

वार्षिक प्रतिवेदन
2021-2022

ANNUAL REPORT
2021-2022



प्लाज़्मा अनुसंधान संस्थान
Institute for Plasma Research

भाट, निकट इन्दिरा पुल, गांधीनगर - ३८२ ४२८ (भारत)
Bhat, Near Indira Bridge, Gandhinagar 382 428, Gujarat (India)

JITSI. The workshop brought together more than 35 participants over the course of 3 half-days out of a total of 48 registrations received from various divisions in IPR, FCIPT, CPP-IPR, and ITER-India having expertise with different domains/programming languages.

International Yoga Day 2021

The 7th edition of International Yoga Day was celebrated with great enthusiasm by IPR staff. Because of the Covid-19 restrictions, no physical yoga meet was organized on campus. However, IPR Staff Club organized a “Yoga & me” campaign on this occasion wherein IPR staff members posted photos of themselves and/or their family members performing yoga exercises and a detailed description of the asana. A virtual yoga session was also organized on 21 June 2021 by yoga trainer Shri. Vivek Sharma. A slogan writing competition for IPR staff members and/or their family members was also organized as part of the IYD 2021. The theme for the slogan competition was “Yoga for better immunity” in Hindi, Gujarati or English.

International Yoga Day 2021 @ CPP-IPR

The Covid-19 restrictions in Guwahati did not permit the IYD-2021 to be celebrated on campus. Staff members participated in the “Yoga & me” campaign and Shri Manoj Kumar Deva Sarma of CPP-IPR, who practices yoga on a regular basis gave a full demonstration of various asanas relevant to our day to day life.

IPR Outreach Activities (July-September 2021)

With the onset of academic sessions in schools and colleges, IPR outreach webinar programmes also have begun. The webinars conducted in the month of July 2021: 32 students of BSc Physics and 2 teachers of Department of Physics, Marwadi University, Rajkot, participated in 2-day, 4 hour

webinar on “Plasma & its applications” for BSc/MSc students on 13-14 July, 2021. 56 students of BSc Physics and 10 teachers of Department of Physics, Motilal Nehru College, New Delhi, participated in 2-day, 4 hour webinar on “Plasma & its applications” for BSc/MSc Physics students on 19-20 July, 2021. 39 students of class 11 and 12 and 2 teachers of Shivneri School, Khanapur, Pune, participated in 1-day, 2 hour webinar “Plasma & its applications” for class 11-12 students on 23-July, 2021.

The webinar Programmes conducted by Outreach Division during the month of August 2021 under the auspices of 75 years of Independence are as follows: 68 students and 2 teachers of Mount Carmel School, Gandhinagar, participated in 1-day, 2 hour webinar on “Plasma & its applications” for class 11-12 students on 30 July 2021. 22 students and 2 teachers of Christ College, Rajkot, participated in 2-day, 4 hour webinar on “Plasma & its applications” for BSc Physics students on 4-5 August, 2021. 80 students and 2 teachers of Kadi Sarva Vishwavidyalaya, Gandhinagar participated in 2-day, 4 hour webinar on “Plasma & its applications” for BSc Physics students on 12-13 August, 2021. 15 students and 1 teacher of Delhi Public School, Bopal, Ahmedabad, participated in 1-day, 2 hour webinar on “Plasma & its applications” for class 11-12 students on 20 August, 2021. 68 students and 2 teacher of KIIT School-I, Bhubaneswar, participated in 1-day, 2 hour webinar on “Plasma & its applications” for class 11-12 students on 26 August, 2021. 108 students and 3 teacher of KIIT School-II, Bhubaneswar, participated in 1-day, 2 hour webinar on “Plasma & its applications” for class 11-12 students on 27 August, 2021

The webinar Programmes conducted by Outreach Division during the month of September 2021

under the auspices of 75 years of Independence are as follows: 100 students of B. Tech (multiple streams) and 3 teachers of L D College of Engineering, Ahmedabad, participated in 2-day webinar on “Plasma, its applications and Fusion” for B. Tech students on 2-3 September, 2021. 70 students and 3 faculty members of D K V Arts and Science College, Jamnagar, participated in 2-day webinar on “Plasma, its applications and Fusion” for BSc/MSc students on 16-17 September, 2021. 78 students and 1 teacher of Gujarat Refinery English Medium School, Vadodara, participated in 1-day webinar on “Plasma, its applications and Fusion” for Plus 2 students on 23 September 2021. 60 students and 2 teachers of Kotak Science College, Rajkot, participated in 2-day webinar on “Plasma, its applications and Fusion” for BSc students on 23-24 September 2021.

Second GPU Programming Bootcamp at IPR

With the ongoing effort to efficiently utilize the GPUs and make our in-house developed applications/codes ready for the emerging computational architectures, HPC Team of IPR, along with the help from Nvidia Team conducted this 2-Half day GPU Bootcamp virtually on 20-21 October 2021. No GPU programming knowledge was required for the participants. All the participants were given access to IPR’s 1 PetaFlop HPC Cluster, ANTYA for carrying out the hands-on lab sessions. Day-1 started with an introduction to GPU programming using OpenACC, stdpar, Fortran Do-Concurrent, and a hands-on session to learn how to analyze GPU-enabled applications. For the lab sessions, a demonstration was shown on how to launch a “headless” Jupyter Notebook as a batch job in ANTYA and access the Graphical User Interface (GUI) in the Local user machine’s (Desktop/Laptop) web browser. Day-2 focussed on the latest GPU architecture, how to run Python on

GPUs (CUDA Python), and the newly emerging PINN (physics informed neural network) approach using NVIDIA SimNet (an AI-driven multi-physics simulation framework). This process gave the participants insight into how GPUs can be used in their applications and how they can start using them from scratch. The level of engagement of the participants with the trainers showed their enthusiasm and eagerness to learn GPU programming and its application to accelerate their work. During the 1st GPU Bootcamp, many good quality In-house developed codes (serial as well as parallel) spanning Computational Fluid Dynamics (CFD), Molecular Dynamics (MD), Particle-in-Cell (PIC), etc. domains have been ported successfully and achieved initial performance enhancement as shown in the number of applications registered for 2nd Bootcamp. This Bootcamp brought together more than 25 participants for two half-days from various divisions in IPR, FCIPT and ITER-India having expertise with different domains/programming languages.

IPR Outreach Activities

As part of the Azadi Ka Amrit Mahotsav activities, IPR staff were encouraged to conduct webinar programmes for the school/college where they studied. Shri Amadas Alli, Scientific Officer F, in association with the Outreach Division, conducted a 2-day webinar on Plasma and its Applications for the students and staff of his alma mater the Zilla Parishad High School, Velpur (Telangana). 50 students and 4 teachers participated in this event. On 22nd and 25th October 2021.

Vigilance Awareness Week 2021

Vigilance Awareness Week-2021 (VAW) was observed at IPR from **26 October to 2 November, 2021**. The theme of this year’s VAW was

‘Independent India @ 75: Self Reliance with Integrity’. As part of this, an “Integrity Pledge” was undertaken by the employees on 26th October 2021, with Dr. Shashank Chaturvedi, Director and Dr. Anitha V P (CVO, IPR) leading the pledge. In view of COVID-19 pandemic related restrictions, the ceremony was conducted via web-livestream, while very few Officials were physically present. An online talk on “Creating a Life of Integrity” was delivered by Sri Stanly M K, System Administrator, Controllers Office, BARC on 28th October 2021. A “Nukkad Natak” with title “Daftar ki Dastak” was enacted by IPR staff within IPR campus (on 27th October 2021) as well as at Bhat village to the Gram Panchayat members and students of Sarvodaya Vidya Mandir School at Bhat Village on 28th October 2021. Quiz, Poster and Slogan competitions were also held for the employees and prizes were awarded to the winners.

Communal Harmony Campaign Week 2021 @ IPR

Communal Harmony Campaign Week & Flag Day 2021 was observed at IPR during 19-25 November 2021. To spread the message of Communal Harmony, various activities were carried out through-out the week. Essay Writing and Poem competitions on the theme “Communal Harmony for National Development” were conducted. A Webinar talk on “Sampradayik Sadbhav aur Rashtriya ekta” by Dr. Ramgopal Singh, Prof. & Head, Hindi Department, Gujarat Vidyapeeth was arranged on 23 November 2021. Flag Day was observed on 25 November 2021 where the staff were encouraged to come in traditional attire and flag stickers were distributed among the staff. A voluntary fund raising campaign was also carried out by keeping donation boxes in IPR, FCIPT and ITER-India campuses.

Plasma Processing of Nanomaterials & its Applications (PPNA) 2021

A one-day Industry – Academia online meeting was organised on **3rd December 2021** by IPR under the auspices of “Azadi ka Amrit Mahotsav” to deliberate and disseminate latest developments in plasma based nanomaterials synthesis process and technology. A total of 9 talks were delivered by field experts from R&D labs/Institutes (BARC, IIT-Gandhinagar, IPR), Universities (Bharatiyar Univ., Savitribai Phule Pune University) as well as Industry R&D heads (Plasvac, Saveer Matrix Nano). A total of 150+ participants had registered and participated in the online program. Participants included research scholars, senior scientists, industrial houses as well as young entrepreneurs interested in start-up companies. Dr. Shashank Chaturvedi, Director IPR, delivered the inaugural address. Talks covered various aspects of thermal plasmas, torches used in material processing as well as synthesis of different types of materials and applications of some of the nanomaterials. Industry heads presented the commercial and business opportunities related to nanomaterials usage and also challenges facing by Indian industries in mass production of nanomaterials. These were deliberated. The final vote of thanks was delivered by Dr. S.K. Nema, Head, Atmospheric Plasma Division of IPR.

IPR @ Plasma-2021

The 36th National Symposium on Plasma Science & Technology (Plasma-2021) was organized by PSSI and BIT Mesra, Jaipur Campus during 13-15 December 2021. This conference was conducted completely as an online event. The conference was inaugurated at BIT Mesra Jaipur campus and Prof. Prabhat Ranjan, Vice Chancellor, DYPIU, Pune delivered the Keynote Address. Dr. Shashank

Chaturvedi, Director, IPR also addressed the participants. Dr. Devendra Sharma and Dr. Jinto Thomas of IPR and Shri Arun Chakraborty of ITER-India delivered invited talks in Basic plasma, Plasma Diagnostics and Fusion Technology sessions respectively. Around 141 participants from IPR, CPP-IPR, ITER-India contributed 110 posters, and 7 oral presentations in the symposium.

Azadi Ka Amrit Mahotsav Outreach Activities of IPR

As part of the Azadi Ka Amrit Mahotsav activities, IPR Outreach Division undertook several training programmes between **20-24 December 2021** in “Plasma & its Applications and Energy from Nuclear Fusion” under the auspices of the Indian Science Congress Association, Bhubaneswar Chapter, for science teachers, research scholars and high school students of Kalinga Institute of Social Sciences (KISS-DU) and Kalinga Institute of Industrial Technology (KIIT-DU), Deemed Universities, Bhubaneswar. The training programme for teachers and students had popular talks and hands on exhibits of various types of plasma, its applications and models of a generic tokamak. Over 120 teachers and research scholars from KISS-DU and KIIT-DU, teachers and students from Trident Academy of Technology, College of Engineering & Technology, Bhubaneswar, Bhadrak Autonomous College, and P.N. College and Haladia College, Khordha also attended the programme. The programme was inaugurated by Prof. Asoka Das, ex-Scientist, BARC and currently Vice Chairperson, Odisha State Higher Education Council. He also inaugurated the hands-on exhibition on plasma and its applications. The exhibition was also visited by Prof. B.B. Mishra, President of Odisha Vigyan Academy (Dept of S&T, Govt of Odisha). A special session for research scholars was also held at Ravenshaw University,

Cuttack on 23rd December. The programme was coordinated by Dr. Kajal Parashar of KIIT-DU, and Convener, ISCA, Bhubaneswar Chapter.

Talks and hands-on experiments were delivered by members of IPR Outreach Division. 14 experiments/exhibits were transported to Bhubaneswar from IPR for this event. Over 600 tribal students studying in the 9, 10, 11 and 12th standards of KISS-DU also attended a special lecture on plasma and spent time interacting with IPR Outreach staff and the interactive experiments.

A special training session on plasma & its applications was arranged for the students and researchers of Ravenshaw University, at Cuttack on 23rd December. Due to a special request from doctors from the Kalinga Institute of Medical Sciences (KIMS) as well as Kalinga Institute of Dental Sciences (KIDS), a special talk on “Biomedical Applications of Plasma” was delivered by Dr Ravi A V Kumar on **24th December 2021**. The doctors who attended the talk also visited the hand-on exhibits.

IPR Scholars’ Alumni Meeting

Past and Current Scholars met virtually for the second IPR Research Scholars’ Reunion on **26th December 2021**. The objective of the event was to connect with one another and to discuss the opportunities to act as the volunteers, mentors, employers, ambassadors, collaborators to support each other and students of IPR. The alumni scholars reminisced and shared the stories from IPR days along with the various job and collaboration opportunities available for the current scholars in Academia as well as Industry. The current scholars update about life, in general, at IPR. The participants included Shreekrishna, Dastgeer, Deepak, Mani, Ganesh, Vipin, Neeraj Jain, Rajneesh, Vikrant,

Kishor, Sharad, Gurudatt, Rameswar, Sanat, Kshitish, Sushil, Manjit, Sayak, Veda, Neeraj Chaubey, Meghraj, Akanksha, Roopendra, Arghya, Umesh, Amit, Prabhakar, Debraj, Pallavi, Jervis, Sonu, Soumen, Mayank, Garima, Swarnima, Anshika, Nidhi, Jagannath, Swati, Suruj, Pranjali, Shirish, Avnish, and Pawandeep.

National Science Day (NSD -2022) @ IPR

The National Science Day 2022 was conducted as part of the Azadi ka Amrit Mahotsav celebrations during 1-4 February, 2022 as an online event. Competitions were held in both offline (Poster and Essay) as well as online (Quiz, Skit, Eloquence and Science models) modes. Around 324 students and 15 teachers from 67 schools across Gujarat state participated in the various competitions that were conducted online over a week. Students and teachers from 23 schools won a total of 42 prizes. As part of AKAM, a comic book for children on plasma was created by Outreach Division in English and this was also translated into 13 Indian languages by IPR staff members. This comic book was released by Director, IPR during the concluding session of NSD-2022. The comic book in all the translated languages are available on the IPR Outreach website.

National Science Day @ CPP-IPR

Centre of Plasma Physics - Institute for Plasma Research (CPP-IPR) observed the National Science Day, 2022 as a part of “AZADI KA AMRIT MAHOTSAV” on 24th, 25th and 28th February 2022, under the theme “Integrated Approach in Science and Technology for a Sustainable Future”. Keeping in mind the Covid scenario the events have been organized online. Several competitions were conducted among students of various academic levels, including the students of schools, colleges,

and universities. The competitions include Essay Writing, Drawing, Poster, Science Model, Eloquence, Quiz etc. The program concluded with a popular talk on “Harnessing Plasmas for Societal Applications” by Dr. Mukesh Ranjan, of FCIPT, IPR.

Swachhta-Pakhwada @ IPR

“Swachhta-Pakhwada” was observed at IPR during 16-28 February, 2022. This year it has been observed under the umbrella of Azadi ka Amrit Mahotsav. As part of this drive, all IPR staff members actively participated with a lot of enthusiasm.

The following activities have been carried out during the Swachhta Pakhwada-2022:

- Removal of all unwanted waste items collected from offices, laboratories and various open spaces of the institute, segregated and disposed of them properly.
- Survey of all the offices, laboratories, canteens, guest houses, kitchens, and lavatories to check proper cleaning and waste disposal.
- Clean Campus Initiative with “Best out of Waste”: Using scrapped oil drums for tree plantation.
- Online Quiz, Eloquence competition for school students from Ahmedabad and Gandhinagar
- Slogan and Video Making competition for IPR Staff members and their family
- A webinar on “Cold plasma approach for reduction of waste in Chemicals manufacturing” by Dr. K.S. Ganesh Prasad, Institute of Advanced Research, Gandhinagar

A Swachhata walk was conducted from IPR campus to the ITER-India campus and the participants of the walk picked up all the waste plastic materials along the path. Staff from IPR and ITER-India actively took part in this event to ensure that the road from IPR to ITER-India was free of plastic

waste materials.

AKAM Science Exhibition @ Gujarat University

As part of the Azadi Ka Amrit Mahotsav (AKAM) celebrations, IPR participated in the Science Exhibition organized by Gujarat University, Ahmedabad, under the “Vigyan Sarvatra Pujyate” Science communication Popularization & its Extension programme supported by Ministry of Science & Technology, Government of India. This exhibition was conducted at the Computer Science Building of Gujarat University during 22-28 Feb, 2022. IPR exhibited 14 working and non-working models, posters as well as distributed resource materials related to plasma and its applications. Over 10,000 students visited the exhibition.

AKAM Rural Scientific Outreach Activity @ Bhanvad

As part of the Azadi Ka Amrit Mahotsav (AKAM) celebrations, IPR will be conducting a series of scientific outreach activities in schools of rural schools of different districts of Gujarat. The first such event was conducted during 1-4 March, 2022 at the Purusharth Saikshanik Sankul, Bhanvad, Devbhumi Dwaraka District. This is a Gujarati medium residential school with over 750 students studying in classes 1-12. The 4-day event consisted of a popular talks on plasma and its applications and exhibition of over 15 working models related to plasma and its applications. Over 500 students of the host school as well over 500 students and 70 teachers from ten other schools in Bhanvad taluka as well as several officers from district and taluka administration also visited the exhibition. The event was inaugurated by the Taluka Education Officer, Bhanvad Taluka. The event was also visited by District Education Officer, Taluka Mamlatdar, Taluka Revenue Officer, and Principals of schools and colleges in Bhanvad and neighboring taluks.

As part of the event, the Gujarati version of the children’s comic book on plasma “The Wonderful World of Plasma” was also distributed to all the participating students and teachers. A set of 10 posters on plasma and a popular book on plasma “Living with Plasma” were also distributed to the visiting schools for display in their school’s library. IPR Outreach proposes to conduct such events in rural schools of Surat, Bhuj and Banaskantha districts in the coming months

51st National Safety Week – 2022 @ IPR

The 51st National Safety Week was celebrated at IPR from 4-10 March 2022. This year’s theme was “Nurture Young Minds, Develop Safety Culture” Due to COVID-19 pandemic situation, the institute organized various competitions online during this week to create safety awareness among its employees. Competitions were organized on Slogan in Gujarati, Hindi & English, Online Quiz and Essay Writing in Gujarati, Hindi & English based on decided topics for the employees of IPR, FCIPT & ITER-India. In addition to this, safety division also conducted an awareness program on Road Safety for contract drivers, demonstration of fire fighting equipment for security personnel and a training session for safety co-ordinators during this week.

The concluding session of the NSW was conducted on 10th March, with the following activities;

- Welcome address by Shri Sunil Kumar, Chairman, IPR Safety Committee
- A talk on “Periodic hydrostatic pressurization test and inspection of high pressure helium gas storage vessels at IPR” by Shri Rajiv Sharma
- Thoughts on safety delivered by Dr. S. Mukherjee, Dean (Admin.)
- Safety Pledge read out by the Dr. P. K. Atrey, Dean (R&D)

- Message on safety by Director, IPR. He emphasised the need for strong commitment towards safety and the need to improve the safety culture in the campus, keeping in mind the importance of the fact that “Nothing is of greater importance than the protection of human life”
- Vote of thanks by Shri D Modi

Aomoa, SO-D, CPP-IPR presented experimental perspectives of Plasma Physics. In addition, there was a live demonstration session in which students were able to visualize Plasma and interact with the scientists. The event ended with a valedictory from Fr. Peter Solo, Dean of Sciences, SJC.

International Women’s Day @ IPR

The International Women’s Day was celebrated with great enthusiasm at IPR and FCIPT campuses on 8th March, 2022. The programmes at IPR began with a tribute to the legendary nightingale of India, Lata Mangeshkar who passed away on 6th February, 2022. This was followed by a talk on “Women Health and Wellness” by Dr. Nidhi Jain, eminent gynecologist and specialist doctor on IPR’s CHSS panel. An exhibition of books authored by women was also kept on display. Women staff of IPR presented quotes by eminent women from various fields of life and also shared their experience of balance of work and home. At FCIPT, a similar event was organized. On this occasion, Dr. Sudhir Nema gave away gift hampers to the women housekeeping staff at FCIPT. Around 125 women staff members of IPR/FCIPT participated in the IWD event.

One-day workshop on Plasma Polarization

CPP-IPR also conducted a one-day workshop on Plasma Polarization at the St. Joseph’s College (SJC), Jakhama, Nagaland on 19th March 2022. The event began with a welcome speech by the Principal, Fr. Dr. George K. Angami, and was followed by two scientific lecture sessions. In the first session Dr. Rakesh Moulick, SO-D, CPP-IPR presented his talk on Fundamentals of Plasma Physics while in the second session, Dr. Ng.

F. Other Activities

F.1 Outreach.....	178
F.2 Official Language Implementation.....	178
F.3 Right to Information.....	182

F.1 Outreach

During this period, institute's Outreach Division conducted the following events, which include events conducted under the umbrella of Azadi Ka Amrut Mahotsav.

Table F.1: Events conducted by outreach division is tabulated.

Event	Number of instances	Approximate Number of participants
Online Webinar on plasma, its applications and nuclear fusion (with interactive exhibits) for +2, BSc, MSc and B.Tech students as well as +2 and UG science teachers (conducted from IPR)	16	1,075
National Science Day 2022 (Conducted as on-line event at IPR)	01	300
Training program-cum-exhibition on plasma and its applications held at KIIT University, Bhubaneswar and Ravenshaw University, Cuttack (Odisha)	01	1,200
Rural Scientific Outreach Programme – Purusharth Saikshanik Sankul, Bhanvad, Devbhumi Dwaraka District, Gujarat	01	1,000
National Tokamak Gaming competition, conducted online in association with Aryabhata Science Club, Ranka, (Jharkhand).	01	200
Science & Technology Exhibition on plasma and its applications under the “Vigyan Sarvatra Pujiyate” event held at Gujarat University.	01	10,000

- The infrastructure for organizing on-line events was further upgraded to improve the quality of the online events.
- Apart from the above events, institute's Outreach also published online, a comic book on plasma for children. The comic, which is the first in the series named “Wonderful world of Plasma” was also translated into 13 Indian languages by institute's staff members. Over 1000 copies of this comic book in English, hind and Gujarati have hence

been distributed to children at the various outreach events.

- Three new exhibits on plasma, viz., Inertial Electrostatic Confinement, Plasma crackle tube and Terella were also added to the outreach exhibit inventory. Procurement of two new models viz, cryo-pump as well as Lithium blanket were also initiated.
- AKAM banners were designed, printed and installed at institute's main gate as well as two other locations in the main campus. Similar design stickers were also printed and installed on lamp posts along the institute campus roads.
- Discussions were initiated with Gujarat Science City for establishment of a permanent exhibition of DAE as well as institute at the Science City Ahmedabad and appropriate area was also allotted for the same.
- There were no educational visits to the institute during this period due to the covid restrictions that were in force.

F.2 Official Language Implementation

As per the instructions of the Government of India, continuous efforts are being made for the smooth implementation of the Official Language Policy in the Institute, the details of which are given below:

Incentive Scheme: Under the ATOLIS incentive scheme of Department of Atomic Energy, employ-

ees/officers are enthusiastically participating in the incentive scheme to do official work in Hindi and are getting cash prizes.

Hindi Magazine: An edition of the Institute's Hindi home magazine 'Plasma Jyoti' was published during this period. The 29th edition of 'Plasma Jyoti' (e-published) was published and a soft copy link was sent to all the offices/organizations of the department and member offices of TOLIC, Gandhinagar.

Translation work: Completed translation work of annual reports, activity reports, abstracts of technical/scientific articles, section 3(3) documents and other documents, letters, forms etc. received from different sections of the Institute.

Shri Rajiv Sharma, Scientific Officer-D of the institute has received the Consolation prize in the Hindi quiz competition organized by the Institute of Hotel Management, Gandhinagar under the auspices of Town Official Language Implementation Committee on 7th April, 2021.

Institute received the first prize for the year 2020 for the best performance in the field of Official Language at TOLIC, Gandhinagar level during the half yearly meeting of TOLIC, Gandhinagar held on 16 April 2021.

The staff of the Institute participated in the webinar on 'Memory Based Translation Tool – Kanthstha' organized at TOLIC level. The employees of the institute also participated in various activities and workshops organized at TOLIC level.

On the occasion of World Environment Day - 2021, Shri Rajnikant Bhatasana, Scientific Assistant-C of the Institute participated in Hindi Poetry writing competition organized by Gujarat Environmental

Management Institute (GEMI) and won second prize.

Three lectures were organized on various technical/scientific topics under the series "Taknik ke Saath, Vigyan Ki Baat".

Hindi officer of the institute participated in the five-day Faculty Development Program from 4 October to 8 October 2021, organized by Administrative Training Institute, DAE, Mumbai and Hindi Section, DAE, Mumbai. This program was specially organized for the Hindi cadre officers of the Department of Atomic Energy.

On the occasion of Vigilance Awareness Week, a Hindi drama "Daftar Ki Dastak" was presented by the staff members of the institute on 27th October, 2021.

Vigilance Awareness Week was observed in the institute from 26 October to 1 November 2021. During this period, poster and slogan writing competition in Hindi was organized.

Official language inspection of the institute was conducted on 29th October 2021 by the first sub-committee of the Hon'ble Parliamentary Committee on Official Language. On 29th October 2021, the Institute organized an official language exhibition at the inspection meeting site, in which the material related to the inspection and the propagation and achievements of the official language of the institute was displayed. In the inspection meeting, director of the institute gave a power point presentation on the activities of the institute, in which the special efforts being made in the field of official language along with the technical / scientific activities of the institute were also mentioned. The Hon'ble Parliamentary Committee appreciated the efforts and achievements of the Institute in the implementation of Official Language and gave guid-

ance for its smooth implementation in the future also.

The translation work of the Institute's Annual Report from English to Hindi for the year 2020-21 was completed and published.

A lecture in Hindi on "National Integration and Communal Harmony" was organized by the Institute during the week of Communal Harmony Campaign observed from 19 November to 25 November 2021 in which Dr. Ram Gopal Singh, Division Head, Department of Hindi, Gujarat Vidyapeeth was invited. During "Communal Harmony Campaign Week", Hindi poster, Hindi essay and Hindi poetry writing competitions were organized on the theme of "Communal Harmony for National Development".

An article written by Ms. Pratibha Gupta, Scientific Officer-F of Institute on the topic "Exoplanet - the world beyond our solar system" has been published in 'Vaigyanik' magazine of Hindi Vigyan Sahitya Parishad, Mumbai.

Under the Central Hindi Training Institute, 18 officers/employees of Institute for Plasma Research were nominated for Hindi language training (Prabodh-2, Praveen-6, Pragya-2, Parangat-8) organized by Hindi Teaching Scheme in January-May, 2022 session.

In the All India Hindi Webinar organized by IG-CAR, Kalpakkam during January 10-11, 2022, Shri Raj Singh, Scientific Officer-H of the institute gave the invited talk on the topic "Fusion Revolution - How much trust worthy?" and Shri Rajeev Sharma, Scientific Officer-D gave a contributory presentation on the topic "Indigenous development of neutron resistant insulation material for superconducting fusion magnets."

On the occasion of World Hindi Day on 10th January 2022, a lecture on "Benefits of Retirement" was delivered by Shri Niranjana Vaishnav, Chief Administrative Officer. Also a Quiz competition was organized on technical/scientific activities of the institute. On the occasion of World Hindi Day, the first issue of "Plasma Samachar" of Hindi monthly news of the institute was released by the Director and later on uploaded on the website. Three issues have been e-published till March 2022.

Hindi seminar was organized in the institute on 21st January 2022, in which presentation was given in simple Hindi language by 6 scientific officers on technical/scientific activities of the institute.

5 Office Clerks of the Institute have passed the Hindi Word Processing Typing Test on Computer conducted by the Central Hindi Training Institute in February-July 2021 session.

The employees/officers of the Institute enthusiastically participated in various competitions conducted under the aegis of TOLIC, Gandhinagar, viz. online General Knowledge Competition organized on 01.02.2022 by Bank of India, Zonal Office, Gandhinagar "Online Official Language Quiz Competition" organized by Bank of Maharashtra, Gandhinagar Branch on 09.02.2022, lecture on "Spring in the Age of Epidemic" organized by UCO Bank on 16th February, 2022, webinar on "Official Language in Banks/Offices: Relevance" organized by Indian Overseas Bank on 21st February 2022, Hindi workshop organized by the Institute of Hotel Management, Ahmedabad on 24 February 2022 on the topic 'Official Correspondence as per the rules of Official Language 3(3)', Webinar organized specially for women by Union Bank Limited on 10th March 2022, and in the workshop organized by National Seeds Corporation Limited, Gandhinagar on 25 March 2022 on the topic 'Implementation of

Official Language in Offices.

The program of National Science Day 2022 was organized online by the institute during 1-4 February 2022 under Azadi ka Amrit Mahotsav celebrations. In this program poster, essay, quiz, skit, speech and science model competitions were organized in Hindi, Gujarati and English languages through offline / online mode.

To explain children about Plasma candidly, a comic book was prepared in English by the Public Awareness Division of the Institute under the Azadi ka Amrit Mahotsav celebrations, and then translated into Hindi and 12 other Indian languages by the staff members of the Institute. This comic book was released by the Director during the concluding session of National Science Day-2022. This comic book is available in Hindi language along with other translated languages on institute's Outreach website.

Under “Vigyan Sarvatra Puyate” Science Exhibition organized by Gujarat University from 22 February to 28 February 2022, 15 technical models based on the scientific activities of the institute were displayed and information about it was given in Hindi language apart from English and Gujarati language by Public Awareness Division of the institute.

Various activities were organized during the Swachhta Pakhwada from 16-28 February, 2022. Slogan writing competition in Hindi on the theme “Clean City, the City of My Dreams” and a short video competition in Hindi on the theme “Cleanliness is not a campaign, it should be a part of lifestyle” was organized. Apart from the employees of the Institute, a speech competition in Hindi was organized online on 25 February 2022 for the students of the schools of Gujarat state.

On 28th Feb, 2022 on National Science Day, a graphic book entitled “Meet Greet and Tweet with PlasmaToons”, having captions both in Hindi and English languages was released by Dr. Jitendra Singh, Hon. Minister of State for the Ministry of Science & Technology, Earth Science and Minister of State for Prime Minister's Office, Personnel, Public Grievances & Pensions, Department of Atomic Energy and Department of Space at the Vigyan Bhawan New Delhi. The book has been authored by Dr. B. S. Munjal (Ex-ISRO Scientist) and Dr. Suryakant Gupta from the institute. This pictorial representation of complex Plasma Technology was developed with the motivation to draw the attention of young minds. This graphical representation of PlasmaToons focuses on explaining some of the basic and interesting aspects of plasma to young minds using the medium of cartoons.

A Hindi workshop organized through online mode under the aegis of TOLIC, Gandhinagar on March 4, 2022. Mr. Raj Singh, Scientific Officer – H of the institute delivered a lecture on the topic “Is it really difficult to adopt official language Hindi?”. Employees of the member offices of the TOLIC, Gandhinagar actively participated in this workshop.

Various competitions were organized in Gujarati, Hindi and English languages on the occasion of 51st National Safety Week. Slogan writing and essay writing competitions were organized in these three languages. In the concluding function of the National Safety Week, Shri Rajiv Sharma delivered a lecture in Hindi on “Periodic hydrostatic pressurization test and inspection of high pressure helium gas storage vessels at the institute.

A Hindi lecture was organized on the health problems of women on the occasion of International Women's Day.

During this period 143 technical abstracts were translated and displayed in the library.

A talk on 'Implementation of Official Language in Offices' was delivered by Dr. Sandhya Dave, Hindi Officer of the institute in the Hindi webinar organized by National Seed Corporation Limited, Gandhinagar under the aegis of Town Official Language Implementation Committee, Gandhinagar on March 25, 2022.



Figure F.1: Captured photos at various activities carried out by official language implementation section.

F.3 Right To Information

During the report period of 2021-22, a total of 62 RTI applications were received, out of which 56 were new RTI Applications, while 4 were Appeals to the Appellate Authority and 2 were Appeals to the CIC.

All of the above have been disposed off by the Public Information Officer and Appellate Authority within the prescribed time-limit.