

**General Information:**

Assistant Professor – August 2009 – October 2010

Reader – November 2010 – October 2013

Associate Professor – November 2013 – November 2016

Professor – November 2016 onwards

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Academic Background:

B. Sc. (Chemistry Hons.) Calcutta University, 1993

B. Tech (Chemical Technology- Ceramic Engineering) Calcutta University, 1996

Ph.D. (Materials Science) IIT Bombay, 2004

Interests:

1. Advanced Ceramics
2. Powder Metallurgy
3. Magnetic Materials
4. Electronic Properties of Materials

Research Interests:

1. Functional Ceramics – piezoelectric and magnetic ceramics
2. Magnetic Materials Synthesis and Characterization
3. Thin Films Growth and Characterizations
4. Nanoparticles Synthesis, Surface modifications, and Applications
5. Chemical Mechanical Planarization (CMP)

Research Projects:

1. BRFST/DAE project on “Development of Microwave Window Sections for Fusion System (Phase I)”, 2011-2012
2. UGC project on “Study of Functional Piezoelectric Ceramics”, 2012-2013
3. DST project on “Development of a Nanoparticle Assisted Novel Chemical Mechanical Planarization (CMP) Technology for Single Crystal Gallium Nitride (GaN) Substrate”, 2012-2015
4. DST project on “Development of a Novel Multiferroic for Ultrasensitive Magnetic Field Sensor”, 2012-2015
5. BRFST/DAE project on “Development of Microwave Window Sections for Fusion System (Phase II)”, 2012-2015
6. BRNS/DAE project on “Surface preparation of semi-polar (11-22) and non-polar (11-20) III-V nitride epilayers by chemical mechanical planarization (CMP) process”, 2015-2017
7. DRDO project on “Development of Chemical Mechanical Planarization (CMP) Technology for Single Crystal Silicon Carbide (SiC) Bulk Substrate”, 2016-2019
8. UGC project on “Development of Lead-free Piezoceramics for Sensor and Actuator Applications”, 2016-2017
9. DRDO project on “Development of an Ultrasoft Chemical Mechanical Planarization Technology (USCMP) for Single Crystal CdZnTe/HgCdTe (CZT/MCT) Polishing for IR Sensor Application”, 2017-2019

Selected Publications:

1. “Fabrication of complex shaped ceramic articles from 3D printed polylactic acid templates by replication process”
Sirisala Mamatha, Papiya Biswas, **Dibakar Das**, Roy Johnson, ***Ceramics International* 45(15), 19577-580 (2019)**
2. “Molten salt assisted growth of lead-free BCZT crystals: effects of synthesis conditions and sintering on structural and electrical properties”
Jai Shree. K, **Dibakar Das**, ***Journal of Materials Science: Materials in Electronics* 30, 11094 – 11107 (2019)**
3. “Effect of ultra soft CMP processing parameters on topography of HgCdTe wafer surfaces”
Mohd Qasim, P Parthiban and **Dibakar Das**, ***ECS Journal of Solid State Science and Technology* 8(11), 719-726 (2019)**
4. “Effect of surfactant based abrasive free slurry on CMP polishing rate and planarization of semi-polar (11–22) GaN surface”
P. Parthiban and **D. Das**, ***ECS Journal of Solid State Science and Technology* 8 (5), P3106-P3113 (2019)**
5. “Enhancement in magnetostrictive properties of cobalt ferrite by novel magnetic field assisted compaction technique”
Srinivas Indla, Arout Chelvane, Arijit Lodh, **Dibakar Das**, ***Journal of Alloys and Compounds* 779, 886-91 (2019)**
6. “Enhanced magnetoelectric coupling in Ti and Ce substituted lead free CFO-BCZT laminate composites”

- Paul Praveen, Vinitha Reddy Monaji, Elugu Chandrakala, Srinivas Indla, Dinesh Kumar S, Subramanian V, and **Dibakar Das**, *Journal of Alloys and Compounds* **750**, 392-400 (2018)
7. "Enhanced magnetoelectric response from lead-free $(\text{Ba}_{0.85}\text{Ca}_{0.15})(\text{Zr}_{0.1}\text{Ti}_{0.9})\text{O}_3$ - CoFe_2O_4 laminate and particulate composites"
Paul Praveen J, Vinitha Reddy Monaji, S. Dinesh Kumar, V. Subramanian, **Dibakar Das**, *Ceramics International* **44(4)**, 4298-4306 (2018)
 8. "Investigation of novel superparamagnetic $\text{Ni}_{0.5}\text{Zn}_{0.5}\text{Fe}_2\text{O}_4$ @albumen nanoparticles for controlled delivery of anti-cancer drug"
Mohd Qasim, Khushnuma Asghar, Gangappa Dharmapuri, and **D. Das**, *Nanotechnology* **8**, 365101 (2017)
 9. Colossal Piezomagnetic Response in Magnetically Pressed Zr^{+4} Substituted Cobalt Ferrite"
Monaji Vinitha Reddy, Abdellah Lisfi, Sabin Pokharel and **Dibakar Das**, *Scientific Reports (npg)* **7:7935**, (DOI: 10.1038/s41598-017-08160-1)
 10. "Strain-induced structural phase transition and its effect on piezoelectric properties of (BZT-BCT)-(CeO₂) ceramics"
E. Chandrakala, J. Paul Praveen, Ajeet Kumar, A. R. James, and **Dibakar Das**, *Journal of American Ceramics Society* **99(11)**, 3659-69 (2016)
 11. "The optimization of chemical mechanical planarization process-parameters of c-plane gallium-nitride using Taguchi method and grey relational analysis"
Durga Nelabhotla, T. V. Jayaraman, Khushnuma Asghar, and **Dibakar Das**, *Materials and Design* **104**, 392-403 (2016)
 12. "Large magnetocaloric effect in hexagonal $\text{Yb}_{1-x}\text{Ho}_x\text{MnO}_3$ "
Bhumireddi Sattibabu, Anil. K. Bhatnagar, K. Vinod, Awadhesh Mani, **D. Das**, *Applied Physics Letter* **107(26)**, 262904-7 (2015)
 13. "Effect of poling process on piezoelectric properties of sol-gel derived BZT-BCT ceramics"
J. Paul Praveen, T. Karthik, A. R. James, Saket Asthana, **Dibakar Das**, *Journal of European Ceramics Society* **3**, 1785-1798 (2015)
 14. "Structural and ambient/sub-ambient temperature magnetic properties of Er-substituted cobalt-ferrites synthesized by sol-gel assisted auto-combustion method"
Sateesh Prathapani, Tanjore V. Jayaraman, Eswara K. Varaprasadarao, and **Dibakar Das**, *Journal of Applied Physics* **116**, 023908-1 - 9 (2014)
 15. "Effect of polishing parameters on Chemical Mechanical Planarization of c-plane (0001) Gallium Nitride surface using SiO_2 and Al_2O_3 abrasives"
Khushnuma Asghar, Mohd Qasim, and **D. Das**, *ECS Journal of Solid State Science and Technology*, **3 (8)** 277-284 (2014)

AWARDS AND RECOGNITIONS

1. **Invited Professor**, Unit of Dynamics and Structure of Molecular Materials, University of the Coast of Opal Coast (ULCO), Calais, France, Nov 2019
2. **Malavya Award – 2019** from Indian Ceramics Society (InCers)
3. Recipient of **Make Our Planet Great Again (MOPGA) fellowship** from Government of France, 2018
4. **Elected Fellow, Telangana Academy of Sciences (TAS), 2017-**
5. **Council Member, Indian Institute of Ceramics, 2017-**
6. **Editorial Board Member, Transaction of Indian Ceramics Society, 2017-**
7. **Executive Committee member, MRSI Hyderabad Chapter, 2014-**
8. **Elected Fellow, Indian Institute of Ceramics, 2012-**
9. Member: Board of Studies, Physics Department, Gayatri VidyaParishad College of Engineering, Madhurawada, Visakhapatnam, Andhra Pradesh
10. **2009 Frost & Sullivan North American Excellence in Research of the Year Award** in the field of advanced semiconductor surface modification
11. **2008 R&D 100 Award Winner** for invention on CMP "Slurry for Polishing Wide Band Gap Semiconductors" - The work was selected by an independent panel of judges and editors of *R&D Magazine* as **one of the 100 most technologically significant products introduced into the marketplace over the past year.**
12. **University Grant Commission Scholarship** from **Govt. of India**, 1993 – 1996
13. **Gold Medal** in chemistry Honors from **RKM Vidyamandira, Calcutta University, India**, 1994
14. **National Scholarship** from the Ministry of Human Resource Development, **Govt. of India**, 1988 - 1990

Link to personal website: www.lofcm-das.com