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# The Fourth State

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75  
Azadi Ka  
Amrit Mahotsav

75  
आज़ादी का  
अमृत महोत्सव

TECHNOLOGIES FOR  
NEW INDIA @ 75

## हिंदी व्याख्यान

हिंदी पखवाड़ा समारोह के दौरान दिनांक 28 सितंबर 2022 को आईपीआर के सेमिनार हॉल में हिंदी में एक व्याख्यान का आयोजन किया गया, जिसके लिए सुश्री वृन्दा राठी, रचनात्मकता प्रशिक्षक एवं कथाकार को आमंत्रित किया गया। सुश्री वृन्दा राठी ने "कहानियों का करिश्मा" विषय पर बहुत ही रोचक एवं प्रभावशाली अंदाज में अपना व्याख्यान देकर श्रोताओं को मंत्रमुग्ध किया। उन्होंने अभिनय शैली में कहानियों को सुनाने के साथ बुनाने की कला भी सीखाई। वर्तमान जीवन शैली की आपाधापी में हम कहानियों के करिश्मे से वंचित होते जा रहे हैं, जो हमारे जीवन को एक नई ऊर्जा और दिशा प्रदान करती है। कहानियाँ पढ़ना एवं सुनना, बच्चों के साथ बड़ों के जीवन के लिए बहुत महत्वपूर्ण है, इस पर इन्होंने विशेष रूप से बल दिया। इस व्याख्यान में सम्मिलित श्रोतागणों ने कहानियाँ सुनने के साथ-साथ कहानियों के रचने की प्रक्रिया को भी जाना। सुश्री वृन्दा राठी ने व्याख्यान के पश्चात् श्रोतागणों से कहानियाँ सुनाने के महत्व पर चर्चा की और तकनीकी/वैज्ञानिक जैसे जटिल विषय को भी कहानियों के माध्यम से स्पष्ट रूप से सरलता से समझाया जा सकता है, इस पर भी प्रकाश डाला। कार्यक्रम के अंत में श्री नितिन बैरागी, वैज्ञानिक अधिकारी-ई ने इस रोचक व्याख्यान हेतु सुश्री वृन्दा राठी को धन्यवाद दिया।



(L) सुश्री वृन्दा राठी अपनी भाषण देती हुई | (R) आईपीआर के सदस्यों के साथ सुश्री वृन्दा राठी (बीच में)



हिंदी व्याख्यान व्याख्यान के दौरान दर्शक



The 25<sup>th</sup> International Workshop on Electron Cyclotron Resonance Ion sources (ECRIS-2022) was organized by Institute for Plasma Research in association with the Board of Research in Nuclear Sciences (BRNS) during 12-14 October, 2022 at the Entrepreneurship Development Institute of India (EDII), Bhat, Gandhinagar. This three-day workshop was aimed at showcasing some of the activities of various research institutes across the world with a focus on ECR plasmas and their applications. The workshop was conducted in a hybrid mode so as to facilitate both online and offline participation.

The workshop was inaugurated on 12<sup>th</sup> October at EDII, Gandhinagar. The inaugural session was held in the august presence of the chief guest, Dr. Sumit Som, Director VECC, Kolkata.

Dr. Shashank Chaturvedi, Director IPR, Shri Ujjwal Baruah, Project Director ITER-India, Dr. P K Atrey, Dean R&D IPR, Dr. Thomas Thullier LPA, France and Dr. Rajesh Kumar, Convenor ECRIS-2022 along with the Chief Guest Dr. Sumit Som inaugurated the workshop by lighting the lamp and releasing the conference proceedings.

The Keynote addresses were delivered by Shri Purushottam Shrivastava, RRCAT, Indore, Dr. Thomas Thullier LPA, France and (Online) Dr. Vaishali Naik, VECC, Kolkata.

Around 112 researchers from India and other countries the ECR scientific fraternity participated in the workshop with enthusiasm. A total of 72 scientific papers were presented in this workshop out of which 33 were oral presentations and 39 were poster presentations.



Release of the ECRIS-2022 conference proceedings



(L-R) Dr. Shashank Chaturvedi, Dr. Sumit Som (Chief Guest), Shri Ujjwal Baruah, Dr. P. K. Atrey and Dr. Rajesh Kumar (Convenor) addressing the gathering





Lighting the lamp to inaugurate the conference



(L) Shri Purushottam Shrivastava (RRCAT) delivering the Keynote Address, (M) On-line speaker (R) Poster session



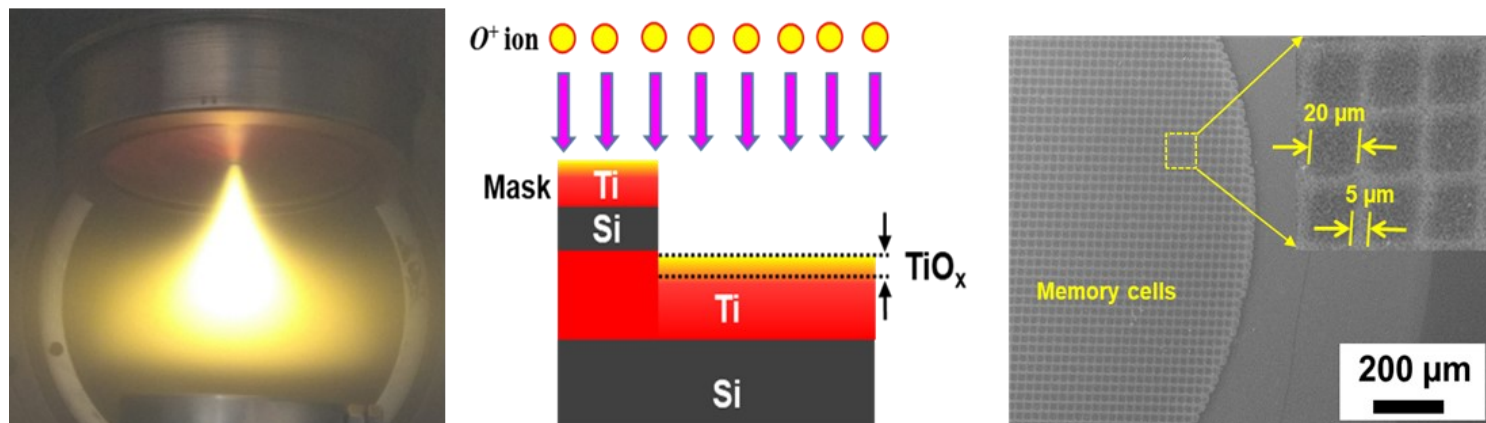
(L) View of the audience (R) One of the oral sessions in progress



Group photo of some of the participants of ECRIS-2022



Extraordinary performance of non-volatile memories based on resistive switching is expected to fulfil the requirements of next-generation data-intensive technologies. However, due to the separate growth of functional layer and electrodes in the device, resistive random access memories still suffer from their implementation at a commercial scale. PSED/IPR demonstrated that a single device can be used to grow Ti thin film followed by plasma fireball-mediated oxygen ion implantation to transform the top surface of Ti film into a functional  $\text{TiO}_x$  layer to fabricate the device. Method shown the capability for the wafer scale large area rapid fabrication of high-density periodic arrays of squared memory cells of different sizes.



Plasma fireball and formation of  $\text{TiO}_x$  Layer by Plasma Mediated Oxygen ion ( $\text{O}^+$ ) implantation., FESEM image of a periodic array of  $\text{TiO}_x$ -based memory cells

## Congratulations !



**Mr. Mizanur Rahman**, received **Best oral presentation (3rd) Prize** award for his presentation on “*High-rate Synthesis of Stoichiometric and Hydrogenated Molybdenum-oxide Nanomaterials by One-step Plasma Techniques, for Dye Adsorption and Treatment of Cancer*” at the National Conference on Recent Developments and Evolving Trends in Plasma Science and Technology & Pre-conference Workshop on Modelling and Simulation of Industrial Plasmas, jointly organized by Department of Physics Bharathiar University, Coimbatore and Beam Technology Development Group, Bhabha Atomic Research Centre (BARC), Mumbai in association with the Power Beam Society of India (PSI), Navi Mumbai, during 22-24 September 2022.

**Mr. Ankit Dhaka**, received **Best Poster-III award** for his poster presentation on “*Experimental Estimation of Transport Parameters using Microscopic Density Fluctuations of Dusty Plasmas*” at the National Conference on Recent Developments and Evolving Trends in Plasma Science and Technology & Pre-conference Workshop on Modelling and Simulation of Industrial Plasmas, jointly organized by Department of Physics Bharathiar University, Coimbatore and Beam Technology Development Group, Bhabha Atomic Research Centre (BARC), Mumbai in association with the Power Beam Society of India (PSI), Navi Mumbai, during 22-24 September 2022.



## Outreach Cell - CPP-IPR

An outreach cell was established in CPP-IPR with the mandate of carrying out scientific outreach activities related to plasma science & technology in the Northeastern regions of India. The cell consist of Dr. B. J. Saikia, Dr Ngangom Aomoa and Dr. Rakesh Moulick with the Head, Outreach Division, IPR being a permanent invitee of this cell.



Members of the CPP-IPR Outreach Cell (L-R) Dr. Ngangom Aomoa, Dr. B. J. Saikia and Dr. Rakesh Moulick



Under the auspices of "Azadi Ka Amrit Mahotsav", IPR organized a scientific outreach programme entitled "Aurorae-2022" at the Bhavan's Adarsha Vidyalaya, Kakkanad, Kochi (Kerala) during 19-24 September, 2022.

The programme was inaugurated by Prof V. P. N. Nampoori, Emeritus Professor, International School of Photonics, Cochin University of Science & Technology. Sri. Venugopal. C. Govind, Chairman, Bharatiya Vidya Bhavan, (Kochi Kendra) was the Guest of Honor for the event.

As part of this programme, an exhibition on plasma and its applications and nuclear fusion was set up at Bhavan's Adarsha Vidyalaya and over 60 students of 11th std (science stream) were trained to explain the exhibits to the visitors. Students and teachers from several schools in Kochi as well as students from 7 other schools of Bhavan's Vidya Mandir attended the exhibition. In the introduction-cum-training programme on plasma and its applications conducted for science teachers, over 70 teachers in the CBSE stream participated.

An inter-school quiz competition was also organized by IPR outreach as part of the event in which teams from 7 schools participated. Over 2000 students and teachers from 17 schools and colleges in Kochi visited the event.

While the event was coordinated by Shri. Suresh K. (Principal) and Ms. Jyothi Pradeep (Vice Principal), organization of the event was led by Ms. Sandhya K V (Head, Physics Dept) and other staff members of the Physics Department of Bhavan's Adarsha Vidyalaya. Details of the event can be seen [HERE](#).







Images from the scientific outreach programme conducted at Kochi, Kerala



संस्थान में इस वर्ष राजभाषा विभाग के निर्देशानुसार 16 सितंबर 2022 से 29 सितंबर 2022 तक हिंदी पखवाड़ा समारोह का आयोजन किया गया जिसमें विभिन्न प्रतियोगिताएँ एवं एक हिंदी व्याख्यान आयोजित किया गया। इन सभी गतिविधियों में संस्थान के 200 से अधिक कर्मचारियों/अधिकारियों ने उत्साहपूर्वक भाग लिया। इस दौरान विभिन्न प्रतियोगिताएँ आयोजित की गई - तकनीकी अथवा गैर तकनीकी आलेख लेखन, टिप्पण, पत्र लेखन एवं अनुवाद, नारा लेखन, रोचक प्रसंग लेखन, विज्ञान दोहा लेखन, हिंदी कम्प्यूटर टाइपिंग, आशुभाषण /तात्कालिक भाषण, हिंदी प्रश्नोत्तरी, स्वरचित कविता पाठ। दिनांक 28 सितंबर 2022 को "कहानियों का करिश्मा" विषय पर हिंदी में एक व्याख्यान का भी आयोजन किया गया।

दिनांक 29 सितंबर को समापन समारोह का आयोजन किया गया। इस अवसर पर निदेशक एवं राभाकास के अध्यक्ष डॉ. शशांक चतुर्वेदी ने गृह मंत्री के प्रेरणास्पद संदेश का वाचन किया। इसके पश्चात् डॉ. सुब्रतो मुखर्जी, डीन(प्रशासन) ने पऊवि के सचिव एवं पऊआ के अध्यक्ष के संदेश का वाचन किया। निदेशक महोदय ने 14 एवं 15 सितंबर 2022 को आयोजित अखिल भारतीय राजभाषा सम्मेलन में पऊवि को प्राप्त द्वितीय पुरस्कार की सराहना की एवं राजभाषा के सुचारू रूप से कार्यान्वयन हेतु संस्थान के सभी सदस्यों को प्रेरित किया। कार्यक्रम के अगले चरण में पुरस्कार वितरण समारोह आयोजित किया गया। पुरस्कार वितरण समारोह में सबसे पहले हिंदी शिक्षण योजना के तहत आयोजित टंकण परीक्षा के उत्तीर्ण कर्मचारियों को निदेशक महोदय द्वारा प्रमाणपत्र वितरित किये गये। निदेशक महोदय ने संस्थान में शुरू की गई अंतर-अनुभागीय चल राजभाषा शील्ड योजना के अंतर्गत राजभाषा में श्रेष्ठ कार्य हेतु संस्थान के प्रशासन अनुभाग - 2(श्री हर्षद चामुंडे एवं सहयोगी सदस्य) को इस शील्ड से सम्मानित किया एवं श्री अनिल त्यागी, वैज्ञानिक अधिकारी -ई एवं श्री प्रणव बारापात्रे, कार्यालय लिपिक - ए को राजभाषा में उत्कृष्ट कार्य करने के लिए वर्ष 2021-22 के लिए राजभाषा पुरस्कार प्रदान किया गया। इसके पश्चात् निदेशक महोदय, डॉ. सुब्रतो मुखर्जी, श्री राज सिंह एवं श्री निरंजन वैष्णव द्वारा हिंदी पखवाड़ा समारोह के सभी विजेताओं को पुरस्कार प्रदान किये गये। राजभाषा कार्यान्वयन समिति के उपाध्यक्ष श्री राज सिंह ने संस्थान में हिंदी की प्रगति हेतु तकनीकी साहित्य को सरल हिंदी भाषा में प्रस्तुत करने की दिशा में और अधिक प्रयास करने का सुझाव दिया। हिंदी प्रतियोगिता समिति के अध्यक्ष एवं मुख्य प्रशासनिक अधिकारी श्री निरंजन वैष्णव ने हिंदी पखवाड़ा समारोह की गतिविधियों में उत्साह के साथ भाग लेकर इस आयोजन को सफल बनाने के लिए सभी प्रतिभागियों को धन्यवाद दिया और इसी तरह आगे भी उत्साह के साथ भाग लेने एवं हिंदी के प्रचार-प्रसार में अपना योगदान देने हेतु प्रेरित किया।

डॉ. संध्या दवे, हिंदी अधिकारी ने हिंदी पखवाड़ा समारोह की प्रतियोगिताओं का मूल्यांकन करने हेतु योगदान देने के लिए सभी निर्णयकगणों का हार्दिक आभार व्यक्त किया। डॉ. प्रवीण कुमार आत्रेय, श्री राज सिंह, डॉ. ब्रज किशोर शुक्ला, डॉ. सूर्यकान्त गुप्ता, डॉ. विपुल तन्ना, श्री निरंजन वैष्णव, डॉ. रामसुब्रमणियन, डॉ. मैनाक बंद्योपाध्याय, श्री हरीश चन्द्र खण्डूरी, डॉ. रितेश सुगन्धी, श्री सरोज दास, श्री कुमार अजय, श्री मुकेश चन्द्र झा, श्री गट्टू रमेश, श्रीमती शिल्पा खंडकर, सुश्री फाल्गुनी शाह, श्री हर्षद चामुंडे, श्री अतुल गर्ग, श्री नितीन बैरागी, श्री श्रवण कुमार, सुश्री हिरल जोशी, सुश्री उन्नति पटेल, सुश्री निशा ने विभिन्न हिंदी प्रतियोगिताओं का मूल्यांकन किया। हिंदी प्रतियोगिता समिति के सदस्य श्री निरंजन वैष्णव, डॉ. सूर्यकान्त गुप्ता, श्री हरीश चन्द्र खण्डूरी, डॉ. रितेश सुगन्धी, श्री गट्टू रमेश, श्री आनंद मिश्रा, श्री प्रशांत कुमार, श्री सरोज दास, श्री अतुल गर्ग, श्री नितीन बैरागी, श्रीमती शिल्पा खंडकर एवं डॉ. संध्या दवे ने इन सभी प्रतियोगिताओं के सुचारू रूप से आयोजन हेतु योगदान दिया।



तात्कालिक भाषण प्रतियोगिता





तात्कालिक भाषण एवं कविता पाठ करते हुए प्रतिभागी



(L) माननीय गृह मंत्री जी के संदेश का वाचन करते हुए निदेशक डॉ. शशांक चतुर्वेदी (M) अध्यक्ष परमाणु ऊर्जा आयोग एवं सचिव, परमाणु ऊर्जा विभाग के संदेश का वाचन करते हुए डॉ. सुब्रतो मुखर्जी, डीन (प्रशासन) (R) राजभाषा कार्यान्वयन समिति के उपाध्यक्ष श्री राज सिंह सभा को संबोधित करते हुए।



दिनांक	प्रतियोगिताएं	पुरस्कार	क' भाषा वर्ग	ख' भाषा वर्ग	ग' भाषा वर्ग
अखिल भारतीय राजभाषा सम्मेलन हेतु	लोगो प्रतियोगिता	प्रथम	श्रवण कुमार		
		द्वितीय	शिल्पा खंडकर		
16 सितंबर 2022	तकनीकी आलेख	प्रथम	संदीप गुप्ता	मिंशा शाह	सुनील एस
		द्वितीय	राजीव शर्मा	शिल्पा खंडकर	कोई प्रतिभागी नहीं
16 सितंबर 2022	गैर-तकनीकी आलेख	प्रथम	अख्तर जमाल	बादल सेवक	स्टेफी साइमन
		द्वितीय	धीरज कुमार	हर्ष कहार	सूरज एस पिल्लई
19 सितंबर 2022	टिप्पण एवं पत्र लेखन एवं अनुवाद	प्रथम	विनीत शुक्ल	पराग पंचाल	शरद जश
		द्वितीय	अतुल कुमार प्रजापति	बादल सेवक	अश्वथी ए वी
20 सितंबर 2022	नारा लेखन	प्रथम	आरोह श्रीवास्तव	पराग पंचाल	अलफोन्सा जोसफ
		द्वितीय	नितिन बैरागी	मिंशा शाह	अखिल वी अजीत कुमार
21 सितंबर 2022	रोचक प्रसंग लेखन	प्रथम	राजेश कुमार	हेतल एस चौहान	प्रवीणलाल ई वी
		द्वितीय	प्रतिभा गुप्ता रितेश सुगन्धी	पराग पंचाल	कोई प्रतिभागी नहीं
21 सितंबर 2022	रोचक प्रसंग(परिवार सदस्यों हेतु)	प्रथम	श्रीमती नीता पंचाल (पराग पंचाल की पत्नी)		
		द्वितीय	श्रीमती कोकिला गुप्ता (प्रतिभा गुप्ता की माताजी)		
22 सितंबर 2022	विज्ञान दोहा लेखन	प्रथम	लक्ष्मीनारायण गुप्ता	ध्रुव व्यास	अखिल वी अजीत कुमार
		द्वितीय	नितिन बैरागी	रजनीकांत भटासना	कोई प्रतिभागी नहीं
23 सितंबर 2022	हिंदी कंप्यूटर टाइपिंग	प्रथम	डॉ. मनोज कुमार गुप्ता		
		द्वितीय	रेखा सिंह		
		तृतीय	पूजा राठवा		
26 सितंबर 2021	तात्कालिक भाषण	प्रथम	ज्योति अग्रवाल	मुनाफ हनीफ	स्टेफी साइमन
		द्वितीय	प्रतिभा गुप्ता रितेश सुगन्धी	भार्गव चोकसी पराग पंचाल	समीरन मुखर्जी
27 सितंबर 2022	हिंदी प्रश्नोत्तरी	प्रथम	राजीव शर्मा एवं राहुल राठौड		
		द्वितीय 1	नितिन बैरागी एवं हेतल चौहाण		
		द्वितीय	योगेश वाघेला एवं बादल सेवक		
29 सितंबर 2022	कविता पाठ	प्रथम	निधि पांडेय	रजनीकांत भटासना	समीरन मुखर्जी
		द्वितीय	राजेश कुमार	पिनाकिन देवलुक	कोई प्रतिभागी नहीं
	राजभाषा पुरस्कार - डॉ. अनिल कुमार त्यागी एवं प्रणव बारापात्रे				
	राजभाषा शील्ड - प्रशासन अनुभाग -2 (अनुभाग प्रमुख श्री हर्षद चामुण्डे एवं सहयोगी कर्मचारी)				





प्रश्नोत्तरी प्रतियोगिता का आयोजन करते हुए श्री गट्टू रमेश



निदेशक महोदय द्वारा हिंदी कंप्यूटर टंकण परीक्षा का प्रमाण पत्र प्राप्त करते हुए कर्मचारीगण



पुरस्कार वितरण समारोह की झलकियाँ



A group of 34 students and 6 teachers of Bodoland Super 50 Mission (Engineering) visited CPP-IPR on 12<sup>th</sup> October, 2022. Council of the Bodoland Territorial Region of Assam launched the Bodoland Super 50 Mission (Engineering) for preparing students from poor economic background to pursue studies in Basic Sciences and Engineering in premier institutes of India. The group was accompanied by Mr. Victor Narzary, OSD to the Chief Executive Member of the *Bodoland Territorial Region* (BTR).


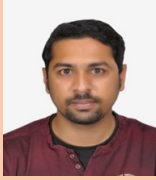






Dr. Rakesh Moulick, SO-D, CPP-IPR, delivered a talk to explain the basics of plasma as well as presented various interesting facts and applications of plasma. Later, the students and teachers visited various laboratories and interacted with research scholars and scientist of CPP-IPR. The CPP-IPR outreach cell members along with the Centre Director also had a discussion with Mr. Victor Narzary and his colleagues on how CPP-IPR can contribute in uplifting the science education scenario of BTR by organizing various outreach programmes in BTR. Mr. Victor Narzary pointed out that BTR is lagging behind other regions of Assam in science education and the Bodoland Territorial Council is committed in improving it and CPP-IPR promised every possible contribution it can make to this cause.





The IPR Staff Club organized the following IPR indoor sports tournaments -Table Tennis (Singles and Doubles), Carrom (Singles and Doubles) and Chess during July-Aug this year. More than 130 staff members participated in the various sports events, which witnessed several exciting matches. A total of 26 players as 13 teams participated in the TT doubles tournament and whereas 24 players participated in Table Tennis Singles tournament. The final match of both the games were played during 18-30 Aug, 2022 at the IPR Table Tennis hall in the student complex. Around 23-28 players participated in Carrom singles and Chess tournament organized at IPR Canteen Annex area. The final match was played during 26-27 September, 2022.

These sports events were coordinated by Mr. Deepak Mandge & Mr. Sandeep Gupta, Mr. Vijay Vasava, Mr. Rajnikant Bhatasana, Mr.Gaurav Purwar, Mr. Subhadip Das, Mr. Hitesh Kavadi & Mr. Ambati Siva Reddy.

TT Doubles Winner	Shri Bikash Ranjan Dash & Shri Vikas Gaur			TT Singles Winner	Shri Bikash Ranjan Dash
TT Doubles Runner Up	Shri Vrushank Mehta & Shri Mahesh Ghatge			TT Singles Runner Up	Shri Vikas Gaur
Carrom (Singles) Winner	Shri Abhijeet Kumar		Carrom (Singles) Runner Up	Shri L.N.Srikanth	
Chess Winner	Shri Bharat Rawat		Chess Runner Up	Shri Yogendra Singh	



(L) Bharat Rawat and Yogendra Singh during the Chess finals (R) Abhijeet Kumar and L.N.Srikanth during the Carrom Singles Final.



(L) Semi-Final and (R) Final match of the Table Tennis (Doubles) tournament in progress.



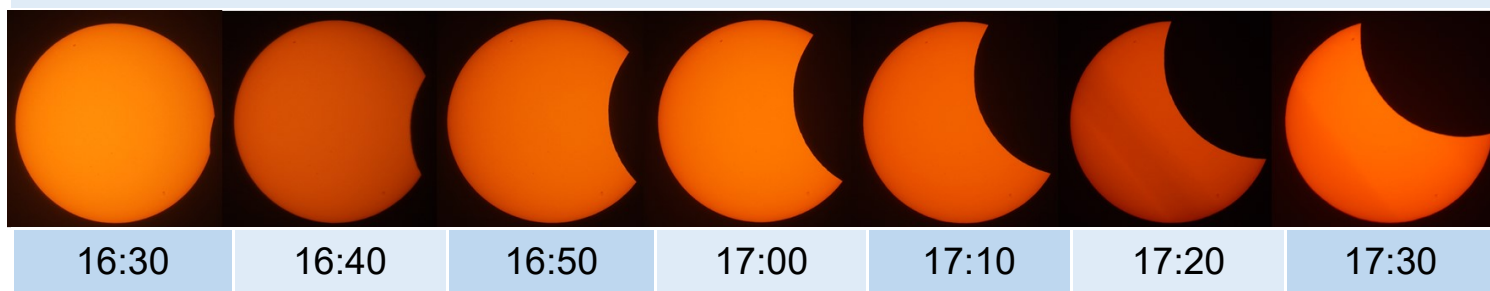
1-Sept, 2022	Delhi Public School, Gandhinagar	74 students of 10-12th std and 2 faculty members
12-Oct, 2022	SMPISR, Kadi Sarvavidyalaya, Gandhinagar	37 students of 10-12th std and 7 faculty members



Students from (Top) DPS Gandhinagar and (Bottom) Kadi Sarvavidyalaya, Gandhinagar during their visit to IPR

### Solar Eclipse of 25th Oct, 2022

A partial solar eclipse was visible over Ahmedabad on 25th October, 2022 from 16:38 till sunset. This partial (33.69% coverage of the sun) is the second partial solar eclipse of 2022 that was visible in India. The below images were photographed by A. V. Ravi Kumar using cameras with 300mm/1500mm lenses fitted with solar filters.





As a part of *Azad ka Amrit Mahotsav*, series of events and activities were organized during 5-15 Aug, 2022. A *Freedom Walk* was organized with a theme "*Tiranga in Hand and India in Heart*" on 10<sup>th</sup> Aug, 2022 from 10:00 am onwards the IPR campus. The walk was flagged off by Dr. Shashank Chaturvedi (Director, IPR) by handing over the flag to Dr. P K Atrey (Dean R&D, IPR) and Shri Niranjana Vaishnav (Chief administrative Officer, IPR). More than 250 members participated in this event cheering "*Vande Mataram*" and "*Jai Hind*" during the walk from the New office building to IPR Guest house.



Images from the "Tiranga Yatra" organized at IPR on 10th August, 2022

### Superannuation Function

IPR Staff Club organized a Superannuation function for Shri. N C Patel at IPR Seminar Hall on 30<sup>th</sup> September 2022. Over 100 of staff members attended this function including his team members and family members. Dr. Ritesh Sugandhi presented important contributions and achievements of Shri. N C Patel. Dr. Subroto Mukherji (Dean Administration, IPR) offered a felicitation gift as a token of appreciation on behalf of the Institute. Smt. Chhaya K Chavda, Shri Niranjana Vaishnav, Shri Govind Lokhande, Shri Kanubhai Parmar, Smt. Ranjana Manchanda, Shri Rakesh Tanna, and other colleagues shared their experiences, memories and contributions of the superannuating colleague and conveyed their best wishes for a happy and healthy retired life.

Shri. N.C. Patel has been largely involved with various activities of ADITYA Tokamak like Gas Fueling Control System of ADITYA Upgrade Tokamak and single pulse generator etc. for Aditya Tokamak. The Executive Staff Club Committee also presented them a booklet of collected messages (soft copy).

On behalf of IPR, the Newsletter wishes Shri N C Patel a healthy and happy retired life!



(L) Dr. Subroto Mukherji felicitating Shri. N C Patel (R) Dr. S Mukherji, Shri. N C Patel along with his daughter and wife, Shri Niranjana Vaishnav and Dr. Ritesh Sugandhi



- ♦ **Dr. Sarveshwar Sharma**, gave a Keynote address on the topic "*Global gyrokinetic simulations of electrostatic microturbulence transport using kinetic electrons in LHD heliotron*" at International conference on Numerical Simulation of Plasmas (27th ICNSP2022), Nagoya University, Nagoya, Japan, 30th August-2nd September 2022
- ♦ **Dr. Sarveshwar Sharma**, gave a Keynote address on the topic "*Plasma: A Key tool for energy production and industrial applications*" at IEEE ESTC'22-Evolving Science and Technology Convention, Birla Vishvakarma Mahavidyalaya Engineering College, Vallabh Vidyanagar, Gujarat, on 11th September 2022
- ♦ **Talks presented at 13th International Workshop on Non-Neutral Plasmas, Milano, Italy, 19-22 September 2022**
  - **Ms. Swapnali Khamaru**, gave an invited talk on "*A novel quiescent quasi-steady toroidal electron cloud in a 3D toroidal trap with end-plugs*"
  - **Dr. Lavkesh Lachhvani**, gave a talk on "*Gas Puff Experiments in Electron plasma of partial torus SMARTEX-C*"
- ♦ **Talks presented at National Conference on Recent Developments and Evolving Trends in Plasma Science and Technology & Pre-Conference Workshop on Modelling and Simulation of Industrial Plasmas, Bharathiar University, Coimbatore, on 22-24 September 2022**
  - **Dr. N. Ramasubramanian**, gave an invited talk on "*Lighting Up The Dark Plasma And Generating The Decoded Information*"
  - **Dr. Basanta Kumar Parida**, gave a talk on "*Ion Erosion Study Of BNSiO<sub>2</sub> (Borosil) Related To Plasma Thruster*"
  - **Ms. Savita**, gave a talk on "*Effect of External Magnetic Field and Gas Ambient on Iron Oxide Nanoparticles Prepared by Arc Plasma Process*"
  - **Mr. H. L. Swami**, gave a talk on "*NF<sub>3</sub> Plasma Based Surface Etching Process - An Extended Utilization Towards Nuclear Industries*"
  - **Ms. Arzoo Malwal**, gave a talk on "*Implementation of 3D Monte-Carlo simulations in the inboard limited Aditya-U scrape of layer plasma*"
- ♦ **Dr. Amit Kumar Rana**, Ulsan National Institute of Science and Technology (UNIST), Ulsan, South Korea, gave a talk on "*Semiconductor Oxides: From Materials to Applications*" on 23rd September 2022
- ♦ **Dr. Amreen A. Hussain**, gave an invited talk on "*Development of Hybrid Material Based Optoelectronic Devices by Plasma Technologies*" at Symposium on Nano Science and Plasma based Technologies, Department of Physics, Assam Don Bosco University, on 24th September 2022
- ♦ **Mr. Soumen De Karmakar**, gave a talk on "*Re-entrant phase separation in a collection of self-propelled non-reciprocally aligning disks*" at Active Matter and Complex Media 2022, WE-Heraeus Summer School, Corsica, France, 26 September - 7 October 2022
- ♦ **Mr. Rajeshkumar G. Trivedi**, gave an invited talk on "*Outcome of R&D phase and performance test results of in-house developed associated components/subsystems for ITER prototype RF source*" at 24th Topical Conference on Radio-frequency Power in Plasma, Massachusetts Institute of Technology Plasma Science and Fusion Center, USA, on 28th September 2022
- ♦ **Dr. Avijit Dewasi**, gave a talk on "*Development of an Experimental Facility for the Measurement of Emissivity at Cryogenic Temperature*" on 28th September 2022
- ♦ **Dr. Nitin Kumar Sharma**, Indian Institute of Technology (IIT) Jodhpur, gave a talk on "*Microstructural engineering across length scales in structural alloys*" on 30th September 2022
- ♦ **Mr. Kaushal Pandya**, gave a talk on "*Source performance optimization in Cesium mode in ROBIN*" at 8th International Symposium on Negative Ions, Beams and Sources (NIBS'22), Padova, Italy, 2-7 October 2022
- ♦ **Dr. Tejalben Barkhade**, gave a talk on "*Studies on Microbial Inactivation using Plasma Sterilization*" on 4th October 2022
- ♦ **Dr. Oriza Kamboj**, Lovely Professional University, Jalandhar, gave a talk on "*Instabilities and Burn Analysis in context to Inertial Confinement Fusion*" on 18th October 2022
- ♦ **Dr. A. Sivathanu Pillai**, Distinguished Scientist, Founder-CEO and MD of BraMos Aerospace, gave a talk on "*Futuristic Technologies: Vision, Strategy & the Art of Project Execution*" on 19th October 2022

## Upcoming Events

- ♦ 3rd Annual International Conference on Disruptive, Innovative and Emerging Technology in the Nuclear Industry, virtual, Canada, 1-3 November 2022; <https://www.cns-ai-nuclear.com/>
- ♦ Management of Spent Fuel, Radioactive Waste and Decommissioning in SMRs or Advanced Reactor Technologies, Ottawa, Canada, 7-10 November 2022; [https://oecd-nea.org/jcms/pl\\_69716/management-of-spent-fuel-radioactive-waste-and-decommissioning-in-smrs-or-advanced-reactor-technologies](https://oecd-nea.org/jcms/pl_69716/management-of-spent-fuel-radioactive-waste-and-decommissioning-in-smrs-or-advanced-reactor-technologies)
- ♦ 4th IAEA Technical Meeting on Divertor Concepts, Vienna, Austria, 7-10 November 2022; <https://conferences.iaea.org/event/286/>
- ♦ 31st International Toki Conference on Plasma and Fusion Research (ITC31), Virtual, 8-11 November 2022; <https://itc.nifs.ac.jp/>
- ♦ IAEA Technical Meeting on Long-Pulse Operation of Fusion Devices, Vienna, Austria, 14-16 November 2022; <https://conferences.iaea.org/event/258/>
- ♦ 11th International Conference on Nuclear Decommissioning (ICOND2022), Germany, 15-17 November 2022; <https://www.icond.de/welcome.html>
- ♦ Symposium on "Meteoroid, Meteor, Meteorites: Messenger from Space (MetMeSS-2022)", PRL Ahmedabad, 17-18 November 2022; <https://www.prl.res.in/~plas/metmess22.html>
- ♦ 75th Annual Meeting of the Division of Fluid Dynamics, Indianapolis, 20-22 November 2022; <https://www.apsdfd2022.org/>
- ♦ 20th International Congress on Plasma Physics (ICPP 2022), Korea, 27 November - 02 December 2022; <http://www.icpp2022.kr/>
- ♦ 35th International Symposium on Superconductivity (ISS 2022), Japan, 29 November -01 December 2022; <https://ieeecsc.org/event/35th-international-symposium-superconductivity>



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### Know Your Colleague



**Mr. Hiren Nimavat** joined IPR in SST-1 Cryogenics Division in 2009. His major contribution were in the areas of installation of temperature sensors of LN2 thermal shields of SST-1, validation tests for SC TF coils & CLs, thermal radiation shielding of SST-1 & CFS and development of HTS CLs & joints of MgB2/HTS. His work includes Helium leak tests of cryo-components and thermal shock tests. He has also developed a cryostat for lab-scale arc detection and has hence implemented it in CFS. He has also developed a prototype Cryo-Probe for medical applications.

He is responsible for the SST-1 Cryogenics plant operation and control, instrumentation tasks, radiation shielding & flow distribution tasks. He has actively participated in IPR outreach programs by making and demonstrating working models of Superconducting Maglev train, LN2 experiments, and many other demonstrations.

### हिंदी पखवाड़ा समारोह 2022



प्रशासन अनुभाग-11 को चल राजभाषा शील्ड प्रदान करते हुए निदेशक महोदय

### The IPR Newsletter Team

Ritesh Srivastava	Tejas Parekh	Ravi A. V. Kumar	Priyanka Patel	Dharmesh P	Mohandas K.K.	Supriya R
Suryakant Gupta	Ramasubramanian N.	Chhaya Chavda	Shravan Kumar	B. J. Saikia	Harsha Machchhar	

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



Web : [www.ipr.res.in](http://www.ipr.res.in)  
E-mail : [newsletter@ipr.res.in](mailto:newsletter@ipr.res.in)  
Tel : 91-79-2396 2000  
Fax : 91-79-2396 2277