

## List of publications in SCI Journals

1. “Effects of Mg % on open circuit voltage and short circuit current density of  $Zn_{1-x}Mg_xO/Cu_2O$  heterojunction thin film solar cells, processed using electrochemical deposition and spin coating”, Indranil Biswas, Piyali Roy (Kundu), Ursa Maity, Prasanta Kumar Sinha and Ashim Kumar Chakraborty, *Thin Solid Films*, 2020, Volume 711, 1 October 2020, <https://doi.org/10.1016/j.tsf.2020.138301>
2. “Synthesis of calcium based nano powders for application in conservation and restoration of heritage mortar”, Dipak Kr. Chanda, Prosenjit Khan, Nitai Dey, Mousumi Majumder, Ashim K. Chakraborty, Bharat Bhushan Jha and Jiten Ghosh, *SN Applied Sciences* (2020) 2:340 | <https://doi.org/10.1007/s42452-020-2138-0>
3. “Activating ZnO nanorods photoanodes in visible light by CdS surface sensitizer”, Indranil Biswas, Piyali Roy (Kundu), Prasanta Kumar Sinha, Moumita Kanu and Ashim Kumar Chakraborty, *Micro & Nano Letters*, Vol. 14, Issue 9, 941–946, August 2019, DOI: 10.1049/mnl.2018.5700, Print ISSN: 1750-0443
4. “Piezoelectric Behaviour of Flexible ZnO-Paper Nanocomposite” M. Majumder<sup>1</sup> \*, I. Biswas, P. Roy (Kundu), A. K. Chakraborty, P. S. Devi, and N. R. Bandopadhyay, *Sensor Letters*, Vol. 15, 531–535, 2017.
5. “Low temperature synthesis of strain sensor based on flexible ZnO nanowire-cellulose paper composite” Indranil Biswas, Piyali Roy (Kundu), Mousumi Majumder, S.Sau and Ashim Kumar Chakraborty, *Micro & Nano Letters*, Volume 12, Issue 7, p. 474 – 477, July 2017, DOI: 10.1049/mnl.2017.0114, Online ISSN 1750-0443.
6. “Nanostructured ZnO thin film with improved optical and electrochemical properties prepared by hydrothermal electrochemical deposition technique”, Indranil Biswas, Mousumi Majumder, Piyali Roy (Kundu), Debadrita Mukherjee, Ashim Chakraborty, *Micro & Nano Letters*, Volume 11, Issue 7, July 2016, p. 351 – 355, DOI: 10.1049/mnl.2015.0528 , Online ISSN 1750-0443.
7. “Cuprous oxide thin films grown by hydrothermal electrochemical deposition technique”, M. Majumder, I. Biswas, S. Pujaru, A.K. Chakraborty, *Thin Solid Films*, Volume 589, August 2015, Pages 741-749 589 (2015) 741–749, doi: 10.1016/j.tsf.2015.07.002
8. “Effect of mechanical milling on the structural and dielectric properties of BaTiO<sub>3</sub> powders”, Samya Neogi, Ujjal Chowdhury, Ashim Kumar Chakraborty, Jiten Ghosh, *Micro & Nano Letters*, 2015, Vol. 10, Iss. 2, pp. 109–114, doi:10.1049/mnl.2013.0751

9. "Comparison of transpalpebral tonometer with Goldmann applanation tonometer" Ashim Kumar Chakraborty, Mousumi Majumder, Santanu Sen, Taiwan Journal of Ophthalmology, Vo. 4, Issue 3, September 2014, Page 110-115, doi:10.1016/j.tjo.2014.03.002
10. "Multi-technique photoelectron spectrometer for micro-area spectroscopy and imaging" U. Manju, M. Sreemony and A. K. Chakraborty, Current Science, Vol. 105, No. 8, 25 October 2013
11. "Low cost automatic temperature control microwave furnace for lab scale R&D", Santanu Sen, Mousumi Majumder and Ashim Kumar Chakraborty, IIC Bulletin, Vol 21, No. 1, 2011
12. "Fibre Bragg grating strain sensor and study of its packaging material for use in critical analysis on steel structure", Tarun Kumar Gangopadhyay, Mousumi Majumder, Ashim Kumar Chakraborty, Asok Kumar Dikshit, and Dipak Kumar Bhattacharya, Sensors and Actuators A 150 (2009) 78-86.
13. "Fibre Bragg gratings in structural health monitoring-Present status and applications", Mousumi Majumder, Tarun Kumar Gangopadhyay, Ashim Kumar Chakraborty, Kamal Dasgupta and D.K.Bhattacharya, Sensors and Actuators A 147 (2008) 150-164.
14. "Electrical resistivity of porcelain in relation to constitution", S.P.Chaudhuri, P.Sarkar and A.K.Chakraborty, Ceramics International, 25 (1999) 91-99.
15. "Electrical Resistivity of Transition Metal Ion Doped Mullite", S.P.Chaudhuri, S.K.Patra and A.K.Chakraborty, Journal of European Ceramic Society, 19(1999), 2941-2950.
16. "X-ray photoelectron spectroscopic studies of conducting polyaniline, poly bisphenol A carbonate and electronically synthesized composite of the two", A.Bhattacharyya, Rita Roy, S.K.Sen, Suchitra Sen, A.K.Chakraborty and T.K.Bhattacharyya, Vacuum, Volume 49, number 4/pages 253 to 256/1998.
17. "The synthesis, characterization and sintering of sol-gel derived cordierite ceramics for electronic applications", D.Pal, A.K.Chakraborty, Suchitra Sen and S.K.Sen, Journal of Materials Science, 31(1996), 3995-4005.
18. "Galvanostatic deposition and electrical characterization of cuprous oxide thin films", A.K.Mukhopadhyay, A.K.Chakraborty, A.P.Chatterjee and S.K.Lahiri, Thin Solid Films, 209(1992), 92-96.
19. "Electrodeposition and characterization of cuprous oxide films", A.P.Chatterjee, A.K.Mukhopadhyay, A.K.Chakraborty, R.N.Sasmal & S.K.Lahiri, Materials Letters, Vol-11, No. 10, 11, 12, 1991.

## List of publications in conferences

1. "CO<sub>2</sub> sensing Characteristics of nano structured BaTiO<sub>3</sub> perovskite Prepared by high energy ball milling" authored by Md Sahanoor Islam, Ashim Kumar Chakraborty, Anoop Kumar Mukhopadhyay, and Jiten Ghosh in Fourth International Symposium on Semiconductor Materials and Devices (ISSMD-4) organized by School of Materials Sciences & Nanotechnology, Jadavpur, at Jadavpur University, Kolkata, West Bengal, India during 8<sup>th</sup> to 10<sup>th</sup> March, 2017 Page 156 in Book of Abstract
2. "Effect of Carbon adsorption on the dielectric properties of nano BaTiO<sub>3</sub> perovskite prepared by high energy ball milling", Jiten Ghosh, Ashim Kumar Chakraborty and Anoop Kumar Mukhopadhyay, in the proceedings of the National Conference on Materials, Devices and Circuits in Communications Technology (MDCCT 2016) held during 19<sup>th</sup> -20<sup>th</sup> Feb., 2016 at Department of Physics, the University of Burdwan, West Bengal.
3. "Deposition and Characterization of photo active Zinc Oxide Thin Film by Hydrothermal Electrochemical method", Debadrita Mukherjee, Piyali Roy (Kundu), Indranil Biswas, Mousumi Majumder\* and Ashim Kumar Chakraborty, in the proceedings of the Workshop on Indian Innovations in Materials Research (IIMR 15) : New Materials and Processes June 25-27, 2015 at CSIR- Central Glass & Ceramic Research Institute, Kolkata, India.
4. "Thermal and electrical conductivity studies in lead silicate glasses with varying alkali content" Tania Bandyopadhyay, Santanu Sen\*, Asian Hemrom, Sirshendu Ghorui and Ashim Kumar Chakraborty, in the proceedings of the Workshop on Indian Innovations in Materials Research (IIMR 15) : New Materials and Processes June 25-27, 2015 at CSIR- Central Glass & Ceramic Research Institute, Kolkata, India.
5. "Hydrothermal electrochemical deposition and characterization of semiconducting Cuprous oxide thin films" Swagatalaxmi Pujaru, Debadrita Mukherjee, Indranil Biswas, Mousumi Majumder\* and Ashim Kumar Chakraborty, in the proceedings of International Conference on Emerging Materials: Characterization & Application (EMCA-2014) during December 4-6, 2014 at CSIR- Central Glass & Ceramic Research Institute, Kolkata, India.
6. "Preparation and Formation mechanism of ordered porous cobalt oxide as prepared by high energy ball milling" Sudipta Santra, Soumen Basu, Prosenjit Khan, Ashim Chakraborty, Jiten Ghosh' in 13<sup>th</sup> International Symposium on Physics of Materials at Prague during 31.8.2014 to 4.09.2014.
7. "Effect of Calcinations on the Structural Ordering of pores in mesoporous Cobalt Oxide powders" Sudipta Santra, Soumen Basu, Ashim Kumar Chakraborty and Jiten Ghosh in TEQIP-II Sponsored Short Term Course on " Nanostructured Materials: Theory, Processing and Characterization—(SNTPC-2014) organized by Department of Physics,

National Institute of Technology, Durgapur, West Bengal during 7<sup>th</sup> to 11<sup>th</sup> April, 2014.  
Page no: 30 in Book of Abstract.

8. "Specialty Glass Development at CGCRI", R. Sen\*, S. Mandal, A. K. Chakrabarty, K. Annapurna, B. Karmakar and H. S. Maiti, in the proceedings of Non-nuclear Applications of Heavy Water & Deuterium NAHWD 2010 January 28 & 29, 2010.
9. "Pilot Scale Production of High Density Glass Blocks used as Radiation Shielding Windows (RSW)", S. Mandal, A. K. Chakrabarty and H. S. Maiti, in the proceedings of National conference on scientific achievements of SC/ST scientists and Technologists NCSCST-09, National Aerospace Laboratories, Bangalore, April 2009.
10. "Development of online strain sensor using FBG for engineering critical analysis on structure"- T.K. Gangopadhyay, M. Majumder and A.K. Chakraborty, in the proceedings of SENNET '07, VIT University, India, Dec 12-14, 2007, pp 42-46.
11. "Characterization of thermocouples in Microwave Furnace by Comparison Method", Santanu Sen, M.Majumder A.K.Chakraborty and A.K.Mukhopadhyay, in the proceedings of National Seminar on Microwave Processing in Ceramic Industry, CGCRI, Kolkata, April 2006.
12. "Studies of ordering processes in cordierite gel", Suchitra Sen, D.Pal and A.K.Chakraborty, in the proceedings of Solid State Physics Symposium, Indian Association for the Cultivation of Science, Calcutta, December 1995.
13. "A new approach for measurement of low resistance using four point probe and single lock-in-amplifier", Ashim Kumar Chakraborty and Kamal Dasgupta, in the proceedings of National Symposium on Instrumentation (NSI-20), held at Instrument Society of India, Hyderabad, September 1995.
14. "Comperative study of different surface analytical techniques", Suchitra Sen, A.K.Chakraborty and S.K.Sen, in the proceedings of National Seminar on Management of Sophisticated Analytical Instruments, RRL, Bhubaneswar, December 1993.
15. "Electrodeposition and characterization of cuprous oxide thin films for electronic applications", A.K.Mukhopadhyay, A.K.Chakraborty, A.P.Chatterjee and S.K.Lahiri, in the proceedings of the 54<sup>th</sup> Annual Seminar of the Indian Ceramic Society, BARC, Bombay, 1990.
16. "Fabrication of Cu<sub>2</sub>O/Cu diodes by electrodeposition", A.K.Mukhopadhyay, A.P.Chatterjee, A.K.Chakraborty, R.N.Sasmal and S.K.Lahiri, in the Proceedings of the National Seminar on Science and technology of Materials, Calcutta, 1989.
17. "Measurement of low resistivity by single lock-in-amplifier technique", A.K.Chakraborty, A.K.Mukhopadhyay, A.P.Chatterjee and S.K.Lahiri, in the

Proceedings of the National Seminar on Science and technology of Materials, Calcutta, 1989.

### List of internal research report

1. "Electrodeposition of CuO from alkaline CuSO<sub>4</sub> bath", A.P.Chatterjee, A.K.Mukhopadhyay, A.K.Chakraborty, R.N.Sasmal and S.K.Lahiri, Internal research report no.-MEL/001/89, CGCRI, Kolkata, 1989.
2. "Measurement of low resistance by single lock-in-amplifier", A.K.Chakraborty, A.K.mukhopadhyay, A.P.Chatterjee and S.K.Lahiri, Internal research report no.-MEL/004/89, CGCRI, Kolkata, 1989.
3. "Low resistivity measurement technique", A.K.Chakraborty, A.K.mukhopadhyay, A.P.Chatterjee and S.K.Lahiri, Internal research report no.-MEL/006/90, CGCRI, Kolkata, 1990.
4. "Design and development of a constant current source", A.K.Chakraborty and A.P.Chatterjee, Internal research report no.-MEL/007/90, CGCRI, Kolkata, 1990.
5. "Design, development and fabrication of a prototype electronic timer", A.K.Chakraborty, Internal research report no.-MEL/014/91, CGCRI, Kolkata, 1992.
6. "Digital temperature indicator cum on-off controller, sensor: Chromel-Alumel Thermocouple, Range: 0-1200°C", A.K.Chakraborty, Internal research report no.-MEL/015/91, CGCRI, Kolkata, 1992.
7. "Digital d.c. millivoltmeter", A.K.Chakraborty, Internal research report no.-MEL/016/91, CGCRI, Kolkata, 1992.
8. "Digital temperature indicator, sensor: Pt-Pt/Rd (13%) Thermocouple, Range: 0-1600°C", A.K.Chakraborty, Internal research report no.-MEL/017/91, CGCRI, Kolkata, 1992.
9. "Digital temperature indicator cum on-off controller (dual set point)", A.K.Chakraborty, Internal research report no.-MEL/018/91, CGCRI, Kolkata, 1992.
10. "High voltage spike arrestor and line conditioner (230 volts a.c., 15 amps. Capacity)", A.K.Chakraborty, Internal research report no.-MEL/019/91, CGCRI, Kolkata, 1992.
11. "Vitrefication, optical and electrical properties of Bi-Pb-Sr-Ca-Cu-O glasses and superconductors", A.K.Chakraborty, B.Dutta and S.K.Lahiri, Internal research report no.-MEL/020/92, CGCRI, Kolkata, 1992.

12. "Hot water bath temperature controller", A.K.Chakraborty, Internal research report no.-MEL/021/92, CGCRI, Kolkata, 1992.
13. "S.Maiti and A.K.Chakraborty, "Stroke counter", Internal research report no. MEL/022/92, CGCRI, Kolkata, 1992.
14. "Comperative study of different surface analytical techniques", S.Sen and A.K.Chakraborty, Internal research report no.-INF/AES/1-93, CGCRI, Kolkata, September 1993.
15. "Timer controlled voltage source", A.K.Chakraborty, Internal research report no.-IDMAC/001/93, CGCRI, Kolkata, 1993.
16. "Pockels cell pulser", A.K.Chakraborty and Kamal Dasgupta, Internal research report no.-IDMAC/002/93, CGCRI, Kolkata, 1994.
17. "Sequential pump switching circuit", A.K.Chakraborty, Internal research report no.-IDMAC/003/94, CGCRI, Kolkata, 1994.
18. "High resistance measurement and recording instrument", A.K.Chakraborty, Internal research report no.-IDMAC/004/94, CGCRI, Kolkata, 1994.
19. "Design and development of a 100 volt d.c. unregulated power supply", A.K.Chakraborty, Internal research report no.-IDMAC/005/94, CGCRI, Kolkata, 1994.
20. "Furnace control panel", A.K.Chakraborty, M.Majumedr, S.Sen, Internal research report no.-IDMAC/006/01, CGCRI, Kolkata, 2001.