera , B.Ojha	Effect of rare earth orthoferrite GdFeO ₃ on the band gap modulation and magnetic switching in Bi _{0.5} Na _{0.5} TiO ₃ ceramics	Phase Transitions	94	77-92	2021
19.	S.Swain, S. Behera , B.Ojha	Optical, electrical and magnetic properties of (((Bi _{0.5} Na _{0.5}) _{0.7} La _{0.3}) (Ti _{0.7} Fe _{0.3}) O ₃) ferroelectric ceramic	Chemical Physics Letters	773	138580-138588	2021
20.	B. N. Parida , S. Behera* R. Padhee & Piyush R. Das	Revived tungsten bronze ceramic for thermistor and RAM devices.	Phase Transitions	93	1157-1170	2020
21.	S. Sapatrya , S. Behera , T.Badapanda, R. Padhee; P.R. Das	Effects of La ³⁺ addition on the phase transition, microstructure, and electrical properties of Ba _{0.85} Ca _{0.15} Zr _{0.1} Ti _{0.9} O ₃ ceramics.	J. Mat. Sci; Mat. Elect.	31	8116-8126	2020
22.	NirmalRout, S.Behera ,B. N. Parida, R. K. Parida, R. Padhee	Effect of substitution of alkaline earth metal ion on structural and dielectric properties of double perovskite.	Phase Transitions	93	509-527,	2020
23.	B. N. Parida, Priyabadini Biswal, S. Behera , R. K. Parida R. Padhee	Multifunctional behavior of Ca-doped niobium-based double perovskite for photovoltaic/solar cell devices	J. Mat. Sci; Mat. Elect.	31	6097-6108	2020
24.	S.Sapatrya, S. Behera , T. Badapanda. B. Behera, P. R. Das.	Effect of Gadolinium on the structural and dielectric properties of BCZT ceramics.	Phase Transitions	93	245-262	2020
25.	S. Behera P. R. Das, B.N. Parida	Dielectric and impedance spectroscopy of rare earth-based tungsten bronze ceramic	Phase Transitions	92	974	2019
26.	S. K. Mohanty H.S. Mohanty B. Behera D.. P.Datta S. Behera P.R. Das	Influence of NaNbO ₃ on the structural, optical and dielectric properties of 0.05(K _{0.5} Bi _{0.5} TiO ₃)–0.95(NaNbO ₃) composites ceramics	J. Mat. Sci; Mat. Elect.	30	5833-5844	2019
27.	S. K. Mohanty K. Bhoi, S. Behera B. Behera P. R. Das	Structural, optical and impedance spectroscopic studies of lead-free 0.2(K _{0.5} Bi _{0.5} TiO ₃)–0.8(NaNbO ₃) solid solution.	J. Mat. Sci; Mat. Elect.	30	15608-15618	2019
28.	K.Baisakh, S. Behera , S Pati	Study of the optical properties of c-axis oriented ZnO thin films grown by sol-gel spin coating technique.	IOP Conference Series: Mat. Sci. Eng	338	1-6	2018
29.	Sapatrya S. S. Behera , B. Behera, P. R. Das	Structural and electrical properties of a new lead free tungsten bronze ferroelectric ceramics	J. Mat. Sci; Mat. Elect.	28	3843-3850	2017

		Na ₂ Ba ₂ Eu ₂ W ₂ Ti ₄ Nb ₄ O ₃₀				
30.	S. Behera , P. R. Das, P. Nayak , S.K. Patri	Structural and Electrical properties of Na ₂ Pb ₂ Dy ₂ W ₂ Ti ₄ Ta ₄ O ₃₀ Ceramics	J. Elect. Mat.	46	1201-1212	2017
31.	B. N. Parida, P.R. Das, R. Padhee , S. Behera , R.N. P. Choudhary	Structural, dielectric and electrical properties of a new tungsten bronze ferroelectric ceramics	J. Mat. Sci; Mat. Elect	25	2618–2626	2014
32.	S. Behera , P. R. Das, P. Nayak , R.Padhee	Modulus spectroscopy and conductivity studies of rare earth based	Adv. Sci. Lett.	20	800	2014
33.	S. Behera , P. R. Das, B.N. Parida P. Nayak, R.N.P. Choudhary	Structural and Electrical Characteristics of Li ₂ Pb ₂ Sm ₂ W ₂ Ti ₄ Ta ₄ O ₃₀ ceramic systems	Adv. Mat. Lett.	5	143-147	2014
34.	R. Padhee, B.N.Parida, S. Behera , P. R. Das , R.N.P. Choudhary.	Dielectric and electrical properties of a tungsten bronze tantalate ceramic	Curr. App.Phy	13	1014	2013
35.	S. Behera , B. N. Parida, P. Nayak P.R. Das,	Synthesis and Characterization of New Tungsten-Bronze Na ₂ Pb ₂ Pr ₂ W ₂ Ti ₄ Ta ₄ O ₃₀ ceramic	J. Mat. Sc, Mat. Electron,	24	1132	2013
36.	S. Behera , P. R. Das , R. Padhee, P. Nayak	Studies of dielectric and electrical properties of Na ₂ Pb ₂ La ₂ W ₂ Ti ₄ Ta ₄ O ₃₀ electro ceramic	J. Adv. Ceram	1	232	2012
37.	S. Behera , P. R. Das, P. Nayak, R.N.P. Choudhary	Synthesis and Characterization of Na ₂ Pb ₂ Y ₂ W ₂ Ti ₄ Ta ₄ O ₃₀ Ferroelectric Ceramic	Asian .J. Physics	21	179	2012
38.	P. R. Das, S. Behera , P. Nayak	Structural and Ferroelectric Properties of Na ₂ Pb ₂ Nd ₂ W ₂ Ti ₄ Ta ₄ O ₃₀ Ceramic.	AIP conf. proc	33	1372	2011
39.	P. R. Das, S. Behera , P. Nayak	Structural and Dielectric Properties of Na ₂ Pb ₂ Sm ₂ W ₂ Ti ₄ Ta ₄ O ₃₀ Ferroelectric Ceramics	Int. J. Mat. Sci	5	739	2010
40	S.Devi, S.Saparjya, P.R.Das,	Dielectric, electrical properties and thermalsensitivity of a lead free rare earth compound with tungsten	IJMTE	8	2292-2307	2018
41	G.K sahu, S.Behera , S.R . Mishra	Investigation of optical and structuralproperties of scheelite-type barium tungstate ceramic.	IJMTE	8	2314-2319	2018
42	S.Behera , A. Dutta,	Electrical transport properties study of a tungsten bronze- type	IJMTE	8	5653-5666	2018

	S.Saparjya, P. R. Das	vanadate ceramic by impedance spectroscopy and electric modulus				
43	K.Baisakh, S.K.Biswal, S.Behera , S.Pati	Synthesis and characterization of high quality Indium doped ZnO nanostructures	IJMTE	8	5699-5704	2018
44	S.Saparjya, P.R. Das, S. Behera , S.Devi	Structure, Dielectric Properties and Conduction Mechanism of BCZT Ceramics	Sambodhi	43	405-414	2020
45	S.Swain, S. Behera , B. Ojha	Structural, Optical and dielectric properties of BNT ceramics,	Sambodhi	43	290-297	2020
46	S.Mohanty, S.Behera	Double Perovskites Oxides: A Review	Sambodhi	43	298-306	2020

Books Chapters-5

Sl.No	Title	Author's Name	Book Name	Year	Publisher
1	Structural and Frequency Dependent Electrical Properties of lead-Free Na ₂ Ba ₂ La ₂ W ₂ Ti ₄ Nb ₄ O ₃₀ ceramics	S. Devi, S.Behera T.Sahu	Advances in Diverse Applications of Polymer Composites	2023	Taylor& Francis
2	Electrical Properties of Na ₂ Pb ₂ La ₂ W ₂ Ti ₄ V ₄ O ₃₀ Ferroelectric Ceramic	P.R. Das *S.Behera, , S.K.Mohanty Khusboo Agrawal	Advances in Diverse Applications of Polymer Composites	2023	Taylor& Francis
3	Effect of Lanthanide Substitution on the Dielectric, Ferroelectric and Energy-Storage Properties of PZT Ceramics	S. C Panigrahi, P. R. Das, S. Behera *	Dielectric Materials for Energy Storage and Energy Harvesting Devices	2023	River Publishers Series in Energy Sustainability and Efficiency
4	Piezoelectric Polymer Composites for Energy Harvesting	S Parthasarathy, S 2024, S Moharana	Polymer Composites: Fundamentals and Applications, 533-554	2024	Springer
5	Carbon Nanotube-Polymer Nanocomposites for Wearable Electronics	S Parthasarathy, S Behera* , S Moharana	Engineering Materials, F3404/461-487/2024	2024	Springer

Paper presented in conferences- 27

List of Presentations.

SN	Title of the Invited Lecture/Paper presented	Title of Conference/ Seminar etc.	Organised by	Date of Presentation	Level: International (Abroad)/ International (within India/ National/ State /University
1.	Structural and Electrical Properties of Na ₂ Pb ₂ Sm ₂ W ₂ Ti ₄ Ta ₄ O ₃₀ Ferroelectric Ceramics	PTNM	Sambalpur University	25-27 February, 2010.	National
2.	Diffuse phase transition in Na ₂ Pb ₂ La ₂ W ₂ Ti ₄ Ta ₄ O ₃₀ ferroelectric ceramics.	National Conference on Sensors and Actuators: Science to Technology,	CGCRI, Kolkata.	11-12 March, 2011	National
3.	Studies of Structural and dielectric Properties of Na ₂ Pb ₂ Gd ₂ W ₂ Ti ₄ Ta ₄ O ₃₀ Ferroelectric Ceramics.	National Seminar on Nanotechnology and Environment	K. A. Mahavidyalaya, Cuttack	27-28 November, 2011	National
4.	Impedance Spectroscopy Studies of Na ₂ Pb ₂ Eu ₂ W ₂ Ti ₄ Ta ₄ O ₃₀ Ferroelectric Ceramic.	Workshop on “New and Nano materials”,	Institute of Materials Science, Bhubaneswar	20-21 January, 2012	National
5.	Synthesis and Characterization of Na ₂ Pb ₂ Y ₂ W ₂ Ti ₄ Ta ₄ O ₃₀ Ferroelectric Ceramic.	PTNM, 2012	Sambalpur University	10-11 March, 2012	National
6.	Structural and electrical characteristics of Li ₂ Pb ₂ Sm ₂ W ₂ Ti ₄ Ta ₄ O ₃₀ ceramic systems.	XVII-NSFD ,2012	SOA University, BBSR	17-19 December, 2012	National
7.	Characterization and Electrical properties of Na ₂ Pb ₂ Dy ₂ W ₂ Ti ₄ Ta ₄ O ₃₀ Ceramics	NSSTFM,2013	Hi-Tech. College of Engineering, BBSR.	28-29 September, 2013	National
8.	Modulus spectroscopy and conductivity studies of rare earth based tungsten-bronze ceramics	National Seminar on RTCMP-	ITER, SOA University, BBSR	8-9 Feb. 2014	National
9.	Modulus and conductivity analysis of rare earth based tungsten-bronze ceramics	RDCN-2015	Hi-Tech College of Engineering, BBSR	7-8 February, 2015	National
10.	Structural and Electrical properties of Na ₂ Ba ₂ Gd ₂ W ₂ Ti ₄ Nb ₄ O ₃₀ Ceramics	ICFMST-2015,	NIST, Berhampur	10-12 December, 2015	International
11.	Electrical and conductivity studies of a new type of complex tungsten bronze ceramic oxide	RACEES-2016,	Hi-Tech College of Engineering, BBSR.	9-10 January, 2016	National
12.	Investigation of Negative Temperature Coefficient of resistance behavior and thermistor parameter in Na ₂ Ba ₂ Eu ₂ W ₂ Ti ₄ Nb ₄ O ₃₀ ceramics .	NCPCM -2017	NIT, Rourkela	8-9 December. 2017	National
13.	Dielectric, electrical properties and thermal sensitivity of a lead free rare earth compound with	ICMSEA-2018,	BITS, VIZAG. A.P	25-27 December, 2018	International

	tungsten bronze-type ceramic thermistor.				
14.	Structural, Dielectric and Electrical Properties of Lanthanum Substituted Lead Free Tungsten Bronze Ferroelectric Oxide.	ISETPA- 2019 & 36th Convention of Orissa Physical Society	PMEC Berhampur	2-4 Feb, 2019	International
15.	Dielectric and ferroelectric characteristics of lead free TB ceramics.	(RAM):Green Future-2019	CUTM, Bhubaneswar	6-7 July, 2019	National
16.	Structural and Frequency dependent electrical properties of lead free Na ₂ Ba ₂ La ₂ W ₂ Ti ₄ Nb ₄ O ₃₀ (INVITED LECTURER)	ICAM-2019,	MG University, Kottayam	9-11 August, 2019	International
17.	Synthesis and ferroelectric properties of rare earth compounds with tungsten bronze type ceramic thermister	NSRPTA & OPS	VSSUT ,BURLA	8-9 Feb, 2020	National
18.	Structure and dielectric properties of Gd dopped BNT ceramics	AFM-2020	KIIT University,Bhubaneswar	26-28 August, 2020	International
19.	Structure, Dielectric Properties and Conduction Mechanism of BCZT Ceramic	ICCIASH-2020,	Saint Martins College of Engg. Secunderbad	13-14 August, 2020	International
20.	Double Perovskites oxides : A review	ICCIASH-2020	Saint Martins College of Engg. Secunderbad	13-14 August, 2020	International
21.	Optical, dielectric and multi ferroic behavior of double perovskite Mg ₂ FeNbO ₆	NSCPAM-2021, .	Govt. Pt. Shyamacharan Shukla College, Dharsiwa,Raipur (C.G.)	26th June 2021	National
22.	Crystal structure, dielectric and impedance studies of a new lead free tungsten bronze ferroelectric oxide	XXINSFD-2021	Rashtrasant Tukadoji Maharaj Nagpur University	10-13 January 2021	National
23.	Magnetic and photovoltaic behavior of Iron based double perovskite oxides	NSIRP-2022	Kendrapada Auto. College, Kendrapada	27-28 March 2022	National
24.	Influence of Ni Doping on the Dielectric, Ferroelectric, Energy Storage and Optical properties of Ca ₂ FeNbO ₆ Ceramics	XXII NSFD - 2022	VIT-AP	17-19 December 2022	National
25.	Influence of lanthanide substitution on dielectric and energy storage properties of BLSF SrBi ₂ Ta ₂ O ₉ ceramic	OPS-FMET-2023	SIT, BBSR	11-12 February 2023	National
26.	Effect of Ni- substitution on the optical and magnetic behavior of an Iron based double perovskite oxides	RDFP-2024. National	Sambalpur University,Sambalpur	15-16, March. 2024	National
27.	Electrical and optical behaviour of GdMnO ₃ rare earth Studies of dielectric,	NSFD-2024	CUJ, Ranchi	17-19, Dec, 2024	National

	optical and magnetic properties of DyMnO ₃ ceramic prepared by a planetary ball milling method.				
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DECLARATION.

I hereby declare that the information furnished above is true to the best of my knowledge & belief.

Saubhagyalaxmi Behera

patents and 1 UK patent granted.