

PROFORMA FOR BIO-DATA

1. Name and full correspondence address: Dr. Deepash Shekhar Saini, Department of Physics, Deen Dayal Upadhaya Gorakhpur University, Gorakhpur, U.P. India-273009

2. Email(s) and contact number(s) – dssainiddugu@gmail.com , deepash.phy@ddugu.ac.in, shephy81@mail.com

(+91) 8927165315

3. Institution – Deen Dayal Upadhaya Gorakhpur University, Gorakhpur, U.P. India-273009

4. Date of Birth- 15 January 1982

5. Gender (M/F/T) - Male

6. Category Gen/SC/ST/OBC - OBC

7. Whether differently abled (Yes/No) - No

8. Academic Qualification (Undergraduate Onwards)

Degree	Subject	Year of Passing	Board/University	Percentage of Marks
Ph. D	Materials Science	2017	IIT Kharagpur	NA
M. Tech	Solid State Materials	2010	IIT Delhi	8.15 (CGPA)
M. Sc	Physics	2007	MJP Rohilkhand University Bareilly	73.75
B. Sc	Physics, Chemistry, Maths	2004	MJP Rohilkhand University Bareilly	68.67

9. Ph.D thesis title, Guide Name, Institute/Organization/University, Year of Award.

Thesis Title- Study of Proton Conduction and Dielectric Properties of Ho Substituted BaZrO₃ Electrolyte Ceramic for Proton Conducting-SOFCs

Guide Name- Prof. Debasis Bhattacharya

Institute/Organization/University- Indian Institute of Technology Kharagpur, West Bengal, India- 721302

Year of Award – 2017

10. Work experience (in chronological order).

S.No.	Positions held	Name of the Institute Applicant(s)	From	To	Pay Scale
1	Lecturer	SITM Lucknow, U.P.	July 2010	June 2011	25,000/- Consolidated
2	Temporary Faculty	NIT Raipur	January 2018	June 2018	40,000/- Consolidated
3	Assistant Professor	D.D.U. Gorakhpur University	July 2018	Till now	Rs.15,600- 39,100

11. Professional Recognition/Award/ Prize/ Certificate, Fellowship received by the applicant.

S.No.	Name of Award	Awarding Agency	Year
1	GATE	MHRD India	2007 (AIR-319)
2	GATE	MHRD India	2008 (AIR-54)
3	CSIR (JRF) - NET	CSIR India	December 2007
4	JEST	DAE India	2008 (AIR-583)
5	Junior Research Fellowship (JRF)	CSIR India	July 2008-2010 at IIT Delhi
6	Institute Fellowship	MHRD India	July 2011 – July 2016 at IIT Kharagpur
7	Financial Assistance for ETMN 2015 Jaipur, Rajasthan	MHRD India	December 2015 at IIT Kharagpur
8	Financial Assistance for E-MRS 2016 Lille, France	MHRD India	May 2016 at IIT Kharagpur
9	Teaching Assistantship	IIT Kharagpur	August 2016 – February 2017

12. Publications (List of papers published in SCI Journals/Conference processing, in year wise descending order).

S. No.	Author(s)	Title	Name of Journal	Volume	Page	year
1	Singh, S., Kumar M., Kumar A., & Saini D. S.	Impedance and electric modulus spectroscopy of polycrystalline $\text{La}_{0.5}\text{Sr}_{0.5}\text{Bi}_{0.2}\text{Co}_{0.4}\text{Fe}_{0.4}\text{O}_{3-\delta}$ cathode ceramic for intermediate temperature SOFCs	Indian Journal of Pure and Applied Physics	59	549	2021
2	Singh, S., Kumar A., & Saini D. S.	Structural and Microstructural Study of $\text{La}_{0.5}\text{Sr}_{0.5}\text{Bi}_{0.2}\text{Co}_{0.5}\text{Fe}_{0.3}\text{O}_{3-\delta}$ Cathode Ceramic for Intermediate Temperature Solid Oxide Fuel Cells	Solid State Technology	63	13367	2021
3	Saini, D. S., Ghosh, A., Tripathy, S., Kumar, A., Sharma, S. K., Kumar, N., Majumdar, S., & Bhattacharya, D.	A Promising Proton Conducting Electrolyte $\text{BaZr}_{1-x}\text{Ho}_x\text{O}_{3-\delta}$ ($0.05 \leq x \leq 0.20$) Ceramics for Intermediate Temperature Solid Oxide Fuel Cells.	Scientific Reports	10	3461	2020
4	Saini, D. S., Ghosh, A., Tripathy, S., Sharma, S. K., Kumar, A., & Bhattacharya, D.	Improved Conductivity of Spark Plasma Sintered Ho-Substituted BaZrO_3 Electrolyte Ceramics for IT-SOFCs.	Applied Energy Materials	1	3469	2018
5	Saini, D. S., Tripathy, S., Kumar, A., Sharma, S. K., Ghosh, A., & Bhattacharya, D.	Impedance and modulus spectroscopic analysis of single phase BaZrO_3 ceramic for SOFC application	Ionics	24	1161	2018
6	Saini, D. S., Singh, S., Kumar,	Dielectric and Modulus Studies of Polycrystalline	AIP Conference	1953(C)	09001 7	2018

	A., & Bhattacharya, D.	BaZrO ₃ Ceramic	Processding			
7	Saini, D. S. , Singh, L. K., & Bhattacharya, D.	Synthesis and electrical characterization of BaZr _{0.9} Ho _{0.1} O _{3-δ} electrolyte ceramic for IT-SOFCs	AIP Conference Processding	1942	140064	2018
8	Tripathy, S., Khilari, S., & Saini, D. S.	Influence of substrate morphology on alcohol sensing behaviour of p-type Co ₃ O ₄	Materials Letters	219	29	2018
9	Tripathy, S., Khilari, S., Saini, D. S. , & Bhattacharya, D.	A green fabrication strategy for MgAl ₂ O ₄ foams with tunable morphology	RSC Advances	6	33259	2016
10	Kumar, A., Dhama, P., Saini, D.S. , & Banerji, P.	Effect of Zn substitution at a Cu site on the transport behavior and thermoelectric properties in Cu ₃ SbSe ₄	RSC Advances	6	5528	2016
11	Tripathy, S., Saini, D. S. , & Bhattacharya, D.	Synthesis and fabrication of MgAl ₂ O ₄ ceramic foam via a simple, low-cost and eco-friendly method	Journal of Asian Ceramic Societies	4	149	2016
12	Saini, D. S. , & Bhattacharya, D.	Electrical properties of BaZrO ₃ ceramic synthesized by flash pyrolysis process	AIP Conference Processding	1724	020104	2016

13. Detail of projects. -

S.No.	Title of Projects	Name of PI	Grant	Award Date	Agency
1	Development of cost-effective BaZr _{1-x} Y _x O _{3-δ} (0 ≤ x ≤ 0.2, Δx = 0.1) proton conducting electrolyte using spark plasma sintering : A promising material for intermediate temperature solid oxide fuel cells	Dr. Deepash Shekhar Saini	10 Lacs	04/02/2020	UGC India

14. Books/Reports/Chapters/General articles etc.- NA

S.No.	Title	Author's Name	Publisher	Year of Publication

15. Any other Information (maximum 500 words)-

Paper presented in conferences

1. **Saini, D. S.**, Singh, L. K., & Bhattacharya, D. (2017) Synthesis and electrical characterization of $\text{BaZr}_{0.9}\text{Ho}_{0.1}\text{O}_{3-\delta}$ electrolyte ceramic for IT-SOFCs. 62nd DAE Solid State Physics Symposium 2017 BARC Mumbai.
2. **Saini, D. S.**, Singh, S., Kumar, A., & Bhattacharya, D. (2017) Dielectric and modulus studies of polycrystalline BaZrO_3 ceramic, ICC 2017 Bikaner.
3. **Saini, D. S.**, & Bhattacharya, D. (2016) Study of proton conduction and dielectric relaxations phenomena in $\text{BaZr}_{0.9}\text{Ho}_{0.1}\text{O}_3$ electrolyte ceramic synthesized by using flash pyrolysis route for IT – SOFCs, ICFM 2016, IIT Kharagpur.
4. **Saini, D. S.**, & Bhattacharya, D., (2016). Protonic conductivity of dense BaZrO_3 ceramic synthesized by flash pyrolysis process for PCFC applications. E-MRS 2016 Spring Meeting, Lille Grand Palais, France.
5. **Saini, D. S.**, & Bhattacharya, D., (2015), Electrical properties of BaZrO_3 ceramic synthesized by flash pyrolysis process. 2nd International Conference on Emerging Technologies: Micro to Nano 2015 (ETMN-2015) Jaipur.
6. **Saini, D. S.**, & Bhattacharya, D., (2014), Electrical properties of BaZrO_3 ceramics synthesized by flash pyrolysis combustion process, ICFM 2014, IIT Kharagpur.

Training & Workshop Attended:

- International Workshop on Lithium Ion Battery Technology and Mathematical Modeling at IIT Kharagpur on 16-18 May, 2016

Professional Organizations Membership:

- APS graduate student member (ID No. 61204124)

Reviewer in Journals:

Scientific Reports, Electrochimica Acta, Materials Science and Engineering B, Ceramics International

Skills:

1. **Scientific Softwares:** Full Prof Suit, Maud and Diamond for Rietveld Analysis, ZSimpwin for Impedance Analysis, Matlab.

2. **Materials Synthesis:** Solid State Route, Sol-Gel process, Hydrothermal, Combustion Route, Flash Pyrolysis Route.
3. **Thin Film Fabrication:** Sol-Gel Spin Coating, Spray Pyrolysis, Thermal Evaporation, Dip Coating, Electrophoretic deposition.
4. **Characterization Techniques:** HR- XRD, FESEM, EDS, HRTEM, FTIR, Raman, DTA-TGA, AFM, UV, PL.
5. **Paper & Report Writing Tools:** Microsoft Office, Visio, LaTeX, Origin.