

International Conference on Advances in Glass & Glass-ceramics (ICAGGC 2022)

Day 1, 23rd August 2022 (Tuesday)

Program Schedule

12.30 onwards	Registration Starts	
14:00-15:00	ICAGGC 2022 Inaugural Function (Meghnad Saha Auditorium)	
15:00-15:45	Keynote Lecture Dr. M. V. Hanumantha Rao Research Professor & Advisor, School of Engineering, Dayananda Sagar University, Bangalore, India and Former Head, Reflective Optics Group, Applied Optics Area, LEOS – ISRO, India “Glass for imaging optics”	
15:45-16:15	HIGH TEA (KD Sharma Multipurpose Hall)	
Plenary Session (Meghnad Saha Auditorium) Session Chair: Prof. Bikramjit Basu Materials Research Centre & Center for Bio-Systems Science and Engineering, Indian Institute of Science, Bengaluru		
16:15-16:50	Plenary Lecture - 1: (Virtual)	Prof. Edgar Dutra Zanotto Federal University of Sao carlos, Brazil “Experimental, atomistic simulation, and theoretical analyses of crystal nucleation in super cooled liquids and glasses”
16:50-17:25	Plenary Lecture - 2: (Virtual)	Prof Setsuhisa Tanabe Graduate School of Human and Environmental Studies, Kyoto University, Kyoto 606-8501, Japan – “Long Persistent Phosphors at Near Infrared”
17:25-17:45	Institute Presentation	Dr. K Annapurna Specialty Glass Division, CSIR-Central Glass & Ceramic Research Institute, Kolkata, India – “Cursory Glance of Achievement of CSIR-CGCRI on Glass and Glass-Ceramics”
17:45-18:05	Industry Presentation - 1:	Platinum Sponsor
18:05-18:25	Industry Presentation - 2:	Gold Sponsor
18:25-18:45	Industry Presentation - 3:	Gold Sponsor
18:45-21:00	CONFERENCE DINNER	

International Conference on Advances in Glass & Glass-Ceramics (ICAGGC 2022)

Day 2, 24th August 2022 (Wednesday)

Plenary Session (Meghnad Saha Auditorium)

Session Chair: Dr. Ranjan Sen

Former Chief Scientist & Head, FOPD, CSIR-CGCRI, Kolkata

10:00-10:35	Plenary Lecture - 3:	Prof. Bikramjit Basu <i>Materials Research Centre & Center for Bio-Systems Science and Engineering, Indian Institute of Science, Bengaluru, India</i> "Glass-ceramics with fascinating microstructure and ceramic dental implants for dental restorations"
10:35-11:10	Plenary Lecture - 4:	Prof. Srikanth Sastry, <i>Theoretical Sciences Unit, Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR), Bengaluru, India</i> – "Yielding and fatigue failure of glasses"
11:10-11:30	TEA/COFFEE BREAK	

Technical Session-I

Technical Session - IA (Meghnad Saha Auditorium) (Structure-Property Correlation)

Session Chair: Prof. Srikanth Sastry

Theoretical Sciences Unit, JNCASR, Bengaluru

11:30-11:55	Invited Lecture - 1:	Prof N. M. Anoop Krishnan <i>Indian Institute of Technology, New Delhi, India</i> "Information extraction from glass literature using Natural Language Processing"
11:55-12:20	Invited Lecture - 2:	Dr. Pranesh Sengupta <i>Bhabha Atomic Research Centre, Mumbai, India</i> "Relevance of structure-property correlation studies in nuclear waste vitrification"
12:20-12:35	OP-1:	Soumee Chakraborty (OP/093) <i>IGCAR, Kalpakkam, India</i> "Composition and compression effects at medium-range order in lead-modified borate $[xPbO:(1-x) B_2O_3]$ glasses"
12:35-12:50	OP-2:	Debajyoti Mahapatra (OP/122) <i>IIT-BHU, Varanasi, India</i> "Synthesis and characterization of optical and structural properties of $PbO-SnO_2-Cu_2O-CuO$ based tint glass"
12:50-13:05	OP-3: (Virtual)	Shakti Singh (OV/063) <i>IGCAR, Kalpakkam, India</i> "Investigating the origin of intermediate-range order in iron-phosphate glass through atomistic modeling"

Technical Session - IB (APC Roy Seminar Hall) (Advances in Glass & Glass Ceramics)

Session Chair: Dr. K Muraleedharan

*Former Director, CSIR-CGCRI, Kolkata;
CSIR Emeritus Scientist, C-MET, Thrissur and
President, ISNA, Kolkata*

11:30-11:55	Invited Lecture - 3:	Dr C Venkateswaran <i>Vikram Sarabhai Space Centre, Thiruvananthapuram, India</i> "Development of specialty glasses and glass-ceramics for space applications"
11:55-12:20	Invited Lecture - 4:	Prof. G P Kothiyal <i>Bhabha Atomic Research Centre, Mumbai, India</i> "Some novel glass and glass-ceramics sealants for extreme environments/conditions"
12:20-12:35	OP-5:	Ranjib Kumar Padhi (OP/050) <i>IGCAR, Kalpakkam, India</i> "Pr-photoluminescence and unusual quenching by UO_{22}^{+} co-doping in $Li_2O-ZnO-SrO$ borophosphate glass"
12:35-12:50	OP-6:	Karthiga Parthiban (OP/181) <i>BCCD, CSIR-CGCRI, Kolkata, India</i> "Hot corrosion behavior of glass-ceramic bonded multilayer functionally graded thermal barrier coating system"
12:50-13:05	OP-7:	Pritha Patra (OP/204) <i>SGD, CSIR-CGCRI, Kolkata, India</i> "Role of non-luminescent RE^{3+} ions (La/Y/Lu) in fabrication of transparent $TeO_2-TiO_2-Al_2O_3$ glass-ceramics"

13:05-13:25	Industry Presentation - 4:	Silver Sponsor: Kartik S. Pondicherry (OP/240), M/s Anton Paar, Gurugram, India "High-temperature rheology of melts and glasses-monitoring of crystallization processes using oscillatory rheometry"
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13:25-14:20 LUNCH BREAK (KD Sharma Multipurpose Hall)

International Conference on Advances in Glass & Glass-Ceramics (ICAGGC 2022)

Day 2: 24th August 2022

Technical Session-II

Technical Session - IIA (Meghnad Saha Auditorium) (Structure-Property Correlation)

Session Chair: Prof N M Anoop Krishnan
Indian Institute of Technology, New Delhi

14:20-14:45	Invited Lecture - 5: (Virtual)	Dr. V Sudarsan Bhabha Atomic Research Centre, Mumbai, India "Structural studies on borosilicate glasses using solid state NMR technique"
14:45-15:00	OP-08:	Sultan Khan (OP/096) SGD, CSIR-CGCRI, Kolkata "Systematic composition modifications to engineer the meta-phosphate net-work of BaO-Al ₂ O ₃ -P ₂ O ₅ glass system for improvement in thermo-mechanical and thermo-optical properties"
15:00-15:15	OP-9: (Virtual)	Sruti Sangeeta Jena (OV/085) IGCAR, Kalpakkam, India "Developing atomistic models of iron-phosphate glass using ab-initio molecular dynamics simulations"
15:15-15:30	OP-10: (Virtual)	Vinicius M. Zallocco (OV/262) Federal University of São Carlos, Brazil "Sluggish kinetics decomposition of NASICON solid electrolyte from lithium aluminium germanium phosphate series"

Technical Session - IIB (APC Roy Seminar Hall) (Glasses & Ceramics for Coating and Photonic applications)

Session Chair: Dr. M V Hanumantha Rao
Professor & Advisor, Dayananda Sagar University, Bengaluru

14:20-14:45	Invited Lecture - 6:	Dr. Bharat Bhushan Jha National Institute of Technology, Jamshedpur, India "Damage evaluation of ceramic coatings for high temp application"
14:45-15:00	OP-11:	Astha Jain (OP/138) IIT-BHU, Varanasi, India "Synthesis and characterization of low-cost glass-ceramics for Radome applications"
15:00-15:15	OP-12:	Nilotpal Choudhury (OP/183) FOPD, CSIR-CGCRI, Kolkata, India "Fabrication of alumino-phosphosilicate based Ytterbium-doped active fiber for high power laser application"
15:15-15:30	OP-13:	M M Neethish (OP/030) Pondicherry Univ., Pondicherry, India "Supercontinuum generation from barium zinc borate glasses: revisiting the bandgap dependency"

Session break for Poster presentation

15:35-16:30 Poster Session - I (e-Posters)

15:35-16:30	Session: IA (APC Roy Seminar Hall) Nos.: 058 (Pabitra), 061 (Santosh), 083 (Richa), 094 (Vimi), 098 (Ankit), 100 (Tayaramma), 111 (Praveena), 123 (Abhiram), 143 (Akanksha), 149 (Shweta)	Session: IB (R-104 Meeting Hall) Nos.: 154 (Asha), 157 (Praveena), 160 (Mohanbabu), 187 (Ritu), 189 (Savita), 200 (Bhemarajam), 236 (Rajat), 238 (Savita), 251 (Aiswarya)
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TEA/COFFEE BREAK followed by Poster Presentation (Physical)

Poster Session - II (Physical) (Poster Hall)

16:30-17:30	28 Posters (Nos.): 044 (Soumya); 049 (Ramakrishna); 066 (Abhijit); 068 (Sushanta); 069 (Rashmi I); 072 (Vasundhara); 079 (Saswata); 089 (Kuldeep); 091 (Priyabrata); 107 (Laya Krishnan); 118 (Biplab); 121 (Hasanur); 124 (Manivannan); 134 (Pameli); 137 (Suvendu); 151 (Subrata); 164 (Ram Karan); 165 (Srikrishna); 168 (Nilanjan); 182 (Raktima); 212 (Rupam); 218 (Poulami); 219 (Arpita); 226 (Aradhana); 228 (Tuhin); 230 (Gangareddy); 232 (Sathaiah), 247 (Prasad)
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Day 2: 24th August 2022

Technical Session-III

Technical Session - IIIA (Meghnad Saha Auditorium) (Physics and Chemistry of Glasses)

Session Chair: Prof. Parag Bhargava
(Virtual) Indian Institute of Technology, Mumbai,

17:30-17:55 Invited Lecture - 7: (Virtual) **Prof. Ashutosh Goel**
Materials Science and Engineering,
State University of New Jersey,
Piscataway, NJ 08854-8065, USA
"Structural descriptors controlling
sulfur solubility in borosilicate glasses"

17:55-18:10 OP-14: **Bibhas Kumar (OP/064)**
CSIR-CGCRI, Kolkata, India
"Investigation of evaporation loss during
glass melting adopting microwave heating
and conventional heating"

18:10-18:25 OP-15: **Shiv Prakash Singh (OV/104)**
(Virtual) ARCI, Hyderabad, India
"Nanostructured glass: Synthesis and
properties"

18:25-18:30 **Session Break**

Technical Session - IIIB (APC Roy Seminar Hall) (Manufacturing & Processing of Glasses)

Session Chair: Dr. Bharat Bhushan Jha
National Institute of Technology, Jamshedpur

17:30-17:55 Invited Lecture - 8: **Dr. K. Muraleedharan**
Former Director, CSIR-CGCRI, Kolkata;
CSIR Emeritus Scientist, C-MET, Thrissur
and President, ISNA, Kolkata, India
"Role of modelling and simulation in
manufacturing of specialty optical glass"

17:55-18:10 OP-16: **Soma Hansda (OP/191)**
ACCD, CSIR-CGCRI, Kolkata, India
"Processing and properties of advanced
oxy-carbide glass for functional
application"

18:10-18:25 OP-17: **Rahul Kumar (OP/198)**
ACCD, CSIR-CGCRI, Kolkata, India
"Study on dynamic viscoelastic behavior of
low T_g oxide glasses"

Evening Plenary (APC Roy Seminar Hall)

Session Chair: Dr. Suman Kumari Mishra
Director, CSIR-CGCRI, Kolkata

18:30-19:05 Plenary Lecture - 5: (Virtual) **Prof. Ana C. M. Rodrigues**
Federal University of Sao carlos, Brazil
— "Recent advances in highly conductive Nasicon glass-ceramics"

19:05-19:40 Plenary Lecture - 6: (Virtual) **Prof. J. M. Parker,**
Adviser, International Commission on Glass (ICG- Education), Sheffield University, Sheffield (UK)
"Seeing red"

19:40-20:30 **Cultural Program (Meghnad Saha Auditorium)**
Theme: 'Yeh Jo Desh Hain Mera'
by Satyam Dance & Cultural Centre, Kolkata

20:30-22:00 **DINNER** (KD Sharma Multipurpose Hall)

International Conference on Advances in Glass & Glass-Ceramics (ICAGGC 2022)

Day 3, 25th August 2022 (Thursday)

Technical Session-IV (APC Roy Seminar Hall)

(Glasses for Bio-Medical applications)

Session Chair: Dr. Vamsi Krishna Balla

Chief Scientist & Head, BCCD, CSIR-CGCRI, Kolkata

10:00-10:25	Invited Lecture - 9: (Virtual)	Prof. Parag Bhargava Indian Institute of Technology, Mumbai, India <i>"Development of glass and glass ceramics for dental and solar PV applications"</i>
10:25-10:40	OP-18:	Anustup Chakraborty (OP/140) SGD, CSIR-CGCRI, Kolkata, India <i>"Elucidation of the high temperature process ability of bioactive borosilicate glasses through crystallization kinetics and hot stage microscopy"</i>
10:40-10:55	OP-19:	Nabonita Chakraborty (OP/129) Govt. College of Engineering & Ceramic Technology, Kolkata, India <i>"Influence and effects of CaF₂ and Al₂O₃ addition to bioactive glass in the SiO₂-Na₂O-CaO-P₂O₅ system pertaining to dental applications"</i>
10:55-11:15	Industry Presentation - 5:	Gold Sponsor
11:15-11:30	TEA/COFFEE BREAK	

Technical Session-V (APC Roy Seminar Hall)

(Glasses for Bio-Medical Applications)

Session Chair: Dr. K Annapurna

Chief Scientist, Specialty Glass Division, CSIR-CGCRI, Kolkata

11:30-11:55	Invited Lecture - 10: (Virtual)	Dr. Madhumita Goswami, Bhabha Atomic Research Centre, Mumbai, India <i>"Indigenous development of yttria loaded glass microsphere for liver cancer radiotherapy"</i>
11:55-12:10	OP-20:	Rathina Vel (OP/115) BCCD, CSIR-CGCRI, Kolkata, India <i>"Sugar-glass based nano-carriers for delivery of therapeutic proteins: Synthesis, characterizations and in-vitro evaluation"</i>
12:10-12:25	OP-21:	Satyendra Kumar Singh (OP/053) IIT-BHU, Varanasi, India <i>"In-vitro bioactivity and physico-mechanical properties of MnO₂ substituted 13-93 B3 borate bioactive glasses"</i>
12:25-12:40	OP-22:	Payal Roy (OP/210) BCCD, CSIR-CGCRI, Kolkata, India <i>"Development of antibacterial bioactive glass based dressing with rapid hemostatic action"</i>
12:40-12:55	OP-23: (Virtual)	Sonali Jana (OV/170) West Bengal University of Animal & Fishery Sciences, Kolkata, India <i>"Electro-spun dermal grafts of derived fish collagen and novel ion-doped bioactive glass composite mats for enhanced wound healing by stimulation of vascularization"</i>
12:55-13:10	Industry Presentation -6:	Silver Sponsor
13:10-13:30	Industry Presentation - 7: (Virtual)	Silver Sponsor
13:30-14:30	LUNCH BREAK (KD Sharma Multipurpose Hall)	

International Conference on Advances in Glass & Glass-Ceramics (ICAGGC 2022)

Day 3: 25th August 2022

Technical Session-VI (APC Roy Seminar Hall) (Glasses for Energy & Environment)

Session Chair: **Dr. Sunirmal Jana**

Sr. Principal Scientist, Specialty Glass Division, CSIR-CGCRI, Kolkata

14:30-14:55	Invited Lecture - 11:	Dr. C P Kaushik Bhabha Atomic Research Centre, Mumbai, India "Glass – A candidate engineered material for management of high level nuclear waste"
14:55-15:10	OP-24:	Charu Lata Dube (OP/180) Central Univ., Gandhinagar, India "Microwave synthesis of borosilicate glass-ceramic matrix for nuclear waste immobilisation"
15:10-15:25	OP-25:	J. Selvakumar (OP/215) IGCAR, Kalpakkam, India "Simulated vitreous radioactive waste: Assessment"
15:25-15:40	OP-26:	Binay Majhi (OP/081) IGCAR, Kalpakkam, India "Glass bonded ceramic: A new kind of study for encapsulation of long lived fission product generated from pyro-reprocessing"
15:40-15:55	OP-27:	Sourav Maity (OP/234) IGCAR, Kalpakkam, India "Microscopic evaluation of waste oxide loaded borosilicate glasses"
15:55-16:10	OP-28:	R. Raja Madhavan (OP/119) IGCAR, Kalpakkam, India "Demonstration of vitrification of simulated high level nuclear waste by induction melting at 1 kg scale"
16:10-16:30	TEA/COFFEE BREAK	

Closing Lectures (Meghnad Saha Auditorium)

Session Chair: **Dr. H. S. Maiti**

Project Advisor, Govt. College of Engg. & Ceramics Technology and
Former Director, CSIR-CGCRI, Kolkata

16:30-17:00	Plenary Lecture - 7: (Virtual)	Prof. Hiroyuki Inoue Vice-President, ICG and Professor, Institute of Industrial Science, University of Tokyo, Japan "First-principles molecular dynamics modelling of La₄Ti₉O₂₄ glass"
17:00-17:45	Keynote Lecture - 2: (Virtual)	Dr. Manoj K. Choudhary Former President, ICG & MKC Innovation LLC, Ohio State University, USA "Glass: An indispensable material for sustainable development"

Valedictory Session (Meghnad Saha Auditorium)

17:45-18:00	Distribution of Awards	
18:00-18:45	Panel Discussion (in Hybrid mode) "Role of Glass towards a Sustainable Society: Need for a Strong Synergy between Glass Research Communities and Industries" Vote of Thanks	