DRDO NEWSLETTER

A Monthly Bulletin of Defence Research and Development Organisation

ISSN: 0971-4391

www.drdo.gov.in

DECEMBER 2020 | VOLUME 40 | ISSUE 12

QRSAM MISSILE SYSTEM ACHIEVES MAJOR MILESTONE

CONTENTS

DECEMBER 2020
VOLUME 40 | ISSUE 12
ISSN: 0971-4391

40th Year of Publication

Editor-in-Chief: Dr Alka Suri
Associate Editor-in-Chief: B Nityanand
Managing Editor: Manoj Kumar

Editor: Dipti Arora
Editorial Assistance: Biak Tangpua

Printing: SK Gupta
Distribution: Tapesh Sinha, RP Singh

Website: https://www.drdo.gov.in/drdo/pub/newsletter/

Please mail your feedback at:
director@desidoc.drdo.in

Contact at: 011-23902403; 23902474
Fax: 011-23819151

LOCAL CORRESPONDENTS

Ambernath: Dr Susan Titus, Naval Materials Research Laboratory (NMRL); **Chandipur**: Shri PN Panda, Integrated Test Range (ITR); **Bengaluru:** Shri Subbukutti S, Aeronautical Development Establishment (ADE); Smt MR Bhuvaneswari, Centre for Airborne Systems (CABS); Smt Faheema AGJ, Centre for Artificial Intelligence & Robotics (CAIR); Ms Tripty Rani Bose, Centre for Military Airworthiness & Certification (CEMILAC); Smt Josephine Nirmala M, Defence Avionics Research Establishment (DARE); Smt Anuya Venkatesh, Defence Bioengineering & Electromedical Laboratory (DEBEL); Shri Venkatesh Prabhu, Electronics & Radar Development Establishment (LRDE); Dr Vishal Kesari, Microwave Tube Research & Development Centre (MTRDC); **Chandigarh:** Dr HS Gusain, Snow & Avalanche Study Establishment (SASE); Dr Prince Sharma, Terminal Ballistics Research Laboratory (TBRL); **Chennai:** Smt S Jayasudha, Combat Vehicles Research & Development Establishment (CVRDE); **Dehradun:** Shri Abhai Mishra, Defence Electronics Applications Laboratory (DEAL); Shri JP Singh, Instruments Research & Development Establishment (IRDE); **Delhi:** Shri Ashutosh Bhatnagar, Centre for Personnel Talent Management (CEPTAM); Dr Dipti Prasad, Defence Institute of Physiology & Allied Sciences (DIPAS); Dr Nidhi Maheshwari, Defence Institute of Psychological Research (DIPR); Shri Navin Soni, Institute of Nuclear Medicine and Allied Sciences (INMAS); Shri Anurag Pathak, Institute for Systems Studies & Analyses (ISSA); Dr Indu Gupta, Laser Science & Technology Centre (LASTEC); Ms Noopur Shrotriya, Scientific Analysis Group (SAG); Dr Rupesh Kumar Chaubey, Solid State Physics Laboratory (SSPL); **Gwalior:** Shri RK Srivastava, Defence R&D Establishment (DRDE); **Haldwani**: Dr Atul Grover, Defence Institute of Bio-Energy Research (DIBER); **Hyderabad:** Shri Hemant Kumar, Advanced Systems Laboratory (ASL); Shri Pramod K Jha, Centre for Advanced Systems (CAS); Dr JK Rai, Advanced Numerical Research & Analysis Group (ANURAG); Ms Bidisha Lahiri, Centre for High Energy Systems & Sciences (CHESS); Shri ARC Murthy, Defence Electronics Research Laboratory (DLRL); Dr Manoj Kumar Jain, Defence Metallurgical Research Laboratory (DMRL); Dr K Nageswara Rao, Defence Research & Development Laboratory (DRDL); Shri Lalith Shankar, Research Centre Imarat (RCI); **Jagdalpur:** Dr Gaurav Agnihotri, SF Complex (SFC); **Jodhpur:** Shri Ravindra Kumar, Defence Laboratory (DL); **Kanpur:** Shri AK Singh, Defence Materials & Stores Research & Development Establishment (DMSRDE); **Kochi:** Smt Letha MM, Naval Physical & Oceanographic Laboratory (NPOL); **Leh**: Dr Dorjey Angchok, Defence Institute of High Altitude Research (DIHAR); **Mussoorie:** Dr Gopa B Choudhury, Institute of Technology Management (ITM); **Mysuru:** Dr M Palmurugan, Defence Food Research Laboratory (DFRL); **Pune:** Dr (Mrs) JA Kanetkar, Armament Research and Development Establishment (ARDE); Dr Vijay Pattar, Defence Institute of Advanced Technology (DIAT); Shri AM Devale, High Energy Materials Research Laboratory (HEMRL); Shri SS Arole, Research & Development Establishment (Engrs) [R&DE (E)]; **Tezpur:** Dr Jayshree Das, Defence Research Laboratory (DRL)

QRSAM MISSILE SYSTEM ACHIEVES MAJOR MILESTONE

Quick Reaction Surface to Air Missile (QRSAM) System has achieved a major milestone by a direct hit on to a Banshee Pilotless target aircraft at medium range and medium altitude. The missile launch took place from Integrated Test Range (ITR) Chandipur on 13 November 2020. The missile is propelled by a single stage solid propellant rocket motor and comprises indigenous sub-systems. The missile is canisterised for transportation and launch using a mobile launcher capable of carrying 6 canisterised missiles.

All QRSAM weapon system elements like Battery Multifunction Radar, Battery Surveillance Radar, Battery Command Post Vehicle and Mobile Launcher were deployed in the flight test. The system is capable of detecting and tracking targets on the move and engaging target with short halts. The system is designed to give air defence coverage against strike columns of Indian Army.

The radar tracked the Banshee target from farthest range. The missile was launched when target was in kill zone and achieved the direct hit with terminal active homing by RF Seeker guidance. Various DRDO laboratories viz., Defence Research and Development Laboratory (DRDL), Research Centre Imarat (RCI), Electronics and Radar Development Establishment (LRDE), Research & Development Establishment (E) [R&DE(E)], Instruments Research & Development Establishment (IRDE), Integrated Test Range (ITR) participated in the test.

The weapon system elements have been realized through Defence PSUs BEL, BDL and private industry L&T. The missile system is fully indigenous with active RF Seekers, ElectroMechanicalActuation (EMA) systems sourced from various industries. The Radar is four walled Active Phased Array Radar. All Range Tracking Stations, Radar, EOTs & Telemetry Stations monitored the flight parameters.

Raksha Mantri Shri Rajnath Singh and Secretary Department of Defence R&D (DDR&D) & Chairman DRDO Dr G Satheesh Reddy congratulated DRDO scientists for the achievement.

QRSAM launch from ITR, Chandipur

ENHANCED PINAKA ROCKET SYSTEM SUCCESSFULLY FLIGHT TESTED

Enhanced Pinaka rocket was successfully flight tested from ITR on 4 November 2020. The system has been developed to achieve longer range performance compared to earlier design with reduced length. The design and development has been carried out by Pune based DRDO laboratories, Armament Research and Development Establishment (ARDE) and High Energy Materials Research Laboratory (HEMRL).

A total of six rockets were launched in quick succession meeting all mission objectives. Rockets tested were manufactured by M/s Economic Explosives Limited, Nagpur, to whom the technology has been transferred. All the flight articles were tracked by range instruments such as telemetry, radar and electro-optical tracking systems which confirmed the flight performance.

Enhanced version of the Pinaka rocket would replace the existing Pinaka Mk-I rockets currently under production.

Testing of enhanced Pinaka Rocket System from ITR, Chandipur

FINAL USER TRIAL OF ATGM NAG COMPLETED

Final user trial of 3rd generation Anti-Tank Guided Missile (ATGM) Nag was carried out on 22 October 2020 at Pokhran range. The missile was integrated with the actual warhead and a tank target was kept at designated range. The missile, launched from Nag Missile Carrier NAMICA, hit the target accurately defeating the armour.

Nag has been developed by DRDO to engage highly fortified enemy tanks in day and night conditions. The missile has Fire and Forget and Top Attack capabilities with passive homing guidance to defeat any tank equipped with composite and reactive armour. The Nag missile carrier NAMICA is a BMP II based system with amphibious capability.

File photo

With this final user trial, Nag would now enter into production phase. The missile will be produced by Defence PSU Bharat Dynamics Limited (BDL), whereas Ordnance Factory Medak would produce the NAMICA.

LATOT

LATOT OF HERBAL ADJUVANT DIP-HIP

Defence Institute of Physiology and Allied Sciences (DIPAS), Delhi, signed Licence Agreement for Transfer of Technology (LAToT) of Herbal Adjuvant DIP-HIP with M/s Adjuind (P) Ltd, Hyderabad. Dr Rajeev Varshney, Director, DIPAS, handed over the LAToT documents to representative of the firm in the presence of technology developer, Dr Lilly Ganju, Sc 'G'. Dr Bhuvnesh Kumar, former Director was also present on the occasion.

DIP-HIP has been derived from herbal extract of high-altitude plant and has proven to be consistently superior to commercially available adjuvant, when evaluated comprehensively on the criteria of safety, immuno-potency, and bio-activity properties, as also on parameters of development, stability, with a simple "point-of-use" mixing procedure to produce a homogeneous vaccine formulation with a long term antibody sustenance.


Handing over of LATOT of Herbal Adjuvant DIP-HIP

LATOT FOR ERGONOMICALLY DESIGNED FLEXIBLE WATER BOTTLE

DIPAS also signed LAToT of "Ergonomically Designed Flexible Water Bottle" under category 'A' on 19 October 2020 with M/s Suraj Plastic Industries, Delhi; M/s The Moulds, New Delhi; and M/s Saxon Fluid Sealine Devices, Rajasthan. Dr Rajeev Varshney, Director, DIPAS, handed over the LAToT document to the representative of the said firms in the presence of inventors, Dr Madhusudan Pal, Sc 'F' and his team members. Ergonomically designed, flexible bottle has been fabricated from BPA-free/food-grade material. It has options for attachment of a two-stage filter unit (activated charcoal and hollow membrane) and optional attachment with backpack via D-ring. It is thermally stable (from -45 ± 5°C to +100 ± 5°C), can retain water in liquefied state for a minimum of four hours even at sub-zero (-20 °C) temperature and can be used as a water bottle, hot pack, ice pack or as a mini-pillow. The bottle will be used by Armed as well as Central Armed Police Forces at extreme environmental conditions.

Ergonomically designed Flexible Water Bottle and handing over of LATOT document

DR G SATHEESH REDDY INAUGURATES BSL-3 LAB

Dr G Satheesh Reddy, Secretary, DDR&D and Chairman, DRDO, inaugurated a full-scale containerized modular Biosafety Level-3 (BSL-3) laboratory with negative air-pressure and advanced control mechanisms at Institute of Nuclear Medicine and Allied Sciences (INMAS), Delhi on 23 October 2020. Dr Varaprasad Rao, DS & DG (HR), DRDO, Dr GN Rao, DG (PC&SI), DRDO and Shri SK Joshi, Technology Advisor to Chairman DRDO, also graced the occasion.

The laboratory has advanced airlock system, effluent treatment plant, emergency shower, computerized control mechanisms for decontamination, pan-area UV disinfection, separate donning and doffing chambers, emergency exit, besides high resolution CCTV system, full electrical backup and in-built uninterrupted power supply. It has a separate cell culture chamber and many other advanced features for handling R&D activity for level-3 pandemics.

Dr G Satheesh Reddy inaugurating BSL-3 laboratory at INMAS

RAKSHA MANTRI UNVEILS ANTI-SATELLITE MISSILE MODEL IN DRDO BHAWAN

Raksha Mantri Shri Rajnath Singh unveiled a model of Anti-Satellite (A-SAT) missile installed inside the DRDO Bhawan premises on 9 November 2020 in the august presence of Union Minister for Road Transport and Highways Shri Nitin Gadkari and Secretary DDR&D & Chairman DRDO Dr G Satheesh Reddy.

A-SAT missile test 'Mission Shakti' was successfully conducted on 27 March 2019 from Dr APJ Abdul Kalam Island in Odisha, in which a fast-moving Indian satellite in Low Earth Orbit (LEO) was neutralised with pinpoint accuracy. The highly complex mission was conducted with a remarkable precision. Mission Shakti made India the fourth nation in the world with the capability to defend its assets in outer space.

Raksha Mantri appreciated the innovative accomplishment of the team of scientists. Speaking on the occasion Dr Satheesh Reddy said that the installation of the A-SAT model will inspire the DRDO fraternity to take up many more such challenging missions in future.

Earlier Shri Rajnath Singh and Shri Nitin Gadkari witnessed the demonstration of Fire Detection and Suppression System (FDSS) for Passenger Buses. Water mist-based FDSS for passenger compartment and aerosol-based FDSS for engine fire were demonstrated to the dignitaries.

DRDO's Centre for Fire Explosive and Environment Safety (CFEES), Delhi has developed the technology, which can detect the fire in passenger compartment in less than 30 second and then suppresses it in 60 second thereby reducing the risk to life and property to a significant extent.

Shri Gadkari expressed satisfaction over the technology and wished to take it forward.

Hon'ble RM Shri Rajnath Singh unveiling the model of A-SAT Missile at DRDO Bhawan. Union Minister for Road Transport and Highways Shri Nitin Gadkari and Secretary DDR&D & Chairman DRDO Dr G Satheesh Reddy were also present on the occasion

RAKSHA MANTRI RELEASES DRDO PROCUREMENT MANUAL 2020

To encourage more participation of Indian industry, including Start-ups and Micro, Small & Medium Enterprises (MSMEs) in Defence Research & Development (R&D) for achieving 'Atmanirbhar Bharat', Raksha Mantri Shri Rajnath Singh released a new version of DRDO Procurement Manual 2020 (PM-2020) on 20 October 2020.

Speaking on the occasion, Shri Rajnath Singh said, "The new Procurement Manual will facilitate the indigenous Defence industry by simplifying the processes and ensure their participation in design and development activities. The PM-2020 will help towards realising Prime Minister Shri Narendra Modi's dream of Atmanirbhar Bharat." He appreciated the contribution of all the officials of DRDO and Finance Wing in the Ministry of Defence for their contribution in bringing out the revised PM-2020.

The PM-2020, would facilitate faster execution of R&D projects/ programmes and participation of industry in various R&D projects. Bid security declaration option for earnest money deposit, increase of threshold limit for advance payment, placement of order on lowest bidder 2 (L2) in case L1 backs out are some of the salient features of the new manual, which will assist the industry for the speedy execution of projects.

Some more enabling measures of PM-2020 are exemption of bid security and performance security up to Rs 10 lakh, no negotiations for commercial off-the-shelf (COTS) items/services wherever price discovery is happening through market forces.

Performance security for service contracts is linked to the payment cycle instead of total contract value. Procurement of stores from development partners, safeguarding of free issue material through insurance cover instead of bank guarantee (BG) are other facilitating measures adopted to help the industry.

In the new PM-2020, the liquidated damage (LD) rate for development contracts has been reduced. The delivery period (DP) extension process has been simplified for faster decision making. Many of the internal procedures have been further simplified for faster engagement with industry.

Those present on the occasion included Secretary, DDR&D and Chairman, DRDO Dr G Satheesh Reddy; Secretary (Defence Finance) Smt Gargi Kauland and other senior officials of Ministry of Defence.

Hon'ble RM Shri Rajnath Singh releasing DRDO Procurement Manual 2020

GANDHI JAYANTI CELEBRATIONS

ASL, HYDERABAD

Advanced Systems Laboratory (ASL) commemorated 150th birth anniversary of Mahatma Gandhi. Extensive cleanliness drive in all the work centers of ASL was organized from 25 September 2019 to 2 October 2020. The employees volunteered to weed out and segregate unused material for proper disposal, cleaned work area and surroundings. An online quiz on the life of Mahatma Gandhi was also organized. Dr M Rama Manohara Babu, Director, ASL along with Programme Directors, Associate Directors, Group Directors, Technology Directors, Project Directors and senior scientists paid floral tribute to Mahatma Gandhi and participated in peace walk and sapling plantation on 2 October 2020.

Gandhi Jayanti Celebration at ASL

DARE, BENGALURU

Defence Avionics Research Establishment (DARE), Bengaluru paid floral tributes to Gandhiji and conducted a cleanliness drive. Technical Information Centre, DARE, designed a magnificent portrait of Gandhi on 150th Birth Anniversary theme with different types of pulses and rice.

Gandhi Jayanti Celebration at DARE

IRDE, DEHRADUN

150th Birth Anniversary of Mahatma Gandhi was celebrated as per the instructions of DRDO HQ and guidance of Dr BK Das, OS & Director, Instruments Research and Development Establishment (IRDE), from 25 September 2020 to 2 October 2020. The events created awareness about the life of Mahatma Gandhi and the importance of cleanliness among the IRDE employees and outside people. IRDE employees and their family members actively took part in various activities conducted to mark the occasion. More than 100 people contributed in cleanliness drive every day. The life story of Mahatma along with his messages for society were depicted via audio-visual means to public.

The family evening, organised on 27 September 2020 witnessed good participation from IRDE employees and was well appreciated. A large number of children participated in

slogan writing, quiz and poster making competitions. Concluding programme was organized on 1 October 2020, which witnessed a keen contest in a live quiz. In conclusion, the week-long 150th Birth Anniversary of the Mahatma Gandhi was organized with the senses of responsibility following tenets of the father of the nation.

ITR, CHANDIPUR

On the eve of 150th Birth Anniversary of Mahatma Gandhiji, Swachhata Drive was carried out in Defence Colony, Balasore. On this occasion floral tribute was offered to the Mahatma. Cleanliness drive inside ITR Defence Colony along with awareness programmes were undertaken at RASMI premises. The activities were carried out with a motto "Clean and Green India". Plastic garbage collected during the drive was disposed of properly. The drive was conducted in accordance with COVID-19 guidelines. The programme was conducted by Shri PN Panda and his team. Around 100 members of ITR participated and volunteered for the noble cause.

Gandhi Jayanti Celebration at IRDE

Gandhi Jayanti Celebration at ITR

MEDICAL CAMP AT DESIDOC

Defence Scientific Information and Documentation Centre (DESIDOC), jointly with Institute of Nuclear Medicine & Allied Sciences (INMAS), Delhi, organised a medical camp for determining antibodies against COVID-19 on 21 October 2020. Dr Rajeev Vij, Sc 'G', Coordinated the medical Camp. Dr Alka Suri, Director, DESIDOC, appreciated the pre-emptive steps taken by DESIDOC to prevent spread of COVID virus. One hundred and seventy-six employees of Metcalfe House-based DRDO Labs were tested.

Antibody test at DESIDOC

VIGILANCE AWARENESS WEEK – 2020

ITR, CHANDIPUR

Vigilance Awareness Week–2020 was observed in Integrated Test Range (ITR) from 28 October 2020 to 2 November 2020. Banners promoting vigilance awareness were displayed inside and outside of the office premises. Shri HK Ratha, Director, ITR administered the integrity pledge to all employees of ITR. During the week, employees were encouraged to take e-pledge on Central Vigilance Commission portal.

Speaking on the occasion, Director, ITR urged all to upkeep honesty and integrity in every sphere of life and asked to be vigilant against corruption and make a vigilant and prosperous India. A presentation talk was delivered by the Vigilance Officer of ITR Shri Niladri Roy, Sc 'G' followed by a video display regarding vigilance awareness. The program was organised by Shri PN Panda, Sc 'F', AGD (HR) and his team.

ITR employees taking Integrity Pledge on the occasion of Vigilance Awareness Week

Shri S Vijayan Pillai, Director, NPOL administers the Integrity Pledge

NPOL, KOCHI

Naval Physical and Oceanographic Laboratory (NPOL) observed Vigilance Awareness Week from 27 October 2020 to 2 November 2020 with the theme decided by Central Vigilance Commission, "Satark Bharat, Samriddh Bharat (Vigilant India, Prosperous India)" to participate in the prevention of and the fight against corruption and to raise public awareness. The observance of the Vigilance Awareness Week commenced with the Integrity Pledge administered by Shri S Vijayan Pillai, OS & Director NPOL. Full sized banners about the week were displayed conspicuously at the main gate, main foyer and in the technical campus. Posters on the significance of vigilance and corruption free practices were displayed prominently on all notice boards in all buildings. The pledge printed as a pocket calendar for 2021 was distributed to all employees. Employees and their families and friends were encouraged to visit the CVC site and take e-pledge also. A campaign mode activity was taken up to sensitized various divisions/groups about the scope of vigilance in their activities. All the above activities were done in strict adherence to the extant COVID prevention guidelines.

Dr Manoj NR, Sc 'F', Group Director (Vigilance and Security) and Lt Col. Lalit Bhatt, Senior Security Officer coordinated the activities of the observance of the Vigilance Awareness Week-2020.

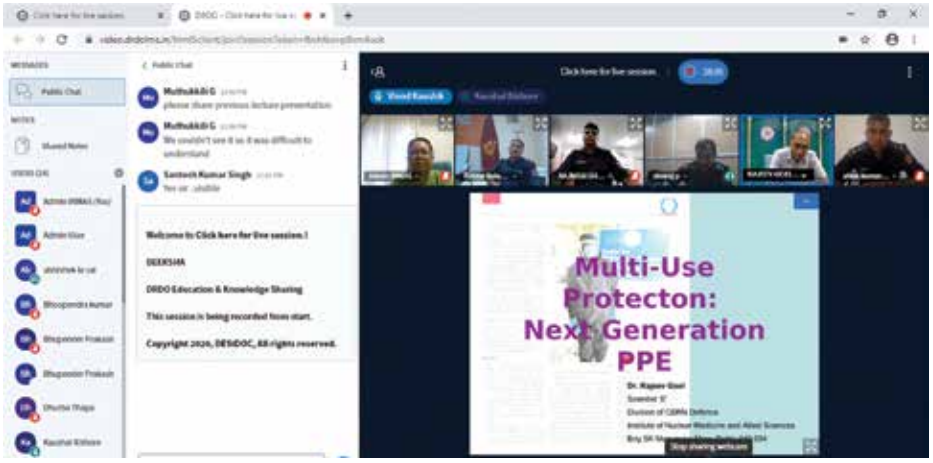
WORKSHOP ON DNA BARCODING & BIRD STRIKE SAMPLE COLLECTION

Defence Institute of Physiology & Allied Sciences (DIPAS), Delhi, organised an online workshop on 5 August 2020 entitled "DNA Barcoding and Birdstrike Sample Collection". The course was attended by 36 participants from Indian Coast Guard Air Station Daman, Indian Coast Guard Air Enclave (ICGAE) Kochi, ICGAE New Mangalore, ICGAE Ratnagiri, ICGAE Porbandar, 842 Sqn (CG) stations across the country. Workshop was conducted by Dr Yamini Singh, Sc 'E'. Dr Yamini Singh delivered lecture on DNA Barcoding and Bird Strike Sample Collection. Demonstration on sample collection was given by Shri Sayar Singh, TO 'A'. Commandant Mohsin Khan and Commandant Abhishek Saxena from ICGAS Daman, Comdt R V Talke and Comdt D H Pandya from ICGAE Kochi, Comdt Akhil Guleria from Porbandar and their colleagues interacted and actively participated during the workshop. DNA barcoding methodology and importance of bird strike sample collection to identify the exact species were discussed during the workshop.

Online course on DNA Barcoding and Birdstrike Sample Collection

COURSE ON CBRN EMERGENCY MANAGEMENT

Institute of Nuclear Medicine & Allied Sciences (INMAS), Delhi conducted an Online Training Course on "CBRN Emergency Management with Specific Reference to COVID-19" during 5-9 October 2020 through virtual platform DEEKSHA developed by DESIDOC, Delhi. Participants from Delhi Police, Delhi Fire Service, NSG and NDRF attended the course. Eighteen speakers delivered lecture in different topics in the course. M Memita Devi, Sc 'E' was the Course Coordinator.



Online course on CBRN Emergency Management at INMAS

COURSE ON ORGANIZATIONAL BEHAVIOUR

A three-day online course on Organisational Behaviour was conducted by Institute of Technology Management (ITM), Mussoorie during 19-21 October 2020 for Defence Scientific Information and Documentation Centre (DESIDOC), Delhi. A total of 23 officers of DESIDOC participated in the course. Lectures by ITM faculty were delivered via online mode. The objective of the programme was to acquaint the participants with the aspects of Organisational Behaviour (OB) to achieve organizational effectiveness. The course was inaugurated by Shri Sanjay Tandon, OS & Director, ITM and Dr Alka Suri, Director, DESIDOC.

Online course on Organisational Behaviour

Sessions on various topics, viz., Introduction to OB and Team Building, Personality and Behaviour, Motivation, etc., were delivered. The course concluded with a valedictory address by Shri Tandon, and vote of thanks by Shri Jitender Singh, Sc 'F', ITM Mussoorie.

Dr Alka Suri appreciated the efforts of ITM to conduct course through online mode. The course was very well appreciated by the participants.

COURSE ON TEAM BUILDING AND LEADERSHIP

ITM conducted a three-day online course on 'Team Building and Leadership' from 12 October 2020 to 14 October 2020 for Terminal Ballistics Research Laboratory (TBRL), Chandigarh. A total of 20 DRDS officers of TBRL participated in the course. Lectures by ITM faculty were delivered through online mode.

The course was inaugurated by Shri Sanjay Tandon and Dr Manjit Singh, DS & Director, TBRL, Chandigarh. Smt Anita Mohindra, Sc 'F' and the Course Director highlighted the objective of the course—to enhance leadership capabilities to tackle new technological challenges at strategic level as well as operational level, and to provide senior scientists opportunities to learn the skills, behaviour and knowledge needed for effective and successful leadership.

Online course on Team Building and Leadership

Sessions on various topics, viz., Overview of Group Dynamics and Team Building, Building Leadership Skills and Situational Leadership, Conflict Management and Negotiation Skills, People Management Strategies for Leaders, Motivating Teams, Developing Decision Making Skills, etc., were delivered.

The course concluded with a valedictory address by Shri Sanjay Tandon and vote of thanks by Smt Anita Mohindra. Dr Manjit Singh, appreciated the efforts of ITM to conduct courses through online mode.

COURSE ON PROJECT MANAGEMENT COMPETENCY DEVELOPMENT PROGRAMME

A five-day online course on Project Management Competency Development Programme (IPMA Level 'D' Certification) was jointly conducted by ITM and Project Management Associates (PMA), India from 2 November 2020 to 6 November 2020. Twenty-two Officers (19 DRDS, 2 DRTC and 1 Service Officer) participated in the course. ITM and PMA faculty delivered lectures via online mode. The course was inaugurated online on 2 November 2020 by Shri Sanjay Tandon who deliberated upon the importance of the Project Management Certification Programme. Dr A Sivathanu Pillai, President PMA & Former CEO & MD, BrahMos Aerospace was the Chief Guest. In his address Dr Pilllai shared his vast experience of R&D PM.

Online course on Project Management Competency Development Programme

The objective of the programme was to develop broad awareness amongst the participants regarding the various methodologies and approaches of PM according to global standards. Smt Anita Mohindra, Sc 'F' and the Course Director gave an overview of the course explaining the 29 competencies that would be deliberated upon during the five days. Sessions on various topics covering Project, Programme and Portfolio Orientation, Project Design, Requirements, etc. were delivered during the 5 days programme. The IPMA Level 'D' Certification exam was conducted online by PMA on 9 November 2020.

The course concluded with a valedictory address by Shri Sanjay Tandon. Shri Vishal Narain Dar, Regional Director (North), PMA also addressed the course participants. Smt Mohindra presented the vote of thanks.

FIRE SAFETY TRAINING

Naval Physical Oceanographic Laboratory (NPOL), Kochi organized a `Hands on Fire Extinguisher Training' to promote fire safety awareness and to familiarize the use of fire extinguishers among the employees. Hands-on Training on usage of extinguishers is essential for quick reaction during fire accidents and to avoid major damage. The training was conducted by Firemen of Vigilance, Security and Safety Group of NPOL.

Hands-on training on usage of Fire Extinguisher

The training was conducted following the COVID-19 guidelines of social distancing norms, sanitization, wearing of mask, etc. Live demonstration on fire fighting was given to enhance the awareness on fire safety in the organization. The classes of fire, different types of fire extinguishers and methods of operating the extinguishers were briefed by firemen. 'Hands on training' was tried out by many participants. Around 150 employees were trained in the usage of Fire Extinguishers.

ORIENTATION PROGRAMME FOR INDUCTEES

NPOL organized 'Swagatham', an orientation programme during 27-30 October 2020 for fresh recruits as well as personnel who joined the laboratory on transfer or deputation. The objective of the programme was to provide a holistic view of the laboratory, important projects, technical capabilities, facilities and the organizational culture. Twenty-two participants from diverse cadres attended the programme. Shri S Vijayan Pillai, OS & Director, NPOL inaugurated the programme. The programme included sessions providing a bird's eye view of DRDO and NPOL, historical perspectives of the lab, the work-life philosophy being practiced, technology perspectives–both current and futuristic, etc. Specific sessions were also conducted to apprise the participants of the administrative affairs dealing with conduct rules, rights and privileges and lab-level policies, besides providing a basic foundation for materials management procedures. Visits were arranged to various technical infrastructure facilities of the lab.

Shri S Vijayan Pillai, OS & Director, NPOL, delivering the inaugural address

DMRL CELEBRATES HINDI PAKHWADA

Defence Metallurgical Research Laboratory (DMRL), Hyderabad celebrated Hindi Fortnight during 14-25 September 2020. Various events, viz., Noting, Drafting, Quiz, Antakshari, Typing, Reading, Essay Writing, Elocution and Dictation were organised to mark the occasion. The topic of Essay Writing event was "Necessity of Self Dependence in Defence Sector". A Hindi Workshop was organised on 22 September 2020. Dr Ashok Kumar Singh, Sc 'G', DMRL was the invited speaker. He elaborated different aspects of Hindi Grammar.

Dr Homnidhi Sharma, DGM-HR (OL), Bharat Dynamics Limited was the Chief Guest of the valedictory function. Dr Sharma in his address appreciated the efforts of DMRL. The functions were organsied as per the guidelines of the GOI for COVID-19.

Celebration of Hindi Pakhwara at DMRL

APPOINTMENTS

Director, CEPTAM

Dr Alok Jain, Sc 'G' took over as Director, Centre for Personnel Talent Management (CEPTAM) on 1 October 2020. After completing his post-graduation from Delhi University, he joined DRDO at Solid State Physics Laboratory (SSPL), Delhi in 1987. Later he obtained his Doctorate in Physics from IIT Delhi.

He is having more than 30 years of experience in various projects at SSPL. He was heading the Optoelectronics Division and worked extensively for the development of devices like GaAs and GaN-based laser diodes, third generation image intensifier tubes for night vision devices, porous silicon, etc., specializing in III-V semiconductor device processing and fabrication. In addition, he was also leading the Infrared Detectors (IR) and Human Resource (HR) Divisions.

He is the recipient of DRDO Technology Award in 2006 for development of facet coating and passivation process of laser diodes. He was also bestowed DRDO Scientist of the Year Award in 2018 for steering the High Power Laser Diode Activity in SSPL. He has several papers to his credit in national and international journals, conferences and workshops.

At CEPTAM he has led the DRTC Assessment Process through Video Conferencing for the first time.

Director, IRDE

Dr Binoy Kumar Das, OS, has taken over as Director, Instruments Research and Development Establishment (IRDE), Dehradun, with effect from 28 August 2020. Prior to assuming the charge of Director, IRDE, Dr Das was the Director, Integrated Test Range (ITR), Chandipur, since November 2015

Dr Das joined DRDO in 1987 in ITR and has been involved in the performance evaluation of missiles, rockets and various other air borne weapon systems. He has been involved from the planning of ITR and supported all the missions conducted from ITR. During this period, he had led the team for modernisation of Test Range. He along with team ITR could successfully realize a number of critical Range Systems by design and development of Real Time Automatic Video Tracker, Post Processing System, Video Encoder, Electro Optical Tracking System, Drone based Telemetry System, Tracking Radar System, Tele-command System and all other Range Systems. He has enhanced the tracking range of EOTS with augmentation of high performance sensors and image processing in ITR. The development of Electro Optic Tracking Telemetry (EOTM) and its deployment has produced outstanding result during the Kalinga Mission. He has led the team towards realization of Kalinga Range to support the B 05 and K4 missions in shortest possible time. He has actively contributed for setting up of Island Complex and Mainland Complex along with instrumentation. A number of missiles have been successfully test fired from this complex. Concurrent support from Chandipur and Dhamra complex during Target and Interceptor launch reflects his skill of Range Management. He has developed a number of critical sub-systems which are augmented with the range systems to enhance its potential. He has set-up tracking facilities in Nilgiri Hill top and Mid Range tracking facility at Port Blair. ITR is today capable of delivering complete indigenous Test Range with state of the art systems and facilities.

He did his B.Tech. in Electronics from Burla Engineering College, Odisha. Subsequently he did his M.Tech in Computer Science and Doctoral Research in Image Processing from IIT, Kharagpur. He was the recipient of Best Graduate Gold Medal in BTech and topper of IIT in MTech. His thesis was awarded as the Best Thesis by USA. He has received a number of National and International Awards. Few of them are as under:

- Lakshmipat Singhania-IIM, Lucknow National Leadership Award as the young leader of the country in Science and Technology for the year 2008. (one award for the country)
- National Award by National Research and Development Corporation (NRDC) for the technological development in Image Processing and Electro Optics for 1997-98. (Only recipient among all the DRDO Labs & ISRO Centres)
- Young Engineer National Award and Medallion by Indian National Academy of Engineering (INAE) for contribution in Electro Optics & Image Processing for 1999. (National Topper)
- Best Presentation among 300 presenters from 30 countries in 16th IASTED International Conference on Parallel and Distributed Computing and Systems, Massachusetts Institute of Technology (MIT), Cambridge, Massachusetts, USA, November, 2004.
- Best Presenter Award in the 25th Annual ITEA International Symposium on Transformational

Test & Evaluation at USA during September, 2005. (Only recipient from Asia)

❄ Best Presenter Award in SETE 2007 at Sydney, Australia in September 2007.

❄ Selected and featured in Who is Who of the World as a young leader of the millennium in engineering.

❄ Young Scientist Award by Orissa Vigyan Academy for outstanding contribution in Image Processing. (Only one award for the State)

❄ Newton Award as the Best Scientist of Orissa by Utkal Diwas Committee.

❄ Prativashree Award as the best upcoming talent of the state.

❄ DRDO Scientist of the Year Award for the year 2003 for outstanding contribution in the field of Electro Optics.

❄ Award for Pathbreaking Research as a member of the team Air Defence Systems for the year 2006-07.

❄ Award for Pathbreaking Research as a member of the team for K 15 Programme for the year 2007-08.

❄ Best Presentation Award in National Science Day 1996.

❄ Silicon Trophy for the best Systems Lab–2016.

He has more than 200 publications in various national and international journals and conferences. He has given his research deliberation in all the leading countries of the world.

AWARDS

IIM Fellowship

Dr Amit Bhattacharjee, Sc 'G', of Defence Metallurgical Research Laboratory (DMRL), Hyderabad has been admitted as a Fellow of the Indian Institute of Metals (IIM) with effect from 1 August 2020.

HIGHER QUALIFICATIONS ACQUIRED

Shri Basant Kumar, Sc 'E' of Advanced Systems Laboratory (ASL) has been awarded PhD by the Indian Institute of Technology (IIT), Hyderabad for the thesis entitled "Nonlocal Nonlinear Analysis of Functionally Graded Plates using Natural Neighbour Galerkin Method".

Shri Anand P, Sc 'E, Naval Physical and Oceanographic Laboratory (NPOL) has been awarded PhD by the Cochin University of Science and Technology in the area of Physical Oceanography for the thesis entitled, "Upper Ocean Dynamics of the Eastern Arabian Sea: Studies Based on Observations and Modeling".

PATENT GRANTED

Defence Metallurgical Research Laboratory (DMRL), Hyderabad has been granted patent for "Low Load Low Frequency Piezo-Electric Power Generator" (Patent No. 341323). Dr AR James, Sc 'F' has been named as the inventor.

Readers' Views

(*Your feedback is important to us as it gives scope for improvement and serve the Organisation in a better way*)

1. **Name of the Establishment:**_____

2. **How would you rate the *DRDO Newsletter* as a medium to adequately present DRDO developments?**

   Excellent ☐ Very Good ☐ Good ☐ Fair ☐ Satisfactory ☐

3. **How would you rate the technical contents of the *Newsletter*?**

   Excellent ☐ Very Good ☐ Good ☐ Fair ☐ Satisfactory ☐

4. **How would you rate the quality of photographs in the *Newsletter*?**

   Excellent ☐ Very Good ☐ Good ☐ Fair ☐ Satisfactory ☐

5. **Ideal number of pages you would like for the *Newsletter*?**

   8 Pages ☐ 12 Pages ☐ 16 Pages ☐ 20 Pages ☐

6. **In which format do you prefers the *Newsletter*?**

   Print ☐ E-pub ☐ Video magazine ☐

7. **When are you receiving the *Newsletter*:**

   In the previous month of publishing ☐ In the same month of publishing ☐

   In the next month of publishing ☐

8. **Suggestions, if any, to further improve the technical content of the *Newsletter*?**

   _____

   _____

   _____

Signature:
Name:
Address:.....
.....
.....

Please send your suggestions to:

The Editor, DRDO Newsletter, DESIDOC, DRDO, Metcalfe House, Delhi - 110 054

VISITORS TO DRDO LABS/ESTT

Raksha Mantri Shri Rajnath Singh visited Snow and Avalanche Study Establishment (SASE), Manali on 2 October 2020, during his visit to review Atal Tunnel in Rohtang. DG (ACE), DRDO Shri PK Mehta welcomed hon'ble RM at SASE. Director SASE Dr LK Sinha and former Director SASE Shri Naresh Kumar briefed RM about the activities of SASE and its role in mitigation of avalanche hazard in snow bound regions of the Himalaya.

Hon'ble RM laid foundation of the state-of-the-art sensor calibration laboratory named 'Anshankan Calibration Lab' and did Bhoomi Pujan. The project involves construction of sensor calibration laboratory and commissioning of various calibrators and a temperature controlled wind tunnel.

Hon'ble RM inaugurating Sensor Calibration Laboratory at SASE

Published by DESIDOC, Metcalfe House, Delhi-110 054
www.drdo.gov.in