The 4th State

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

Issue 150, January 2026

Samvidhan Diwas (Constitution Day) 2025

"Samvidhan Diwas (Constitution Day)", is observed on 26 November every year, to commemorate the adoption of the Constitution of India. On 26th November 1949, the Constituent Assembly of India adopted the Constitution of India, which came into effect from 26th January 1950.

A pledge taking ceremony was organized at IPR as a mark of celebration on 26 November 2025. The pledge was solemnized by IPR staff members lead the Director and the Acting Chief Administrative Officer, both in Hindi and English.

The staff members passionately took the pledge, reaffirming their allegiance to the constitution and upholding the Nation's integrity.

Director, Dr. Tapas Ganguli and ACAO, Ms. Supriya Nair administering the pledge

IPR Staff members taking the Constitution Day pledge on 26 Nov 2025

3D EMC3-EIRENE plasma-neutral transport simulations

A sharp and structured scrape-off layer (SOL) forms in inboard-limited tokamak plasmas, where magnetically confined hot plasma is exhausted onto a limiter surface. The plasma flows developing in this narrow boundary region play a decisive role in determining edge conditions and influencing intrinsic toroidal rotation. In Aditya-U tokamak plasmas, these SOL flows are predominantly driven by strong parallel pressure gradients sustained by the limiter sink, leading to acceleration of plasma along magnetic field lines to near-sonic velocities.

Using extensive 3D EMC3-EIRENE plasma-neutral transport simulations, the present study reconstructs the flow structure in inboard-limited Aditya-U discharges. The simulations quantitatively reproduce a finite intrinsic toroidal rotation in the edge region and its systematic reduction with increasing edge density, consistent with the reduction of plasma rotation velocity in Aditya-U, measured using C5+ impurity's Doppler-shifted radiation.

By comparing low- and high-power SOL conditions representative of phases with and without impurity injection, respectively, the study demonstrates that intrinsic rotation originates from SOL pressure gradient generated parallel plasma flows. Impurity injection cools the edge, reduce temperature gradients and, in turn, the radial electric field E_r. When E_rxB flows weaken, they no longer counterbalance the gradient generated flows which then become measurable. These results highlight the central role of limiter-driven SOL physics in setting intrinsic edge rotation in inboard-limited tokamak plasmas.

The published work titled "**Study of radial field dependent flows in inboard limited Aditya-U plasmas using EMC3-Eirene simulations**" is authored by Arzoo Malwal, Devendra Sharma, Bibhu Prasad Sahoo and Yühe Feng, published in *Nuclear Fusion, Volume 65, 116011 (2025)*

Full-Text: https://iopscience.iop.org/article/10.1088/1741-4326/ae08cc

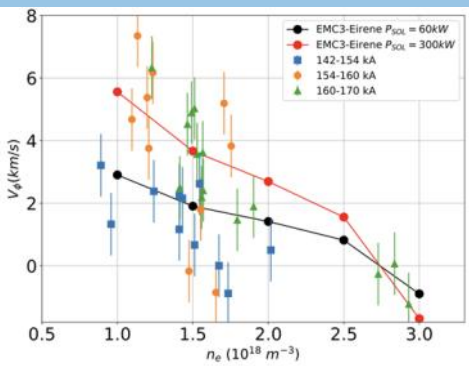


Figure (a)

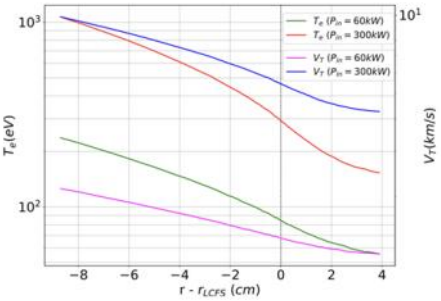
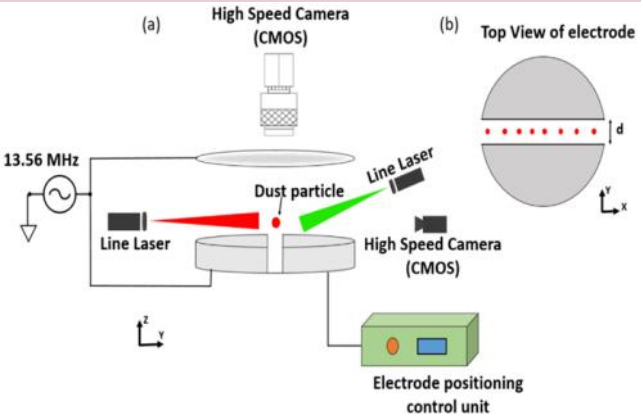


Figure (b)

Figure: (a) Plasma parallel flow velocity for different experimental shots (with an estimated error of ~1 km s^{-1} in measurements), shown alongside simulation results.
(b) Radial profiles of electron and edge toroidal velocity. Stronger gradients in both parameters are observed

Confinement-driven structural transitions in a dusty plasma crystal

Structural transitions in dusty plasma crystals are typically induced by altering parameters such as pressure, RF power, or magnetic field strength. In contrast, this work demonstrates a structural transition in a dusty plasma crystal without modifying the plasma parameters. The structural change is generated experimentally by smoothly tuning the confining geometry of the lower electrode. To ensure that the plasma conditions remain unchanged during this process, we measure the dust charge and screening length in another experiment by adding one-one dust particle into the system. These measurements confirm that variations in channel width do not affect the plasma parameters. We then employ an emissive-probe-based sheath potential profile measurement to investigate the underlying cause of the transition. The probe results show that changing the channel width modifies the local confinement potential and alters the sheath dynamics, which in turn drives the reconfiguration of the dust crystal structure.



(a) Schematic diagram of the experimental device CCDPx. (b) Shows the top view of the lower electrode featuring a central channel of width d, where particles are confined in a linear arrangement.

To validate the experimental results, the anisotropy parameter obtained from the emissive probe measurements is incorporated into a molecular dynamics (MD) simulation through an anisotropic trapping potential. The simulated structures reproduce the experimentally observed transitions, thereby providing a consistent physical picture linking the confinement-induced sheath modification to the resulting structural changes in the dusty plasma crystal.

The published work titled "**Confinement-driven structural transitions in a dusty plasma crystal**" is authored by Sushree Monalisha Sahu, Ankit Dhaka, Pintu Bandyopadhyay, Abhijit Sen, published in *Springer Nature Scientific Reports, 15, 41053 (2025)*

Full-Text: https://doi.org/10.1038/s41598-025-24973-x

41st DAE Safety & Occupational Health Professionals Meet (DAE-SOHPM), 2025

Institute for Plasma Research (IPR) and the Atomic Energy Regulatory Board (AERB), jointly organised the 41st DAE Safety & Occupational Health Professionals Meet 2025 at AMA Ahmedabad during 17-19 Dec 2025. The meeting was focused on the Theme 'Recent Trends in Occupational Safety and Health Management'. The meet brought together over 350 delegates from DAE units and aided institutions, reaffirming DAE's commitment to a strong safety culture.

Glimpses of the Inaugural Session

Group photo of the participants of 41st DAE SOHPM 2025

Group photo of the 41st DAE SOHPM 2025 Local Organizing Committee

Doctoral Research Spotlight

An engineering study of concepts for heat extraction and power conversion from moderate sized tokamak fusion reactors by Piyush Prajapati

Realization of fusion energy requires demonstration of conversion of thermal power produced by nuclear fusion to net electrical power, however, currently this seems possible only for large reactors like DEMO. While not focused on net electricity production, the moderate-sized, low-power reactors can establish a robust technical foundation for DEMO. Hence, a fusion pilot plant is needed to identify and fill the R&D gaps on the way to DEMO. In this thesis work, the problem of heat extraction from the blanket and its conversion to electricity has been studied for a configuration with R=3 m, A=2.7 and Pf = 200 MW, Q = 2.8, pulse length of 3000s and dwell time of 1000s[1]. For heat extraction from moderate sized tokamak reactor, a novel solid breeder blanket concept is introduced. The entire outboard blanket system consists of 18 poloidal sectors with each sector containing 7 twin-modules. A twin module represents a toroidally separated pair of identical blanket module (BM), using a unique arrangement of radially stacked breeder/multiplier zones in a 'C' shaped configuration. This concept optimizes heat extraction efficiency, ensuring uniform coolant outlet temperatures of ~500°C from the blanket. A 1-D, multi-region, time-dependent heat diffusion equation is solved to simulate the thermal transient behaviour of the blanket module during pulse and dwell time. The helium flow and breeder/multiplier thicknesses are optimized to ensure that the temperature of each material is within the operational limits.

Piyush Prajapati

The results obtained have been verified using ANSYS transient simulation. For power conversion studies, preliminary design parameter of the steam generator and heat exchangers have been estimated [2]. A crucial problem is to obtain steady power from a pulsed source. Using a pulsed power source for steady-state power generation necessitates an intermediate Energy Storage System (ESS). HITEC molten salt as a candidate for the ESS has been adopted. The heat received during the pulse from the blanket, first-wall, and divertor is stored and used to drive the power conversion cycle. To examine this, a study of steam Rankine cycle, and S-CO2 Brayton cycle has been performed to find out optimization parameters and values [3]. Based on the chosen parameters, the SCO2 Brayton cycle exhibits slightly higher thermal efficiency compared to the Rankine cycle. Rankine cycle efficiency with helium cooled blanket is about 42.2%, whereas it is 35.3% with water cooled blanket concept.

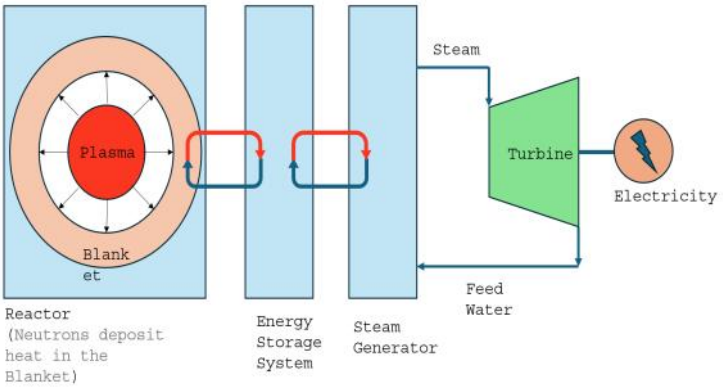


Figure: Basic schematic of the Power Plant

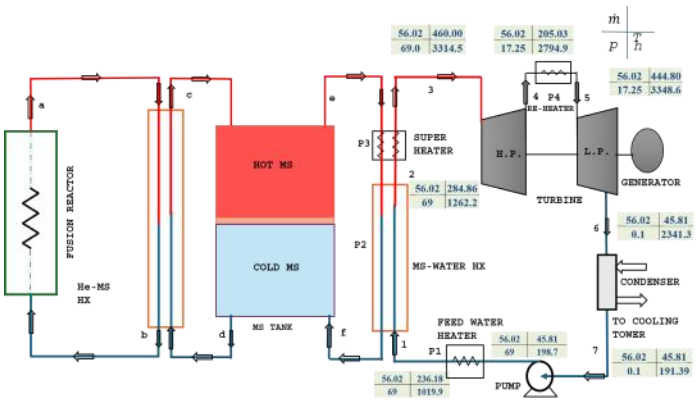


Figure: Schematic of the power conversion cycle

Publications:

1] Piyush Prajapati, S. P. Deshpande, P. N. Maya, H. L. Swami and Deepak Sharma, “Thermal analysis of HCSB blanket concept for a moderate sized tokamak fusion reactor”, Fusion Science and Technology (2024)

2] Prajapati Piyush, Paritosh Chaudhuri, Shrishail Padasalagi, Shishir Deshpande “Design and Comparison Study of Steam Generator Concepts and Power Conversion Cycles for Fusion Reactors”; Fusion Engineering and Design 161 (2020)

3] Piyush Prajapati, Shishir Deshpande, “Power Conversion from Spherical Tokamak Test Reactor with Helium-cooled and Water-cooled Blanket” Fusion Engineering and Design 176, 113024 (2022)

Large Cryogenic Plant and Cryosystem Division (LCPC) Division

The LCPC Division is involved in the development of helium refrigerator-cum-liquefier (HRL) plant and its components which can be useful for fusion machines needing high magnetic field superconducting magnets for confinement of high temperature (~few tens of crores of degree centigrade) plasma. HRL plant for tokamak machine needs a high end technology as it involves complex cryogenic technology, simultaneous cooling at various temperature levels, continuous operations for few months and large scale cooling power. LCPC division took up this as a challenge and opportunity for technology development. It involves various developments like, high efficiency compact plate-fin heat exchangers, Helium gas purifier, bimetallic pipe joints, metallic filters for filtration of particles of few micron sizes, helium turbines, flow meters, temperature sensors, liquid helium level sensors, liquid helium transfer lines, liquid helium dewar, oil coalescers, helium compressor and oil removal systems, Automatic warm gas management system, Cold box system, Controls and automation of complete plant. Such developments not only benefit the HRL developments in our country but also gives boost to various room temperature technologies. Design, prototyping and assembly of components, sub-systems, systems, plant with thorough and stringent tests at all these levels led to the successful test of Indigenous HRL plant having ~90% indigenous content with cooling at 3 different levels: 1) 600 W refrigeration at 18 K, 2) 200 W refrigeration at 4.5 K, and 3) 80 ltr/hr helium liquefaction rate in Mar-2023. At present, plant reinstallation at new location (new R&D lab) is going on. Recently this division has been combined with SST1 cryo division and named as CTD (cryogenic technology development) section.

These following are the major developments made by the LCPC Division:

Cold Box System of HRL plant

The developed HRL plant has main 2 systems: Helium compressor and oil removal system (CORS) and cold box system (CBS). CBS houses all cold components (mainly 7 compact plate-fin heat exchangers, 3 Helium turbines, one 80 K helium purifier, six Cryogenic valves, cryogenic helium flow meter, etc.), required for production of very low temperature (-268.5^{0}C) liquid helium within a vacuum chamber. It takes helium gas at flow rate ~60 g/s from compressor at pressure 14 bar from compressor. Complete architecture of the cold component layout within the vacuum chamber were designed and analyzed and implemented in-house.

Assembly inside cold box after MLI wrapping

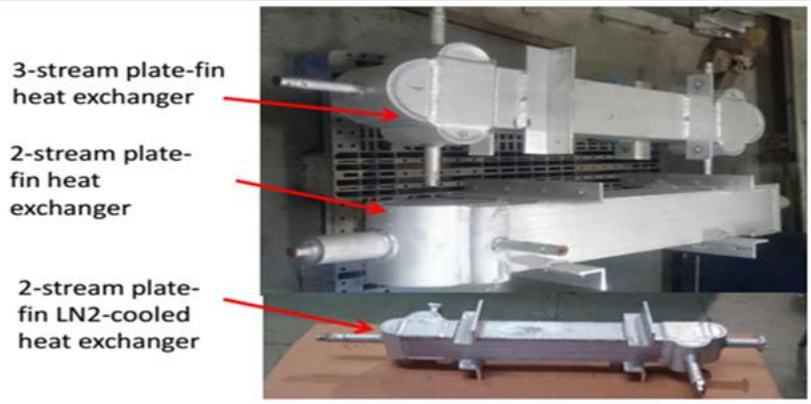
Top of cold box

Helium cold box with its support structure

Compact plate-fin heat exchangers

All 7 (3 types) vacuum brazed Aluminium plate-fin heat exchangers (PFHE) of the indigenous cold box have been designed, manufactured, tested completely indigenously. Five are of 2-stream type (Helium/Helium), one is of 3-stream type (He/He/He) and one is of 2-stream type with boiling LN_2 and He streams. These PFHEs were designed for helium flow rate of ~30 g/s as prototype for 1 kW plant. As performances were good, these could be used for flow rate of ~60 g/s for present indigenous helium plant. Fins and other parts are made of aluminium alloy-Al3003. These have fins of thickness 0.2 mm, serrated type, serration length 5 mm, fin height 3 to 7 mm, fin density up to ~800 fins/m (these parameters are near to international PFHE parameters). The Helium leak rates, internal (stream to stream) and external (to the atmosphere) are less than < 5 x 10^{-5} mbar ltr/s.

The tested thermal performance is quite nearer (within 3% deviation) to the designed thermal effectiveness.

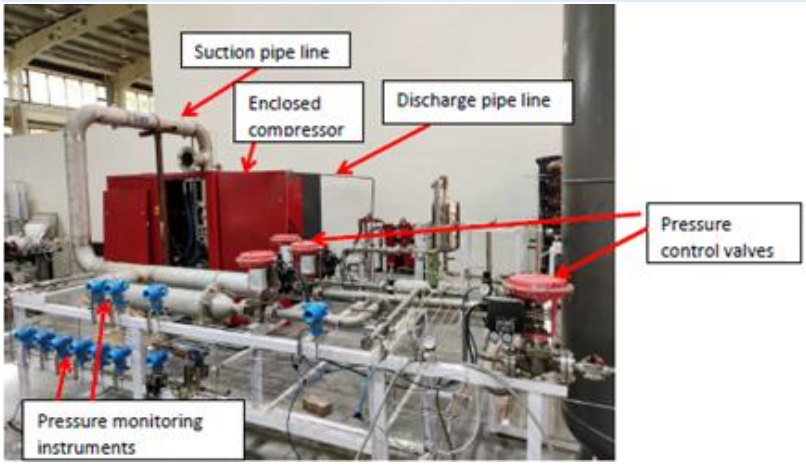


Different type of plate-fin heat exchangers

Large Cryogenic Plant and Cryosystem Division (LCPC) Division

Compressor and Oil Removal System (CORS)

CORS is to provide compressed and oil free helium at a medium pressure ~14 bar to CBS and gets helium from CBS at ~1.2 bar. CORS circulates helium in closed loop with CBS and it can also operate independently in closed loop without circulating helium to CBS. This has been developed by converting an open loop air compressor to closed loop helium compressor. In this conversion process main involvements are development of PPB (parts per billion) level oil removal system, automatic warm gas management system to operate in closed loop with nearly constant discharge pressure and suction pressure. Of course leak tightness is primary requirement.

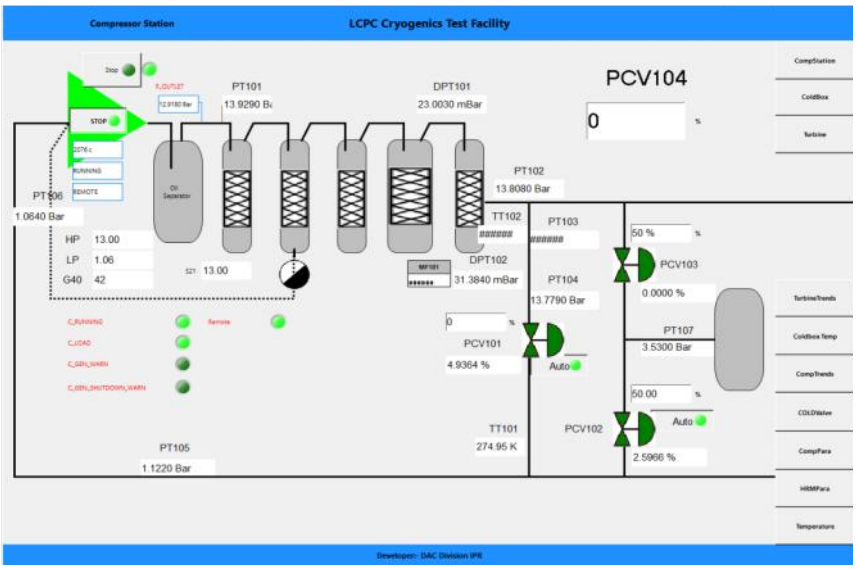


Helium Compressor and oil removal system

GC for PPB level oil measurement in helium gas

Automation System of Helium CORS

For HRL plant operation, automated helium CORS is required to have controlled and stable discharge pressure and suction pressure in a closed cycle. This automation system's control logic has been developed in-house. Based on this logic and user set pressure values, PLC (programmable logic controller) system drives different pressure control valves of CORS to maintain nearly stable discharge and suction pressure, within ±100 mbar during different off-nominal and nominal operations. The automation mimic diagram is shown below, using which operator can reset different parameter from the computer screen.



Mimic Diagram of CORS for automation

80 K helium purifier and filters

Impurities, like, H_2O, O_2, N_2, Ar, etc. in the helium gas should be very low, < 10 PPM (parts per million) before it enters the helium turbine in which, due low temperature ~35 K, these can freeze and damage turbine, which rotates at few lakhs of RPM. Hence, pure helium is used for helium plant operation. Still, to be on safer side, internal to the cold box, helium purifier based on charcoal adsorption concepts, at ~80 K and at ~20 K are installed. In our indigenous plant, only 80 K purifier has been installed, which gives high purity (< 5 PPM impurity) helium gas at its outlet, while inlet impurity is ~500 PPM with helium flow rate ~60 g/s at pressure ~14 bar. 20 K purifier will be required for long duration operation in liquefaction mode. Design, optimization, manufacturing, testing and assembly into the plant have been done completely indigenously. Metallic filters which can filter down to 3 micron particles have been developed indigenously and used in the plant with above mentioned helium flow condition.

Cryogenic Micro-mesh filters

Large Cryogenic Plant and Cryosystem Division (LCPC) Division

PPB level oil impurity measuring equipment: Gas Chromatograph

Lubricating oil content in discharge helium gas, which goes to cold box from compressor should be as less as possible, in the order of few PPB (parts per billion), else, at cryogenic temperature it will freeze and clog the process flow paths inside the cold box. Indigenously with the help of an Indian industries, oil removal system which can filter oil down to ~50 PPB has been developed. An oil content measuring gas chromatograph has been developed indigenously and further improvement is in progress, which can measure oil content with accuracy of few tens of PPB in helium gas. This is called as THC (Total hydrocarbon) analyzer and based on the concept of flame ionization detector. It can take helium gas automatically along with plant operation and gives the oil content values. The complete system is automated and works continuously without any manual intervention.

Temperature sensor, LHe level sensor and cryogenic control valve Developments

Cryogenic temperature sensors, like silicon diode and Cernox (zirconium Ni-tride) alongwith temperature monitor have been developed and tested down to ~20 K. Arrangement to measure its performance down to 4.5 K is in progress. Cryogenic control valves having long stem, thermal intercept, bellow-sealed have been developed by the help of Indian industry as shown in the figure.

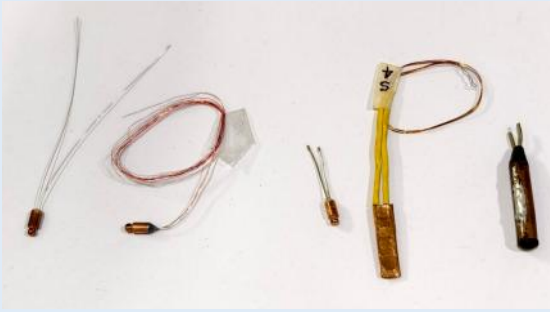
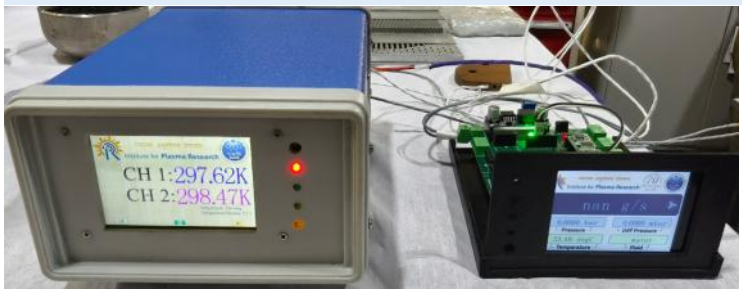


Figure: Silicone diode and Cernox type Cryogenic Temperature Sensors



Two channel monitor for cryogenic temperature

Indigenous cryogenic long stem control valve

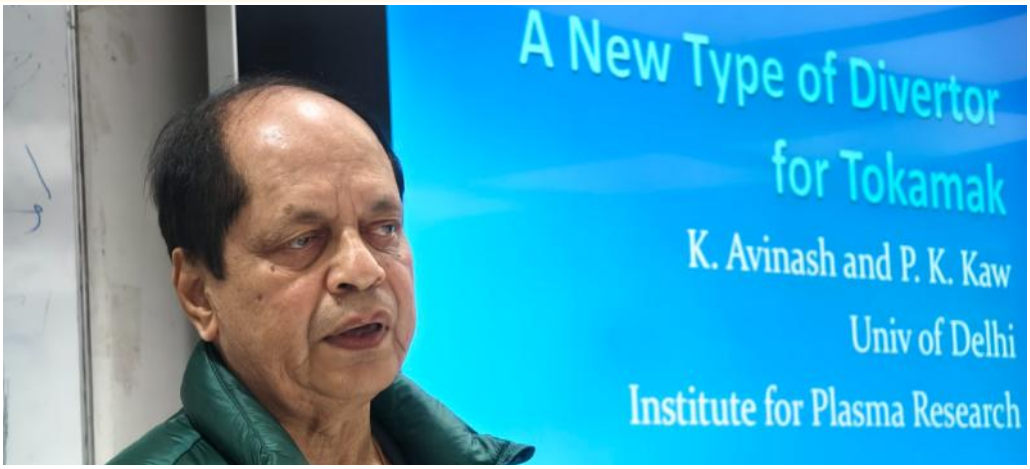
The LCPC division has trained more than 70 postgraduate and undergraduate students through various academic projects as a part of various component and subsystem development activities of HRL plant. This helped significantly for thorough and detailed design, analysis, prototyping and testing activities for the plant and many of these students are now serving within India and abroad.

Group photo of LCPC Team: Sitting from left to right—Mithun Kumar, Balaram Mohanty, Ashutosh Pandey, Prashanth Guguloth. Front Row Standing from left to right—Omkar Chandratre, Haresh Dave, Ananta Kumar Sahu (Division Head), Prashant Singh, Priyanka Brahmbhatt and Rajnikant Bhatasana.
Second Row Standing from left to right— Geeth Raj Rachamalla, Nawratan Kumar and Hitesh Kavad

Colloquium at IPR

Colloquium #345 was organized on 01 Dec 2025 at IPR. The colloquium talk was delivered by Prof. Avinash Khare, Department of Physics and Astrophysics, Delhi University, New Delhi. The title of the talk was "**Thermionic Divertors for Tokamaks**"

Read the abstract: https://www.ipr.res.in/documents/colloquium345.html



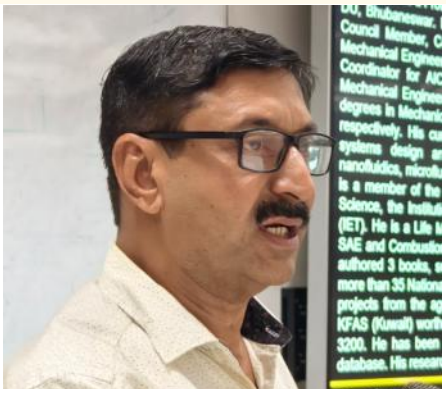
Dr. R. Ganesh Introducing the speaker

Prof Avinash Khare delivering his talk

Audience attending the colloquium talk

Colloquium #346 was organized on 02 Dec 2025 at IPR. The colloquium talk was delivered by **Prof. P. C. Mishra**, Dean (Research), School of Mechanical Engineering, KIIT, Bhubaneswar. The title of the talk was "**Towards a shared vision for plasma research: strengthening IPR–KIIT scientific linkages** "

Read the abstract: https://www.ipr.res.in/documents/colloquium346.html



(L) Dr. Paritosh Chaudhuri, Dean R&D introducing the speaker. (R) Prof P C Mishra delivering his talk

Science Camp at IPR

Two-day hands-on basic science camp was arranged for the following:

School students (Class 7, 8 and 9) on 20th and 21st November 2025 (Thu & Fri)

School students (class 10, 11 and 12) on 27th and 28th November 2025 (Thus & Fri)

The students was given basic experimental demonstration of physics experiments related to concepts of direct and alternating voltage sources, chemical cell, different cells, materials, resistance, colour coding, electromagnetism, EM induction and pulleys –mechanical advantage.

Glimpses of the Science Camp at IPR

Past Events @ IPR

- ***Talks presented at 8th International Conference on Nanostructuring by Ion Beams (ICNIB 2025), Saurashtra University, Rajkot, 7-9 October 2025***
  - ***Ms. Nupur Parikh,*** gave a talk on "Ion Beam Nanopatterning on Soda Lime Glass, Role of ion Beam Energy and Substrate Temperature"
  - ***Dr. Rakhi,*** gave a talk on "A Study of Intermittent Ion Beam Irradiation with Continuous Temperature Variation on Silicon Surface Nanopatterning"
  - ***Dr. K. Kamalakkannan,*** gave a talk on "Raman and Positron Annihilation on Defects Formation in O+ Implanted n- type 4H- SiC"
- ***Talks presented at International Conference on Advanced Materials for Sustainability and Innovation: Energy, Environment and Health (ICAMSI 2025), Manipur University, Imphal, 12-14 November 2025***
  - ***Dr. Ngangom Aomoa,*** gave an invited talk on "Insights into Plasma-Water Interaction: Mechanisms and Applications"
  - ***Mr. Deepjyoti Mahanta,*** gave a talk on "A comparative study between DBD and gliding arc plasma for CO2 decomposition"
  - ***Ms. Flossie Bloomy Ch Marak,*** gave a talk on "Studies on plasma treatment of various types of dyes by a cost-effective plasma device"
  - ***Ms. Rudawan Sympli,*** gave a talk on "Rapid degradation of high concentration dye solutions through plasma treatment"
  - ***Dr. T. Suma Chanu,*** gave a talk on "Optical Properties, Dielectric Relaxation Behavior, and Electrical Conduction Mechanism of PVA/ZnO Nanocomposites for Optoelectronic and Flexible Electronic Device Applications"
  - ***Ms. Protyasa Proyasi Bhattacharyya,*** gave a talk on "Study of the Effect of Electrode Material on the Degradation of Dyes During Plasma Treatment"
- ***Talks presented at at 2nd Visualizing Offline and Live Data with AI (VOLDA) Workshop - 2025, Madrid, Europe, 18 –20 November 2025***
  - ***Mr. Prem Kumar,*** gave a talk on "Resilient Time-Series Data and Visualization Infrastructure using High-Availability TimescaleDB"
  - ***Mr. Agraj Abhishek,*** gave a talk on "Digital Twin Framework for Volumetric Visualization of Plasma in Aditya Tokamak"
- ***Dr. Shaurya Kaushal,*** Founder, Pranos Fusion, Bengaluru, gave a talk on "Building Pranos Fusion - From a student desk to a Fusion startup" on 27th November 2025
- ***Mr. Chirag Sedani,*** gave a talk on "Experimental & simulation study of thermo-hydraulic properties of lithium ceramic pebble bed" on 02nd December 2025
- ***Dr. Arghya Mukherjee,*** Amity University, Punjab, gave a talk on "Laser-Driven Ion Accelerators: Unlocking the Physics Behind the Future of Compact Beam Technology" on 03rd December 2025
- ***Dr. Salim Hassan Siddiki,*** gave a talk on "MXene Quantum Dot–Ni@NCS Hybrid Composite for High-Efficiency X-Band Microwave Absorption" on 04th December 2025
- ***Ms. Arzoo Malwal,*** gave a talk on "Stochastic approach to three-dimensional Scrape-off layer transport characteristics in magnetically confined plasmas" on 10th December 2025
- ***Talks presented at 2025 IEEE 4th International Conference on Smart Technologies for Power, Energy, and Control, National Institute of Technology Goa, 10-13 December 2025***
  - ***Mr. Aditya Naugraiya,*** gave a talk on "Design and Simulation of 15kV/5A DC Power Supply for Residual Ion Dump Using Modular Multilevel Converter"
  - ***Mr. Aditya Naugraiya,*** gave a talk on "Modelling and Analysis of Multi-stage Acceleration Grid Power Supply Dual Control for Neutral Beam Injector"

Past Events @ IPR

- ***Dr. Shreevalli,*** Indira Gandhi Centre for Atomic Research (IGCAR), Kalpakkam, gave a talk on "Quantification of irradiation-induced defects in neutron-irradiated Austenitic Stainless Steels" on 12th December 2025
- ***Mr. Suman Dolui,*** gave a talk on "Studies on intrinsic plasma disruptions, plasma detachment and confined run-away electrons in Aditya-U Tokamak" on 12th December 2025
- ***Mr. Aditya Naugraiya,*** gave a talk on "Design, Modelling and Analysis of 200 kW Solid State Dummy Load for Performance Validation of Multi-Stage High Voltage DC Power Supply System for the Nuclear Fusion Application" at 12th National Power Electronics Conference 2025, National Institute of Technology Calicut, Kozhikode, 14-16 December 2025
- ***Dr. Shaikh Zubin Abdulfarid,*** gave a talk on "Study of Two-Electron-Temperature Plasmas Confined by Different Multipole Line-Cusp Magnetic Fields" on 15th December 2025
- ***Dr. Shyamapada Patra,*** gave a talk on "Low-energy ion beam modification of tungsten oxide nanorods for SERS sensing application" on 19th December, 2025
- ***Prof. Sudip Sengupta,*** gave a talk on "Understanding LIGO Data (GW150914) using Undergraduate Physics" on 19th December 2025

Upcoming Events

- Al-Nour Winter School on Fusion Energy, Allan, Jordan, 5-10 January 2026; https://indico.cern.ch/event/1555741/
- 18th DAE-BRNS Biennial Trombay Symposium on Radiation and Photochemistry (TSRP-2026), DAE Covention Centre, Anushaktinagar, Mumbai, 6-10 January 2026; https://www.barc.gov.in/symposium/tsrp2026.pdf
- 2nd Microwave Calibration Workshop, ITER, France, 12-13 January 2026; https://indico.iter.org/event/870/
- DAE-BRNS 4th Symposium on Current Trends in Analytical Chemistry (CTAC-2026), Bhabha Atomic Research Centre, Mumbai, 21-24 January 2026; https://www.ctac2026.org/
- 5th Conference on Plasma Simulation (CPS 2026), jointly organized by IPS Academy, Centre for Scientific and Applied Research (IPSA-CSAR) and Indian Institute of Technology Indore (IITI), Indore, 29-31 January 2026; https://www.ipr.res.in/CPS/cps2026/

Conference Presentations

Dr. Mukesh Ranjan gave an invited talk about “Sequential growth of metal nanoparticles on low energy ion produced ripple patterns for the isotropic plasmonic response and SERS” at International Conference on Photonics and Emerging Materials for Futuristic Technology (PEMFT-2025)”, organized by the Department of Physics at the Chaudhary Charan Singh University (CCSU), Meerut, Uttar Pradesh, India, from November 12 to 15, 2025.

Dr. Mukesh Ranjan delivering his talk (L). Being Felicitated (R)

Conference Presentation Award

Mr. Aditya Naugraiya, gave a talk on “Design, Development, and Experimental Testing of High Frequency Power Supply for Plasma Applications” at 12th National Power Electronics Conference 2025, National Institute of Technology Calicut, Kozhikode, 14-16 December 2025.

He also received **Best Paper Award**.

Many Congratulations!!

Best Paper Award Certificate (L). Mr. Aditya Naugraiya receiving the Award (R)

IPR Shines at the 41st DAE-SOHPM, 2025

IPR staff and their family members received many awards in various competitions organized as part of the 41st DAE Safety & Occupational Health Professional Meet held during 17-19 Dec 2025.

Logo Competition

Master Jyot Bhatasana,
S/O Mr. Rajnikant Bhatasana

Master Rajat Kirankumar Ambulkar
S/O Mr. Kirankumar Ambulkar

Master Ridham Manesh Kumar
S/O Mr. Manesh Rathod receiving on behalf

Slogan & Technical Poster Competition

Dr. Sandhya Dave
Second Prize, Hindi Slogan

Mr. Hitesh Kavad
First Prize, Gujarati Slogan

Mr. Rajnikant Bhatasana
Second Prize, Gujarati Slogan

Ms. Unnati Patel
Third Prize, Gujarati Slogan

Ms. Saifali Sharma receiving the award
on behalf of Ms. Swati Roy
Second Prize, English Slogan

Mr. Harish Masand
Second Prize, Technical Poster

(On the Left) Mr. Raunak Rathore
Joint Third Prize, Technical Poster

(On the Right) Mr. Abhishek Sharma
Consolation Prize, Technical Poster

Congratulations to all the Winners!!

IPR Administration

Admin. Section-1

Major Responsibilities: Service related Matters (From Joining to Retirement) including First page of APAR, LTC, Roster, Updation of Service Books, Children Education Allowance, Casual Labours

L to R: Mr. K.R. Gohel, Mr. H.C. Khanduri (Head), Mr. Aditya Panchasara, Mr. Ravi Shishangiya

Admin. Section-2

Major Responsibilities: Travel desk (Air Travel, Foreign Deputation), Local Transport, Canteen, Land matters, Ruswi Park, Liaison with Police, IB and labour department, Security, Legal, I-card & Attendance

L to R: Mr. Parthkumar Valand, Mr. Hitesh Mehta, Mr. Silel Shah, Mr. Manesh Rathod

Admin. Section-3

Major Responsibilities: Apprentice, Promotion Reviews and Academic Committee / HBNI work, GeM related activities of all admin, Housekeeping services, Recruitment and Advertising Agency related work.

IPR Administration

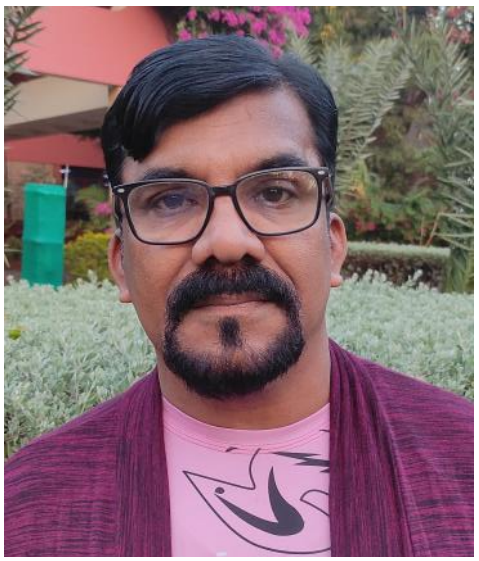
L to R: Mrs. Rekha Singh, Mr. Hitesh Suthar, Mr. A.E. Harvey (Head), Mr. Ashlesh.Y. Shah

Admin. Section- 4 & 5

Major Responsibilities of Admin. Section-4: CHSS, Reception, Telephone, RTI, Vigilance, Grievance, CVO related work, Bill Processing, Dispatch and Courier..

Major Responsibilities of Admin. Section-5: Guest House, Hostel, Estate management, Land Scaping & ICDC work

Admin—4 L to R: Ms. Falguni Dave (Head), Ms. Hetal D. Pathak



Admin—5 Mr. Dinesh Nair (Head)

Official Language Cell

Major role of the Official Language Cell is effective implementation of the Official Language Hindi in the Institute. The Cell publishes the in-house magazine Plasma Jyoti, organizes Hindi Fortnight and World Hindi Day, conducts workshops and competitions, prepares quarterly progress reports in Hindi, and publishes a Hindi newsletter. In addition, the Cell undertakes translation of the Annual Report, bilingual website, provides translation support and assistance in Official Language compliance to various Division/section of IPR, participates in TOLIC activities, and implements incentive schemes to promote the use of Hindi.

L to R: Shri Mukeshkumar J Solanki, Junior Hindi Translator and Dr. Sandhya Dave, Hindi Officer

IPR Administration

Purchase Section

L to R: Mr. Badal Khemraj Sevak, Mr. Sunil Gurjar, Ms. Pooja Jitendrabhai Rathva, Ms. Steffi Simon, Ms. Seema D. Kurup (Head), Mr. Gautam Suthar, Mr. Alpesh I. Patel, Mr. Nitin M. Chataule, Mr. Parag Panchal, Mr. Dheeraj Kumar

Superannuation

Superannuated from services on 31 Dec 2025 after the serving the institute for more than 30 years

Superannuated from services on 31 Dec 2025 after the serving the institute for more than 30 years

Superannuated from services on 31 Dec 2025 after the serving the institute for more than 32 years

Superannuated from services on 31 Dec 2025 after the serving the institute for more than 24 years

WISHING YOU FULFILLMENT, CHERISHED MOMENTS, AND RELAXATION IN THIS NEW PHASE.

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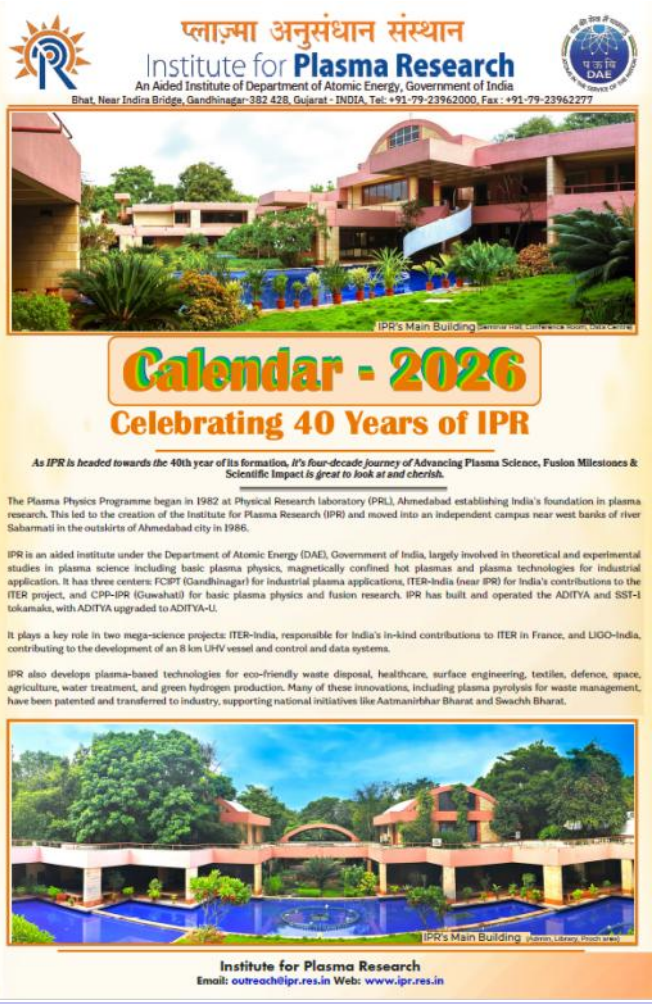
IPR Calendar 2026

As IPR is headed towards the 40th year of its formation, it's four-decade journey of Advancing Plasma Science, Fusion Milestones & Scientific Impact is great to look at and cherish.

The each page of the Calendar depicts the significant Scientific achievement in the last forty years of IPR.

Soft copy of the calendar is available for download.

Scan the QR to view the calendar



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