Issue 135
October 2024

The 4th State

Newsletter of the Institute for Plasma Research, Gandhinagar, Gujarat (India)

हिंदी पखवाड़ा समारोह 2024

संस्थान में दिनांक 17 सितंबर 2024 से 27 सितंबर 2024 के दौरान हिंदी पखवाड़ा समारोह का आयोजन किया गया।

दिनांक **17 सितंबर 2024** को प्लाज़्मा अनुसंधान संस्थान (आईपीआर) के सेमिनार हॉल तथा एफसीआईपीटी एवं इटर-भारत कार्यालयों में श्रुत लेखन प्रतियोगिता आयोजित की गई। इस प्रतियोगिता को क, ख एवं ग भाषा वर्ग क्षेत्रों के आधार पर तीन श्रेणियों में विभाजित किया गया, जिसमें लगभग 80 कर्मचारियों ने उत्साहपूर्वक भाग लिया। इस प्रतियोगिता के माध्यम से कर्मचारियों को हिंदी भाषा लिखने की अपनी दक्षता एवं श्रवण क्षमता को उजागर करने का एक मंच प्रदान किया गया, जो संस्थान में राजभाषा को बढ़ावा के प्रयासों में से एक है।

तकनीकी एवं गैर-तकनीकी लेख लेखन प्रतियोगिता: इस प्रतियोगिता के अंतर्गत प्लाज़्मा अनुसंधान संस्थान , एफसीआईपीटी एवं इटर-भारत कार्यालयों के सभी प्रतिभागियों ने ई-मेल के माध्यम से तकनीकी एवं गैर-तकनीकी लेख भेंजे। इस कार्यक्रम में वैज्ञानिक एवं तकनीकी कर्मियों द्वारा संस्थान में चल रहे अनुसंधान संबंधी लेख तथा प्रशासनिक कर्मियों द्वारा गैर-तकनीकी विषयों पर कुल 43 लेख भेजे गए । हर वर्ष की भांति इस बार भी कर्मचारियों ने उत्साहपूर्वक इसमें भाग लिया।

टिप्पण, पत्र लेखन एवं अनुवाद प्रतियोगिता: हिन्दी पखवाड़ा समारोह 2024 के अंतर्गत दिनांक **18 सितंबर 2024** को प्लाज़्मा अनुसंधान संस्थान (आईपीआर) के सेमिनार हॉल तथा एफसीआईपीटी एवं ईटर-भारत कार्यालयों में टिप्पण, पत्र लेखन एवं अनुवाद प्रतियोगिता आयोजित की गई, जिसमें कुल 48 प्रतिभागियों ने भाग लिया। इस कार्यक्रम में क, ख एवं ग क्षेत्रों के आधार पर प्रतिभागियों के लिए अलग-अलग प्रश्न पत्र तैयार किए गए थे। प्रश्नपत्र के अंतर्गत हिन्दी तथा अँग्रेजी कार्यालयीन शब्दों का अनुवाद, टिप्पण एवं पत्र लेखन को शामिल किया गया था।

वर्ग पहेली प्रतियोगिता: दिनांक **19 सितंबर 2024** को संस्थान के तीनों परिसरों में वर्ग पहेली प्रतियोगिता आयोजित की गई, जिसमें लगभग 90 प्रतिभागियों ने उत्साहपूर्वक भाग लिया। वर्ग पहेली में सामान्य ज्ञान, हिंदी भाषा, व्याकरण, पऊवि एवं संस्थान की गतिविधियों पर आधारित प्रश्नों को सम्मिलित किया गया था। यह वर्ग पहेली काफी रोचक एवं ज्ञानवर्धक रही।

हिन्दी व्याख्यान: हिन्दी पखवाड़ा के अंतर्गत दिनांक **19 सितंबर 2024** को एक संवादात्मक व्याख्यान सत्र (इंटरैक्टिव टॉक सेशन) का आयोजन हुआ । सत्र का विषय अनुबंध श्रम कानून एवं कार्यप्रणाली था, जिसका संचालन श्री संजीव, श्रम एवं प्रवर्तन अधिकारी (केंद्रीय) द्वारा किया गया। जिसमें ठेका मजदूर (विनियमन और उन्मूलन) अधिनियम, 1970 और इसके उद्देश्य के बारे में विस्तृत चर्चा की गई।

IPR, ITER-IN और FCIPT में आयोजित विभिन्न प्रतियोगिताओं की झलकियां

हिंदी पखवाड़ा समारोह 2024

हिंदी कंप्यूटर टाइपिंग प्रतियोगिता: दिनांक **20 सितंबर 2024** को संस्थान के पुस्तकालय और एडमिन एनैक्स में हिंदी कंप्यूटर टाइपिंग प्रतियोगिता का आयोजन किया गया, जिसमें कुल 30 प्रतिभागी शामिल हुए। माइक्रोसॉफ्ट टिम्स के माध्यम से एक लिंक प्रतिभागियों को भेजा गया और हार्ड कॉपी पर दी गई सामग्री को उस लिंक पर निर्धारित समय में टाइप करने के निर्देश दिये गये।

हिन्दी कार्यशाला: हिंदी पखवाड़ा समारोह 2024 के अंतर्गत दिनांक **20 सितंबर 2024** को सेमिनार हॉल में हिंदी कार्यशाला का आयोजन किया गया। इस कार्यशाला में वक्ता के रूप में सुश्री वृंदा राठी, Creative Trainer-Story Teller को आमंत्रित किया गया, जिन्होंने 'अभिव्यक्ति-रचनात्मक लेखन व प्रभावी प्रस्तुति' ('Expression-Creative Writing and Effective Presentation'), विषय पर व्याख्यान दिया। यह सत्र संवादात्मक और रोचक रहा, जिसमें सभी प्रतिभागियों को अपनी अभिव्यक्ति सशक्त रूप से प्रस्तुत करने हेतु अभ्यास भी कराया गया। सुश्री वृंदा राठी ने विचारों, भावनाओं और दृष्टिकोण को रचनात्मक रूप से कैसे प्रभावी ढंग से पाठक या श्रोता तक पहुंचा सकते हैं, इस पर विस्तार से चर्चा की। उन्होंने वैज्ञानिक/तकनीकी लेखन को प्रभावशाली बनाने हेतु मार्गदर्शन दिया ताकि वह पाठकों के लिए रूचीपूर्ण हो।

हिंदी प्रश्नोत्तरी प्रतियोगिता: हिंदी पखवाड़ा समारोह के अंतर्गत **23 सितंबर 2024** को संस्थान के सेमिनार हॉल में हिंदी प्रश्नोत्तरी प्रतियोगिता आयोजित की गई। इस प्रतियोगिता में कुल 57 प्रतिभागियों ने भाग लिया। प्रतियोगिता मोबाइल ऐप क्विज़िज़ के माध्यम से आयोजित की गई, जिसमे कुल 40 प्रश्न पूछे गए। प्रतिभागियों ने अपने मोबाइल के माध्यम से प्रश्नोत्तरी में भाग लिया। निर्धारित समय में सही जवाब देने वाले प्रतिभागियों को विजेता घोषित किया गया। अद्यतन तकनीक का उपयोग करके आयोजित की गई इस प्रतियोगिता में सभी ने उत्साहपूर्वक भाग लिया।

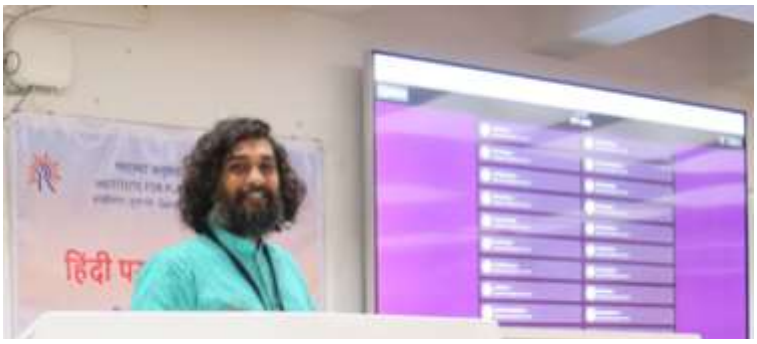
श्री संजीव व्याख्यान देते हुए

व्याख्यान मे उपस्थित श्रोतागण

श्री हर्षद चामुंडे आभार चिन्ह देते हुए

सुश्री वृंदा राठी व्याख्यान देते हुए

वक्ता द्वारा रचनात्मक गतिविधि



हिन्दी प्रश्नोत्तरी प्रतियोगिता की छवियाँ

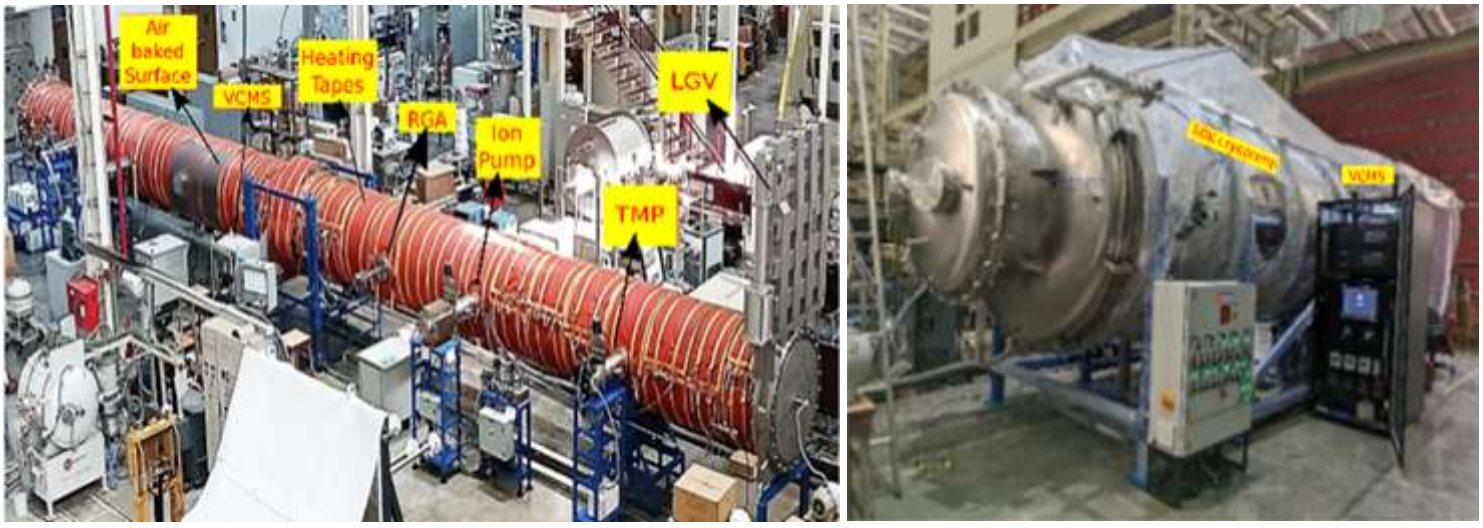
Installation & commissioning of LI-VISTA facility at IPR

An 80K Cryopump and a 1.24m ID, 3.2mm thick and 4 km long beam tube are major vacuum components of the LIGO project, needs to sustain Ultra-High Vacuum in its functioning after commissioning at site. As a part of the Technology Development and Capacity Building (TDCB) phase of LIGO-India, IPR has successfully completed a 1:1 scale prototype fabrication of the 80K Cryopump (1 no.) and 10m long tube (2 nos.). These have been integrated into the LIGO-India Vacuum Integrated System Test Assembly (LI-VISTA) at IPR. Fabricated vacuum components are manufactured at 1:1 scale matching the LIGO-US Vacuum System, apart from the limited length. All vacuum equipment and accessories are also integrated with a Control and Monitoring System (VCMS) to operate, monitor and control functioning of the integrated system. The fabrication included several critical issues, such as:

1) 10m tubular vessel: a) Precision fabrication in SS using single pass UHV compatible TIG welding, b) Geometrical tolerances - straightness (±3.2mm along 10m), circularity and concentricity at the ends (≤0.25); c) Helium Leak rate all joints $<10^{-9}$ mbar.l/s, d) Vacuum $<10^{-7}$mbar in 100hrs. Major work is performed in clean environment to maintain UHV compatibility of final product
2) 2) 80K Cryopump - Apart from aspects stated above, this work included Al - S.S. bimetallic joint compatible with 80K operation and in-built flexibility in assembly to accommodate its functioning at 80K.

The 4 km long beam tubes used in LIGO-US were fabricated using spiral welding. The accomplishment reported above is important since it demonstrates an alternate path for fabrication of the LIGO-India beam tubes, in case a suitable vendor for fabrication using spiral welding is not available in India.

Vacuum Pump-down is now being continued to achieve $<10^{-9}$ mbar vacuum, (so far accomplished 5.2 x 10^{-9} mbar in IVV) which is a functional requirement of LIGO-India beam tubes.



20m long vessel assembly (left) and 80K Cryopump (right) installed at IPR

Deep Learning for online CCTV Monitoring System in IPR Campus

An online CCTV monitoring system is developed & deployed in IPR campus which utilizes AI technologies for robust and efficient surveillance by constantly overseeing more than 20 critical locations. This system takes separate/parallel online streaming of data from the CCTV control room and utilizes deep learning algorithms that is very well able to distinguish between the object and environment. The system is working 24x7 without any significant downtime. One such location's activities are shown in Fig. 1(a) and through a bar plot in Fig. 1(b), providing clear insights into the alert frequency on weekly basis. This system is designed to raise alarms immediately when a person or other designated object of interest is detected, ensuring prompt response to potential security breaches.

The AI algorithms excel in identifying anomalies and unauthorized activities, significantly enhancing the monitoring process by enabling proactive security measures and minimizing false positives.

Fig. 1(a). Visuals from one such location

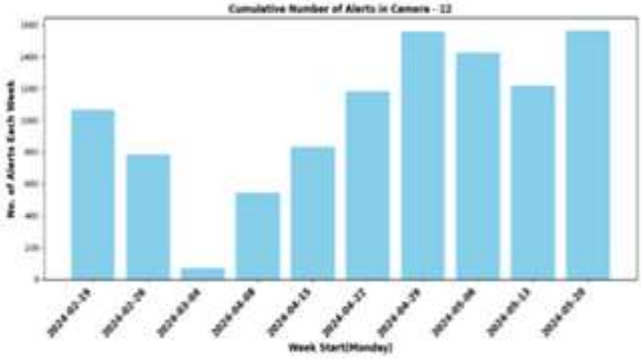


Fig. 1(b). No. of alerts generated on weekly basis

AIC - IPR Plasmatech Innovation Foundation Awareness Program in North East

An awareness programmne on "**Plasma Technologies for Entrepreneurship**" was organized by AIC – IPR Plasmatech Innovation Foundation, in collaboration with North East Centre for Technology Application and Reach (NECTAR) at the National Institute of Technology (NIT) Meghalaya at Shillong and the Cotton University at Guwahati on 6th and 8th August, 2024 respectively. At NIT Meghalaya, Prof. Pinakeshwar Mahanta, Director, NIT Meghalaya gave the welcome address and at Cotton University, Prof. Ramesh Chandra Deka, Vice Chancellor of Cotton University gave the welcome address.

During these programmes, Dr. Arun Kr. Sarma, Director General, NECTAR gave an introduction about the program in which he highlighted various potential applications of plasma in North East India. Dr. Nirav Jamnapara, explained about the Atal Incubation Centre at IPR and various plasma based technologies which can be used by startups. Mr. Saroj Das, talked about Information Management and the activities of the IPR TTIP committee. Shri. Dani P. Rajiah, Member Secretary, DAE IPR Cell, talked about Intellectual Property Rights and patents. Dr. Nirav Jamnapara talked about various plasma based technologies which can be used by startups while Dr. Ngangom Aomoa, CPP-IPR gave an overview of the application based research activities being carried out at CPP-IPR.

The programme at NIT Meghalaya was attended by around 70 participants, including students and faculties from various colleges of Shillong, NIT Meghalaya and North Eastern Hill University. At Cotton University around 60 participants, including students and faculties from various colleges and Universities in and around Guwahati attended the programme.

(L-R) Dr. N. Jamnapara, Prof. Mahanta and DG NECTAR, Dr. Arun Sarma during the inaugural ceremony

(L-R) Mr. Saroj Das, Mr. P R Dani & Dr. N Aomoa during the session at NIT Meghalaya, Shillong

Group Photo at NIT Meghalaya, Shillong

Inaugural Ceremony (L) and the participants at Cotton University, Guwahati (R)

AIC - IPR Plasmatech Innovation Foundation Awareness Program in North East

(L-R) Dr. Deka, Dr. Arun Sarma, Dr. N. Jamnapara, Mr. S. Das, Mr. Dani & Dr. Aomoa during the session at Cotton University

(L) Group Photo of the participants (R) Group Photo of the speakers and organizers at Cotton University, Guwahati

An awareness programme on startups and patenting was held at CPP-IPR on 7th August 2024. During the programme, Shri. P. R. Dani, Member Secretary, DAE IPR Cell, gave a talk on Patents and also discussed about the DAE 's experience with patenting. Dr. Nirav Jamnapara discussed about the Atal Incubation Centre at IPR while Mr. Saroj Das discussed about the patenting and publication processes at IPR. The programme was attended by about 40 participants, including Research Scholars, PDFs and Scientist from CPP-IPR.

(L-R) Mr. Dani, Dr. Nirav Jamnapara, and Mr. Saroj Das delivering talks at CPP-IPR, Guwahati

CPP Director along with other staff and RS attending the talks (L) Group photo at CPP-IPR, Guwahati

ITER Torus Cryopump Housing (TCPH)

The ITER Torus Cryo-Pump Housing (TCPH) is a penetration located on the Cryostat Lower cylinder with main functions to accommodate and support the Torus Cryo-Pump (TCP), connect it to the Vacuum Vessel and provide tritium confinement. The ITER Torus Cryo-Pump Housing (TCPH), thus forms a primary vacuum boundary, which is to be manufactured from SS304/304L material using ASME Sec-VIII Div.2 with supplementary requirement of ITER Vacuum Handbook for cleaning and leak testing. The manufacturing contract for TCPH and associated bellows (6 Nos. of Assemblies) has been placed with an Indian company. It may be noted that TCPH is part of the INDA scope of supply under cryostat procurement arrangement with ITER Organization.

TCPH Basic arrangement consist of Inner cylinder to support Cryopump and tritium confinement whereas the Outer rectangular box structure provides Re-generation volume for TCP. The one end of TCPH holds the TCP (A) while the other end is with double bellows get connected with Vacuum Vessel (VV) to accommodate VV loads (B).

A) TCPH after Cleaning

B) Bellow with TCPH

The critical aspects of TCPH includes but not limited to are : 1) Welding and NDE that ensures weld configuration with 100% volumetric inspection with full penetration weld joints using GTAW welding process 2) Assembly sequence to ensure required access for welding and NDE and weld distortions control 3) Achievement of critical functional tolerances 4) After all welding, TCPH have been cleaned through pressurized steam followed by alcohol cleaning and finally global baking resulted in good vacuum during the leak testing. Achieved He leak rate observed to be in order of 10^{-9} mbar l/s which is one order higher than the requirement at 200°C. Subsequently, production bellows were manufactured along with its restraint fixture tested for final Leak Test.

The last two sub-assemblies of ITER TCPH were flagged off from the factory of the manufacturer in the presence of Dr. B. Venkatraman (former Director, IGCAR & Member, ITER-India Empowered Board) on 17th September 2024.

C) Packed TCPH ready for shipment

D) Flag-off ceremony of TCPH from India to ITER Organization, France

Handling and transportation (C) associated risks have been mitigated through Design and manufacturing of robust support frames with stoppers, Lashings of TCPH with frame, Handling analysis for each anticipated handling stages, Shrink-wrap to ensure seaworthy packing and filling of dry N_2 gas (0.1 Kg/cm^2) that protects closed volumes. Factory Acceptance Test and Packing of All TCPH (6 Nos) has been completed and dispatched (D) from the Indian manufacturer to ITER Site, France.

Induction Programme for newly joined staff members

The Outreach Division - IPR has an Induction Programme for the newly joined staff members on 13th Sept.2024.

The induction programme was aimed to bring awareness about the activities going on in the Institute and also about the roles and responsibilities that we will have to adhere as a staff of the Institute.

(L-R) Dr. S Mukherjee, Dr. P Chaudhuri, Mr. N Vaishnaw, Dr. N Jamnapara, Mr. T. Parekh and Mr. D. Modi giving awareness talks on various activities and procedures of the Institute

Newly joined staff attending the Induction Programme

Group Photo of the Induction Programme at the Outreach Division

Academic Visits to IPR

Date	Institution	Visitors
21-Aug-2024	Delhi Public School (DPS), Bopal, Ahmedabad	73 Students and 02 Teachers
22-Aug-2024	National Forensic Science University, Gandhinagar	25 Students of B. Sc. and 02 Faculty
06-Sep-2024	Gandhinagar Engineering College (GEC), Gandhinagar	12 Students of B. Tech and 02 Faculty
12-Sep-2024	Charotar University of Science and Technology, Changa	45 Students of B. Tech (Electrical) and 02 Faculty
18-Sep-2024	Charotar University of Science and Technology, Changa	47 Students of B. Tech (Mech) and 02 Faculty

Students from DPS, Bopal during visit to IPR

Students from National Forensic Science University, Gandhinagar during visit to FCIPT

Students from Gandhinagar Engineering College (GEC), Gandhinagar during visit to FCIPT

Academic Visits to IPR

Students and Faculties from CHARUSAT (Electrical Engg), Changa during visit to IPR

Students and Faculties from CHARUSAT (Mechanical Engg), Changa during visit to IPR

Workshop on Plasma Physics and its Applications by CPP-IPR Outreach

CPP-IPR's Outreach Cell conducted "Workshop on Plasma Physics and its Applications" at two colleges of Jorhat, Assam on 3rd September 2024.

In the morning session, the workshop was conducted at Devicharan Barua Girls' College, which was attended by 8 faculties and 40 students of the college and 12 students from Nanda Nath Saikia College, Titabar, Assam.

In the afternoon session, the workshop was conducted at Jagannath Barooah University (formerly JB College) which was attended by 10 faculties and 100 students of the college. During the workshops, Dr. B J Saikia addressed the audience about a brief history of CPP-IPR and the activities of CPP Outreach cell. Dr. Rakesh Moulick gave a talk on introduction to plasma physics, followed by a talk on basics of experimental plasma physics by Dr. Ngangom Aomoa.

The participants were shown glow discharge plasma, arc plasma, DBD plasma, Jacob's ladder and a plasma globe. The working principle of these plasmas and their applications were explained to the participants.

(L-R) Dr. B. J. Saikia, Dr. R. Moulick and Dr. N. Aomoa speaking during the workshop

A section of audience

Group photo of the workshop at Devicharan Barua Girls' College, Jorhat

Group photo of the workshop at Jagannath Barooah University, Jorhat

Plasma Exhibition @ Parvathaneni Brahmayya Siddhartha College of Arts & Science, Vijayawada, Andhra Pradesh

IPR Gandhinagar, in association with Parvathaneni Brahmayya Siddhartha College of Arts & Science, Vijayawada (Andhra Pradesh) organized an exhibition on “Plasma: The Fourth State of Matter" during 05-09 August, 2024. This program was part of IPR’s scientific outreach activity in various states of India under the auspices of “70 Years of DAE” celebrations.

The programme consisted of an exhibition on plasma, its applications as well as introductory talks on plasma for visiting students and training program on plasma, its applications and nuclear fusion. Seventy two students from the host college were trained by IPR staff to explain the various exhibits to visiting public. Over 5000 students and teachers from over 72 schools and colleges in and around Vijayawada visited the exhibition.

Photos of the Plasma Exhibition at Parvathaneni Brahmayya Siddhartha College of Arts & Science, Vijayawada, Andhra Pradesh

Plasma Exhibition @ Bhavan's Vivekananda College, Secunderabad, Telangana

IPR Gandhinagar, in association with Bhavan's Vivekananda College, Secunderabad (Telangana) organized an exhibition on “Plasma: The Fourth State of Matter" during 12-14 August, 2024. This program was part of IPR’s scientific outreach activity in various states of India under the auspices of “70 Years of DAE” celebrations.

The programme consisted of an exhibition on plasma, its applications as well as introductory talks on plasma for visiting students and training program on plasma, its applications and nuclear fusion. 76 students from the host college were trained by IPR staff to explain the various exhibits to visiting public. Over 1750 students and teachers from over 19 schools and colleges in and around Secunderabad visited the exhibition.

Photos of the Plasma Exhibition at Bhavan's Vivekananda College, Secunderabad, Telangana

Plasma Exhibition @ Muktajivan English School, Maninagar, Ahmedabad

IPR Gandhinagar, in association with Muktajivan English School, Maninagar, Ahmedabad organized an exhibition on “Plasma: The Fourth State of Matter" during 21-23 August, 2024. This program was part of IPR’s scientific outreach activity in rural areas across Gujarat under the auspices of “70 Years of DAE” celebrations. The event was inaugurated by the Director, Muktajivan group of Education.

The programme consisted of an exhibition on plasma, its applications as well as introductory talks on plasma for visiting students and training program on plasma, its applications and nuclear fusion. 32 Students of 11th and 12th Standard from the host school were trained by IPR staff to explain the various exhibits to visiting public. Over 1200 students and teachers from nearby schools visited the exhibition.

Plasma Exhibition at Muktajivan English School, Maninagar, Ahmedabad

Popular Talk on Plasma at Gujarat Vidyapeeth

A popular talk in Hindi, on the Introduction to Plasma, was delivered by Mr. Manu Bajpai of Outreach Division, IPR at Gujarat Vidyapeeth on National Space Day, 23rd Aug 2024 to commemorate the first anniversary of the landing of Vikram Lander on the lunar surface. The talk included the abundance of plasma in the universe, its domestic and industrial applications and future prospects especially the fusion power. The dignitaries present on the occasion, were Prof Nikhil S. Bhatt (Registrar), Prof Niraj T. Sheth (Dean), Prof Kaushik R. Patel, Prof D. Sriniwas Murthy, and other faculty members. The audience also included, research scholars and the students from bachelors and masters courses of science, mostly microbiology and biogas research.

Dr. Pratik G. Shilpkar (L) introducing Mr. Manu Bajpai (R)

Audience attending the talk

Past Events @ IPR

- ***Dr. Ankit Mathur,*** Bharathiar University, Coimbatore, gave a talk on "Dynamic Cellular Plasticity in Cancer: EMT Transitions and Stem Cell Differentiation Strategies" on 23rd August 2024
- ***Mr. Harsh Patel,*** gave a talk on "Development of experimental setup for the study of effective thermal conductivity of the pebble beds for fusion blankets" on 30th August 2024
- ***Dr. Mitesh Solanki,*** PDEU, Gandhinagar, gave a talk on "Experimental and Theoretical Characterization of Plasma Facing XCrCu (X=Zr, Nb, Mo, and Tc) for Corrosion-Resistant Material" on 30th August 2024
- ***Dr. Vangalla Veera Babu,*** gave a talk on "Design and Simulation of matching network for Ion cyclotron wall conditioning (ICWC)" on 02nd September 2024
- ***Dr. Amit Kumar,*** Modern Institute of Technology and Research Centre, Alwar, Rajasthan, gave a talk on "Study of Electrostatic and Electromagnetic Waves Instabilities in Plasma and Complex Plasma" on 06th September 2024
- ***Dr. Ajaz Ahmad Mir,*** gave a talk on "Study of Nonlinear Excitations by Charged Debris" on 12th September 2024
- ***Dr. Sanju Rani,*** National Physical Laboratory, New Delhi, gave a talk on "Gas Sensing Performance Based on Tin Selenides" on 20th September 2024
- ***Dr. Ankita Saxena,*** Aligarh Muslim University, Uttar Pradesh, gave a talk on "Spectral investigation of multiply ionized silver atoms: Ag III-IV" on 20th September 2024

Upcoming Events

- 2nd Workshop on Space Weather Science and Opportunities & 3rd Indian Space Weather Conference, Indian Institute of Technology, Roorkee, 5 - 9 October 2024; https://iswc2024.iitr.ac.in/
- 66th Annual Meeting of the APS Division of Plasma Physics, Hyatt Regency, Atlanta, USA, 7-11 October 2024; https://engage.aps.org/dpp/meetings/annual-meeting
- 2nd Technical Meeting on Long-Pulse Operation of Fusion Devices, IAEA Headquarters, Vienna, Austria,14–18 October 2024; https://conferences.iaea.org/event/381/
- 3rd International Conference on Functional Material and Applied Physics (FMAP-2024), Sardar Vallabhbhai National Institute of Technology (SVNIT), Surat, 18-19 October 2024; https://fmap22.wixsite.com/home
- Joint International Conference on Supercomputing in Nuclear Applications + Monte Carlo (SNA+MC 2024), Paris, France, 20-24 October 2024; https://www.sfen.org/evenement/sna-mc-2024/
- DAE-BRNS Symposium on Advances in Atomistic and Continuum Modeling (DAE-SAACM2024), DAE Convention Centre, Anushaktinagar, Mumbai, 23-26 October 2024; https://barc.gov.in/symposium/saacm.pdf
- 7th International Conference on Nuclear and Renewable Energy Resources (NURER2024), Anatolia, Turkey, 27-30 October 2024; https://nurer2024.org/

Volunteers Training for Library Physical Verification

A volunteers training cum Demonstration was conducted on 03 Sep 2024 for the Physical Verification (PV) of Library documents scheduled for 23-27 Sep 2024. 30 volunteers including Research Scholars and staff are nominated for carrying out the PV activity. The volunteers were briefed about the importance of PV and were given hands-on training for smooth conduct of the physical verification of library documents.

Chairman PV Committee Dr. M R Jana (L) giving an introduction to the volunteers

Mr. Shravan Kumar giving demo

Volunteers getting Hands-on training

Staff Club Indoor Games

IPR Staff Club organised various indoor games for the staff members. For Carrom doubles, there were a total of 64 teams and for Carrom singles there were 56 participation. For Table Tennis doubles, there were a total of 40 Teams and for Table Tennis singles there were 34 participation. 44 players participated in the Chess tournament. Here are the list of winners in all these indoor games.

Tournament	Result
Table Tennis Singles (Male)	Winner: Bikas Ranjan Das Runner-up: Arvind Kumar 2nd Runner-up: Vikas Gaur
Table Tennis Singles (Female)	Winner: Tarundeep Kaur Runner-up: Savita 2nd Runner-up: Arpita Vipat
Carrom Singles	Winner: Vikas Gaur Runner-up: Abhijeet Kumar
Carrom Doubles	Winners: Hemant Kumar Hadiel and Vikas Gaur Runners-up: Hiren Nimavat and L. N. Srikanth
Chess	Winner: Yogendra Singh Runner-up: Yash J. Pathak

Glimpses of the Staff Club Indoor tournaments

Index of Newsletter Volume 135, October 2024

Title	Page No
हिंदी पखवाड़ा समारोह 2024	01-02
Installation & commissioning of LI-VISTA facility at IPR	03
Deep Learning for online CCTV Monitoring System in IPR Campus	03
AIC - IPR Plasmatech Innovation Foundation Awareness Program in North East	04-05
ITER Torus Cryopump Housing (TCPH)	06
Induction Programme for newly joined staff members	07
Academic Visits to IPR and FCIPT	08-09
Workshop on Plasma Physics and its Applications by CPP-IPR Outreach	10
Plasma Exhibition	11-13
Popular Talk on Plasma at Gujarat Vidyapeeth	13
Past Events @ IPR/Upcoming Events	14
Volunteers Training for Library Physical Verification	14
Staff Club Indoor Games	15
Know Your Colleague	16

Know Your Colleague

Mr. Aritra Chakraborty

Aritra Chakraborty is currently working as Scientific Officer-D. He did his B.Tech (Electrical Engineering) from West Bengal University of Technology (WBUT). Prior to joining IPR he had 3 years of experience in design/testing of HV substations/switchyards, etc. He joined IPR as TTP in 2015. From 2016 onwards, he has been working in Ultra High Voltage System Division (UHVSD). He obtained his M.Tech. in Fusion Science and Technology in 2019 from HBNI. He was involved in the development and testing/commissioning of high power inverters, high voltage high frequency (HVHF) transformers, MW-level high power converters, converter transformers, 11 kV switchgear and testing of 350 kV systems at UHVSD Lab. He has carried out several circuit simulations in MATLAB and PSIM and electric field simulation in COMSOL for high voltage (HV) bushings and transformers. He has developed MATLAB code for computation of space-charge electric field beneath Overhead High Voltage Direct Current (HVDC) transmission wire, HVDC apparatuses and predicting flashovers in post insulators. He has in-house developed and successfully tested 27 kV bushings, 20 kW HF power supply.

He has participated in many sports activities organized by IPR Staff Club. His other interest include reading books of fiction and non-fiction.

IPR in Monsoon

Quote of the Month

"If you cannot do great things, do small things in a great way."

--Napoleon Hill

The IPR Newsletter Team

B. J. Saikia	Dharmesh Purohit	Harsha Machchhar	Pratibha Gupta	Priyanka Patel	Ramasubramanian N.	
Rohit Anand	Sandhya Dave	Saroj Das	Shravan Kumar	Supriya A Nair	Suryakant Gupta	Tejas Parekh

Institute for Plasma Research
Bhat, Near Indira Bridge
Gandhinagar 382 428,
Gujarat (India)

प्लाज़्मा अनुसंधान संस्थान
Institute for Plasma Research

Web : www.ipr.res.in
E-mail : newsletter@ipr.res.in
Tel : 91-79-2396 2000
Fax : 91-79-2396 2277