

Publications of Mr. Sitendu Mandal

a) Publication of Papers in SCI Journals:

1. Preparation and characterization of a powder precursor, consisting of oxides of Li-Al-Si in the form of hydroxyhydrogel for synthesis of -spodumene ceramics by S. Mandal, S. Chakrabarti, S. Ghatak, *Ceramics International* 30 (2004) 357 - 367. Impact Factor: 3.45
2. Sintering characteristics of in situ formed low expansion ceramics from a powder precursor in the form of hydroxyl hydrogel by S. Mandal, S. Chakrabarti, S. Das, S. Ghatak, *Ceramics International* 30 (2004) 21472155. Impact Factor: 3.45
3. Ultra low and negative expansion glass-ceramic materials produced from pyrophyllite and blast furnace slag by S. Mandal, S. Chakrabarti, S. Ghatak and S.K. Das, *Bull. Mater. Sci.*, Vol 28, No.5, August 2005, pp. 437 - 443. Impact Factor: 1.264
4. Synthesis of low expansion ceramics in lithia-alumina-silica system with zirconia additive using the powder precursor in the form of hydroxyl hydrogel by S. Mandal, S. Chakrabarti, S.K. Das and S. Ghatak, *Ceramics International*, Vol. 33, Issue 2, March 2007, page 123-132. Impact Factor: 3.45
5. Low expansive glass-ceramic material produced from blast furnace slag and china clay by S. Mandal, S. Chakrabarti, S. Ghatak and S.K. Das, *Industrial Ceramics*, Vol. 26, No. 1, 2006.
6. Rehydration characteristics of Lithium Aluminium Silicon Hydroxy-Hydrogel by S. Mandal, S. Chakrabarti,
7. S. Ghatak, *Transactions of the Indian Ceramic Society*, Vol. 63(4) October – December, 2004. Impact Factor: 1.014
8. Preparation and characterization of powder precursor in hydroxyl-hydrogel form in $\text{Li}_2\text{O} - \text{Al}_2\text{O}_3 - \text{SiO}_2$ system for making low expansion ceramics” by S. Mandal, S. Chakrabarti, S.K. Das and S. Ghatak, communicated for publication in the *Journal of Materials Science Letters*. Impact Factor: 1.330

b) Papers presented in National Conferences / Workshops:

1. The process for the preparation of special glass beads for vitrification of nuclear waste was published in the *Transactions of the Indian Ceramic Society*, volume 72, No 4, October - December, 2013 under the title “Towards enhanced nuclear safety: Technology for immobilization of nuclear waste” by Sitendu Mandal, Alok Roy Chowdhury, DipaliKundu, Prasanta Chaudhuri and Ranjan Sen of CSIR-CGCRI
2. Technical paper published on “Glass Development and Production at CSIR-CGCRI for Optical Applications: Some Success Stories” in the journal *Science and Culture*, November - December 2016 Edition, Vol. 81, No.11–12, p327 to 336. The authors are Basudeb Karmakar and Sitendu Mandal
3. Presentation of Paper in Poster Session entitled ”Feasibility study for preparation and use of glass grains as an alternative to glass nodules for vitrification of nuclear waste” by M. S. Sonavane, Sitendu Mandal, P. K. Mishra, S. Barik, A. Roy Chowdhury and R. Sen in the National Symposium on Materials and Processing - 2012 (MAP-2012)-Functional Glass/Glass Ceramics, Advanced Ceramics and High Temperature Materials organized by

Materials Research Society of India (Mumbai-Chapter) In association with Bhabha Atomic Research Centre, Mumbai at Multipurpose Hall Training School Hostel, Anushaktinagar Mumbai- 400 094 during October 10-12,2012

4. Presentation of paper as an invited lecture entitled “Specialty borosilicate glass bead for nuclear waste immobilization: Technology Development and Commercialization” by Sitendu Mandal in the National Workshop on “Indian Innovations in Materials Research: New Materials and Processes”(IIMR-held at CSIR-CGCRI on June 26,2015
5. Presentation of paper as an Invited lecture entitled “ “Specialty Glass Development for Radiation Shielding Windows and Nuclear Waste Immobilization” in the National Conference on Functional glasses / glass- ceramics and ceramics (NCFG-2015), held at Nagpur on December 11, 2015 organized by department of applied physics, v.n.i.t., Nagpur where the undersigned was one of the team members.

c) Papers presented in International Conferences:

1. Presentation of paper entitled “Microwave Preparation of Calcium-Borosilicate Glass for Nuclear Waste Immobilization” by Mandal A. K. Mandal S., Sen S. and Sen R. in the 23rd International Congress on Glass (ICG-2013)
2. , Prague, Czech Republic during the period July 1-5,2013
4. Presentation of paper entitled “Glass Bead As Material of Choice for Immobilization of High Level Radioactive Nuclear Waste” by S. Mandal, S. Sen, A. Roy Chowdhury, S. Ghorui, S. Barik, R.Sen in the 25th International Congress on Glass (ICG-2019) during the period June 9-14, 2019
5. Presentation of paper entitled “ Borosilicate Glass Bead for Nuclear Waste Immobilization : Technology development and commercialisation” S. Mandal, S. Sen, A. Roy Chowdhury, S. Ghorui, S. Barik, R.Sen in the International Seminar on Innovation and Challenges in Radioactive Waste Management and Disposal during the period January 11- 12, 2019 organized by NRG, BARC, Mumbai.

d) Invited Lectures delivered:

1. Invited lecture entitled “Specialty borosilicate glass bead for nuclear waste immobilization: Technology Development and Commercialization” in the National Workshop on “Indian Innovations in Materials Research: New Materials and Processes” (IIMR-15) held at CSIR-CGCRI on June 26, 2015
2. Invited lecture on “Specialty Glass Development for Radiation Shielding Windows and Nuclear Waste Immobilization” in the National Conference on Functional glasses / glass-ceramics and ceramics (NCFG-2015), held at Nagpur on December 11, 2015 organized by department of applied physics, v.n.i.t., Nagpur where the undersigned was one of the team members
3. Invited lecture on “Recent Achievements on Manufacturing Specialty Glasses at CSIR-CGCRI for Strategic Application” in 106th Session of Indian Science Congress held during January 5 - 7, 2018, at Lovely Professional University Phagwara, Jalandhar
4. Invited lecture on “Specialty borosilicate glass bead for nuclear waste immobilization: technology development and commercialization” at Nuclear Recycle Group, Bhabha Atomic Research Centre held January 11-12, 2019 at DAE Convention Centre,

Anushaktinagar, Mumbai

5. Delivered lecture on the Developmental activities on RSW Glass Technology and Glass Bead Technology and its Commercialization Road Map, at DAE Kalpakkam, on August 29, 2018.
6. Invited lecture on Manufacturing technology on Radiation Shielding Window (RSW) Glass and Glass Bead for Strategic application at CSIR-NAL, Bengaluru, during January 23-25, 2018.
7. Invited lecture on “Manufacturing of Specialty Glass bead for Immobilization of High level radioactive nuclear waste” in Annual Session of IIM Kolkata Chapter held during February 22, 2019 at Hotel Floatel on Ganges, Kolkata
8. Invited lecture on Manufacturing Specialty Glasses at CSIR-CGCRI for Strategic Application in InCerS Student Chapter of NIT Rourkela during 6th – 7th April 2019 National Institute of Technology, Rourkela
9. Invited lecture on Glass Bead As Material of Choice for Immobilization of High Level Radioactive Nuclear Waste in 25th International Congress on Glass (ICG-2019) held at Boston, Massachusetts, USA. during June 13, 2019 Boston, Massachusetts, USA.
10. Invited lecture on Application Oriented Clay Research in Frontier Area of Glass and Ceramics in 22nd Annual Convention and National Conference of Clay Mineral Society of India (CMSI) during 23rd-24th September 2019 at ICAR- IARI New Delhi
11. Invited lecture on Manufacturing Technology on Specialty Glasses at CSIR-CGCRI for Strategic Application in 83rd Annual Session of Indian Ceramic Society (InCerS) December 12, 2019, CSIR- NIIST, Thiruvananthapuram
12. Invited lecture on Specialty Material of Choice for Enhanced Nuclear Safety: Technology Development & Commercialization in India Materials Conclave and 31st MRSI AGM The Materials Research Society of India (MRSI) Kolkata Chapter during 11-14th February, 2020 at CSIR-CGCRI