Name of the Teacher: DR. SK ANIRBAN

Department: PHYSICS

Current Designation: ASSISTANT PROFESSOR

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Academic Qualifications: M.Sc, PhD

Research Experience: Ph. D. in Physics (2016)
Title of Thesis: Preparation and characterization of some rare earth doped cerium oxide nanomaterials.
Supervisor: Dr. Abhigyan Dutta, Assistant Professor, The University of Burdwan, India

Teaching Experience: *July, 2016 to Present: Assistant Professor in Physics, Salboni Government College, Paschim Medinipur, India

****February, 2015 to July, 2016: Assistant Professor at Department of Physics, Government General Degree College, Singur, Hooghly, India**

UGC / Other Projects: R & D Project Govt. of West Bengal
Title of Project: Synthesis, Characterization & Investigation of Different Properties of Some Double Perovskites for Futuristic Application
File No.: ST/P/S&T/16G-29/2018
PI: Dr. Sk. Anirban
Value of Project: Rs.- 627212/-
Duration: 2018-2021

Administrative & Academic Responsibilities inside the College:

Administrative & Academic Responsibilities outside the College:

Experience as Supervisor:

Publication in Books / Journals: **Title of the Book: Energy storage and conversion: Materials and Devices**
Title of the Chapter: Defect interaction mediated charge carrier dynamics in Gd-Y co-doped nanocrystalline ceria
(Chapter: 9, Pages: 101-112)
Authors: Sk. Anirban and A. Dutta
Editor: Prof. Ashok Kumar and Dr. Shymal K. Das
Publisher: Narosa Publishing House
ISBN No.: 978-81-8487-578-2

List of published papers:

A. Publications in Peer-review Journals

1. Sk. Anirban, A. Dutta, StructuralO1, optical and dielectric properties of Ce0.9Nd0.1O1.95 nanocrystalline oxygen ion conductors: Effect of sintering temperature, J. Phys. Chem. Solids, 76 (2015) 178â€“183.

2. Sk. Anirban, T. Paul, P. T. Das, T.K. Nath, A. Dutta, Microstructure and electrical relaxation studies of chemically derived Gdâ€“Nd co-doped nanocrystalline ceria electrolytes, Solid State Ionics, 270 (2015) 73â€“83.

3. Sk. Anirban, T. Paul, A. Dutta, Vacancy mediated ionic conduction in Dy substituted nanoceria: a structureâ€“property correlation study, RSC Adv., 5 (2015) 50186â€“50195.

4. Sk. Anirban, A. Dutta, Charge carrier dynamics in Gdâ€“Y co-doped nanocrystalline ceria corroborated with defect Interactions, RSC Adv., 5 (2015) 95736â€“95743.

5. Sk. Anirban, A. Dutta, Dielectric Relaxation and Charge Carrier Mechanism in Nanocrystalline Ce-Dy Ionic Conductors, RSC Adv., 6 (2016) 49852â€“49861.

6. Sk. Anirban, A. Dutta, Microstructure and Charge Carrier Dynamics in Pr-Sm-Eu tripledoped ceria, Solid State Ionics, 295 (2016) 48â€“56.

7. Sk. Anirban, A. Dutta, Structural Interpretation of Optical Properties and Ion Transport Mechanism in Mixed Valent Pr Containing Nanoceria, Mat. Res. Bull., 86 (2017) 119-130.

8. Sk. Anirban, A. Dutta, Microstructural interpretation of conductivity and dielectric response of Ce0.9Eu0.1O1.95 oxygen ion conductors, Ionics, 23 (2017) 2579â€“2587.

9. Sk. Anirban, A. Dutta, Structural and ionic transport mechanism of rare earth doped cerium oxide nanomaterials: Effect of ionic radius of dopant cations, Solid State Ionics, 309 (2017) 137-145.

10. Sk. Anirban, A. Dutta, An insight into the structure, conductivity and ion dynamics of Sr-Sm codoped ceria oxygen ion conductors: Effect of defect interaction, Solid State Sciences, 86 (2018) 69â€“76.

11. Sk. Anirban, A. Dutta, Structure and defect interaction mediated transport mechanism of mixed di-tri valent cation containing ceria-based Ionic conductors, Int. J. Hydro. Energy, 43 (2018) 23418 -23429.

12. Sk. Anirban, A. Dutta, Structure, Ionic Transport Properties and Scaling Behavior of Eu, Pr, and Sm Co-Doped Ceria Oxygen Ion Conductors, Physica Status Solidi A, 2018, 1800352.

13. Sk. Anirban, P.T. Das, A. Dutta, Effect of divalent cation addition on structure, conductivity and grain boundary properties in La doped ceria oxygen ion conductors, Ceram. Int., 45 (2019) 5751â€“5760.

B. Mini Review

1. Sk. Anirban, Structural and Electrical Properties of Multivalent Pr Doped Ceria: A Short Review, Juniper Online Journal Material Science, Vol: 1, Year: 2017, Manuscript ID.: JOJMS. MS. ID. 555551

C. Publications in Conference Proceeding

1. Sk. Anirban, A. Sinha, A. Dutta, Synthesis and electrical transport properties of Gd doped nanocrystalline Ceria, AIP Conf. Proc., 1536 (2013) 157.

2. Sk. Anirban, A. Dutta, Charge Carrier Dynamics in Nanocrystalline Dy Substituted Ceria Based Oxygen Ion Conductors, AIP Conf. Proc., 1728 (2016) 020070.

3. Sk. Anirban, A. Sinha, S. Bandyopadhyay, A. Dutta, Defect Association Mediated Ionic Conductivity of Rare Earth Doped

Nanoceria: Dependency on Ionic Radius, AIP Conf. Proc., 1731 (2016) 110008.

4. S. Bandyopadhyay, Sk. Anirban, A. Sinha, S.K. Pradhan, A, Dutta, Conductivity Enhancement in Mechanosynthesized Bi2O3, AIP Conf. Proc., 1731 (2016) 110022.

5. Sk. Anirban, A. Sinha, S. Bandyopadhyay, A. Dutta, Microstructure Correlated Impedance Spectroscopy Studies of Ce0.8Y0.2O2-Î´: Effect of Grain Growth, AIP Conf. Proc., 1832 (2017) 110032.

6. S. Bandyopadhyay, Sk. Anirban, A. Sinha, A. Dutta, Ionic Conductivity of Rare Earth Doped Phase Stabilized Bi2O3: Effect of Ionic Radius, AIP Conf. Proc., 1832 (2017) 110020.

7. A. Sinha, Sk. Anirban, S. Bandyopadhyay, A. Dutta, Effect of Sintering Temperature on Structural, Optical and Electrical Relaxation Properties of Gd-Doped Nickel- ferrites, AIP Conf. Proc., 1832 (2017) 110021.

Seminar, Workshop & Refresher Course details:

Paper presentation at seminar / workshop / conference:

1. Structure and defect interaction mediated transport mechanism of mixed
di-tri valent cation containing ceria-based Ionic conductors, Sk. Anirban, A. Dutta; National Seminar on Condensed Matter

Physics including Laser and Communication (NSCMPLA-2020), 13-24th February, 2020; The University of Burdwan, Burdwan, India.

2. Microstructure Correlated Impedance Spectroscopy Studies of Ce0.8Y0.2O2-Î´: Effect of Grain Growth, Sk. Anirban, A. Sinha, S. Bandyopadhyay, A. Dutta; DAE-Solid State Physics Symposium 2016, 26-30th December, 2016; KITT University, Bhubaneswar, India.

3. Microstructure and optical properties of Pr containing nanoceria, Sk. Anirban, A. Dutta; National Thematic Workshop on RECENT ADVANCES IN MATERIALS SCIENCES, 8-9th March, 2016; The University of Burdwan, Burdwan, India.

4. Defect Association Mediated Ionic Conductivity of Rare Earth Doped Nanoceria: Dependency on Ionic Radius, Sk. Anirban, A. Sinha, S. Bandyopadhyay, A. Dutta; DAE-Solid State Physics Symposium 2015, 21st -25th December, 2015; Amity University, Noida, India.

5. Synthesis and characterization of Gd-Y co-doped ceria nanomaterials, Sk. Anirban, A. Sinha and A. Dutta; National Seminar on Condensed Matter, Laser and Communication

(NSCMLC-2015), 27-28th February, 2015; The University of Burdwan, Burdwan, India.

6. Ionic conductivity of Gd- Nd doped nanocrystalline ceria, Sk. Anirban and A. Dutta; Third National Seminar on Recent Trends in Condensed Matter Physics including Laser Application (TNSCMPLA 2013), 5th -7th March, 2013; The University of Burdwan, Burdwan, India.