https://iclaconference.weebly.com 7th International Conference on Luminescence and its Applications (ICLA-2023) July 3 – 6, 2023

Venue: IICT, Tarnaka, Hyderabad, Telangana, India

Organized by



Luminescence Society of India [1990-2023] CSIR-Indian Institute of Chemical Technology, Hyderabad, (CSIR – IICT) co-organizers



Indian Institute of Technology – Hyderabad (IIT-H) National Institute of Technology – Warangal (NIT-W) Jawaharlal Nehru Technological University, Hyderabad (JNTU-H) Telangana University – Nizamabad (TU) MG University, Nalgonda

Industrial Partner

Nucleonix Systems Pvt. Ltd, Hyderabad, India Kwality Photonics, Hyderabad













International Conference on Luminescence and its Applications (ICLA-2023) July3 – 6, 2023 Theme of ICLA-2023: Energy Harvesting Materials

ICLA-2023 Organizing Committee

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President Luminescence Society of India Email: <u>drmurthykvr@yahoo.com</u>: 0091 9327225568

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Notable Key note/ Plenary Talks and International Speakers

Prof. B. V. R. Chowdari , Singapore, **Thematic Speaker Key Note Speaker**: Dr. A. K. Tyagi, BARC, Mumbai **Key Note Speaker**: Prof. K. V. R. Murthy, MS University, Baroda **Key Note Speaker** Prof. LiozEtgar, The Hebrew University of Jerusalem, Israel

Plenary Speakers

Prof.DirkPoelman, Ghent University, Belgium, Prof. Frederic Sauvage, Universite' de Picardie Jules Verne, France Dr. R.P. Rao, Speciality Phosphors, USA Dr.Seema Vinayak, DRDO, Delhi Dr. A. V. R Reddy, GII Mumbai

Invited Speakers

Prof.K.V.R.Chary, Rowan University, USA Prof. Ashraful Islam, National Institute of Material Science, Japan Prof. Hari Upadhyaya, London , South Bank University, UK Prof. J Subash, Rowan University, USA Prof. S Jonnalagadda, South Africa Prof.KalyanaSundaram, EPFL, Switzerland Prof. SenthilarasuSundaram, Edinburgh Napier University, Scotland Prof. Xueyuan Chen, China Dr. JelenaMitric, Poland Prof. Atef El-Taher, Egypt Dr. Marta Michalska-Domanska, Poland Prof. María Elena Zayas Saucedo, Mexico Dr. Linsheng Liu, Japan Dr. Ostuki, Nehoul University Japan Prof. Saeki, Osaka University, Japan Prof. Hayashi, Okayama University, Japan Prof. Philippe, France Prof. Nicolo, France Prof. Akthar, Malaysia Prof. O Anitha, Australia Dr. Selivia, Italy Prof. Louis, Brazil ZavakhuuGerelkhuu, South Korea ZiyaferGizemPortakalUçar, Turkey Mouftahou B Latif, Nigeria ElcinEkdalKaralı, Turkey Dr. Vijay Singh, South Korea Prof. Rong-Jun Xie, Xiamen University, China Prof. Lilia CoronatoCourrol, UNIFESP, Brazil Dr. K R Nagabhushana, UNIFESP, Brazil

Group Presentations

Prof. A K Tyagi BARC group , Convener: Dr. Sudarshan, BARC Prof. D Haranath, NIT Warangal Prof. Namita Brahme and Prof. D Bisen, Pt RS University Raipur Prof. S J Dhoble, RTM Nagpur Univversity

National Speakers

Prof. S. J. Dhoble, RTMNU, Nagpur Dr. Karunakaran Venugopal, CSIR-NIIST - Trivandrum Dr. Santhosh Babu - CSIR-NCL - Pune Prof. Subi George - JNCASR - Bangalore Prof. Anunay Samanta – University of Hyderabad – Hyderabad Shri. J N Reddy, Nucleonix Systems, Hyderabad Shri. K V K Gupta, Kwality Photonics, Hyderabad Prof. D. P.Bisen, PtRSU Dr. S P Singh, CSIR-IICT Dr. C. Shivakumara, IISc, Bangalore Prof. NameetaBrahme, PtRSU Prof. Soma Venugopal Rao – HCU Dr. Sai Santosh Kumar R. – IIT – Hyderabad Prof. D. Haranath – NIT – Warangal Dr. Abhijit Hazarika - CSIR-IICT - Hyderabad Dr. Raghu Chitta – NIT – Warangal Prof. Dorendrajit Singh, Manipur Prof. Reji Varghese – IISER – Trivandrum Dr. C. Vijayakumar - CSIR-NIIST - Trivandrum Dr. Joshy Joseph - CSIR-NIIST - Trivandrum Dr. Jatish Kumar – IISER – Tirupati Dr. Jino George - IISER - Mohali Dr. Ravi Kumar Kanaparthi - Central University of Kerala Dr. Ratish Kumar - IISER - Kolkata Prof. Mahesh Hariharan – IISER – Thiruvananthapuram Dr. S. Prasanth Kumar - CSIR-IICT - Hyderabad Dr. Rahul Dev Mukhopadhyay - Ramananda College - Kolkata Dr. Vishal D. - CSIR-CECRI - Chennai Dr. Sreejith Shankar - CSIR-NIIST - Trivandrum Dr. N. Unni - CSIR-NIIST - Thiruvananthapuram Prof. Prasun Kumar Mandal, IISER, Kolkata Prof. SantanuBhatacharaya, IISER Berhampur Dr. SubhasisPanja, CSIR-NPL-New Delhi Prof. R Gupta, IIT, Kanpur Prof. Ran Veer, IIT, Mandi Prof. Sapala, IIT, Delhi Prof. Monojit Bag, IIT, Roorkee Prof. Tata Narasinga Rao, ARCI, Hyderabad

Invited Technical Speakers

Dr. P. R. Bangal – CSIR-IICT Dr. Vikas Dubey, BIT, Raipur Prof. M Srinivas, OU, Hyderabad Dr.RamAsish C, DRDO, Delhi Dr.O.P Thakur, DRDO, New Delhi Dr.Pradip Kumar, AERB, Mumbai Dr. N Gopakumar, Kerala University Dr. VikasDubay, BITS Raipur Dr. Prasantha, Bangalore Prof. Jagjeet Kaur, Durg Prof. Y H Gandhi, Baroda Prof.O.P.Pandey, Thapar Institute Patiala Prof. N L Singh, Delhi Dr. Sudeshna Ray, Bhopal Prof. M Srinivas, MSU, Baroda. Dr. R P Patel, GGCU Bilaspur DR. Jai Singh, GGCU Bilaspur Dr. Isewar P Sahoo, TU, Amarkantak Dr. S. V. Manorama - CSIR-IICT Dr. PratyayBasak - CSIR-IICT Dr. Abhijit Hazarika - CSIR-IICT Dr. M. Chandrasekharam - CSIR-IICT Dr. Rakesh Rai, GEC, Ujjaian Dr K SenthilKannan, Nagapattinam Dr. S.Masilla Moses Kennedy, Chennai Dr.S.C.Prashantha, Bangalore Dr. Selvin Christopher, HBNI, Mumbai Dr.V Sivakumar, IIT Hyderabad Prof.Jagjeet Kaur Saluja, Durg Prof.P.K.Mohapatra, BARC, Mumbai Dr.V.Sudarsan, BARC, Mumbai Dr. S N Achary, BARC, Mumbai Dr.Bhaskar Sanyal, BARC, Mumbai Dr.Pradip Kumar, AERB, Mumbai Prof.P D Sahare, Delhi University Dr.N.Lakshmi Narasimhan, CECRI Prof. H Nagabhushana, RIT, Bangalore Prof.P.K.Mohapatra,BARC, Mumbai Dr. A R Lakshmanan, SEC Chennai Dr. V.Ponnusamy, Anna University Dr. A.K.Bakshi, BARC Mumbai Shri. Sripal Desai, GII Mumbai Prof. R K Kuraria, Jabalpur Dr. C Pandurangappa, RNSIT, Bangalore Dr. B S Chakrabarty, Baroda

Dr. Ananthanarayanan, SRM Chennai Dr. Mahesh, SRM, Amaravati Dr. A. Milton Franklin Benial, Madurai

CSIR-Indian Institute of Chemical Technology (CSIR-IICT)

CSIR-Indian Institute of Chemical Technology (CSIR-IICT), Hyderabad, established in 1944, is a constituent laboratory of the Council of Scientific and Industrial Research (CSIR), New Delhi. With its expertise in chemistry and chemical technology, it provides solutions to challenges faced by Industry, Government Departments and Entrepreneurs through basic and applied research, and process development. The institute is internationally recognized for its contributions to chemistry research and is an ideal place for taking ideas to commercialization through state-of-the-art research and development. CSIR-IICT during its seventy five year journey has made its mark as a dynamic, innovative and result-oriented R&D organization. The clientele spans all corners of the globe. In India, it is CSIR-Indian Institute of Chemical Technology (CSIR-IICT) is one of the oldest National Laboratories the reliable destination of chemical and biotech industries. Department of Polymers & Functional Materials has involved in both basic and applied research activities that includes dves, additives and small organic molecules are the most important and widely expanding area of research and development for the modern society for variety of applications, viz., energy generation (excitonic solar cells) and storage, infrastructure, housing, healthcare including diagnostics, strategic sector including aerospace, paints/coatings/composites, etc. The reputation that CSIR-IICT could establish amongst the industrial clients as a reliable R&D partner, can be largely attributed to its rich pool of scientists with expertise in broad-ranging research areas and simple and effective business development strategies.

Luminescence Society of India (LSI): Luminescence Society of India (LSI), formed in 1990 [venue of 3rd CECRI Luminescence conference, Karaikudi, January1990, India]. The conferences list, provides a forum for interaction for Indian scientists and technologists having affiliation to different universities and research institutions in the field of luminescence and their applications by organizing annual conferences regularly. Four international conferences were successfully organized wherein Indian researchers were joined by a large number of foreign scientists. During the past thirty two years, in addition to scientific sessions, there has been an increase in the participation of delegates from industry as exhibitors of their products and for technical presentations. Moreover rapporteur and oral sessions are being held regularly for the past 32 years in order to accommodate the papers of all participants in the technical sessions.

The conference: International Conference on Luminescence and its Applications (ICLA-2023) is a prestigious event of the Luminescence Society of India (LSI). ICLA-2023 is going to be held during 3-6th July 2023 at Hyderabad being organized by CSIR-Indian Institute of Chemical Technology (CSIR-IICT) in association with Luminescence Society of India (LSI). The other coorganizers are CSIR-National Geophysical Research Institute (CSIR-NGRI), Indian Institute of Technology – Hyderabad (IIT-H), Osmania University (OU), Jawaharlal Nehru Technological University – Hyderabad (JNTU-H), National Institute of Technology – Warangal (NIT-W) and Telangana University – Nizamabad (TU). In addition, industrial partners Nucleonix Systems Pvt. Ltd and Kwality Photonics Hyderabad are ready to participate at ICLA-2023.

Luminescence Society of India had organized an International Symposium cum Workshop on Luminescence Materials (ISWLM-2015) during 18th -19th December, 2015 at Baroda, India as a celebration in the YEAR OF LIGHT-2015. Since the inception of LSI, this conference is the 27th in a series of annual conferences organized by LSI. The conference is the follow-up of previous one NCLA-2021 (Govt. V.Y.T.PG. Auto. College Durg)NCLA-2020 (NIT-Warangal),ICLA-2019 (Pt. RSS University, Raipur), NCLA-2018, (NIIST, Trivandrum), NCLA-2017, (IICT, Hyderabad) NCLA-2016, (R.T.M. Nagpur University, Nagpur), ICLA-2015 (PES University, Bengaluru), NCLA-2014 (Jabalpur), NCLA-2013 (PESIT, Bengaluru), ICLA2012 (IICT, Hyderabad), NCLA-2011 (Pt. RSS University, Raipur), NCLA-2010 (GRU, Gandhigram), NCLA-2009 (CGCRI, Kolkata), ICLA-2008 (NPL, New Delhi), NCLA-2007 (BU, Coimbatore), NCLA-2006 (SGB University, Amravati), NCLA-2005 (BU, Bengaluru), ICLA-2004 (BARC, Mumbai), NCLA-2003 (NPL, New Delhi), RDU, NCLA-2002 (Jabalpur), NCLA-2001 (OU, Hyderabad), ICLA-2000 (MSU, Baroda), NCLA-1998 (MU, Imphal), NCLA-1997 (Bilaspur), NCLA-1995 (RU, Raipur), NCLA-1994 (Jabalpur), NCLA-1991 (MSU, Baroda).

Themes of ICLA-2023

ICLA 2023 envisages diversified and multi-disciplinary technical sessions; amongst few are plenary lectures and an exhibition of equipment and other materials. Latest developments in the field of luminescence research and its applications will be reviewed and the conference is expected to provide an interactive platform to the academia, researchers and the industry. Participations from different industries, universities and academic institutions from all over the globe are anticipated. The organizing committee hereby invites scientists/technologists engaged in basic as well as applied research in Universities, Research Institutions and Industries to participate. The scientific sessions will comprise plenary talks, invited talks and contributed papers (both oral and poster) on the following topics:

]	Key	Plenary	Invited	Invited	Group	Oral	Poster
No	otes -4	Talks-4	Talks-40	Technical	Presentations	Presentations	Presentations
	50	45Minutes	30Minutes	Talks-	7		
Μ	inutes			20Minutes			
				Total-40			

Format of ICLA-2023

- 1. Photoluminescence
- 2. Electroluminescence
- 3. Thermoluminescence
- 4. Phosphors and nanophosphors (preparation and characterization)
- 5. Photonic materials and lasers
- 6. Luminescence for improving efficiency of solar cells
- 7. Luminescence from glasses and glass ceramics
- 8. Luminescence from organic compounds

- 9. Luminescence in gemstones and diamonds
- 10. Luminescence for improving agriculture productivity
- 11. Optical materials (nanomaterials, quantum dots, biomaterials, ceramics etc.)
- 12. Optically Stimulated Luminescence (OSL)
- 13. Mechano, Sono and chemiluminescence
- 14. Optoelectronic devices (LEDs, OLEDs, Fiber optic sensors, etc.)
- 15. Radiations effects on luminescence and dosimetry
- 16. Luminescence dating [TL and OSL]
- 17. Luminescence instrumentation
- 18. Phosphors for LED applications
- 19. Phosphors for bio-medical and security applications
- 20. Biodegradable phosphor composites
- 21. Novel applications of luminescence
- 22. Industrial applications of phosphors
- 23. Theoretical aspects of luminescence
- 24. Luminosity of Universe. And Space dosimetry
- 25. Material Science and functional materials and glasses.

Conference language: The conference presentations and deliberations will be in English.

Call for abstracts

Authors should submit an abstract of an original, unpublished paper not exceeding 300 words without figures or tables. The abstract format can be downloaded from the conference or LSI web sites i.e. <u>www.lumsocindia.org</u>. The abstract must be submitted by online through conference web site [google form]. Each registered participant can submit one abstracts only. If there is any difficulty during the abstract submission please contact via e-mail: iclaiict2023@gmail.com

Proceedings

All the abstracts accepted from registered participants will be published in the conference proceeding with ISBN number. Papers presented at ICLA-2023 are planned to be published in the International Journal of Luminescence and its Applications after regular refereeing process. The journal format for manuscripts can be downloaded from the web sites i.e. www.lumsocindia.org and http://ijlaindia.org.

Registration Guidelines: Registration fee (Nonrefundable) should be paid on line bank transfer or at the counter. Registration fee includesconference kit, Lunch and High Tea. Only one abstract will be accepted for one registration [Google form for Indian participants: https://forms.gle/4H3W2Ez3PJEBW7248].

Sponsors (Tentative)

DST, DAE- BRNS, AERB, CSIR, UGC, AICTE, DRDO, DIT, ICMR, DET.

Registration Fee for Overseas foreign participants in USD or equivalent: UG, PG students: USD 250/- Research [Ph.D] students: 300/- Faculties: 400/- Industry Delegates: 500/-. For invited speakers USD 200/- [Conference fee can be paid by bank transfer or on arrival] There

will not be any late fee. Spouse Registration: USD 200/-. Registration fee includesconference kit, Lunch and High Tea and Banquet.

Overseas participantsabstract submission to :<u>iclaiict2023@gmail.com</u>. Last date 12th June, 2023.

Registration Fee for Indian Participants (In INR) : UG, PG students: 2500/- Research students: 3000/- Faculties: 4000/- Industry Delegates: 5000/- [All Luminescence Society of India life members will get Rs.500.- discount]Spouse Registration: INR 2000/-. Registration fee includesconference kit, Lunch and High Tea and Banquet.

Impartment dates:

Abstract submission last date:12th June, 2023. Notification of program:15th June, 2023

ICLA-2023 Registration Convener: Prof. A S Sai Prasad, VCE, Hyderabad Contact details: <u>asp59in@yahoo.co.in</u>, Cell: 0091 9959418896 Co-Conveners: Dr. P S Anjana, All Saints College, Thiruvananthapuram. Members: Dr. B S Rao, Dr. J Kishore Babu, GRIET, Hyderabad

Accommodation

For first 50 registered students accommodation will be free, participants are required to inform the <u>iclaiict2023@gmail.com</u>well in advance with registration fee details. Budget accommodations are available around and near the conference venue ranging from USD20/-onwards: Indian Rupees 1500/-

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Committees icla-2025							
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Display of	characterization of materials and	Convener: iclaiict2023@gmail.com
Products and	related luminescence	Prof. A S Sai Prasad, VCE, Hyderabad
Souvenir	measurements.	Dr. M Sridhar, GRIET, Hyderabad
	e-mail: <u>iclaiict2023@gmail.com</u>	
Food		
Website	Dr. Rakesh Chandran S B	R. Krishnam Raju, VCE, Hyderabad

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