



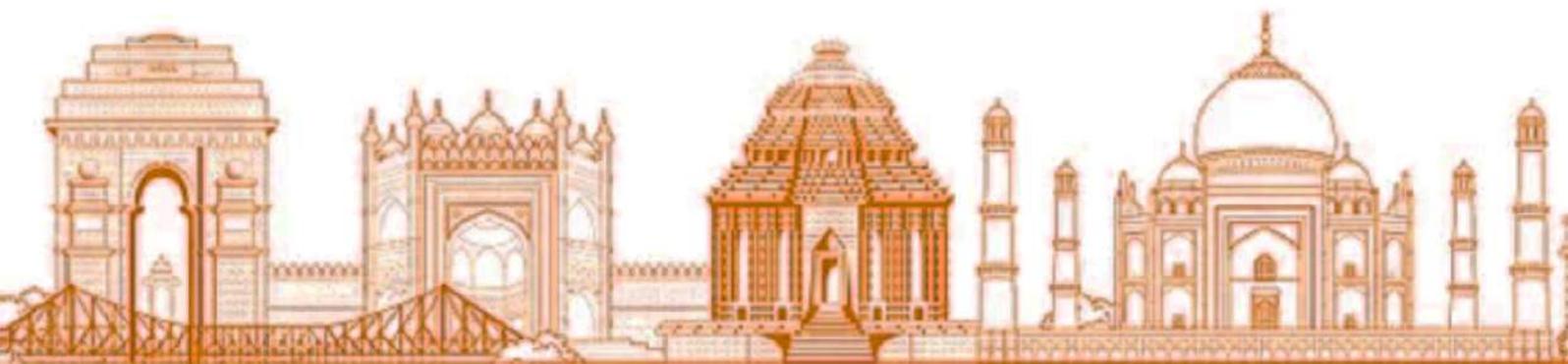
ICFAST 2022



12th India-Japan Science and Technology Conclave
INTERNATIONAL CONFERENCE ON FRONTIER AREAS OF
SCIENCE AND TECHNOLOGY
(ICFAST-2022)

CONFERENCE BOOKLET

STREAM-2





Message

Message from Prof. B.J. Rao, Vice Chancellor, University of Hyderabad to the participants of International Conference on Frontier Areas of Science and Technology (ICFAST-2022).

On behalf of the organizers, I extend a warm welcome to all the scientists, researchers, faculty and students from Japan, India and elsewhere to the verdant and naturally endowed campus of University of Hyderabad (UoH). We are extremely proud and happy that IJAA, on behalf of JSPS, has chosen University of Hyderabad to host the 12th edition of the International Symposium ICFAST 2022. I am also happy to note that all the science schools of the University – School of Physics, School of Chemistry and School of Life Sciences have come forward to organize this premier event.

University of Hyderabad, established in 1974 as a Central University, is one of the premier institutions in the country for under-graduate, post-graduate and doctoral level teaching and research. The motto of the University is to disseminate and advance knowledge by providing instructional and research facilities in such branches of learning as it may deem fit and by the example of its corporate life, and in particular to make special provisions for integrated courses in humanities and science in the educational programmes of the University and to take appropriate measures for promoting inter-disciplinary studies and research in the University. Our relentless endeavour to realize these objectives accorded us several international and national recognition. We consistently rank among the top 50 universities in the world which are under 50 years old. In 2019 Government of India accorded UoH the Institution of Eminence (IOE) status in recognition of our standing, ability and potential to move into the league of the world's best institution. Our students are considered assets in all the organizations they associate themselves and our faculty are beacons of knowledge and research achievements who collaborate with eminent researchers across the world.

In the emerging world India and Japan are natural allies in the scientific and technological worlds apart from other spheres of life. Several of our students go on to pursue their research career in Japan and faculty have collaborative work with their counterparts as well. However, the numbers are currently not at the level where it should be considering the synergy between the two countries. I am sure hosting ICFAST 2022 in UoH and other such and related efforts in the future will give a fillip to increasing the numbers to benefit both countries and scientific communities. From this perspective this is an enormous opportunity to showcase our eminent status among scientific peers.

I am sure that the faculty coordinators of the event have made arrangements to ensure a scientifically and collaboratively wonderful event. Wishing them a successful event, I join my faculty colleagues in extending a warm welcome to all the participants of the ICFAST 2022 conference, which I am sure will be mutually and scientifically beneficial to the community at large.

Basuthkar Jagadeeshwar Rao
vice chancellor
University of Hyderabad



Message

Message from JSPS President SUGINO Tsuyoshi on Occasion of IJAA's 12th International Symposium

Writing on behalf of the Japan Society for the Promotion of Science, we are very happy that the Indian JSPS Alumni Association is holding its 12th India-Japan Science & Technology Symposium there in Hyderabad on the theme “International Conference on Frontier Areas of Science and Technology (ICFAST-2022).”

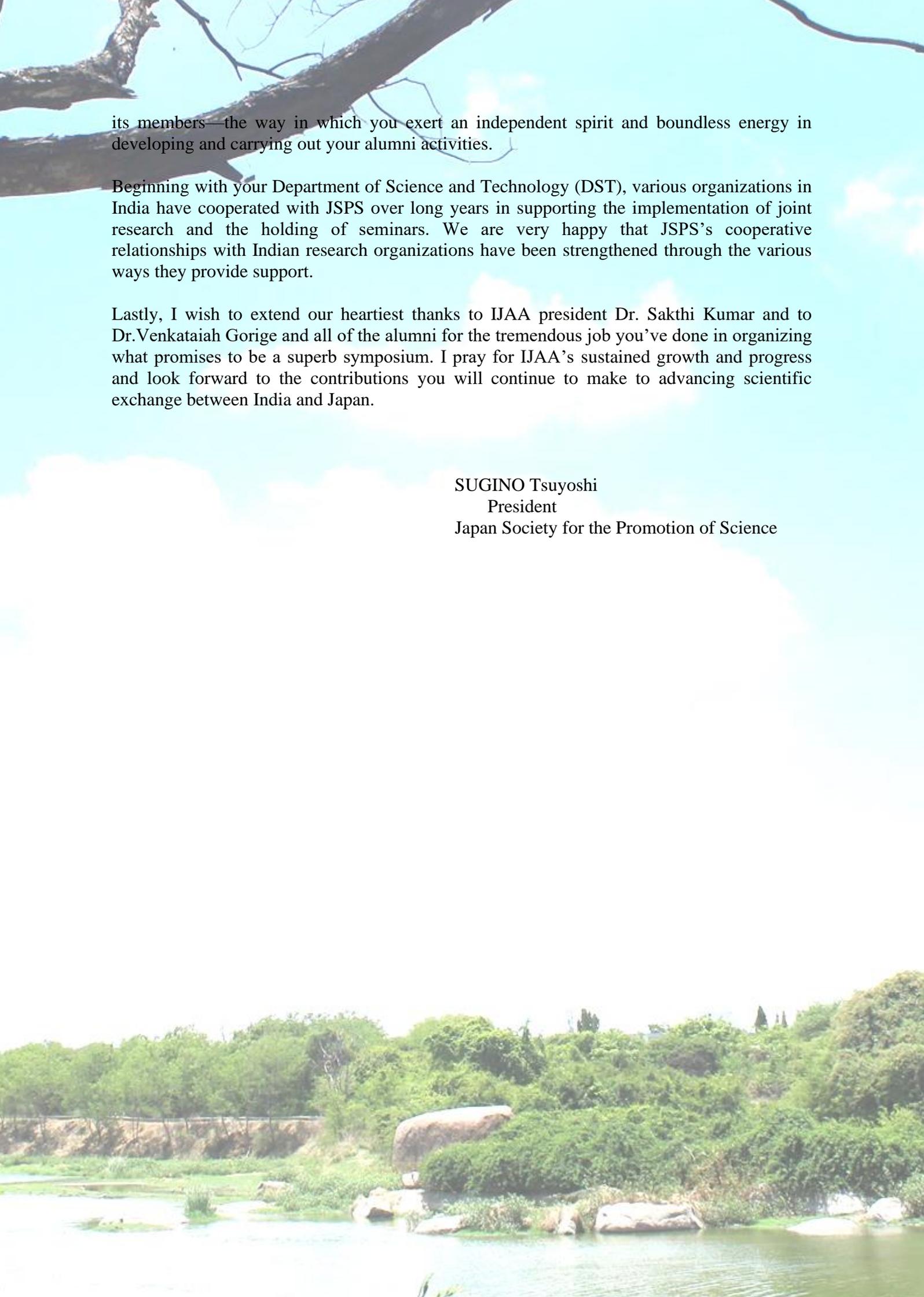
Every year, this symposium enjoys a wide spectrum of participation including students, researchers, university faculty and administrators, and corporate people who gather for it from both in and outside India. It always attracts strong interest and wide attention as an event that strengthens scientific exchange between India and Japan.

To effectively advance science, the free and diverse ideas of researchers must be respected and their activities must be given sustained support. This symposium provides an important platform for the participants to share information on a wide range of science and technology being advanced through cutting-edge research in India and Japan. While addressing the importance of basic research and basic science, the symposium offers a valuable opportunity to consider the state of scientific cooperation enjoyed between our two countries.

Though I merely state the obvious, India is one of Japan's most important partners in both the scientific and many other areas of bilateral exchange. A great many joint research projects have and are being carried out between our countries, producing results that advance science and benefit society. As one vehicle of exchange, the Inter-university Exchange Project, spearheaded by Japan's Ministry of Education, Culture, Sports, Science and Technology (MEXT), has steadily advanced the exchange of many excellent students between India and Japan. The achievements that they have and will make provide foundations for propelling exchange between our nations long into the future. I look forward to the continued thriving of our scientific partnership.

The persistent effect of the new coronavirus pandemic has hampered active international exchange among researchers. Before the pandemic occurred, more than 4,500 researchers from other countries were invited and came to Japan each year through JSPS's international exchange programs. Concurrently, about the same number of Japanese researchers were dispatched abroad. Among the researchers coming to Japan, more than 1,700 of them were invited from India. Building networks while in Japan, many of these researchers return home to engage in joint projects with Japanese colleagues.

Established in 2006, IJAA is the organizer of this symposium. It is JSPS's sixth official alumni association of researchers who have stayed in Japan while participating in JSPS programs. In addition, IJAA is both the first JSPS alumni association to be established in Asia and in a country without a JSPS overseas office. We at JSPS are very proud of IJAA and



its members—the way in which you exert an independent spirit and boundless energy in developing and carrying out your alumni activities.

Beginning with your Department of Science and Technology (DST), various organizations in India have cooperated with JSPS over long years in supporting the implementation of joint research and the holding of seminars. We are very happy that JSPS's cooperative relationships with Indian research organizations have been strengthened through the various ways they provide support.

Lastly, I wish to extend our heartiest thanks to IJAA president Dr. Sakthi Kumar and to Dr. Venkataiah Gorige and all of the alumni for the tremendous job you've done in organizing what promises to be a superb symposium. I pray for IJAA's sustained growth and progress and look forward to the contributions you will continue to make to advancing scientific exchange between India and Japan.

SUGINO Tsuyoshi
President
Japan Society for the Promotion of Science

भारत के राजदूत
AMBASSADOR OF INDIA



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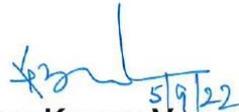


MESSAGE

I congratulate the Indian JSPS Alumni Association (IJAA) for organizing the 12th India-Japan Science and Technology Seminar on 9-10 September 2022 in association with the University of Hyderabad. The theme of the Seminar – International Conference on Frontier Areas of Science and Technology (ICFAST) – has great relevance to India-Japan collaboration in the field of Science and Technology. Today scientific and technological endeavour is breaching new frontiers, bringing in its wake both opportunities and challenges.

I sincerely hope that the Seminar will provide innovative information to the scientific community in India and Japan and help develop collaboration and partnership between institutes of the two countries.

I am confident that the 12th India-Japan Science and Technology Seminar will be a great success.


(Sanjay Kumar Verma)

Tokyo
05 September 2022



Message

I am really happy to invite you all for Indian JSPS Alumni Association's (IJAA), 12 th India – Japan Science and Technology seminar, that IJAA is organizing in collaboration with university of Hyderabad at Hyderabad during September 9-10, 2022 and our annual get together. This seminar we are conducting under the celebration of 70 th Anniversary of India-Japan Diplomatic Relations as well as 75th Anniversary of Independence of India. IJAA is really committed to spread and augment S&T collaboration between India and Japan and for achieving the same, we had conducted 11 India-Japan S&T seminar in various places in India and 1 S&T seminar in Tokyo. Ever increasing number of participants in our seminar, clearly says that we have achieved our goal.

This time our South Chapter of IJAA is organizing the seminar in Hyderabad. IJAA is very much thankful to Dr. Venkataiah Gorige and his team for organizing our 12th seminar in Hyderabad.

Once again I welcome all delegates to our seminar and hope that it would provide a great experience.

Prof. D. Sakthi Kumar,
Chairman,
Indian JSPS Alumni Association

Professor, Bio Nano Electronics Research Center,
Toyo University, Kawagoe, Saitama, Japan



12th India-Japan Science and Technology Conclave
International Conference on Frontier Areas of Science and Technology (ICFAST-2022)
School of Physics [SoP]
University of Hyderabad [UoH]
 C.R. Rao Road, Gachibowli, Hyderabad-500046, India
 September 09-10, 2022

Conference Venue: Auditorium and Seminar Hall, School of Life Sciences [SLS], University of Hyderabad

Stream – 2 (Physics, Engineering & Mathematics)

Schedule of the Program for Day-1 (09 September 2022)

08:30 - 09:00		Registration [for guests]	
Session-I <u>Venue:</u> SLS Auditorium	<u>Inauguration</u> 09:00 - 09:40	Inauguration by Hon. Ambassadors of Japan and India, President (JSPS), Vice-Chancellor (University of Hyderabad), President of the IJAA, General Secretary of the IJAA, Dean (School of Physics, UoH), and Convener (ICFAST-2022)	
<u>Chairperson:</u> Prof. B J Rao VC, UoH, India	<u>Keynote Lecture</u> 09:40 - 10:40	Prof. G. Ravindra Kumar, TIFR (M), India	<i>Science with Extreme Laser Light (SELL)</i>
10:40-11:00		High Tea	
Session-II (B) (Atomic, Molecular, and Optical Physics) <u>Venue:</u> SLS Seminar Hall <u>Chairpersons:</u> Prof. M Ghanashyam Krishna & Prof. Nirmal K V, UoH, India	11:00 - 11:30	Prof. Takashige Omatsu Chiba Univ., Japan	<i>Structured light fields revolutionize materials science</i>
	11:30 - 12:00	Prof. Achanta Venugopal NPL, India	<i>Active metamaterials</i>
	12:00 - 12:30	Prof. Yoko Miyamoto UEC, Japan	<i>Optical mode manipulation for quantum technologies</i>
	12:30 - 13:00	Prof. Yoshiro Azuma IIT-D, India	<i>A big jump from Japan joining IIT Delhi in the wake of Covid 19: Atomic and molecular physics, higher education, and life in general</i>
13:00-14:00		Lunch	
14:00-16:00		Poster Session	

15:00-16:00		IJAA Executive and General Committee meeting (Only for IJAA members)	
Session-III (B) (Theoretical Condensed Matter Physics) Venue: SLS Seminar Hall Chairpersons: Prof. V Subramanyam & Prof. Vaitheeswaran UoH, India	16:00 - 16:30	Prof. Subroto Mukerjee IISc, India	<i>Many body localization: a Fock space perspective</i>
	16:30 - 17:00	Prof. Chandan Dasgupta IISc, India	<i>Living glass: active matter at high densities</i>
17:00-17:15		Tea	
Session-IV (Cultural Program) Venue: DST Auditorium, UoH Chairpersons: Prof. J Anuradha UoH, India	17:15 - 18:30	Team from Sarojini Naidu School of Arts and Communication, UoH, India	<i>Cultural Program</i>
	19:00-21:00 Venue: Ellaa Hotel, Gachibowli, Hyderabad		
		Gala Dinner	

Schedule of Program for Day-2 (10 September 2022)

09:00 - 09:10		Registration [for guests]	
Session-I: Venue: SLS Auditorium & Seminar Hall Chairpersons: Prof. D Basavaiah UoH, India	Keynote Lecture	Nobel Laureate Prof. Ryōji Noyori Nagoya Univ., Japan	<i>Where am I from? Where are you going?</i>
	09:10 - 09:55 (online)		
Session-II: (B) (Statistical Mechanics) Venue: SLS Seminar Room Chairpersons: Prof. B V R Tata UoH, India	10:00 - 10:30	Prof. Smarajit Karmakar TIFR (H), India	<i>Strong dynamical heterogeneity in active glass-forming liquids and its implications in the physics of glasses</i>

10:30-10:45		Tea	
Session-III (B) (Experimental Condensed Matter Physics) Venue: SLS Seminar Hall Chairpersons: Prof. S Srinath & Prof. Dibakar Das UoH, India	10:45 - 11:15	Prof. Tomoyasu Taniyama Nagoya Univ., Japan	<i>Artificial multiferroic heterostructures for spin-wave applications</i>
	11:15 - 11:45	Prof. P. S. Anil Kumar IISc, India	<i>Spin chirality induced large topological Hall effect in magnetic Weyl semi-metallic $\text{Eu}_2\text{Ir}_2\text{O}_7$ (111) thin films</i>
	11:45 - 12:15	Prof. Yoichi Kamihara Keio Univ., Japan	<i>Review on a mixed anion layered compound (MALC) polycrystalline $\text{LaCu}_{1-\delta}\text{S}_{0.5}\text{Se}_{0.5}\text{O}$ ($\delta \sim 0.01$) as a degenerate semiconductor</i>
	12:15 - 12:45	Prof. Kalobaran Maiti TIFR (M), India	<i>Electron spectroscopy for the physics of quantum materials</i>
12:45-14:00		Lunch	
Session-IV (B) (Applied Physics, Engineering, and Technology) Venue: SLS Seminar Hall Chairpersons: Prof. D Narayana Rao & Prof. S Ananthamurthy UoH, India	14:00 - 14:30	Prof. Anil Shaji IISER (TVM), India	<i>Using machine learning in the design and implementation of quantum algorithms</i>
	14:30 - 15:00	Prof. Surajit Dhara UoH, India	<i>Exploitation of topological defects in liquid crystals</i>
	15:00 - 15:30	Prof. P. Sudharshan Phani ARCI, India	<i>High speed nanoindentation mapping - a new paradigm in small scale mechanical testing</i>
	15:30 - 16:00	Prof. M. Senthil Kumar ISRO, India	<i>OPTICS: Space borne remote sensing and beyond</i>
16:00-16:15		Tea	
Session-V (B) (Particle Physics, Astrophysics, and Space Science) Venue: SLS Seminar Hall Chairpersons: Prof. P K Suresh & Prof. R Mohanta UoH, India	16:15 - 16:45	Prof. Amitava Raychaudhuri CU, India	<i>The future of neutrino physics</i>
	16:45 - 17:15	Prof. Brajesh C. Choudhary DU, India	<i>India's contributions to the CMS Experiment and its Physics</i>
	17:15 - 17:45	Prof. Annapurni Subramaniam IIA, India	<i>AstroSat, the first Indian space observatory</i>
Venue: SLS Auditorium	17:45-18:00	<i>JST Presentation: Sakura Science Program</i>	
	18:00-18:15	<i>NEDO Presentation: Introducing NEDO activities and opportunities for India-Japan joint programs</i>	
18:15-19:00 Venue: SLS Auditorium		Poster Award and Concluding Session	

Keynote Lectures			
1	Science with Extreme Laser Light (SELL)		G. Ravindra Kumar
2	Where am I from? Where are you going?		Ryoji Noyori
Invited Lectures			
1	IL-19	Structured light fields revolutionize materials science	Takashige Omatsu
2	IL-20	Active Metamaterials	Achanta Venugopal
3	IL-21	Optical mode manipulation for quantum technologies	Yoko Miyamoto
4	IL-22	A big jump from Japan joining IIT Delhi in the wake of Covid 19: Atomic and molecular physics, higher education, and life in general	Yoshiro AZUMA
5	IL-23	Many Body Localization: A Fock space perspective	Subroto Mukerjee
6	IL-24	Living Glass: Active Matter at High Densitie	Chandan Dasgupta
7	IL-25	Strong Dynamical Heterogeneity in Active Glass-forming Liquids and its implications in the Physics of Glasses	Smarajit Karmakar
8	IL-26	Artificial Multiferroic Heterostructures for Spin-Wave Applications	Tomoyasu Taniyama
9	IL-27	Spin chirality induced large topological Hall effect in magnetic Weyl semi-metallic Eu ₂ Ir ₂ O ₇ (111) thin films	P. S. Anil Kumar
10	IL-28	Review on a Mixed Anion Layered Compound (MALC) Polycrystalline LaCu ₁ -S _{0.5} Se _{0.5} O (0.01) as a Degenerate Semiconductor	Yoichi KAMIHARA
11	IL-29	Electron spectroscopy for the physics of quantum materials	Kalobaran Maiti
12	IL-30	Using machine learning in the design and implementation of quantum algorithms	Anil Shaji
13	IL-31	Exploitation of topological defects in liquid crystals	Surajit Dhara
14	IL-32	High speed nanoindentation mapping - A new paradigm in small	P. Sudharshan Phani
15	IL-33	OPTICS: Space borne remote sensing and beyond	M. Senthil Kumar
17	IL-34	The Future of Neutrino Physics	Amitava Raychaudhuri
18	IL-35	India's contributions to the CMS Experiment and its Physics	Brajesh C Choudhary
19	IL-36	AstroSat, the first Indian Space Observatory	Annapurni Subramaniam

Poster presentation

Physics

1	PC-01	The Optimized Sparse Davidson Algorithm: A modern numerical approach for finding extreme eigenpairs for large Hermitian matrices	Payal D. Solanki, M. S. Ramkarthik
2	PC-02	Analysis of Congestive heart failure signals using normalized entropy	Sudhamayee Kamanoor, Nayan Telrandhe, Manimaran Palanisamy

3	PC-03	Network properties of healthy and epileptic brain signals	Shaik Afifa Farman, Sudhamayee Kamanoor, Manimaran Palanisamy
4	PC-04	Thermodynamic properties of a particle scattering by rotating trapped quantum gases	Samir Das, Shyamal Biswas
5	PC-05	Synthesis and Characterization of Sb ₂ Se ₃ Thin Films and Numerical Simulation of p-Sb ₂ Se ₃ /n-ZnSe Heterojunction Solar Cell	Bandi Srinivas, Shaik Babujani, G. Hema Chandra, and Mukul Gupta
6	PC-06	Electrodeposited NiO nanoflakes for electrochromic energy storage applications	Sushant B. Patil, Shivaji B. Sadale
7	PC-07	Photocatalytic Self-Cleaning and Stain Removing Properties of Carbon Nitride /PEDOT Composite for Smart Textile Application	Prathiba Meganathan, Sounder Subbaiah, Lakshmi Manokari Selvaraj, Nagarajan Srinivasan
8	PC-08	A theorem on the generic form of the quantum cluster integral	Soumi Dey, Prathyush Manchal, Srijit Basu, Debshikha Banerjee and Shyamal Biswas
9	PC-09	Non-equilibrium work distribution of a 3-d harmonic oscillator with time varying angular frequency in a rotating frame	Rhitabrata Bhattacharyya, Saugata Bhattacharyya, Shyamal Biswas
10	PC-10	Thermal Decomposition of Iron(III)citrate in Presence of Glucose Leading to Iron Oxide Nanoparticles	Sani Kundu, Maciej Zubko, Joachim Kusz, V. Raghavendra Reddy, Ashis Bhattacharjee
11	PC-11	Role of A-site Cationic Ordering on Structural and Magnetic Properties of Mixed-Valent Manganites	Aisha Khatun, Payel Aich, Alexander Schoekel, S. D. Mahanti, D. Topwal
12	PC-12	Enhanced light absorption in ultrathin CIGS solar cells using plasmonic nanoparticles	Sachin V Desarada, Nandu B Chaure
13	PC-13	Structural and magnetic properties of NiCuMgZn/SiO ₂ nanocomposites	Ch.Sujatha
14	PC-14	Studies on aluminium and indium co-doped ZnO thin films for gas sensing application	L.H. Kathwate, V. D. Mote
15	PC-15	Gamma Radiation Shielding parameters of Li ₂ O Doped Lead Vanado Tellurite Glasses.	Mohansingh Heerasingh, T.Sankarappa et al
16	PC-16	Temperature-dependent dielectric relaxation and ac-conductivity of Ca ₃ PO ₄ :Tm ³⁺ /Yb ³⁺ impedance spectroscopy	K.M. Krishna, K.Kumar
17	PC-17	Effect of Site Disorder on Structural and Magnetic Relaxation in Co ₂ Fe _{0.5} Ti _{0.5} Si Quaternary Heusler Alloy Thin Film	Mainur Rahaman, Lanuakum A Longchar et al
18	PC-18	Nitrosamine Clusters in Water Solvent: Spectroscopy and Many-body Interactions	Sumalya Kaluva and Mahadevappa Naganathappa
19	PC-19	Determination of natural radioactivity in some building materials	V. Thangam, A Chandrasekaran, et al
20	PC-20	Transport Spectroscopy in a Low Phosphorous Doped Silicon Nano-Transistor	Soumya Chakraborty, Pooja Yadav, Arup Samanta
21	PC-21	Correlation between structural, static and dynamic magnetic properties in Co ₂ FeAl _{0.5} Si _{0.5} Heusler alloy thin films.	Lanuakum A Longchar, Mainur Rahaman, Manik Kuila et al

22	PC-22	Effect of oxygen partial pressure on the microwave tunability of the pulsed laser deposited Ba _{0.5} Sr _{0.5} TiO ₃ thin films	Akhil Raman T S, Shivakumar C, Andrews Joseph, K.C. James Raju
23	PC-23	<i>Green Synthesis of Hematite Nanoparticles using Tabernaemontana Divaricata Flower Extract: Structure, Optical, Morphology and Dielectric Studies</i>	Toton Sarkar, Gurupada Ghorai, Pratap K. Sahoo and Ashis Bhattacharjee
24	PC-24	Effect of Strontium Substitution on the Structural and Magnetic Properties of Barium Hexaferrite	Annarose J Palliya, M Thilak, A Das, J A Chelvane, V Gorige
25	PC-25	Variation of Gilbert Damping Constant via Interface Induced Magnetic Anisotropy in LSMO/PMN-PT Heterostructures	Avishek Das, Mrinalini, Takamasa Usami et al
26	PC-26	Particle-Tracking Microrheology in Yeast	Sruthi N, Sharath Ananthamurthy
27	PC-27	Effects of Gamma Irradiation on Tantalum oxide based Resistive Random access memory devices	R. Sai Prasad Goud, A. Mangababu, et al
28	PC-28	Structural properties, lattice dynamics, and metallization of van der Waals solid iodanil (C ₆ I ₄ O ₂) studied using density functional theory	Subrata Mondala, G. Vaitheeswaran, Tarek Ayadi, Sébastien Lebègue, M. K. Gupta, R. Mittal
29	PC-29	Interactions between active rotors studied using dual optical tweezer.	Ashwini V Bhat, Naveena C S, Sharath Ananthamurthy
30	PC-30	Effect of gallium substitution on formation of X-ferrite phase in a mixed ferrite system and its magnetic and dielectric properties	Ayushi Patel, Robert C. Pullar and Rajshree B. Jotania.
31	PC-31	Active Material Host For Sodium-Ion Battery From Mechanically Stable Freestanding Carbon Nanotube (CNT)	Arya Sohan, Poly Rose, P. Jeevan Kumar, V Seshu Bai, Amar Kumar, Preeti Yadav, T. N Narayanan , Pratap Kollu
32	PC-32	Radiation tolerance of modified Ferroelectric thin films for Micro-Electro-Mechanical system applications in Nuclear Industries	Gurumoorthy Chandrasekharan c, Sridevi Meenachisundarama, Naoki Wakiyab
33	PC-33	Spray deposited iron tungstate thin film memristive device for non-volatile memory application	Amitkumar R. Patila, Tukaram D. Dongale b, Keshav Y. Rajpure
34	PC-34	An AFM probe of RBCs topographical structures during deformability under various physics and chemical influences.	Bhukya Vijay Mohan, Naveena CS, Sharath Ananthamurthy
35	PC-35	Bias and Frequency dependence of Metal/TaOx/GaAs Capacitor	M. Sravania, c, R. Sai Prasad Gouda, c, A. Mangababu, et al
36	PC-36	Studies on the effect of Bovine serum albumin on human red blood cell membrane stiffness using an atomic force microscope	Chetana Devarakonda a, Sharath Ananthamurthy
37	PC-37	Spin-filtering effect in a correlated single-molecular spintronics-transistor: Anderson-Holstein-Caldeira-Leggett-Rashba model	Kuntal Bhattacharyya, Debika Debnath et al
38	PC-38	Non-equilibrium Transport In a Bi-molecular Transistor: Effect of External Magnetic Field And Temperature	Debika Debnath, Kuntal Bhattacharyya, et al
39	PC-39	Dielectric and electrocaloric properties of BCTZ composite with cobalt zinc ferrite nanoparticles	Anshu Gaur, Soumya Ranjan Parida, S. Srinath

40	PC-40	Dielectric Properties and AC Conductivity of Li ₂ O Doped Zinc Borophosphate Glasses	DawalappaB.Husenkhan, AmarkumarMalge et al
41	PC-41	Synthesis, Characterization and STM study of Single QD Fe:CdS Rectifying Diode	AnupKGhosh, PiyaliMaitya, SandipChatterjee, BholaNathPalc
42	PC-42	Study of Thermo Optics Coefficients and Thermo Polarizable Coefficients in LiNbO ₃ Open Type Optical Waveguide using Point Dipole Approximation	VelagapudiSuhasini aI.V. Subbareddy
43	PC-43	Structural Stabilization and Optical, Electrical analysis of Al _{1-x} Ga _x O ₃ at different Ga- compositions prepared by Mechanical alloying method	Collin BNettar, R.NBhowmik
44	PC-44	Temperature Dependence of Electrical conductivity of ZnO-V ₂ O ₅ -B ₂ O ₃ -MnO Glass nano composites	AshwiniDevidas, T.Sankarappa et al
45	PC-45	Microwave Characterization of PVDF-TrFE-Nafion blended films	P.NikhilMohan, C.Thirmal, et al
46	PC-46	Detection of milk adulteration based on principal component analysis of absorption and transmission spectra	RavinderTirupati, SamratLSabat, MGhanashyamKrishna
47	PC-47	Highly Enhanced SQ Efficiency in ZnS/CdSe Core/Shell nanowire: An Ab-Initio Study	Rishit S.Shuklaa, ViditB.Zalaa, SanjeevK.Guptab, P.N.Gajjara
48	PC-48	Mixed-valence iron phosphate: Superhydrophilic multi-plated microflakes towards symmetric supercapacitor	TusharB.Deshmukh, Babasahe R.Sankapal
49	PC-49	Electrical Transport Mechanism Studies in Borotellurite Glasses	Amarkumar Malgea, T.Sankarappa et al
50	PC-50	Synthesis of Self Assembled Poly (methyl Methacrylate) layers for Resistive Random Access Memory Application on Flexible Substrate	Midde Rahula, YRajeshb, MGhanashyamKrishnaa
51	PC-51	The electronic and adsorption properties of tyramine neurotransmitter based on fullerene nanocage- A DFT approach	A. K.Vishwarma*, T.Yadav, A.Pathak
52	PC-52	Mesoporous and Phase Pure Anatase TiO ₂ Nanospheres for Enhanced Photocatalysis	PraveenkumarL, HaritaPant, Avijith et al
53	PC-53	DFT Investigation of Adsorption of NH ₃ by Sensing Arrays of PtAs ₂ Monolayer	Vidit B.Zala Rishit S.Shukla Sanjeev K.Gupta P.N.Gajjar
54	PC-54	Nontrivial Electrophoresis of Silica Nano and Microrods in a Nematic Liquid Crystal	Muhammed RasiM, ArchanaS, RaviKumarPujalab et al
55	PC-55	Enhanced Electrochemical and Photocatalysis Using CZTS-MWCNT Nanocomposites	RaviMudikea, SardarTathagata et al
56	PC-56	Indigenous Development of Laser Diffraction Setup for Characterizing the Structure of Photonic Crystals	SaranyaNarayanan, NishantShankhwar and B.V.RTataa
57	PC-57	One-Step Synthesis of Bismuth Ferrite by Microwave Assisted Solvothermal Method	Mahima AnnPaul, PravallikaBanoth et al
58	PC-58	Finite element method simulation studies on Photonic Crystal templates with and without defects with emphasis on Q-modes	Nishant Shankhwar, Saranya Narayanan, B. V. R. Tata and S. Venugopal Rao
59	PC-59	Rheology of lyotropic chromonic liquid crystals	M.V. Saisavadas, M. Praveen Kumar, B.V.R. Tata et al

60	PC-60	Power spectral analysis on colloidal suspensions of thermo-responsive poly(N-isopropyl acrylamide) PNIPAM microgels	Sivaram vintha, Manimaran Palanisamy, B.V. R. Tataa
61	PC-61	Investigation of Room Temperature Structural and Electrical properties of Ti doped CuO Nano particles	N.S. Maruthi, Hanamanta Badiger, B.G.Hegde, et al
62	PC-62	Electronic structure and magnetic properties of Ruthenum based full Heusler alloy Ru ₂ CrX (X = Si, Ge)	Mainak Dey sarkar, G Vaitheeswaran
63	PC-63	2TBA functionalized silver clusters as active SERS substrates for D-glucose detection and metering	Ingilala Venkataramanaiah, Chandrahas Bansal, Amnanabrolu Rajanikanth
64	PC-64	Reddish-orange emissions from Sm ³⁺ doped Sm ₂ Si ₂ O ₇ - based glass ceramics for solid-state lighting applications	M. Monisha and Sudha D Kamath
65	PC-65	Lattice Dynamics of 5-ATZN predicted from first principle studies	Supratik Mukherjee, Prathap Kumar Jharapla, and G Vaitheeswaran
66	PC-66	Topological study of nonsymmorphic Dirac semimetal phase in layered Matlockites ACdSb (A = Rb, Cs)	Aiswarya T, G Vaitheeswaran
67	PC-67	Role of annealing ambience on the electrical properties of Ge MOS Capacitors with HfO ₂ /Ge ₃ N ₄ as gate dielectric	S.V. Jagadeesh Chandra
68	PC-68	Flexible PVDF-HFP based SERS active substrates with biosynthesized Au nanoparticles	Saloni Sharma, M Ghanashyam Krishna et al
69	PC-69	Enhanced photocatalytic hydrogen evolution from reduced graphene oxide-defect rich TiO _{2-x} nanocomposites	Jagadeesh BabuS., MurthyMuniyappa et al
70	PC-70	Defect – Polymorphism – Controlled Electrophoretic Propulsion of Anisometric Microparticles in a Nematic Liquid Crystal	Devika V.Sa, DineshKumarSahua, RaviKumarPujalab, andSurajitDharaa
71	PC-71	Investigating The Effect Of Morphology Of Titanium Dioxide Nanostructures On The Electronic Properties Of A Diode Device	AvijitTudu, PraveenK.Lavudya,Rajanikanth Ammanabrolu
72	PC-72	Vertical distribution of natural radionuclides and health assessment in sediment samples of the northeast coast of Tamil Nadu	V Sathisha, AChandrasekaran, CGurumoorthyb, CKSenthilKumarb
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74	PC-74	Analysis of Heavy metal Contamination of sediments of Kovalam, Tamilnadu using X-ray Fluorescence Spectroscopic Technique	S. Karthikayini, A.Chandrasekaran
75	PC-75	Investigation of molecular interaction studies of ethylene glycol /sulfolane binary mixtures at different temperatures using volumetric, dielectric relaxation, and DFT methods	V Manjula ab, T.VamshiPrasad c, K.C.JamesRaju et al
76	PC-76	Effect of Reaction Atmosphere on the Solid State Reaction of 1-Ferrocenyl Ethanol	Manisha Chakraborty, AshisBhattacharjee
77	PC-77	An Electronically Tunable Metal-Insulator-Metal (MIM) varactors with & without floating metal	ShivakumarChedurupallia, AkhilRamanTSb, SurajitKumarNath
78	PC-78	Aliovalent (Sr, Zr) co-doping on BiFeO ₃ for improved multiferroic characteristics	TenetiPullaraoa, , GNagaraju, PittalaSuresh

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83	PH-05	Magnetic field evolution in the wakes of cosmic string.	Soumen Nayak, SovanSau,SomaSanyal
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91	PH-13	Rational Extension of Quantum Theories	Bhabani PrasadMandal
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