दैनिक जागरण

Sat, 27 April 2019

डीआरडीओ के वैज्ञानिक ने बताया तनाव से निपटने का तरीका

हार्टफुलनेस (हार्दिक) ध्यान से मानसिक एवं शारीरिक स्वास्थ्य पर बहुत ही अच्छा प्रभाव पड़ता है। योगिक विज्ञान के क्षेत्र में आइआइटी दिल्ली के पहले पीएचडी ग्रेचुएट डॉ नरेंद्र कुमार आर

जागरण संवाददाता, नई दिल्ली : योग विज्ञान के क्षेत्र में आइआइटी दिल्ली से पहला शोध कार्य करने वाले और डीआरडीओ (डिफेंस रिसर्च एंड डेवलपमेंट) के वैज्ञानिक डॉ. नरेंद्र कुमार आर्या ने अपने अध्ययन के जरिये तनाव और अवसाद से निपटने का नायाब तरीका बताया है। डॉ. आर्या कहते हैं कि हमारे अंदर सकारात्मक ऊर्जा होती है। अगर एक तय विधि से हम उस पर ध्यान केंद्रित करते हैं तो मानसिक और शारीरिक स्वास्थ्य पर चमत्कारिक रूप से सुधार होता है। वह इसे हार्टफुलनेस ध्यान कहते हैं।

डॉ. नरेंद्र कुमार आर्या ने एक जाने-माने अस्पताल के होल्टर टेस्ट (हृदय की एक जांच) के जरिये अपने अध्ययन को सिद्ध भी किया है। उन्होंने शोध में तीन अलग-अलग अध्ययन किए। पहला क्रेस्ट (सेंटर फॉर रिसर्च एजुकेशन साधना एंड ट्रेनिग) बेंगलुरु, दूसरा हिमालयन आश्रम उत्तराखंड और तीसरे अध्ययन को दिल्ली के एक निजी अस्पताल में सिद्ध किया। शोध के दौरान पहले अध्ययन में 30 लोग, दूसरे में 55 और तीसरे में 30 लोग शामिल किए। पहले दो अध्ययनों को मानसिक स्वास्थ्य संबंधित मनोवैज्ञानिक आंकड़ों के आधार पर सिद्ध किया। तीसरे अध्ययन में होल्टर टेस्ट के जरिये ध्यान के दौरान लोगों की हृदय गति की दर रिकॉर्ड की। इस दौरान यह सामने आया कि हार्टफुलनेस ध्यान में बैठे लोगों के नर्वस सिस्टम में सुधार हुआ है। लोगों में खुशी का स्तर काफी बढ़ा हुआ पाया गया। खुशी का स्तर बढ़ने से तनाव और अवसाद के स्तर में कमी आई। उन्होंने बताया कि इस अध्ययन का इस्तेमाल कई लोग अपने मानसिक और शारीरिक स्वास्थ्य को सुधारने में कर रहे हैं।

कैसे करें यह ध्यान

डॉ. आर्या ने बताया कि इस ध्यान में पहले आंख बंद करके बैठते हैं। योग करने वाले अपने आप को यह सुझाव देते हैं कि सकारात्मक ऊर्जा मेरे दिल में है या यह भी कह सकते हैं कि हमारा दिल भीतर से साफ है। फिर मन में आ रहे बाकी विचारों को नजरंदाज करते हैं। यह प्रक्रिया 30 से 60 मिनट तक की जाती है।

आइआइटी खड्गपुर और कानपुर से भी की है पढ़ाई

डॉ. नरेंद्र कुमार आर्या ने आइआइटी खड्गपुर से वर्ष 1988 में एरोनॉटिकल इंजीनियरिग में बीटेक किया था। इसके बाद आइआइटी कानपुर से 1990 में एरोनॉटिकल इंजीनियरिग में एमटेक किया। जनवरी 2013 में आइआइटी दिल्ली में एक्सटर्नल रजिस्ट्रेशन के तहत पीएचडी में पंजीकरण कराया था।

THE HINDU

Mon, 29 April 2019

ASAT a testimony to Indian technological capabilities: DRDO Chairman

Congratulates DRDO labs and team members on Mission Shakti's success

Hyderabad: The Anti-Satellite Test (ASAT) has demonstrated the capabilities of indigenously-developed Indian technologies to carry out a critical mission with high degree of precision, said G. Satheesh Reddy, Chairman of DRDO, here on Sunday.

All the critical systems, including the software and sensors, were developed by a team of scientists from various specialisations who worked in complete synergy day and night for six months, culminating in the successful launch, he explained. Dr. Reddy was speaking at the 'Technical Meet and Aerospace Luminary Lecture' organised by The Aeronautical Society of India at the DRDL. "The most important challenge during the mission was to ensure that all the systems cohesively responded to the changing dynamics," he said and congratulated all the DRDO labs and team members associated with Mission Shakti. Programme Director U. Rajababu highlighted the mission objectives and the criticalities of Mission Shakti and said the high altitude and high velocity interception pose many technological challenges as high levels of precision was required when relative velocity of the systems involved is around 10 km/sec.

By using accurate sensors and on-board seeker, the ASAT missile was guided towards the target to ensure direct hit without employing any warhead, he said.

Y. Sreenivas Rao, Project Director, AD (Exo) and Secretary, AeSI, congratulated the industry partners for their involvement. The Dr. A.P.J. Abdul Kalam Missile Complex led the mission with the support of ITR, Chandipur, and multiple other DRDO labs.

V. Ramgopal Rao, Director of IIT-Delhi, delivered a talk on 'Connecting Academic R&D with Product Innovation: A Roadmap for the Future". V. Kamakoti, professor at IIT-Chennai, in his lecture spoke of 'Data Libre', an initiative taken by the IIT-Chennai in data analytics for the financial world which can be customised for real-time data processing for the financial sector.

https://www.thehindu.com/news/national/telangana/asat-a-testimony-to-indian-technological-capabilities-drdo-chairman/article26974437.ece

DECCAN Chronicle

Mon, 29 April 2019

Hyderabad: Scientists rubbish worries on A-Satellite debris

DRDO chief says a lakh pieces of debris are already floating in space

Hyderabad: Responding to criticism from some quarters that the debris from Mission Shakti, the anti-satellite missile, that India tested recently will pose a threat to international space stations, senior scientists working with the DRDO on the anti-satellite missile programme said there were one lakh pieces of debris floating in space.

"Satellites launched by different countries turn into debris. Are they not a threat? Why is India's anti-satellite missile only a threat?" queried a scientist, who worked on Mission Shakti.

The Aeronautical Society of India, the premier body that works on aeronautical dynamics, and Defence Research and Development Laboratories (DRDL) scientists met on Sunday at the DRDL in connection with Mission Shakti.

Congratulating the DRDO Labs and members associated with Mission Shakti, Dr G. Satheesh Reddy, the chairman of DRDO and Aeronautical Society of India, said, "The A-SAT test has demonstrated Indian technological capabilities to carry out such a critical mission with very high degree of precision."

Dr Reddy said that critical systems including software and sensors were indigenously developed and a team of scientists from various specialisations have worked in complete synergy day and night for six months culminating in the successful launch. The most important challenge during the mission was to ensure that all the systems cohesively responded to the ever changing dynamics.

The chairman was speaking to a cluster of scientists working with DRDO Laboratories.

Highlighting the objectives and criticalities of Mission Shakti, senior scientist U. Rajababu, programme director, 'AD' mission, said, "The high altitude and high velocity interception poses many technological challenges in respect of seekers for early detection and trajectory correction systems for finer corrections before engagement. When the relative velocity of the systems involved is around 10 km/second there is a pertinent need for high levels of precision."

"The booster needs to provide the requisite velocities, the technologies such as dome opening, heat shield etc need to be precise and smooth, apart from the highly accurate and secured data communication systems. Using accurate sensors and onboard seeker, the A-SAT missile was guided towards the target to ensure direct hit without employing any warhead," he said.

https://www.deccanchronicle.com/nation/current-affairs/290419/hyderabad-scientists-rubbish-worries-on-a-satellite-debris.html

NDTV

Sun, 28 April 2019

India to testfire air-launched version of Brahmos missile soon: report

Sources in the IAF said they are very keen on a fast-track development of the 290-km strike range missile which can destroy targets on the ground

New Delhi: To boost ability to destroy major ground targets, the Indian Air Force (IAF) and the DRDO are planning to testfire the air-launched version of the world's fastest supersonic cruise missile BrahMos next week from a Su-30MKI combat aircraft.

Sources in the IAF said they are very keen on a fast-track development of the 290-km strike range missile which can destroy targets on the ground and can be used for Balakot-type air strikes, where the planes will not even have to cross enemy borders for the hit.

"A test of the missile is planned for the next week in the southern part of the country to prove its integration with the heavyweight Su-30 fighter," they said.

During Balakot airstrikes, the IAF had used the Spice-2000 bombs launched from a Mirage-2000 fighter aircraft for striking Jaish-e Mohammed (JeM) terro camp in Pakistan.

With the availability of BrahMos missile developed by DRDO, the IAF would be able to destroy similar targets from at least 150 km inside the Indian territory.

The world's fastest supersonic cruise missile was first flight tested in July 2018 over the Bay of Bengal from a Su-30MKI only.

The supersonic cruise missile can be utilised in "multi-mission" roles, including precision strikes on terror camps across the LoC, against high-value naval targets including aircraft carriers and nuclear bunkers.

During the previous test, the missile was gravity dropped from the aircraft and the two-stage missile's engine fired up and propelled it towards the intended target.

https://www.ndtv.com/india-news/india-to-testfire-air-launched-version-of-brahmos-missile-soon-report-2029642

my nation

Mon, 29 April 2019

DRDO prepares air-launched BrahMos missile that can hit targets deep inside Pakistan

According to a senior official, Hindustan Aeronautics Limited is working to equip Sukhoi aircraft to carry and launch BrahMos missiles. Once successful, Su-30 MKIs could easily carry out the long-range strike

New Delhi: Post the Balakot air strike carried-out by Indian Air Force (IAF) in Pakistan which destroyed Jaish-e-Mohammed's (JeM) terror facility in Pakistan, IAF has been looking for new options to increase its firepower. As a result, IAF along with DRDO may soon test-fire air-launched version of the BrahMos supersonic cruise missile soon.

According to a senior official, Hindustan Aeronautics Limited (HAL) is working to equip Sukhoi aircraft to carry and launch BrahMos missiles. Once successful, Su-30 MKIs could easily carry out the long-range strike.

Hence, in the case of Balakot like situation these lethal missiles can be fired from within the country as it has a high strike range of 290 km.

During Balakot airstrikes, the IAF had used the Spice-2000 bombs launched from a Mirage-2000 fighter aircraft for striking Jaish-e Mohammed (JeM) terror camp in Pakistan. With the availability of BrahMos missile developed by DRDO, the IAF would be able to destroy similar targets from at least 150 km inside the Indian territory.

As per the plan, the team is working to make the missiles lighter so that it can be carried in a fighter plane and 40 such Sukhoi jet will be fitted with deadly missiles.

Up until now, only two IAF Su-30 MKI fighters have been converted to fire the new 2.5-tonne supersonic air-to-surface cruise missile. Due to the size and weight of the BrahMos-A, each Su-30 MKI can only carry one missile in a transport launch canister. The world's fastest supersonic cruise missile was first flight tested in July 2018 over the Bay of Bengal from a Su-30MKI only.

The IAF test fired a BrahMos-A from a Su-30 MKI in November successfully destroying a naval target. The IAF has conducted several tests of the BrahMos-A in 2016 and 2017. Sources said that IAF is keen to fast-track the process.

Modifications in order for the Su-30 MKI to carry and launch the BrahMos-A include reinforcing the aircraft's undercarriage in addition to various mechanical, electrical and software upgrades

What is BrahMos

- BrahMos missile has a strike range of around 290 km and is world's fastest supersonic cruise missile, from land, sea and air, completing the tactical cruise missile triad for the country.
- The missile has two stages---first is solid and the second one is a ramjet liquid propellant.

- It operates on 'fire and forget principal' and is capable of being launched from land, sea, underwater, and air against sea and land targets.
- It is capable of carrying a warhead of 300 kg (both conventional as well as nuclear) and has a top supersonic speed of Mach 2.8 to 3 (roughly three times speed of sound).
- The missile is highly versatile and its unmatched speed, precision and power make it the ultimate modern weapon. Developers say that the missile has a strike accuracy rate of 99.99 per cent.
- BrahMos follows a variety of trajectories like high, high-low, low, surface-skim etc. unlike ballistic missiles which are powered for half the journey times and follow an ellipsoidal trajectory. Moreover, because its trajectory cannot be predicted it is difficult to defend against.
- With INS Rajput, the first version of BrahMos missile system was inducted into the Navy in 2005. It is now fully operational with two regiments of the Army.

https://www.mynation.com/security/pulwama-aftermath-no-public-vehicle-movement-on-national-highway-on-sunday-wednesday-pplbnr

THE NATIONAL INTEREST

Sat, 27 April 2019

Meet the Arjun: the tank that took India 35 years to build

The decision to produce an indigenous Indian tank was made in 1972, shortly after the Indo-Pakistani War of 1971

By Kyle Mizokami

In the mid-1970s, India began development on a totally new, advanced main battle tank that would satisfy the needs of the country's Armored Corps. An impressive combination of firepower, armor protection and mobility, the tank was to be India's first indigenously produced tank—and one of the best in the world. The service date for the tank, known as Arjun, was confidently set for 1985.

Instead, the Arjun suffered a tortuously long development period spanning two centuries. The final result, introduced into the army twenty-six years later than originally planned, is a mess of a tank that not even the Indian Army wants.

The Indian Army's Armored Corps has been in existence for seventy-four years, tracing its roots to the Second World War, and has fought in every one of India's wars with neighbor and rival Pakistan. The Corps has across has sixty-three armored regiments (the equivalent of battalions), spread across eight armored and mechanized divisions and another seven armored and mechanized brigades.

(This first appeared in November 2016.)

The decision to produce an indigenous Indian tank was made in 1972, shortly after the Indo-Pakistani War of 1971. In 1974, the state-run Defence Research and Development Organisation (DRDO) was tasked with developing the tank. It was to be a forty-ton vehicle, armed with a 105-millimeter gun. It would be small enough to be strategically mobile, capable of being shuttled on internal lines (roads and railroads) to vital sectors along the long border with Pakistan.

DRDO decided to make the tank, called Arjun, a mostly Indian design. The Combat Vehicles Research and Development Establishment, part of DRDO, was to design the hull, armor, turret, gun and running gear. The main gun and engine would be imported. Unfortunately, India's defense-

industrial base was nowhere near capable of creating such a vehicle. As if that weren't enough of an obstacle, India's world-famous bureaucracy and red-tape machine was another enemy to progress.

Today, the Arjun Mk 1 is a sixty-two-ton tank, complete with a 120-millimeter gun, advanced composite armor, a 1,400-horsepower turbocharged engine, and advanced fire control and thermal sights. Although the tank's specifications are impressive, the actual product leaves a lot to be desired.

By 2009, thirty-five years after it was originally conceived, Arjun was "ready" for production. Despite shortcomings revealed in testing, the Indian Army was forced to buy 124 Arjuns—enough to equip just two armored regiments—to keep state tank production facilities open. By mid-2015, two years after the purchase was complete, nearly 75 percent of the Arjun force was inoperable due to technical problems.

Arjun's armored protection evolved significantly over thirty-five years. The tank is fitted with Kanchan armor, a locally designed composite blend that is allegedly similar to British Chobham armor. Kanchan is rumored to be capable of shrugging off point-blank shots from the 125-millimeter gun of Indian T-72 tanks. Arjun is so well protected that its weight ballooned from the original forty-ton specification to sixty-two tons.

This increase in protection came at a cost—decreased tactical and operational mobility. As originally specified, a forty-ton tank with a 1,400-horsepower engine would have an impressive 35-to-1 horsepower-to-weight ratio. Unfortunately, Arjun's weight ballooned from forty to sixty-two tons, with no corresponding increase in engine power. DRDO finally settled on a German-made MTU 1,400-horsepower water-cooled diesel engine, complemented with an Indian supercharger. Arjun's horsepower-to-weight ratio sank to a mediocre 22.5 to 1. The vehicle's weight also means it cannot be used in Punjab and the northern deserts of India in India's "Cold Start" offensive strategy against Pakistan.

The Arjun's development period was so long that major design decisions became completely obsolete. The 105-millimeter gun, perfectly adequate in the 1970s when stacked up against the NATO-standard 105-millimeter L7 gun (the M68 in U.S. Army service), and the 115-millimeter gun of the Soviet T-62 tank, were obsolete by the early 1990s.

In the end, the Arjun ended up with a 120-millimeter rifled barrel gun, capable of firing High Explosive, Armor-Piercing Discarding Sabot rounds, High Explosive Anti-Tank rounds and, perhaps not unusually for a former British colony, High Explosive, Squash Head rounds. DRDO conducted test firings of the Israeli-made LAHAT long-range antitank missile, which offered a high probability of kill against armored vehicles out to six thousand meters, but the round was dropped in 2014. DRDO claims it will develop an indigenous equivalent.

How did Arjun, which took decades to develop, end up being such a disappointment? The tank took so long to develop that technologies not even invented when Arjun was first proposed had to be added to the tank. GPS navigation, laser warning receivers, non-explosive-reactive armor and other innovations were merely research papers in 1974, but by the early 2000s were must-have inventions that added to the tank's complexity, weight and cost.

The inability of DRDO to put its foot down and admit that it could not build the tank on time and on schedule doomed the tank. India's state of the military art was such that a new tank would out of necessity face a prolonged development time. The more the tank project dragged on, the more the tank needed to be redesigned to incorporate new technologies. The tank was trapped for decades in a development death spiral, and the end product is correspondingly mediocre.

DRDO is busy at work designing Arjun Mk II, which will allegedly contain many improvements over the original Mk I. The Indian Army for its part is adamant it wants no part of the Mk II until prototypes perform satisfactorily, and would much rather buy an overseas tank. The army, for now prefers the Russian T-90 tank and may express interest in the brand new T-14 Armata tank. Russian state media has reported that India is interested in the Armata as the basis of a new, localized tank. Whether that's true remains to be seen.

(Kyle Mizokami is a defense and national-security writer based in San Francisco who has appeared in the Diplomat, Foreign Policy, War is Boring and the Daily Beast. In 2009 he cofounded the defense and security blog Japan Security Watch.)
https://nationalinterest.org/blog/buzz/meet-arjun-tank-took-india-35-years-build-54422

Sun, 28 April 2019

237 Conferred degrees at LBSIM's 23RD annual convocation

New Delhi: Lal Bahadur Shastri Institute of Management (LBSIM), India's premier B-school hold its 23rd annual convocation at Dwarka Campus New Delhi. Dr. Tessy Thomas, Distinguished Scientist & Director General (Aero System),DRDO well- known as "India's Missile Woman" graced the ceremony as the Chief Guest.The convocation viewed 237 students passing from the three PG Diploma Management streams ,in which 169 students were from PGDM (Full –time) ,8 students from PGDM(Part-time) and 60 students from PGDM(Finance).

The convocation witnessed gold medallists for academic excellence in their respective streams. The meritious students were Divyanshi Sharma PGDM (Full-time), Aishwarya Singla PGDM (Finance) and Vimal Kumar Srivastav PGDM (Part-Time) . The Lalita Shastri Memorial Award for overall excellence went to Ms. Divya Chopra and Amit Chopra Memorial Award for contribution to Social Service and Extracurricular Activities went to Mr.Saurabh Maloo. The ceremony also presented awards, scholarships and recognition to students from all the three streams for their contribution and excellence in the academics and co-curricular activities.

Delivering the convocation address, guest, Dr. Tessy Thomas, Director General (Aero System), DRDO said that the economy growth of the country depends on the growth of science and technology. India has provided its power in the field of science and technology by exploring space. She added the true leader is someone who earns respect through his rightful actions and mass following without any dictatorship. Leader must inspire others to follow his footsteps and become the guiding light for the humanity.

Shri Anil Shastri, Chairman, LBSIM said "World is transforming, rapidly in every sector but core in science & technology. India has more potential to adopt new things as compare to other countries, but students need to be part of this. He emphasized on the optimum utilization of all energies toward a definite goal and contribute to the development of the nation. He also paid his tribute to the brave soldiers of our countries for their sacrifice.

Dr.D.K Srivastav ,Director ,LBSIM presented the institute annual report and congratulated students for making the institute as well as their family proud.

The campus was a scene of festivities and emotional moments with farewell parties, group photos, selfies and celebrations. The family members of the students exchanged notes of the success of their wards and immensely enjoyed the convocation ceremony.

https://indiaeducationdiary.in/237-conferred-degrees-lbsims-23rd-annual-convocation/