



e-news

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Journal of Aerospace Sciences and Technologies
 Aeronautical Society of India
 Bangalore Branch Building
 New Thippasandra Post
 Bangalore 560 075
 Karnataka, INDIA
 Telefax: +91 80 25273851
 e-mail: editoraesi@dataone.in
editoraesi@yahoo.com

Publication Team

Dr R Balasubramaniam
 Dr S Kishore Kumar
 Dr P Raghothama Rao
 Ms Harpreet A De Singh
 Dr Satish Chandra
 Mrs Chandrika R Krishnan
 Mr Hemanth Kumar R

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Head Quarters

The Aeronautical Society of India
 13-B, Indraprastha Estate
 New Delhi 110 002, India
 Tel: ++91 11 23370516
 Fax: ++91 11 23370768
 e-mail: aerosoc@bol.net.in

Welcome to e-news



Journal of Aerospace Sciences & Technologies

*Season's Greetings and Best Wishes for
 a
 Happy New Year*

From
 E-news Publication Team



LCA makes history, passes cold tests at Leh - Details under technology

READER'S RESPONSE

The editorial team invites your views, suggestions, to the News about Members Column and contributions to the e-news.

Aerobatics team display its skills at China

The Surya Kiran Aerobatics Team (SKAT) performed an air show at the Air Force base, to mark the successful conclusion of its participation in the Zhuhai Air show in China. The technical staff of the Air Force and a large number of children witnessed the show. The aerobatics team which has been undertaking public air displays for the past 13 years, was recently invited to participate in Zhuhai Air show in China. The team concluded its China trip successfully putting up landmark displays of air stunts which remained as a star attraction among the select participation of this biennial event. Covering a 11,000 km, 12 aircraft team headed by Wing Commander Joy Thomas Kurien was joined by other 13 members and it left Bidar air base on taking the route of east coast. The team reached Mandalay on in Myanmar, from where the team entered south west China routing via Kunming City before arriving at the final destination of Zhuhai.

Source: Deccan Herald

IIT may come up in Jaipur with French aid

At a time when everybody's talking of meltdown and job cuts, Jaipurites may have a very good reason to cheer. In all likelihood, IIT-Rajasthan will come up in Jaipur finally, and the French government will lend full support in setting up the institute. A few days ago, the French government expressed interest in collaborating with the government of India in setting up IIT-Rajasthan. This is believed to be a fallout of Prime Minister Manmohan Singh visit to Paris in September this year. The Union HRD ministry and its French counterpart are likely to sign a memorandum of understanding soon on IIT-R. The French are expected to provide monetary support and also provide experts in the initial stages. The main hurdle to setting up the institute had been the fight over the location. The Vasundhara Raje government had been keen on setting up the IIT at Kota, a coaching hub for future IITians, and had even acquired land there. But Kota was not the choice of experts who had suggested Jaipur from the very beginning, largely because of its superior connectivity compared to other cities in the state.

Source: Times of India

MILLION-DOLLAR tech centre for IISc

A multi-million-dollar technology centre for knowledge sciences is set to be Bangalore's New Year gift. In a collaboration that could be a first, Stanford, Carnegie Mellon, the University of California, Santa Cruz and Infosys are in talks to set up a \$1-million knowledge sciences research centre at IISc. The \$1-million facility will turn into a \$10-million one in phases. The brain behind the project is Ram Akella, an IISc alumnus and professor, Tech Services, UC Santa Cruz, who heads a major computer technology centre at the

university. Akella told TOI: "We are also in talks with IBM and Yahoo and the government to help us establish the technology centre. Three US varsities will also join us later. Our university-industry-government collaboration could be India's first." Akella said he was looking at the centre to create a transformational impact on knowledge services in India and globally in financial, healthcare, service centre management, CRM and BPO affairs. The centre is also looking at "search technologies and data plus text mining for web and knowledge management".

Source: Times of India

ISRO man to go to space in 2013

The forthcoming Indo-Russian joint manned space mission around 2013 is expected to be a civilian flight without any military flavour unlike the April 1984 mission. Either an ISRO scientist or engineer will participate in the mission, space agency officials said. This flight will be a precursor to India launching its own manned space mission from Sriharikota between 2014 and 2015. Speaking to TOI, ISRO officials who declined to be identified, recalled that in the 1980s two ISRO scientists, P Radhakrishnan and N C Bhatt were chosen jointly by ISRO and NASA to fly in the space shuttle to place in orbit an INSAT satellite. The project was scrapped following the space shuttle "Challenger" disaster on January 28, 1986.

Source: Times of India

Chandrayaan reveals newer aspect of Moon

Last week, it was once again a moment of celebration for the Chandrayaan team both in India and in the US. The reason: the Rs 386-crore prestigious Indian Moon mission, which is expected to become a part of academic curriculum at different schools in India, attained a major breakthrough because a NASA instrument on board the Indian mooncraft, has revealed for the first time some unknown and interesting aspects of the moon's surface, Chandrayaan project director, Mylaswamy Annadurai, has stated. The instrument is the Moon Mineralogy Mapper, popularly known as M3, and is jointly managed by NASA's Jet Propulsion Laboratory and Brown University.

Source: Times of India

India test-fires BrahMos supersonic missile

India test fired the BrahMos supersonic cruise missile, one of the most successful products of India-Russia military joint venture, from a vertical platform in the Bay of Bengal. "The BrahMos Missile has been successfully launched from a naval warship in the Bay of Bengal. This unique launch has been carried

out from a mobile platform and all mission objectives have been met," a DRDO official said. This is for the first time that BrahMos has been test fired from a universal vertical launcher fitted in a new ship. All earlier launches of BrahMos missiles had been carried out from inclined launchers. "It is a significant milestone in view of the fact that most present day ships are today fitted with vertical launchers," the official said.

Source: Times of India

Nanorevolution five years away

Professor Basavaraj Madhusudhan, Kuvempu University, spoke about the benefits of Nanotechnology that would reach the Indian farmers in the next five years, at the Bangalore Nano 2008. "Nano sensors in plants can detect disease and provide Nano medication. It can reduce agricultural waste and thus pollution. Nano lamination can improve the shelf life of fruits and vegetables," Mr Basavaraj said. Speaking at the technical session "Nano Food & Agriculture," he further said that Indian farmers are five years away from a Nanotechnology revolution. The session was chaired by Dr Seetharam Annadana, Avesthagen. Dr M S Thakur, Central Food Technological Research Institute and Dr R Kalpana Sasm National Academy of Agricultural Research Management made their presentations.

Source: Indian Express

Chandrayaan throws light on moon

In a significant discovery concerning the Chandrayaan-1 mission, Nasa has said that different wavelengths of the light provide new information about the 'Orientale Basin' region of the Moon in new composite images taken by Nasa's Moon Mineralogy Mapper, a guest instrument aboard the Indian Space Research Organisation's

Chandrayaan 1 space craft. The Mapper is the first instrument to provide highly uniform imaging of the lunar surface. Along with length and width dimensions across a typical image, the instrument analyzes a third dimension colour.

Source: Times of India

Russian engines coming today for intermediate jet trainer

Russian turbofan engines that will power the indigenous intermediate jet trainer (IJT) are scheduled to arrive. With the stability tests and acceptance test procedures completed, the three AL-551 engines, designed and developed by Russia's NPO Saturn, were airlifted from Zhukovsky, near Moscow. These are to be fitted on the IJT's Prototype Trainer One (PTI).

Source: Hindu

IAF insists on changes to Tejas

The Indian Air Force has categorically ruled out placing further orders for the indigenous Light Combat Aircraft (LCA), Tejas, with its current configuration. In 2005, the IAF placed an order with Hindustan Aeronautics Limited for 16 fighters and four trainers. The then Defence Minister Pranab Mukherjee said a decision on an additional 20 aircraft was under consideration. But that plan has come a cropper since the overweight, under-powered Tejas does not meet the IAF's minimum air staff requirements (ASR). The IAF decision though is not the end of the road for the Rs. 6,000-crore LCA programme. It will consider acquiring 125 more Tejas when an improved — Mark 2 (Mk2) — variant is developed. As indicated by an IAF

committee in 2004, any further order will be subject to the Aeronautical Development Agency (ADA), the designer and developer of the LCA programme, showing "firm visibility that the aircraft will meet the ASR."

Source: Hindu

ISRO to launch two more satellites next year

Delivering the keynote address at the "Bengaluru Space Expo- 2008" Nair said the ocean satellite and the radar imaging satellite will be launched by the middle of 2009. Besides, he said, preparations were on to launch a communication satellite - a commercial venture involving EADS Astrium from French Guyana through the Ariane space craft by mid December. Dr Nair said

that India will undertake its manned moon mission only after 2020, but ISRO was currently exploring the feasibility of a manned space mission, which is expected to be accomplished in seven to eight years. "China and the United States have already stated that they will have a manned moon mission by 2020, but our manned mission might not realised until then. It will follow only after the manned space mission is accomplished in seven to eight years from now.

Source: Deccan Herald

Indian cryogenic engine for GSLV

The next generation launch vehicle - GSLV Mk3m - could have an indigenously built cryogenic engine on its board, disclosed K Radhakrishnan, Director, Vikram Sarabhai Space Centre (VSCC), Thiruvananthapuram. Addressing a press meet on the sidelines 48th annual conference of Indian Society of Aerospace Medicine here on Monday, Radhakrishnan said that instead of Russian made engine normally used in the launch vehicle, the experimental satellite will have an Indian made cryogenic engine. The 2.3 tonne satellite is expected to be launched in April 2009. He said that Indian Space Research Organisation (ISRO), credited with the success of Chandrayaan-I will receive a whopping grant of Rs 95 crore to further study of manned space mission. "We are awaiting Cabinet approval to have a two-member crew on week-long manned space mission.

Source: Deccan Herald

Israel to launch nano-satellites from India in 2009

The Israel Nano-satellite Association (INSA) is planning to launch two small satellites sometime between July and September 2009, most likely from the Satish Dhawan Space Centre at Sriharikota, India. "This will be a proof-of-concept for new Israeli satellite technologies," said Dr Raz Tamir, head of INSA and Israel Aerospace Industries-MBT's newly launched nanosatellite department. The launch is also intended to make a case for the nanosatellite as a cost-effective alternative to the larger GPS versions. Nanosatellites are small satellites with a mass of between one and 10 kg (2.2-22 lb), designed to work in formation. A constellation of 60 low-earth orbit (LEO) nanosats can cover the earth. They are also cheap to build and launch. Because of its light weight several nanosatellites can be launched at a time bringing launch costs down to about \$150,000 per satellite. This compares to \$15 million per launch of a single regular-sized LEO satellite.

Source: domain-b.com

Navy to have own satellite next year

Does anybody have any idea on what is happening with Navys own dedicated satellite, on which the force is working since the last five years? On Tuesday, Navy Chief Admiral Sureesh Mehta said that orders have been placed with the Indian Space Research Organisation (ISRO) and the satellite is expected within a year-and-half. The ISRO, however, has denied receiving any order. "The Navy may be thinking to have its own satellite. But we have not received any order from the navy," ISRO spokesperson S Sateesh told Deccan Herald. Expected to boost Navy's blue water capabilities, the satellite is a communication platform which will provide the vessels on the sea a secure way of interacting with each other and with shore-based installations. "We have placed the order with Indian Space Research Organisation. It will be ready in a year and half," Navy Chief Admiral Sureesh Mehta said. His predecessor Admiral Arun Prakash admitted working closely with ISRO on the proposed satellite.

Source: Deccan Herald

LCA makes history, passes cold tests at Leh

The Tejas LCA programme reached a major milestone when the prototype vehicle PV-3 landed at Leh on December 13. The event is significant on many counts. Leh airfield in Ladakh region situated at an altitude of 10,600 ft is one of the highest airfields in the world. The prevailing temperature ranges from plus 5 to minus 20 degree celsius. The objective of the current phase of flight trials at Leh is to expose the onboard systems to the extreme low temperature, while making an assessment of the aircraft performance in the rarefied atmospheric conditions. Two Tejas prototypes PV-3 and LSP-2 are involved in this important environmental test. LSP-2 powered by the latest IN-20 engine with FADEC is in the Standard of Preparation (SOP) that will be cleared for induction into the service.

Source: Times of India

Flying high is their nature

A team of students from R V College of Engineering has designed and tested an Unmanned Aerial Vehicles (UAV), which will take part in a competition in Georgia, US, in April 2009. Sixty-five UAVs designed by college students from many countries are likely to be put to test during the event. UAV is an aircraft with no onboard pilot and flown either through remote control or programmed flight plans. They are mostly used by the military. The team comprises students from various branches of engineering — Naveen B L, Adarsh J D, Jeeth and Darshan, all mechanical engineering students; two from electronics and communication Shridhar and Raghunandan; Soumya Dutta is an electrical engineering student and Chetan

is from instrumentation engineering. They are guided by R S Kulkarni, professor of mechanical department and advisor to Team Vyoma, the project's name. The UAV took part in SAE Aerodesign 2008 supported by Lockheed Martin. It was India's first entry in the SAE Aerodesign competition. The UAV secured 18th rank out of 40 entries, which was quite good for a debut, according to the students.

Source: *Times of India*

Unmanned robotic ground vehicles being developed

Three types of unmanned robotic ground vehicles for detecting and clearing landmines, fencing the areas affected by nuclear, biological or chemical (NBC) warfare agents and watching the enemy territory at night are being developed by the Combat Vehicles Research and Development Establishment (CVRDE), Avadi, near here. The existing infantry combat vehicle (BMP-II version), which weighs about 14 tonnes, is being modified for the purpose. It will be remote-controlled from a base station. CVRDE director S. Sundaresh said: "They will be on the road in the later part of 2009. They will be equipped with high-power lasers, sensors and have the global positioning system. Our ultimate aim is to develop an unmanned combat vehicle." Normally, manned vehicles travel into areas affected by the NBC warfare agents to demarcate such territories. The unmanned vehicle can navigate obstacles,

travel to different terrains affected by the NBC warfare agents and mark such areas with pickets.

Source: *Hindu*

ISRO to set up Space Instrumentation Centre

In preparation for its constellation of forthcoming scientific satellites, including Chandrayaan II, the solar coronagraph Aditya and manned space missions, the Indian Space Research Organisation (ISRO) will be setting up a Space Instrumentation Centre here to manufacture scientific payloads that the spacecraft will carry. The laboratory will be established early next year on the ISRO Satellite Centre campus here, ISRO Chairman Dr G. Madhavan Nair told *The Hindu*. "Scientists in research laboratories and universities from across the country, who come up with concepts, can now have their ideas translated into instruments," said T.K. Alex, Director of the ISRO Satellite Centre. The role of the centre would essentially be to convert prototypes into "flyable hardware", he added.

Source: *Hindu*

India's first-ever 'Cargo Village' opens at BIA

Bengaluru International Airport Limited (BIAL) on Monday inaugurated a 'Cargo Village' at the airline cargo terminal, which it said is the first-of-its-kind in an airport in India. In a release issued here, BIAL stated the village, spread over 11 acres with adequate provision for future expansion, the facility is expected to strengthen Bangalore's position as a trade and commercial hub while ensuring faster clearances of import and export consignments from the cargo terminals at the airport. The facility, completed over a period of 10 months, has been built with an investment of Rs 12 crore. Equipped to house 120 freight forwarders and 80 custom house agents, it will be ready for occupation from Jan 1, 2009. It will be managed by the cargo associations. Essential facilities at the warehouse such as banks, conference rooms, training rooms, business centre, help desk, staff canteen, truck parking, etc make it a truly advanced facility.

Source: *Deccan Herald*

Science & engineering research board bill passed

In what may be the first step in streamlining the research funding system, the Lok Sabha passed a bill to set up an autonomous Science and Engineering Research Board (SERB) that will control allocation of research funds. To be created in the line of the US National Science Foundation (NSF), the board initially was to have an annual budget of Rs 1,000 crore. However, because of the changing economic scenario and lack of absorption capacity in the Indian research system, SERB may begin its functions with a modest budget of Rs 500 crore, sources told *Deccan Herald*. The money is expected to be released in the next budget.

Source: *Deccan Herald*

Simulators for Dhruv pilots in Bangalore

All aspiring helicopter pilots, including those who'd like to fly the indigenous Advanced Light Helicopter (ALH), can now look forward to a hi-tech training centre. This first-of-its-kind centre in South Asia, which has received all clearances including \$57 million, will come up in the new year. The centre will be a CAEHAL combine. CAE

Canada is a world leader in helicopter simulators and will set up the centre on the outskirts, most likely in Devanahalli with HAL airport as an alternative location. "This centre will be the first of its kind this side of the Suez," a top defence official said. The centre will train pilots in civilian and military flying. CAE will design and manufacture one full-mission simulator featuring its revolutionary roll-on and roll-off cockpit design, which enables cockpits representing various helicopter types to be used in the simulator.

Source: *Times of India*

City students win laurels at Aerospace Olympiad

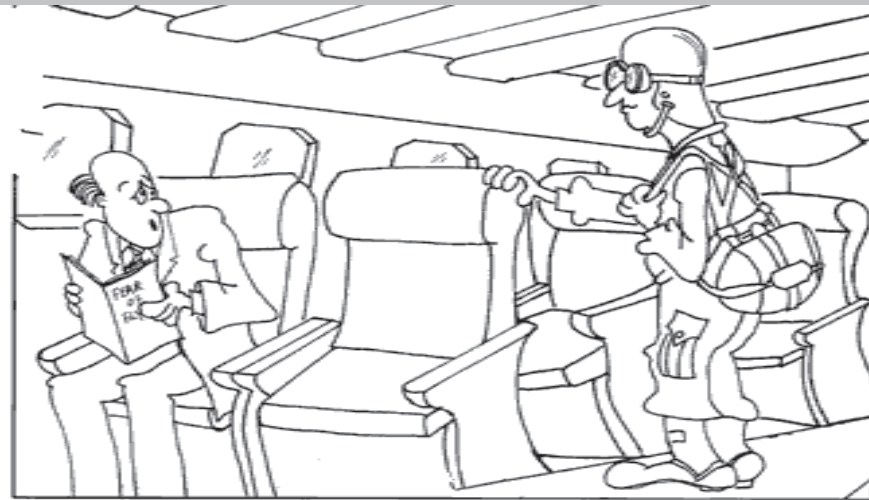
Pune Team named 'Vishwam' comes second at the 3rd national Aerospace Olympiad held in Nagpur City's 'Vishwam' Group has bagged the runner's up trophy at the 3rd National Aerospace Olympiad conducted by Aeronautical Society of India, Chandigarh, organised in Nagpur from December 4-6 at Bhonsla Military School. The competition was for students between Std IX and XII. 'Vishwam' Group Pune consisted of team members Atharva Sathaye, standard IX Bal Shikshan Mandir, Anuja Borkar, standard X, Abhinav Vidyalaya Pratik Sathe, Std.IX, Jog School and Veersinh Patil, standard IX, Loyola High School. They were guided by their teacher Prof. Ashish Kumar Dubey of Exed Academy who also had to accompany them for the events in Nagpur. "The aim of the competition is to create awareness about India's Aerospace programme, enable students to collect, collate, sift and arrange information from a large data, let students learn presentation skills, motivate few of the participants to join aerospace field as engineers and scientists," stated a press release.

Source: *Express India*

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For details contact :

Dr R Balasubramaniam
Editor - e-news Editorial Team
The Aeronautical Society of India
Suranjandas Road
New Thippasandra Post
Bangalore - 560 075
Telefax : 080 25273851
Email : editoraesi@dataone.in
editoraesi@yahoo.com



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The Indian National Academy of Engineering (INAE), founded in 1987, comprises India's most distinguished engineers, engineer-scientists and technologists covering the entire spectrum of engineering disciplines. INAE functions as an apex body and promotes the practice of engineering & technology and the related sciences for their application to solving problems of utmost national importance. Activities of the Academy include programmes on issues of technology policy, research projects, technical education, fellowships, awards etc.

The Academy is looking for suitable persons to fill the following positions-

- (1) **Deputy Executive Secretary**
(Pay Scale Rs 37400-67000 with Grade Pay Rs 8700/- in PB-4)

The Deputy Executive Secretary will provide a supporting role to the Executive Secretary in his duties that include interaction with the Governing Council and the Fellowship of the Academy, overseeing and coordinating the day-to-day activities, administration and the publications of the Academy.

Qualifications and Experience: An engineer with a degree in Engineering or Technology, below 50 years of age who has at least 15-20 years experience in general management in an engineering, technical or Government organization. Post Graduate degree in Engineering/Technology or Management would be preferred. It is essential that the applicant has engineering and technological accomplishments of a high order; has adequate computer knowledge & internet literacy and also have excellent human relations & communication skills. Should also have good knowledge of overall scientific & technological community and activities in the country. Experience in management of financial resources would be an added qualification.

- (2) **Research Officer/ Senior Research Officer**
(Pay Scale Rs 15600-39100 with Grade Pay Rs 7600/- in PB-3)

The Research Officer/Senior Research Officer will be responsible for the research activities/programmes/schemes and publications of the Academy. The Academy is also planning to launch a monthly web-based knowledge dissemination publication to be titled "**Current Engineering**" which could be readily absorbed by busy senior engineers to keep them updated with new, innovative developments in engineering sciences and practice. The Research Officer will also be entrusted with the task of preparing material content of this publication and coordinating with the Board of Editors to finalize the monthly publication.

Qualifications and Experience: Masters degree in Science or a Bachelors Degree in Engineering or Technology with five to ten years experience in an R&D organization or Science & Technology organization with experience and aptitude in Science & Technology Policy Studies and scientific writing. Post Graduate degree in Engineering /Management would be added qualifications. The candidate should be computer savvy and must have excellent communication skills and a flair for writing.

Both positions will be Delhi based. Candidates may send their applications with complete bio-data along with latest photograph, and attested copies of Degree Certificates to the Executive Secretary, Indian National Academy of Engineering, 6th Floor Vishwakarma Bhawan, Shaheed Jeet Singh Marg, New Delhi 110 016. Last date of receipt of application is **Feb 15, 2009**.