Chandigarh Region Innovation and Knowledge Cluster (CRIKC)

Annual Report 2023-2024

In the year July 2023 to June 2024, CRIKC continued its usual activities of organizing lectures/conferences/seminars as well as interaction with several organizations. A brief report on CRIKC activities is as follows.

• **July 31-August 01, 2023:** S-20/G-20 Outreach event on the theme "Science and Technology for Society" at Punjab Engineering College & Chitkara University Punjab.



Chitkara University, successfully hosted an impactful outreach event of S20/G20, centred around the theme "Science and Technology for Society." The event was attended by 1000 delegates from diverse backgrounds, including school children, college students, research scholars, and faculty members. The event aimed to foster dialogue and collaboration on pressing global challenges. With discussions spanning energy, healthcare, well-being, and the integration of science into society, the inquiry-based event showcased remarkable inclusivity, boasting nearly perfect gender parity among both attendees and speakers. The esteemed Chief Guest, Prof. Ashutosh Sharma, Institute Chair Professor, Indian Institute of Technology, Kanpur, and Chair of the S-20 India Working Group, graced the occasion, inspiring participants with his expertise and insights. Divided into breakout sessions tailored to different audiences, the event catered to the interests and needs of all participants. For school students, the theme "Clean Energy for a Better Future" encouraged discussions on sustainable solutions. College students participated in "Creating Impact in a Science-Driven World: Start-up Stories," where inspirational entrepreneurs shared their success stories. Meanwhile, scholars and faculty members explored the nuances of "Academic Research vs. Industrial Research," fostering collaboration between academia and industry.



The G20/S20 Outreach Event at Chitkara University was a resounding success, showcasing the institution's commitment to advancing the frontiers of science and technology for the betterment of society. The vibrant exchange of ideas and the spirit of inclusivity demonstrated the potential for collective action to address global challenges.



A G20/S20 outreach event was organized at Punjab Engineering College (Deemed to be University) on 1st August 2023. The theme for the event was Science, Technology and Society. The event had a propitious beginning with the floral welcome of guests by Prof. Baldev Setia, Director, PEC which was followed by the lighting of ceremonial lamp by Prof. Baldev Setia and the honourable guests. He emphasized on the changing of focus from Science, Technology, Engineering, and Mathematics (STEM) to Science, Technology, Engineering, Arts and Mathematics (STEAM). In his address the director spoke about the strong foundation of PEC which has completed its 102 years of existence. Then Prof. Ashutosh Sharma, S20 Co-Chair and former DST Secretary while addressing the audience emphasized on science for society and the objectives behind the S20. The S20 is an Engagement Group (EG), vertical of G20, comprising the scientific academies of all G20 countries. He talked about the importance of sustainable development and said that S20 is a shared responsibility of many stakeholders, institutions, PSUs and common people. The next session in the series was by Shri Nek Ram Sharma, Padma Shree Awardee. He mainly focused on organic farming and nature conservation. The session concluded with the distribution of best poster awards and a mesmerizing cultural event by the PEC students. At the end, Prof. Arun K Singh expressed his gratitude towards the guests, participants and the organizing committee.

• **September 05, 2023:** CRIKC celebrated Teacher's Day series-III: "Expository Lectures by Decorated Teachers-Scientists from Chandigarh region" in 'Amrut Kaal (2023-47)' at biotechnology department, PU.



A new series of lectures -- Expository Lectures by Decorated Teachers-Scientists from Chandigarh Region in Amrut Kaal (2023-47) -- was launched today, to mark the Teachers' Day, by the Society for Promotion of Science & Technology in India (SPSTI). This is the 3rd lecture series to commemorate 75 years of Indian independence, Azadi Ka Amrut Mahotsav. The just concluded series, "Visions of Institutions in North-West India in run up to India@100 in 2047", has been bringing together esteemed academicians and intellectuals to discuss the future of education and innovation.

SPSTI organized the event in association with the Chandigarh Chapters of the National Academy of Sciences, India (NASI), Indian National Young Academy of Sciences (INYAS), and the Indian National Science Academy (INSA), along with CRIKC (Chandigarh Regional Innovation & Knowledge Cluster) and Forum of Retired Vice Chancellors & Directors (FRVCD).

The first lecture in the series, ChatGPT in Teaching and Research, was held today, at the Panjab University, at the Department of Biotechnology, featuring Prof. Rajat Sandhir, a distinguished teacher and noted biochemist, working at Panjab University, as the speaker. Several esteemed personalities graced the occasion.

Prof. Arun K. Grover, Vice-President of SPSTI, delivered the opening remarks, setting the tone for the day's discussions. Prof. Jai Rup Singh, Founder Vice Chancellor, Central University of Punjab & Former -VC, GNDU Amritsar, was the Guest of Honour. He shared his valuable insights during his address, impressing upon the audience that ChatGPT is a unique tool being propagated nowadays. He set the ball rolling by demonstrating how Chat GPT can cater to anything under the sun, even the proceedings of this event.

The lecture garnered considerable attention from the audience and an intense discussion took place afterwards, with many inputs from audience on the Zoom platform. Shri Dharam Vir, IAS (Rtd.), President of SPSTI, delivered the Vote of Thanks, expressing gratitude to all for making the event successful and enriching.

 October 05, 2023: CRIKC Igniting Young Minds organized Teacher's Orientation Workshop for 31st National Children's Science Congress-2023 at Rajiv Gandhi College Bhawan, Panjab University.



Teacher's Orientation Workshop for National Children Science Congress (NCSC)' was organized by The Environment Society of India (nodal agency for NCSC) jointly with CRIKC-Igniting Young Minds, a Panjab University initiative to nurture scientific culture at school level. The event witnessed participation of more than 250 School Teachers from Government and Private schools of Chandigarh (UT) region.

The Chief Guests for the workshop were Ms. Ravinder Kaur (Deputy Director, Department of School Education and Deputy State Project Director, Samagra Shiksha, Chandigarh) and Dr Manjit Kaur (Mission coordinator, Samagra Shiksha under Directorate of School Education). Prof. Gaurav Verma (Coordinator CRIKC) and Ms Mohinder Kaur (Councillor, MC Chandigarh) graced the occasion. The dignitaries highlighted the need for unlearning and adopting innovative methods and newer technologies for tackling local problems in order to equip the young minds for the future. They appreciated the collaboration amongst institutions of learning for sharing of resources, expertise and infrastructure and commended the efforts of the Panjab University's initiative; CRIKC-Igniting Young Minds for providing need based solutions to specific problems of government schools of Chandigarh specifically mentoring them for National level Science competitions.

The event commenced with a welcome address by Shri Hem Raj Satija (Vice President, ESI). The workshop witnessed enlightening talks on the Focal theme of the forthcoming Children's

Science Congress 'Understanding Ecosystem for Health and Well-being' specifically on NCSC Guidelines by Sh. Paramjeet Singh (State Academic Coordinator, ESI), NCSC Focal theme and Sub themes by Dr Jaspreet Kaur (In charge CRIKC Igniting Young Minds, Botany Dept., Panjab University, Chandigarh), and Crafting an Innovative Research Proposal by

Gaurav Sapra, (UIET, Panjab University, Chandigarh)



Nearly 30 student volunteers of CRIKC-Igniting Young Mind, were felicitated for their selfless contribution towards the mentoring of school students for National level Science competitions. The event ended with a Vote of Thanks by Sh. N.K. Jhingan (Secretary, ESI & State Coordinator NCSC).

 October 12-14, 2023: CRIKC organized National Conference on "Global Science for Global Wellbeing" 16th CHASCON at Law Auditorium, PU.





The Chandigarh Science Congress (CHASCON) is an academic event, organised every year since 2007 by Panjab University in collaboration with the Chandigarh Region Innovation and Knowledge Cluster (CRIKC). Slated to be held this year from October 12 - 14, 2023, 16th CHASCON has acquired a national character and will be attended by academicians and researchers from all over the country. Focussing on the theme "Global Science for Global Wellbeing" the Congress hopes to take forward the deliberations of the National Science Day, 2023 and manifest the spirit of Vasudhaiva Kutumbakam (the world is one family), the essence of Indian philosophy and the theme of G20 Indian Presidency. It's a proud moment for Panjab University to organise CHASCON 2023 in association with CRIKC institutes at

this time when the whole country is upbeat about its Lunar and Solar missions and is celebrating the stupendously successful G-20 presidentship. G-20 summit has elicited many scientific challenges regarding climate, energy, pollution, one health. CHASCON 2023 will be an engaging event for academicians to deliberate on these challenges. ICMR, is the keynote speaker. The Guest of Honour is Dr Vivek Lal, Director PGIMER, Chandigarh. His major areas of interest are Headache and Neuro-Ophthalmology and has done pioneering work in the identification and discovery of Ophthalmologic Migraine in India. In the afternoon session on 12th October, Nano-materials and their use in sustainable agriculture and health care will be covered by Prof Neeraj Dilbagi from GJU Hisar and Frugal scientific endeavours for societal benefit will be another interesting talk by Dr Samrat Ghosh from IISER Mohali. Planning and policies to address climate change issues at the state and National level will be talked about by ED of PSC for S&T Dr Jatinder Arora. Day two is dedicated to the sectional activities that will be held in the respective departments. There will be invited talks by eminent subject matter experts and oral and poster presentations by research scholars and UG, PG students.

On day three, a not-to-be-missed session is reserved for the invigorating and motivating talks by the start-Up enablers and entrepreneurs who are running their highly successful Start-Ups. Innovator Ki Kahani -Start-up Success Story —will be an interactive panel discussion. At this time, when the Start-Ups and Innovations are on the priority agenda of Govt., this session will be an opportunity for research scholars and UG/PG students to interact and take cues for their futuristic endeavours. CHASCON 2023 has a special session for young minds to showcase their ideas and research in Shodh Samvad and the best ones, selected by experts, will be given opportunity to record their innovation at the Panjab University radio station Jyotirgamya and will be awarded cash prize.

October 14 being the foundation Day of Panjab University, there will be a special lecture by Padma Shri Awardee Dr Jatinder Kumar Bajaj, Director of the centre for policy studies, Chennai and Delhi. He will speak on "The University and The Nation".

We firmly believe that CHASCON 2023 will be an engrossing scientific event that will be igniting the minds and where there is lot to interact and learn to shape the futures.

November 06, 2023: CRIKC organized a Lecture on "Nobel Prize in Physiology or Medicine 2023" by Prof. Javed N. Agrewala at Department of Microbology (BMS) Block1, Panjab University.



The Nobel committee recently announced that the Prize in Physiology or Medicine for the year 2023 is to be jointly awarded to Katalin Karikó and Drew Weissman "for their discoveries concerning nucleoside base modifications that enabled the development of effective mRNA vaccines against COVID-19". The Nobel Assembly at Karolinska Institute has today decided to award the 2023 Nobel Prize in Physiology or Medicine. The discoveries by the two Nobel Laureates were critical for developing effective mRNA vaccines against COVID-19 during the pandemic that began in early 2020. Through their ground breaking findings, which have fundamentally changed our understanding of how mRNA interacts with our immune system, the laureates contributed to the unprecedented rate of vaccine development during one of the greatest threats to human health in modern times. The Society for Promotion of Science & Technology in India (SPSTI) with support from Department of Science and Technology, Chandigarh Administration and in association with Chandigarh Chapters of National Academy of Sciences India, INSA & INYAS, Chandigarh Region Innovation and Knowledge Cluster (CRIKC) organized a webinar on the topic on November 06,2023, Monday. The days before the prizes are ceremoniously awarded in Stockholm. The lecture was delivered by Prof. Javed N. Agrewala, Centre for Biomedical Engineering IIT Ropar. Prof. Prince Sharma, Dept. of Microbiology Panjab University. The lecture was followed by a lively discussion in which many academic luminaries, including those from Panjab University and PGI participated. The lecture was attended by Zoom and many others through live streams of the Society. The concluding remarks were made by Shri Dharam Vir, IAS (Retd.) and former Chief Secretary of Haryana and President of SPSTI.

 November 20, 2023: CRIKC organized an Expoitary Talk on "The Nobel Prize in Literature for 2023 has been awarded to the Norwegian author Jon Fosse, "for his innovative plays and prose which give voice to the unsay able" by Prof. Pushpinder Syal at Mulk Raj Anand Auditorium, Department of English & Cultural Studies, Panjab University.



The Society for Promotion of Science and Technology in India organised a lecture on "Nobel Prize in Literature 2023", which was awarded to Norwegian writer Jon Fosse. His works

include the Septology series of novels, Aliss at the Fire, Melancholy and A Shining. "His huge oeuvre, spanning a variety of genres, comprises about 40 plays and a wealth of novels, poetry collections, essays, children's books and translations," said Anders Olsson, chairman of the Nobel committee for literature. "Fosse blends a rootedness in the language and nature of his Norwegian background with artistic techniques in the wake of modernism." His fiction is incantatory, mystical, and rooted in the landscape of the western fjords where he grew up," Testard added. "It's very important to remember that he writes in Nynorsk or New Norwegian, a minority language in Norway, a political act in itself. He's also an exceptional playwright and poet. He's an incredible mind, and it couldn't have happened to a nicer person.

The lecture was held in collaboration with the NASI, INSA and INYAS, the Chandigarh Region Innovation and Knowledge Cluster (CRIKC) and the literary society of the Department of English and Cultural Studies, Panjab University. The lecture was delivered by Pushpinder Syal, a former professor of the department.

Prof Syal talked about the Nordic cultural background of Fosse, and how it influenced his style. Apart from thematic concerns like oscillating between the material and the spiritual, the formal structure of his writings was discussed. His use of the Norwegian dialect was drawn particular attention to, which showed the rising importance of regional literature.

 November 23-24, 2023: CRIKC organized a National Conference CHASSCONG-2023 on "Sustainable Development: Dimensions & Discourse" at P.L. Anand Auditorium, Dept. Of Evening Studies, PU.



The inaugural session of CHASSCONG 2023 was held today at the Panjab University (PU), with dignitaries from diverse disciplines deliberating on multiple dimensions of sustainability. The theme of the two-day conference was 'Sustainable Development: Dimensions & Discourse'. Indian Institute of Sustainable Development Director General Dr Srikanta K Panigrahi dwelt on the three pillars of sustainability — social, economic and environmental — in her address. He further delved into the indicators of social sustainability, such as inequality, poverty and hunger.

The event will be graced by Prof. V.K. Malhotra, chairman, Food Commission of Madhya Pradesh as Chief Guest. Dr. Srikant K. Panigrahi, Director General, Indian Institute of Sustainable Development, New Delhi and Prof. Nalini Ranganathan, Pondicherry University will be the Guests of Honour for the occasion.

The session will be hosted on 23rd November 2023 at P.L. Anand Auditorium, Dept of Evening Studies at 10.30 am. Prof. Renu Vig, Vice Chancellor, Panjab University would deliver the inaugural address and Prof. Rumina Sethi, DUI, Panjab University and Director,

CHASSCONG 2023 would also address the participants. The two day event will bring together researchers from across the region and country with dedicated paper presentation sessions in each Department and a Valedictory session on 24th November 2023.

 December 18, 2023: CRIKC organized a Lecture on "The Nobel Prize in Chemistry for 2023 by Dr. Nishima Wangoo at Seminar Hall, Department of Physics, Panjab University.



 January 21, 2024: CRIKC organized acommemorate the birth anniversary of Dr. Shanti Swarup Bhatnagar at Bhatnagar Auditorium, Dr SSBUICET PU.



The 130th anniversary of the birth of Dr. Shanti Swarup Bhatnagar, an alumnus of Panjab University (PU), was commemorated today at the Dr. SS Bhatnagar University Institute of Chemical Engineering and Technology (SSB UICET), Panjab University, Chandigarh. The

occasion served as a tribute to Dr. Bhatnagar's remarkable contributions to the realms of science and technology. Renowned as a luminary in the scientific world, Dr. Bhatnagar was more than just a scientist; he was a guiding force, mentor, and a visionary committed to advancing scientific knowledge. His groundwork laid the foundation for institutions like the Council of Scientific and Industrial Research (CSIR), University Grants Commission (UGC), and, consequently, the present-day Dr. SSB University Institute of Chemical Engineering & Technology.

On this occasion, our guest of honour Dr. Girish Sahni Former Director General, CSIR, Former Director CSIR-IMTECH and Sh. Snjay Arora General Manager (Marketing) GAIL (India) Ltd. DCET Alumni (1987 Batch) delivered an oration lecture.

Renowned Scientist Prof Mohsen Rahmani, Nano- technology optics & Photonics leader of the Advanced optics & Photonic (AOP) Lab. Nottingham Trent University (NTU) UK gave a delivered an exhaustive talk on "Metasurfaces: the building blocks of tommorrow's optical technologies" and Dr. Ashwani Kumar CSIR-Institute of Microbal Technology, chandigargh also delivered an exhaustive talk on "Microbacterial Biofilms: A new understanding paves the way towards shorter treatment of tuberculosis". This programme has been organized in association with the Indian Innovation Council (IIC), Ministry of HRD, India, Chandigarh chapters of National academy of Sciences, India (NASI), INYAS Indian national youth academy of Science, SPSTI, and CRIKC-Chandigarh Region Innovation and Knowledge Cluster.

• March 16, 2024: CRIKC organized a Lecture on "Waste to Wealth: Harnessing Sustainable Solution in Plastic Recycling" by Nikesh Jain Regional Manager Sales Shubham Extrusion and Jay Bhatt Project Manager Prasad Group at Bhatnagar Auditorium, Dr SSBUICET PU.



• March 26-28, 2024: CRIKC organized a Festival of Science at DAV College Sector 10, Chandigarh.



Festival of Science held at DAV Sec-10, Chandigarh saw the students of Gurukul Global School, Sec-13, Chandigarh winning the top positions in the School Category Exhibition. The exhibition saw a huge participation from the school & college students of the tricity.

The school students clinched the Ist & 2nd positions in the exhibit category. The project included a Multipurpose Drone & a Robo Car. Both of these can work together as well as separately.



Robotics Club is a Special feature of the school where programs are held to provide hands-on learning in science, technology, engineering & mathematics (STEM). Students are being prepared for future challenges in a dynamic, evolving & a

competitive world. Many robotic activities are done during & after school hours to motivate students in the field.

April 20, 2024: CRIKC organized a RABMC-2024, It is a National Symposium being organized by the eight Premier Institutes of the Chandigarh Region and aims to bring together the eminent researchers as well as budding minds working in the fields of Bioorganic and Medicinal Chemistry at Department of Chemistry Panjab University, Chandigarh. Apart from the leading institutions, the Symposium is also sponsored by American Chemical Society. Three best poster awards will be awarded by American Chemical Society. The best oral presentations will also be awarded by ACS.

