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समाचार पत्रों से चयित अंश Newspapers Clippings

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Sun, 21 June 2020

पीएमओ, राष्ट्रपति भवन, डीआरडीओ में तैनात हुआ 'ओकमिस्ट' सैनिटाइजर डिस्पेंसिंग यूनिट

एक ऑटोमैटिक मिस्ट आधारित सैनिटाइजर डिस्पेंसिंग यूनिट 'ओकमिस्ट' डेवलप किया है जो पीएमओ राष्ट्रपति भवनसे लेकर कई मंत्रालयों अस्पतालों आर्मी कार्यालय में स्थापित किया गया है।

अंशु सिंह

नई दिल्ली: कोविड-19 से लड़ने के लिए डीआरडीओ एवं नोएडा स्थित रॉयट लैब्स ने मिलकर एक ऑटोमैटिक मिस्ट आधारित सैनिटाइजर डिस्पेंसिंग यूनिट 'ओकमिस्ट' डेवलप किया है, जो पीएमओ, राष्ट्रपति भवन, डीआरडीओ से लेकर कई मंत्रालयों, अस्पतालों, आर्मी कार्यालय, सुप्रीम कोर्ट परिसर में स्थापित किया गया है और इसके अच्छे नतीजे भी मिल रहे हैं...

2016 में स्थापित रॉयट लैब्स (ओक्टर स्मार्ट होम) एक ऐसा टेक स्टार्ट अप है, जो इंटरनेट कनेक्टेड स्मार्ट डिवाइसेज (रिमोट या एप से नियंत्रित होने वाले पंखे, एसी, टीवी आदि) के विकास में संलग्न रहा है। इसके बनाए स्मार्ट यूनिवर्सल रिमोट, स्मार्ट प्लग्स, स्मार्ट लॉक्स, स्मार्ट बॉक्स की काफी मांग है। कुछ समय पहले ही इसने आवाज से नियंत्रित होने वाले होम अप्लायेंसेज भी लॉन्च किए थे। लेकिन जब कोविड-19 ने दस्तक दी, तो कंपनी ने ऐसे प्रोजेक्ट्स पर काम शुरू किया, जो इस महामारी के खिलाफ जंग में कारगर साबित हो।

घर में जुगाड़ से तैयार हुआ था प्रोटोटाइप

रॉयट लैब्स के संस्थापक एवं सीईओ शिशिर गुप्ता बताते हैं, हमने डीआरडीओ के लैब सीएफईईएस के साथ पहले कुछ प्रोजेक्ट्स किए थे। अप्रैल महीने में जब सीएफईईएस की ओर से पहली बार एक सैनिटाइजर डिस्पेंसर यूनिट का डिजाइन आया और उसका प्रोटोटाइप डेवलप करने को कहा गया, तो हमारी टीम ने अपने-अपने घरों में रहते ही फौरन उस पर काम शुरू कर दिया।

घर में जो भी सामान या औजार (टीवी का इलेक्ट्रॉनिक पीसीबी, पुराने एक्वेरियम से निकाले गए पंप आदि) उपलब्ध था, उससे हमने एक प्रोटोटाइप विकसित किया। इस तरह, डीआरडीओ एवं रायट लैब्स की संयुक्त कोशिशों से यह डिस्पेंसर ओकमिस्ट तैयार हो सका।



एक ऑटोमैटिक मिस्ट आधारित सैनिटाइजर डिस्पेंसिंग यूनिट 'ओकमिस्ट' डेवलप किया है जो पीएमओ राष्ट्रपति भवनसे लेकर कई मंत्रालयों अस्पतालों आर्मी कार्यालय में स्थापित किया गया है।



बिना स्पर्श के संचालित हो सकता 'ओकमिस्ट'

कह सकते हैं कि 'ओकमिस्ट' आज के समय की जरूरत है, जो डीआरडीओ की सीएफईईएस लैब द्वारा विकसित मिस्ट एरेटेर टेक्नोलॉजी पर आधारित है। शिशिर के अनुसार, इस सैनिटाइजर को अल्ट्रासोनिक सेंसर के जरिए एक्टिव कर सकते हैं यानी इसे बिना स्पर्श किए संचालित किया जा सकता है। यह तकनीक रॉयट लैब में डेवलप की गई है।

फिलहाल, इस डिस्पेंसिंग यूनिट का निर्माण नोएडा स्थित फैक्ट्री में किया जा रहा है। इसके अलावा, इस डिवाइस को डीआरडीओ के दफ्तर, राष्ट्रपति भवन, पीएमओ, सुप्रीम कोर्ट, गृह मंत्रालय, वित्त मंत्रालय, आर्मी कार्यालय, सरकारी अस्पतालों, एमबिएंस मॉल के अलावा कई अन्य स्थानों पर इंस्टॉल भी किया जा चुका है। महामारी से लड़ने के लिए डीआरडीओ द्वारा डिजाइन किया गया यह सबसे कामयाब प्रोजेक्ट है।

एआइ एवं आइओटी की बढ़ी मांग

इस महामारी ने बहुत कुछ सिखाया है। टेक्नोलॉजी के इस्तेमाल से चुनौतियों से लड़ना आसान हुआ है। आर्टिफिशियल इंटेलिजेंस, ऑटोमेशन एवं आइओटी के विकास से कई अकल्पनीय चीजें संभव हो सकी हैं। स्वास्थ्य सेवा के क्षेत्र से लेकर आम नागरिक तक आइओटी टेक्नोलॉजी का प्रयोग कर रहे हैं। लोगों को जागरूक कर रहे हैं कि वे मास्क के बिना बाहर न निकलें।

ड्रोन की मदद से एक निश्चित दूरी से ताप लेना संभव हो सका है। शिशिर की मानें, तो आने वाले समय में एआइ आधारित ऑटोमेशन का सकारात्मक प्रयोग और बढ़ेगा। होटल, ऑफिसेज में सुरक्षा के मद्देनजर टच फ्री डिवाइसेज की मांग बढ़ेगी। आम लोग भी डिशवॉशर एवं ऑटोमेटिक फ्लोर क्लीनर्स को प्राथमिकता देंगे। यूं कहें कि ऑटोमेशन एवं आइओटी नया सामान्य होगा।

मुश्किल है दौर, लेकिन हौसला बरकरार

मौजूदा दौर में न सिर्फ स्टार्ट अप्स के लिए एक युद्ध समान स्थिति बनी है, बल्कि जो स्थापित कंपनियां हैं, उन पर काफी असर हुआ है। शिशिर ने अपने एक दोस्त का ताजा उदाहरण देते हुए बताया कि वे एक कॉस्मेटिक्स कंपनी चलाते हैं। मजाक में अक्सर ही कहा करते थे कि काश ऐसा भी दिन आए, जब वे लक्मे के रेवेन्यू के करीब पहुंच सकें। वह ख्वाहिश इस महामारी ने पूरी कर दी। अप्रैल महीने में दोनों ही कंपनियों का रेवेन्यू शून्य रहा।

लेकिन मैं मानता हूं कि स्टार्ट अप्स का लचीला रवैया उनकी शक्ति है। कठिन समय आया है, लेकिन हम सभी फिर से अपनी रौ में लौटेंगे। जैसे नोटबंदी के दौरान भी हमने एक मुश्किल समय देखा था। कारोबार में कई प्रकार की दिक्कतें आई थीं। लेकिन उसने बेहतर कारोबारी एवं इंसान बनने के लिए प्रेरित किया था। इस दौर ने भी एक सीख दी है कि आगे हम कोई भी नई चीज डेवलप करने से पहले वह करेंगे, जिसकी मार्केट को पहले जरूरत होगी, जिससे किसी समस्या का त्वरित समाधान निकलता हो।

<https://www.jagran.com/news/national-pmo-rashtrapati-bhavan-drdo-has-okmist-sanitizer-dispensing-unit-20411118.html>

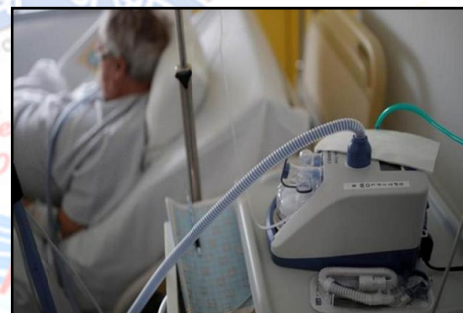
Fighting Coronavirus: Godrej Aerospace develops a critical component for making Covid-19 ventilators

A special isolated ward adhering to strict health and safety protocols for 42 beds including 10 ICU beds for Covid-19 patients has been created in an effort to support the larger community in and around Vikhroli during the pandemic, the trustees of Godrej Memorial Hospital(GMH) at Pirojshanagar, Vikhroli (East)

By Huma Siddiqui

Godrej Aerospace, a business of Godrej & Boyce has earlier this week delivered 1,000 Proportional Solenoid Valves which is a critical component for making ventilators. Because of the global pandemic of COVID-19, the demand for ventilators and other life-saving devices across the country and the company undertook the challenge to produce the entire Proportional Solenoid Valve for the first time in India. This component has been developed and made by the company for the Defense Research and Development Organization (DRDO) and in just ten days was able to start production beating all odds.

According to the company statement, the efforts of the Godrej Aerospace were supported by the teams of engineers from DRDO, Aeronautical Development Agency (ADA) and Bharat Electronics (BEL) collaborated with engineers at Godrej Aerospace. A test test-rig was set up for prototypes which were based on DRDO designs.



What does this component do?

This Proportional Solenoid Valve helps in regulating the flow of oxygen which is based on the requirement of the patient in each breathing cycle. This is one of the critical components for manufacturing ventilators and other medical devices.

The company which has successfully produced complex electro-magnetic valves for medical devices, is now planning to ramp up the manufacturing of different types of PSVs.

The company which has successfully produced complex electro-magnetic valves for medical devices, is now planning to ramp up the manufacturing of different types of PSVs.

This will help to meet the current and future demand for critical medical and other equipment that are totally “Made in India”.

In an effort to re-engineer supply chains in the aftermath of Covid-19, the company is in the process of drawing up plans for the international market as a new supply link in the global medical devices industry.

Said Surendra M Vaidya, Executive Vice President and Business Head, Godrej Aerospace “Our relationship with DRDO spans over three decades in various sectors including defence, space missions and satellites. The Proportional Solenoid Valves were developed and manufactured in 10 days, 1000 which are based on the DRDO designs. And the aim is to deliver 2,000 by the end of June.”

The company’s role in fighting the global pandemic

Partnered with health authorities to urgently ramp up critical care capacities by supplying over 1200 Speciality Hospital and ICU Beds as well as mattresses, for more than 3000 beds for isolation centres across the country.

Also, the company has provided 600 Isolation beds and 200 ICU Motorised beds and other healthcare accessories to make the facility operational in a short span of time. This has been

provided at the Seven Hills Hospital Mumbai, a key BMC care facility. The Godrej Interio has also been helping the BMC quickly furnish new Covid-19 care facilities across the city.

A special isolated ward adhering to strict health and safety protocols for 42 beds including 10 ICU beds for Covid-19 patients has been created in an effort to support the larger community in and around Vikhroli during the pandemic, the trustees of Godrej Memorial Hospital(GMH) at Pirojshanagar, Vikhroli (East).

Medical equipment and protective supplies

The company is already giving out supplies in Maharashtra, which is among the most affected regions in the country and plans to extend this support to other states as well.

Buying and supplying medical equipment and protective supplies for the Brihanmumbai Municipal Corporation (BMC)

Has donated Rupees 5 crore to the BMC

Donated 115 hospital beds to Maharashtra government hospitals

It has earmarked a fund of Rupees 50 crore for community support and relief initiatives in India and there are plans to supplement this amount over time.

Has assisted vulnerable communities and daily wage earners by providing over 3.35 million cooked meals and dry ration kits to over 78,100 families across India.

<https://www.financialexpress.com/lifestyle/health/fighting-coronavirus-godrej-aerospace-develops-a-critical-component-for-making-covid-19-ventilators/1997956/>



Celebrating
50 years

Sun, 21 June 2020

Know what is Okmist sanitizer dispensing unit?

By Harshita Jain

To fight the coronavirus, DRDO and Noida-based Royat Labs have developed an automatic mist based sanitizer dispensing unit 'Okmist', which is set up from PMO, Rashtrapati Bhavan, DRDO to many ministries, hospitals, army offices, Supreme Court premises.

Royat Labs (Octor Smart Home), established in 2016, is a tech startup that has been involved in the development of Internet-connected smart devices (remote or app-controlled fans, AC, TV, etc.). Smart universal remotes, smart plugs, smart locks, smart boxes are in great demand. Some time ago it also launched voice-controlled home appliances but when Covid-19 knocked, the company started working on such projects, which proved to be effective in the war against this epidemic.

In his statement, Shishir Gupta, the founder, and CEO of Royat Labs said that we had done some projects before with DRDO's Lab CFEES. In April, when the design of a sanitizer dispenser unit for the first time came from CFEES and was asked to develop a prototype. Our team started working on it as soon as they lived in their homes or tools (electronic PCB of TV, pumps made from old Aquarium etc.) were available, from which we developed a prototype. In this way, the combined efforts of DRDO and Rayat Labs enabled this dispenser okmist.

<https://english.newstracklive.com/news/pmo-rashtrapati-bhavan-drdo-has-okmist-sanitizer-dispensing-unit-mc23-nu870-ta294-1101042-1.html>

For the military deployed in Icy areas medication will likely be made from Lahaul's Charma – Himachal

By Abhigale Lormen

Lahaul will do away with the issues confronted by the Indian Army personnel who've given responsibility within the excessive altitude border areas of the nation. The Defense Research and Development Organization (DRDO) is engaged in making medication of Chharama (seabuckthorn). Although this analysis has been occurring for the final one and a half decade, the work of free clinic analysis of medication has been accomplished within the first section. Lack of oxygen in excessive altitude will assist troopers in excessive altitude to adapt to low temperature and atmosphere in brief time.

However, Chharama has additionally claimed to make Corona medicines, about which the Seabuckthorn Association of India goes to make booster medication with seven institutes together with IIT Roorkee and Mandi and has despatched a undertaking of seven and a half crores to the Ministry of AYUSH for approval. According to the knowledge, MoU was signed in 2000 at Himachal Pradesh Agricultural University, Palampur and DRDO. After 4 to 5 years of research, DRDO ready a undertaking referred to as Charak and acquired approval in 2007-08.



In the primary section, the drug was examined in free clinic analysis, the place it yielded higher outcomes. The Defense Institute of Physiology and Allied Sciences (DIPAS) is engaged on hypoxia and snow baits. The Institute of Nuclear Medicine and Allied Sciences (INMAS) Delhi has ready cream of radish for radiation. Seabuckthorn Association of India General Secretary, Dr. Virendra Singh stated that its trial in free clinic analysis has been profitable. In order to guard the well being of troopers in excessive altitude, it ought to now be rebuilt.

Lack of oxygen causes harm to lungs

In excessive altitude areas, it takes ten to 12 days for people to adapt to the atmosphere. While Indian jawans are positioned within the top of 12 to 18 thousand toes. In such a state of affairs, there's a downside of oxygen, snow bytes and radiation. Dr. Virendra Singh stated that on account of lack of oxygen, most harm is finished to the lungs, which additionally results in loss of life.

<https://ourbitcoinnews.com/for-the-army-deployed-in-icy-areas-medicine-will-be-made-from-lahauls-charma-himachal/>

Seabuckthorn development can be of strategic importance on border: Expert

He said till now the state and central governments have not spent a single penny on seabuckthorn development in the country

Shimla: Noted scientist and General Secretary of the Seabuckthorn Association of India, Dr Virendra Singh today urged the central government for seabuckthorn development along the border with China in Himalayan states.

Dr Singh said massive afforestation of nitrogen fixing seabuckthorn in various Himalayan states is important for livelihood improvement for farmers and ecological rehabilitation of degraded mountainous lands in the border areas.



The scientist, who is presently working at CSK Himachal Pradesh Krishi Vishvavidyalaya, Palampur in Himachal Pradesh, said the country is presently facing two major problems- the COVID-19 outbreak and intrusion of Chinese army in the high altitude areas in Himalayas. “Solution for both problems also lies in the same region, i.e. massive afforestation and utilization of seabuckthorn tree for development of drugs to combat coronavirus as well as acclimatization of Indian army troops at high altitude border areas of Ladakh, Himachal Pradesh and Uttarakhand, Sikkim and Arunachal Pradesh,” he said.

He said till now the state and central governments have not spent a single penny on seabuckthorn development in the country.

“However, it is high time that policy makers and senior officials of state forest departments of Himalayan states approved and implemented this road map on seabuckthorn, which could be strategically important on the border,” he said.

CSK Himachal Pradesh Agricultural University, Palampur, which has done pioneering work on seabuckthorn and Indian Institute of Technology, Mandi in collaboration with other research organizations and a private sector company, has recently submitted a Rs7.5 crore project proposal to Union Ministry of AYUSH, Government of India for funding to develop immunity booster and anti-corona drug from seabuckthorn, which naturally grows widely in the region.

Seabuckthorn is quite rich in vitamins and antioxidants, which have potential in protection from cardiovascular diseases and diabetes etc. and the plant is a quality fuel wood, fodder and soil binder in cold desert Himalayas.

Dr Singh said Defence Institute of Physiology and Allied Sciences (DIPAS) and Institute of Nuclear Medicine and Allied Sciences (INMAS), Delhi have carried out preclinical research on seabuckthorn successfully for protection of Indian army troops posted in high altitude areas of Ladakh from high altitude related health problems like hypoxia, snow bites and UV radiation etc. This can accelerate rapid acclimatization of army troops in high altitude border areas during tense and war time.

“Seabuckthorn can help generate immunity to fight COVID-19 and protect from hypoxia disorder at high altitude as in both the cases lungs are damaged,” he said.

<https://www.thestatesman.com/india/seabuckthorn-development-can-strategic-importance-border-expert-1502901650.html>

COVID-19: Indian Navy's Contribution

 THE FINANCIAL EXPRESS

Mon, 22 June 2020

Fighting Coronavirus: Innovations by the Indian Navy helping in containing its spread

In helping the country fight the spread of the global pandemic COVID-19, all the three services including the Indian Army, Indian Air Force and the Indian Navy have been playing a critical role

By Huma Siddiqui

In helping the country fight the spread of the global pandemic COVID-19, all the three services including the Indian Army, Indian Air Force and the Indian Navy have been playing a critical role. They have set up quarantine facilities and designing and developing new technologies that are easily affordable and 'made in India' completely. Personal Protective Equipment (PPE) 'NavRakshak' which has been designed and produced by Indian Navy, is now going to be mass-produced to meet the ongoing countrywide demand of quality kits.

A very urgent requirement in the fight against the Corona Virus is the need to equip the front line health care professionals with comfortable PPEs, which can be produced indigenously at an affordable cost without much capital investment.

National Research Development Corporation (NRDC) has identified and licensed the manufacturing know-how of a PPE Suit — NavRakshak to five MSMEs — M/s Greenfield Vintrade Pvt Ltd (Kolkata), M/s Vaishnavi Global Pvt Ltd (Mumbai), M/s Bharat Silks (Bangalore), M/s Sure Safety (India) Ltd (Vadodara) and M/s Swaps Couture (Mumbai). These MSMEs are expected to mass-produce more than 10 million PPEs per year.

As has been reported by the Financial Express Online, this PPE kit was developed at the Innovation Cell of the Institute of Naval Medicine, INHS Asvini Hospital (Mumbai) of the Indian Navy. This was then tested by INMAS (Institute of Nuclear Medicine and Allied Sciences), at Delhi, a DRDO organization which was given the authority for testing and certification of PPE.

Know more about the Navy's Innovation:

Naval Dockyard manufactures Innovative Portable Multi-feed Oxygen Manifold

The Naval Dockyard of Vishakhapatnam designed and manufactured a Multi-feed Oxygen Manifold (MOM), this can be used to supply oxygen to six patients from one cylinder. This is an ideal device for field and makeshift hospitals where permanent oxygen lines are not available.

So far five sets were set up at KGH Hospital, Vishakhapatnam, on a request from the District Collector, and Dean and Principal Andhra Medical College; 15 MOM devices have been handed over to Vishakha Institute of Medical Sciences (VIMS), Vishakhapatnam.

Naval Aircraft Yard (Kochi) fabricates Air Evacuation Stretcher Capsule

This special Air Evacuation Stretcher Capsule has been designed by the Indian Navy to facilitate insulated evacuation and transfer of COVID affected patients from islands and ships by aircraft and helicopters. Right from the designing stage the Command Medical authorities of Southern Naval Command, aviation experts of INS Garuda and the Naval Aircraft Yard Kochi was involved in this.

The prototype was fabricated at the General Engineering Repair Facility at NAY(Kochi) using Aluminium, Perspex and Rubber incorporating facilities for oxygen supply including intubation.

Low cost Temperature Gun

Another Naval Dockyard, located in Mumbai was behind the design and development of Infra Red based temperature sensor for screening large number of personnel entering the Dockyard. Through in-house resources, the Indian Navy has manufactured this at a cost of less than Rs 1000.

What is so special about this Thermal Temperature Gun?

This non-contact thermometer has a Infrared sensor and an LED display integrated with a microcontroller and runs on a 9V battery.

Remote Monitoring Facility – ICU Patient Parameters

A core team of two officers and four workers of Naval Dockyard, Visakhapatnam under Eastern Naval Command, have designed and implemented a solution for remote monitoring of Vital Parameters of patients in ICU.

According to the Indian Navy, the Audio Visual output of the bedside Patient Monitoring System has been converted to HDMI output and all 48 beds in ICU in a hospital were wired through a Digital Video Recorder. A big display was put outside the ICU for the staff to watch remotely and to monitor all patients simultaneously or selecting as required including zooming to one patient and an audio alarm if any vitals are going down.

Further, the same parameters through HDMI Ethernet converter have also been provided to the Doctors on their mobile over the internet and 48 patients in ICU at one time.

<https://www.financialexpress.com/lifestyle/health/fighting-coronavirus-innovations-by-the-indian-navy-helping-in-containing-its-spread/1998582/lite/>

Defence Strategic: National/International

hindustantimes

Mon, 22 June 2020

In Defence minister's meet on Ladakh face-off, top military brass told to ensure 'strict vigil' on China

The Armed forces have been given full freedom to deal with any aggressive behaviour by China's PLA along the LAC

Edited By Sparshita Saxena

New Delhi: Defence minister Rajnath Singh on Sunday held a high-level meeting with Chief of Defence Staff (CDS) General Bipin Rawat and three service Chiefs on the situation in Ladakh.

During the meeting, the top military brass was told to ensure "strict vigil" on Chinese activities around the land border, airspace and in strategic sea lanes, sources said as reported by news agency PTI. The meeting was attended by Chief of Defence Staff Gen Bipin Rawat, Army Chief Gen MM Naravane, Navy Chief Admiral Karambir Singh and Air Chief Marshal RKS Bhadauria.

The Armed forces have been given full freedom to deal with any aggressive behaviour by China's PLA along the LAC, PTI reported citing sources.

This comes a day after HT reported a significant change in



File photo: Indian paramilitary soldiers keep guard as Indian army convoy moves on the Srinagar- Ladakh highway at Gagangeer, north-east of Srinagar, India,(AP)

Rules of Engagement (ROE) by the Indian Army following in the backdrop of the Galwan Valley face-off between India and China which killed 20 Indian Army soldiers on June 15.

The amendment gives “complete freedom of action” to commanders deployed along the contested Line of Actual Control (LAC) to “handle situations at the tactical level,” two senior officers said on Saturday on condition of anonymity.

“With the changes in the ROE, there’s nothing that limits the ability of Indian commanders to take whatever action they deem necessary on the LAC. ROE have been amended to address the brutal tactics being employed by Chinese troops,” an officer said.

During an all-party meeting called by Prime Minister Narendra Modi on Friday, PM Modi discussed the situation along the India-China border.

The prime minister had said that the armed forces at the LAC border were given “full freedom for taking any appropriate action necessary,” adding that neither the Chinese troops intruded Indian border, nor were any post been taken over by China’s People’s Liberation Army.

<https://www.hindustantimes.com/india-news/strict-vigil-on-chinese-activities-around-land-border-airspace-defence-minister-holds-review-meet-on-ladakh-face-off/story-e1eLg6FCnJ9D4LvWpra45J.html>

hindustantimes

Sun, 21 June 2020

‘No restrictions on using firearms’: India gives soldiers freedom along LAC in extraordinary times

The commanders will no longer be bound by restrictions on the use of firearms and will have full authority to respond to “extraordinary situations” using all resources at their disposal, said one of the officers cited above

By Rahul Singh

New Delhi: A significant change in Rules of Engagement (ROE) by the Indian Army following the Galwan Valley skirmish that left 20 Indian soldiers dead gives “complete freedom of action” to commanders deployed along the contested Line of Actual Control (LAC) to “handle situations at the tactical level,” two senior officers said on Saturday on condition of anonymity.

The commanders will no longer be bound by restrictions on the use of firearms and will have full authority to respond to “extraordinary situations” using all resources at their disposal, said one of the officers cited above.

The amendment in ROE comes after Indian and Chinese soldiers engaged in their first deadly conflict in 45 years in Galwan Valley on June 15, resulting in death of 20 Indian army troops and several Chinese casualties.

In his remarks during an all-party meeting on Friday, Prime Minister Narendra Modi said the army had been given the freedom to take necessary steps along the border and India had conveyed its position (to China) through diplomatic means.

“With the changes in the ROE, there’s nothing that limits the ability of Indian commanders to take whatever action they deem necessary on the LAC. ROE have been amended to address the brutal tactics being employed by Chinese troops,” said the second officer cited above.

The seven-hour Galwan Valley clash marked the first time India suffered combat fatalities in an incident involving Chinese troops since 1975. Changes in ROE were imminent after a series of violent clashes along the border, with the army finally deciding not to restrict the scope of response of its soldiers after the June 15 clash, the second officer said.

“Two violent clashes took place in Pangong Tso (May 5-6) and Galwan Valley (around mid-May) before the June 15 skirmish in eastern Ladakh. On all occasions, they came in huge numbers and assaulted our troops with iron rods and nail-studded clubs. Our troops fought back fearlessly but the ROE had to be revisited,” he said.

Forward troops keep their guns slung on their backs with the magazines in pouches and not clipped on.

“Since soldiers are allowed to carry weapons while patrolling the LAC, it is inherent that they can use the firearms in unprecedented situations like the attack in Galwan Valley,” said former Northern Army commander Lieutenant General BS Jaswal (retd).

The government said on Thursday that soldiers involved in the June 15 clash with Chinese troops were carrying weapons and ammunition but did not open fire as they were following border agreements between the two countries -- a remark that came in response to a question from Congress leader Rahul Gandhi on whether the Indian soldiers were sent in “unarmed”.

“Let us get the facts straight. All troops on border duty always carry arms, especially when leaving post. Those at Galwan on 15 June did so. Long-standing practice (as per 1996 & 2005 agreements) not to use firearms during faceoffs,” external affairs minister S Jaishankar tweeted, responding to a post by Gandhi earlier this week.

Border agreements from 1996 and 2005 between India and China disallow the use of firearms during face-offs. Article 6 of the agreement on confidence-building measures in the military field along the LAC, signed by India and China in November 1996, states that both sides will not open fire or “conduct blast operations or hunt with guns or explosives within two kilometers from the Line of Actual Control”.

Top retired commanders and China watchers, however, said that Galwan clash and last month’s Pangong Tso brawl were not classical face-offs between rival troops but were extremely violent attacks on Indian soldiers.

<https://www.hindustantimes.com/india-news/no-restrictions-on-firearms-india-gives-soldiers-freedom-along-lac-in-extraordinary-times/story-pCcFAcSAkMRschq50Tom1L.html>

hindustantimes

Mon, 22 June 2020

Situation along LAC tense with full army deployment

Though the situation has not escalated since the Galwan incident, the Chinese People’s Liberation Army (PLA) is continuing troop accretion with support elements on standby, Indian officials familiar with the matter said

By Shishir Gupta

New Delhi: The situation continues to remain tense along the 3,488km-long Line of Actual Control, with both the Indian and Chinese armies fully deployed, air bases activated, and the navy on standby, following the June 15 face-off in the Galwan sector.

Though the situation has not escalated since the Galwan incident, the Chinese People’s Liberation Army (PLA) is continuing troop accretion with support elements on standby, Indian officials familiar with the matter said. The Indian Army positions are also being beefed up in response to the PLA build-up in the Xinjiang and Tibet regions, and the air forces of the two sides are keeping surveillance watch on each other, the officials added.



A satellite image of Galwan Valley in Ladakh, India. (via REUTERS)

One of them said on condition of anonymity that Indian military commanders have issued instructions to use force if PLA troops cross the Galwan nullah to attack the Indian Patrol Post 14. The PLA has amassed troops across the nullah, and both sides are holding ground, he said.

The situation on ground is no different from June 16, with the two armies not thinking in terms of disengagement at the moment along the lines of the June 6 framework laid down in a Lt General-level meeting. Senior Indian military commanders are watching the PLA movement in the Aksai Chin region, while the ministry of external affairs is trying to search for a diplomatic solution. "The situation has cooled to a little extent, but de-escalation appears to be a long haul due to the position China has taken on the Galwan Valley," said a senior Indian diplomat.

Military watchers said they were shocked by the level of aggression on social media -- on both sides of the border -- with several people asking their respective armies for retribution. "All those asking for revenge are war mongers who do not have any idea of destruction a war between two nuclear nations can cause. If the Indian or Chinese soldiers had not obeyed the 1996/2005 military protocol for the LAC on June 15, there would have been carnage leading to a vertical escalation all across the border with immediate violence on nearby patrolling point 15 and 17," said a former Indian Army chief.

<https://www.hindustantimes.com/india-news/situation-along-lac-tense-with-full-army-deployment/story-RsyciMbh4D7rH5r3iigtYl.html>



THE NEW
INDIAN EXPRESS

Mon, 22 June 2020

Galwan Valley clash: Modi government grants emergency financial powers to three services

The government has also relaxed certain rules to cut delays in military purchase like allowing the three services to procure required weapons and equipment from a single vendor, the sources said

New Delhi: The government has granted the three services emergency financial powers of up to Rs 500 crore per procurement project to buy ammunition and weapons in view of the escalating border standoff with China, government sources said Sunday.

The special financial powers have been given to the forces to procure weapons and military hardware at short notice to enhance their operational preparedness along the Line of Actual Control (LAC), they said.

The government has also relaxed certain rules to cut delays in military purchase like allowing the three services to procure required weapons and equipment from a single vendor, the sources said.

Twenty Indian Army soldiers were killed in a violent clash in eastern Ladakh's Galwan Valley on June 15, triggering a massive escalation in tension between the two countries.

Defence Minister Rajnath Singh has already directed the Army, the Indian Navy and the Indian Air Force to enhance their operational readiness along the LAC, the 3,500 km de-facto border between India and China, amid fears of fresh confrontation.

Military sources said the Army is going to use the emergency financial powers to expand its stock of ammunition as there is little possibility of any resolution of the standoff soon.

"The three services have been given emergency financial powers of up to Rs 500 crore per procurement project," said a source.



An Indian army convoy moves on the Srinagar-Ladakh highway at Gagangeer, northeast of Srinagar, India, Wednesday, June 17, 2020. (Photo | AP)

The clash in Galwan Valley was the worst cross border confrontation between the two sides in 45 years.

China's People's Liberation Army has not yet talked about the number of casualties it suffered.

The Chinese soldiers used stones, nail-studded sticks, iron rods and clubs in carrying out brutal attacks on Indian soldiers after they protested the erection of a surveillance post by China on the Indian side of the Line of Actual Control in Galwan.

The two armies were engaged in a standoff in Galwan and several other areas of eastern Ladakh since May 5 when their troops clashed on the banks of the Pangong Tso.

The situation in eastern Ladakh deteriorated after around 250 Chinese and Indian soldiers were engaged in a violent face-off on May 5 and 6.

The incident in Pangong Tso was followed by a similar incident in north Sikkim on May 9.

Prior to the clashes, both sides had been asserting that pending the final resolution of the boundary issue, it was necessary to maintain peace and tranquillity in the border areas.

<https://www.newindianexpress.com/nation/2020/jun/21/galwan-valley-clash-modi-government-grants-emergency-financial-powers-to-three-services-2159547.html>

Forbes

Sun, 21 June 2020

India's Submarines make strategic move to dominate Indian Ocean

By H I Sutton

The Indian Navy is discretely building up its submarine capabilities. The most visible aspect of India's programs are new nuclear-powered submarines that are being built, but beneath the surface there are other strategic steps to help ensure its Navy's dominance of the Indian Ocean. The Navy is also reinforcing its presence in the Andaman and Nicobar Islands, close to the strategically vital Strait of Malacca.

This is against a backdrop of heightened tensions with China. These look as if they could turn explosive at any moment despite efforts to deescalate. Most recently a border clash in the Galwan Valley left at least 20 Indian soldiers dead. The Indian Navy may be playing an active part in that crisis, far away from the sea, but its focus remains the Indian Ocean and the Strait of Malacca.

This is critical because China's naval power is growing, and with it the ability to project power into the Indian Ocean. Analysts see a massive increase in the Chinese Navy, known as the PLAN, over the coming years. Writing in the Sunday Guardian, Captain James E. Fanell recently predicted that the PLAN will have 110 submarines by 2030. But the Strait of Malacca will remain a bottleneck between China's home waters and the Indian Ocean.

China's next generation Type-095 submarines, which are approaching first launch, will get stealthier and more advanced. But more importantly, they are expected to be much larger, which translates into longer-range missions.



China's current Type-093 Shang Class is nuclear powered, so it already has virtually unlimited range, but they are smaller on the inside than many other nuclear subs. This limits its crew and its endurance since human factors become a major constraint on nuclear submarine range.

If the Chinese Navy plans to venture into the Indian Ocean, then the larger Type-095 will be a major boost to their capabilities. China already has a naval base in Djibouti that gives it a permanent presence in the region. And there is work going on at Gwadar port in Pakistan that is rumored to include another overseas base for the Chinese Navy.

Closer to home, India's traditional foe, the Pakistani Navy, is also modernizing and expanding its submarine fleet. This includes new patrol submarines from China, and also updating its special forces 'X-Craft' midget submarines.

With these emerging threats in the Indian Ocean, India's established submarine bases needed updating. The ones on the east coast, in the Bay of Bengal, give natural protection from the the Pakistani Navy, which is on India's western flank. INS Varsha, a new submarine base, is being built there to house India's nuclear submarine deterrent. This is termed strategic depth. But the east coast bases are still some way away from the Strait of Malacca, which could be critical in a future conflict.

With Indian submarines now sometimes operating from Port Blair in the Andaman and Nicobar Islands, which are Indian territory much further east, they will be better placed to respond to a crisis there. Indian diesel-electric submarines are well suited to operating in the relatively shallow waters there. They could act as a buffer and forward eyes for India's nuclear submarines patrolling the deep waters.

<https://www.forbes.com/sites/hisutton/2020/06/20/indias-submarines-make-strategic-move-to-dominate-in-indian-ocean/#54ea8df9604f>

THE TIMES OF INDIA

Mon, 22 June 2020

Unusual activity by China air force detected: IAF Chief

By Ch Sushil Rao

Hyderabad: India has detected unusual movement of China's People's Liberation Army Air Force (PLAAF) along the border in Ladakh and put in place its own strategy to respond to any contingency, Chief of Air Staff Air Chief Marshal RKS Bhadauria said on Saturday.

In Hyderabad for the combined graduation day parade at Air Force Academy, Dundigal, he said the Indian Air Force (IAF) was aware of China's air bases and the deployment along the LAC. "During summer, there are usual exercises. But at this time, we have noticed more than usual deployment. We have taken necessary action," he said while explaining why IAF had moved its aircraft to the forward air bases.



Asked if India would go to war with China, the Air Chief said: "No, we are not at war with China. But we are prepared for any contingency. All efforts are being made to solve the situation at the LAC peacefully."

In the backdrop of the biggest confrontation with Beijing in over five decades on June 15 in which 20 Indian soldiers, including a Colonel, were killed, the IAF chief said these were "unacceptable Chinese actions". "We will never let the sacrifice of our braves of Galwan go in vain," he asserted.

Asked if China had an advantage over India, the air chief said, "Rest assured, our armed forces are capable of handling the situation."

However, Bhadauria would not go into details on whether the Chinese army had crossed 2km into the LAC. "Have faith in the Indian Army. It has come out with information about what happened. We don't have to give any message to the adversary because the adversary knows our capacity," he said and added that air patrolling in the Ladakh region has been increased.

On indigenous production of aircraft for India, he said the design of LCA Mk2 is progressing and in next 15 years, IAF will have 300 aircraft all manufactured indigenously. "We have to now create an eco-system for manufacturing," he said.

As many as 123 graduating officers were awarded the President's Commission during the the combined graduation parade on Saturday. Eleven officers of the Indian Navy and Coast Guard also earned their wings apart from two officers of Vietnam Air Force, who too passed out.

In his speech, the Air Chief paid tributes to Colonel Santosh Babu and 19 soldiers who were killed in the clash with Chinese soldiers. "Their gallant actions in a highly challenging situation have demonstrated our resolve to protect the sovereignty of our country – at any cost," he said.

He said the graduating officers would go straight to their units and not take a break. "The security scenario in our region mandates our armed forces to remain prepared and vigilant at all times," he added.

<https://timesofindia.indiatimes.com/india/unusual-activity-by-china-air-force-detected-iaf-chief/articleshow/76488427.cms>



Mon, 22 June 2020

How Indian Army trains and prepares for mountain warfare

One of the prime examples of the Indian Army's mountain warfare prowess is the Siachen Glacier, the highest battlefield in the world

By Pushkar Tiwari

Indian Army's mountain warfare experience and strategies make its troops the 'most skilled in the area'. From the northern borders in Jammu and Kashmir to Arunachal Pradesh, the eastern-most part of the country, a large number of Indian soldiers are deployed in the mountains and have mastered the art of fighting in the snowy landscape as well as the harsh barren vastness of Ladakh, the region where they are currently in an eyeball-to-eyeball situation with the soldiers of China's Peoples Liberation Army.

"At present, the world's largest and experienced country with plateau and mountain troops is neither the US, Russia, nor any European powerhouse, but India," read an article by Huang Guozhi, a senior editor of Modern Weaponry magazine and a Chinese expert.

Huang stated that since the 1970s, the Indian military has established and expanded in size and has personnel trained for fighting in the mountains on a large-scale. India also plans to create a mountain strike force of more than 50,000 troops.



Photo: <https://www.indianarmy.nic.in/>

The Indian Army is the best practitioner of mountain warfare with maximum experience because its officers and personnel spend a major part of their service in the mountains.

The Indian Army is the largest mountain fighting force across the world with more than 2,00,000 troops in 12 divisions.

India also maintains a large number of military and paramilitary troops along the various plateaus, mountain passes, and valleys that provide the most obvious potential points of trans-Himalayan ingress.

One of the prime examples of the Indian Army's mountain warfare prowess is the Siachen Glacier, the highest battlefield in the world, which is at an altitude of more than 5,000 metres above the sea-level and where the temperature dips as low as minus 60 degrees.

The Indian Army is protecting the nation at a region that separates Pakistan from China and has been successfully holding its grounds amid the constant threat of avalanches and high-speed winds.

There are around 6,000 to 7,000 personnel guarding the region with the highest post being stationed at a height of 6,749 metres above sea-level in Siachen.

Troops are also equipped with a large number of weapons adapted to the highland and mountain operating environment.

The Indian Army also has a High Altitude Mountain Warfare School (HAWS) near Gulmarg in Jammu and Kashmir that is highly regarded around the world for its elite and specialised training.

HAWS is routinely visited by Special Operation Teams from the US, UK and Russia.

The HAWS produces some of the world's finest soldiers who are considered among the very best in high altitude and mountain warfare.

HAWS-trained soldiers are supremely confident with immense stamina. The soldiers are also taught to integrate with the environment so that they can guard the Himalayan frontiers effectively.

The Indian Army has also set up a Kargil Battle School in the Dras sector of Kargil district in Jammu and Kashmir, which trains soldiers in mountain warfare.

The Indian Army has defeated Pakistan for decades on the elevated ground of Kashmir and proved its mettle.

<https://zeenews.india.com/india/how-indian-army-trains-and-prepares-for-mountain-warfare-2291222.html>

DECCAN Chronicle

Sun, 21 June 2020

Indian Army to get 100 per cent Made In India 'Sarvatra Kavach' body armour

The material for Sarvatra Kavach is the most advanced in the world, sources said

By Pawan Bali

New Delhi: The Indian Army is on the verge of inducting 'Sarvatra Kavach', a full body armour suit, for its soldiers which will not carry any Chinese raw material and is designed, developed and manufactured in India, said sources on Friday.

The complete research and development of this armour suit was undertaken by the Indian Army itself. Major Anoop Mishra, a serving Army officer, who has faced bullets during military operations, is the man behind 'Sarvatra Kavach'. It provides protection to the neck, torso, upper arms, groin and thighs from all kinds of small arms ammunition.

"Indian Army is at an advanced stage of procurement of Sarvatra Kavach for field trials," said sources.

The material for Sarvatra Kavach is the most advanced in the world, is lighter, water and UV rays-resistant and lasts longer than other comparable products in the world, said sources. The 'Sarvatra Kavach', when compared with similar products developed worldwide, is lighter,



costs almost 50 per cent lesser and offers far superior protection.

“The 'Sarvatra Kavach' is production-ready and will be completely 'Made in India'. It has minimal requirement of imported raw material, none of it coming from China,” said sources in the Indian Army. They said that once indigenous manufacturing commences, the entire range of raw material will also be procured from India.

“There are only handful countries in the world that have indigenously developed full body armour suit,” said a senior official.

The official said that room intervention and ensuing close quarter gunfights are the most dangerous anti-terrorist operations. Major Mishra's innovation has been recognised with an award of Vishisht Seva Medal by Army and a Letter of Appreciation from the Prime Minister.

A controversy had erupted last year after Indian companies contracted for 1.8 lakh bulletproof jackets for the Army came under the scanner for importing up to 40 per cent Chinese raw material. These companies had initially said that the jackets contained raw material from western Europe and the US.

<https://www.deccanchronicle.com/nation/current-affairs/200620/indian-army-to-get-100-per-cent-made-in-india-sarvatra-kavach-body-a.html>



Sun, 21 June 2020

IIT-Madras and General Electric tie-up to build a next-gen combustor for small aircraft and helicopter engines

IIT Madras and General Electric India Technology Centre (GEITC) are jointly developing a 3D printed combustor aimed at reducing weight and improving fuel efficiency in small aircraft and helicopter engines. Both organisations are designing the combustor – the burner in a gas turbine engine, with nearly one-tenth of the parts as compared to traditional engines.

The Rs 7.24 crore Uchhatar Avishkar Yojana (UAY) project is being carried out by the aerospace department at the Institute and is being funded by the government of India (75%) and GEITC (25%). “The fabricated combustor has only four parts whereas the same combustor, with conventional manufacturing, will have at least thirty parts,” said Prof SR Chakravarthy, Faculty In-charge, National Centre for Combustion Research – NCCRD at IIT Madras.



“The primary objective of this project is to reduce the length of the combustor, which will reduce its weight. It also reduces the fuel consumption of the engine,” he said.

The engine could also be used in power generation. In larger aircraft, it could be used as part of an auxiliary power unit (APU), as well as for distributed/decentralised power generation as in backup gensets, or in remote locations, or along with hybrid solar/wind smart grid solutions.

While there have been several improved combustors designs recently, this project aims to further improve these metrics with a design that uses additive manufacturing technology and non-intrusive laser diagnostics.

The project team has successfully completed testing three 8-cup full annular combustor configurations. The results show the feasibility of 30% reduction in length of a conventional rich burn combustor. Currently, the team is focussing on the optical diagnostics experiments where laser diagnostics tools are being used to understand the flow physics inside the combustor. These results will help optimize the performance and to probe any further possibilities of length reduction, the professor said.

The size and weight of the engine would be the same depending upon how the combustor is designed to fit into the rest of the engine. The weight savings, however, will be on the raw material of fabrication in additive manufacturing. This could lead to a substantial drop in weight, as much as 50% when compared to conventional combustors.

Further, Dr Chakravarthy said the additive manufacturing of the combustors which were tested for this project were outsourced to Indian suppliers. These suppliers, he said, were now capable of adapting additive techniques for geometries as complex as combustor domes and liner, which in turn would help in developing the country's additive manufacturing infrastructure.

A special feature of this project is that it marks the first time that a 3D printed full annular combustor was tested at actual turbine conditions in India. The lab, which is housed in the National Centre for Combustion Research and Development (NCCRD) at IIT-M also boasts of being the first in India to have a high pressure optically accessible combustor test rig and state of the art laser diagnostics tools under one roof.

IIT-M has an IP rights share with GEITC and expects GEITC to immediately use this in their product. Going forward, Dr Chakravarthy said that if GEITC is not absorbing the technology, for whatever reason, they have the first right of refusal after a lock-in period for IIT-M to commercialise the IP. Commercialization will be in the form of licensing to similar such engine houses as GEITC or to a start-up to develop a product that could be incubated by IIT-M itself.

<https://idr.w.org/iit-madras-and-general-electric-tie-up-to-build-a-next-gen-combustor-for-small-aircraft-and-helicopter-engines/>

TSG SundayGuardianLive

Sun, 21 June 2020

‘China does not want border issue resolved’

By Navtan Kumar

New Delhi: More than 16 years and 22 rounds of talks later, highest level of India-China talks to resolve the border issue has not yielded any positive outcome. This is the reason why there are often skirmishes between the two countries along their borders.

Sources said there is a mechanism to discuss the issue between Special Representatives (SRs). The annual SR talks are regarded highly by both sides as it is the highest official level forum with a mandate to discuss not only the solution to the boundary issue, but also all other issues concerning the two countries. “As per the practice, the two countries hold the meetings in rotation. However, this mechanism is not delivering results as the Chinese side does not want the issue to be resolved. It suits them to use these border troubles as a leverage to pressurise India on other fronts,” a source said.



The last India-China border talks, the 22nd round, between their Special Representatives (SRs) were held in New Delhi in December last year. The Chinese delegation was led by its Foreign Minister Wang Yi, while National Security Advisor Ajit Doval headed the Indian team at the boundary talks. Wang was the designated Special Representative of China. In that meeting, both sides reiterated the need to “maintain peace and tranquility in the border areas for the overall development of the bilateral relationship, pending final settlement of the boundary question”. The SR mechanism was institutionalised in 2003 after former Prime Minister Atal Bihari Vajpayee’s

visit to China led to the agreement. Vajpayee was keen to resolve the Sino-India boundary problem during his lifetime. The then NSA Brajesh Mishra was appointed the first Indian SR. The India-China border dispute covers 3,488 km-long Line of Actual Control (LAC). China claims Arunachal Pradesh as part of southern Tibet, while India contests it. During the last year's meeting, the SRs underlined the importance of approaching the boundary question from the strategic perspective of India-China relations and agreed that an early settlement of the boundary question serves the fundamental interests of both countries. The two SRs resolved to intensify their efforts to achieve a fair, reasonable and mutually acceptable solution to the India-China boundary question in accordance with the directives provided by Prime Minister Narendra Modi and President Xi Jinping. This is to be noted that the border dispute, besides a host of other issues, were discussed between Prime Minister Modi and Chinese President Xi Jinping during their second informal summit at Mamallapuram in October last year. After this summit meeting, Xi had said in a statement: "We will seek a fair and reasonable solution to the border issue that is acceptable to both sides in accordance with the agreement on political guiding principles. We should carefully handle issues concerning each other's core interests. We should properly manage and control problems that cannot be solved for the time being." Asked why the border issues have not been resolved till now, MEA spokesperson Anurag Srivastava said: "As you are aware, a meeting was held between the Corps Commanders of India and China on 6 June 2020 in the Chushul-Moldo region. This meeting was in continuation of the diplomatic and military engagements which both sides have maintained to address the situation in areas along the India-China border. It was agreed that an early resolution of the situation would be in keeping with the guidance of the leaders."

<https://www.sundayguardianlive.com/news/china-not-want-border-issue-resolved>

hindustantimes

Mon, 22 June 2020

Playing the long game with China | Opinion

We must ask the right questions, assess China's behaviour patterns and possible actions

By Deep Pal

The news of the terrible tragedy in the Galwan Valley on June 15, expectedly, evoked anger, sadness, and loathing in all of us. Within hours, however, the tragedy of the moment was sullied by a tragic-comedy of errors. In one instance, television anchors struggled to read an imagined list of Chinese casualties circulating on WhatsApp; in another, an apparently made-in-China television set was attacked with sticks — all for the benefit of a phone camera, that was, most likely, made in China. Before you boycott your weekly made-in-India Chinese meal, take a few minutes to read between the lines.

This incident has changed the India-China relationship forever. This is the most serious engagement that the Indian military has had on the boundary with China since 1967. All guidelines and rules of engagement that were put in place since 1993 that dictated behaviour at the Line of Actual Control (LAC) now stand questioned.

In this environment, what role do we play as citizens and consumers of information, especially at a time when operational and political reasons have dictated that information is sparingly made public? Here are a set of four questions we should examine to try and make sense of the developments.

One, do we know what China will do? We do not. That is what makes the situation so complex and serious. Till last week, we proudly talked about how LAC is a disputed border where no bullets have been fired since 1975. The confirmed loss of 20 Indian lives makes the claim moot now.

However, what we can bank on is the fact that States act rationally, in their own interest, to achieve their own goals. And, with almost no exception, they aim to spend the least amount of resources to achieve them. So, the question we need to ask is — what are China's goals? Is it to

merely occupy the Galwan Valley? Or is it to put India in its place and establish its superiority? The answers to this and more lie in the patterns of behaviour.

Two, how, then, do we look for patterns? Contrary to how they are represented in popular culture, Chinese leaders are not inscrutable. Their actions are quite predictable, as long as one knows how to look for patterns in them. As journalist Shekhar Gupta has argued, there were signs since last year that an intrusion was likely.

Many of these patterns exist in the pages of history. For instance, before believing that WhatsApp forward that lists names, purportedly of dead People's Liberation Army (PLA) soldiers, it would help to know that releasing casualty details is a sensitive affair in PLA that often takes years. For instance, there is still no definitive number of the total number of casualties in the Nathu La-Chola La standoff in 1967. How likely is it that the names of those dead in Galwan would be available?

More such patterns exist, waiting to be read. The PLA's statement on June 16 mentions casualties but neglects to claim that they were only Indian. This is as close as we are going to get for a confirmation, at least for now, that some of the dead were indeed Chinese. Similarly, read-outs of the conversation between the two foreign ministers use terms such as "peace and tranquility," a nod to an earlier agreement for behaviour along LAC. This indicates that while the frameworks are under question, they are still allowing the two sides to converse.

Three, where can we find factually accurate information? As Dhruva Jaishankar of the Observer Research Foundation has pointed out, information about developments at LAC are most trustworthy when they come from the government or military, in both countries, or through analysis of geospatial imagery. But when news comes from social media, it is prudent to verify it.

Take the Chinese news outlet *Global Times*. The organisation and its reporters are very active on Twitter. However, Twitter cannot be legally accessed in the Chinese mainland, which suggests that their aim is to engage with readers abroad, in this case, India. This is most likely a part of State-sponsored psyops meant to misdirect, browbeat, or troll people while vigorously defending Chinese claims.

As readers, instead of depending on publications such as the *Global Times*, we should look at news sources that are read within China. For instance, news about India in *The People's Daily* is a far better indicator of how the government wants the news to reach its citizens. Even after the Galwan skirmish, the news did not make it beyond the back pages — indicating that China wants to keep this incident, as well as the issue at LAC, away from public scrutiny.

And finally, what are India's options? What can the government do? Are surgical strikes like in Pakistan a possibility? Or, will there be war? These are critical questions doing the rounds, and correctly so. However, as we deliberate on this, we must be aware of two points. First, China is not Pakistan, and to believe that India's approach to China can be similar will be a folly. Second, and more important, there are very real costs for war, whether with Pakistan or China. There are other punitive measures, from external balancing by aligning with other countries, to re-looking at the economic relationship with China, to building up domestic capacity. The government's response will be predicated on the long game, and as we wait for these patterns to emerge, a good place to start would be to look for indications that the element of competition in the relationship is dominating the element of cooperation.

(Deep Pal is a non-resident fellow at the National Bureau of Asian Research. He tweets @DeepPal). The views expressed are personal

<https://www.hindustantimes.com/analysis/playing-the-long-game-with-china/story-18fruUXxAcqj6Efsn5AsN.html>

Business Standard

Mon, 22 June 2020

ISRO receives patent for protective garment for human spaceflight

The ISRO said that the garment is a close fitting long garment, covering the torso and limbs from neck to toe as a single piece lightweight comfort inner wear over which the flight suit has to be worn

By Gireesh Babau

Chennai: In yet another step towards sending the first Indian into space, the Indian Space Research Organisation (Isro) has received a patent for its Liquid Cooling and Heating Garment (LCHG) made of biocompatible fabrics and components to provide a comfortable temperature and removal of sweat for astronauts, for use in space for protection from hot and cold environments.

LCHGs are used in space, military applications, fire fighting and also for personal cooling and heating purposes for protection from hot and cold environments of industrial areas or in extreme temperature and humidity conditions that may exist in work environments. These garments have a system for circulating temperature controlling fluid into and out of the garments, for instance, through tubes inside the garment.

Isro's invention is designed to permit long term use of the garment without any impact on the wearer in terms of skin irritation or infection and is low in cost of manufacture, according to the patent specification filed by the organisation with the Patent Office in February 2016.

The garment is provided with an outer layer made of polymeric fabric net and an inner layer of polymeric fabric tricoting, which comes in contact with the skin of the wearer. Both the layers are separated by several tubes configured to circulate a heat transfer fluid across the body through at least one inlet and at least one outlet connected to a valve for controlling the supply of the heat transfer fluid to and from the reservoir.

The ISRO said that the garment is a close fitting long garment, covering the torso and limbs from neck to toe as a single piece lightweight comfort inner wear over which the flight suit has to be worn.

The organisation further claimed that a specimen of the garment was employed and was operated. "The surface temperature of the inner layer was monitored. The air temperature and velocity over the garments was also simulated. Heat transfer effectiveness of the system for coolant flow rate of 100 ml/minute was obtained. Effectiveness of the LCHG system for total heat dissipation was proven by the experiments," ISRO said. It also claimed a heat transfer fluid rate of 50-1000 ml per minute.

ISRO has initiated the Rs 10,000 crore project - Gaganyaan - with a target to send a human to space by 2022 and has been preparing various components and conducting experiments to make the project a success. The organisation plans to send three astronauts to orbit the Earth at an altitude of 400 kilometers, for up to 7 days. The organisation in January said that it had identified four Indian Air Force pilots as astronauts for the mission and they would be trained to execute the



The garment is provided with an outer layer made of polymeric fabric net and an inner layer of polymeric fabric tricoting, which comes in contact with the skin of the wearer.

project. It has also set up a Human Space Flight Centre in Bengaluru, for the execution of the project and will conduct two unmanned missions prior to the mission

In April, 2020, ISRO issued an announcement of opportunity (AO) for development of technologies for sustained Indian Human Space Programme and space exploration, for developing technologies in radiation hazards characterisation and mitigation techniques, space food and related technologies, inflatable habitats technology, human robotic interfaces, thermal protection systems, environmental control and life support system, green propulsion, advanced materials, debris management and mitigation, in situ 3D manufacturing technologies for space, among others.

https://www.business-standard.com/article/companies/isro-receives-patent-for-protective-garment-for-human-spaceflight-120062100634_1.html



Sun, 21 June 2020

A New law in laser physics could make eye surgery simpler – High energy pulses in a trillionth of a second

By revisiting a simple type of laser, scientists have discovered a way to exponentially increase the amount of energy released in incredibly short periods of time, with potential applications in surgery

Scientists have developed a new type of laser that can deliver high amounts of energy in very short bursts of time, with potential applications in eye and heart surgery or the engineering of delicate materials.

The Director of the University of Sydney Institute of Photonics and Optical Science, Professor Martijn de Sterke, said: “This laser has the property that as its pulse duration decreases to less than a trillionth of a second, its energy could go through the roof.

“This makes them ideal candidates for the processing of materials that require short, powerful pulses. One application could be in corneal surgery, which relies on gently removing material from the eye. This requires strong, short light pulses that do not heat and damage the surface.”

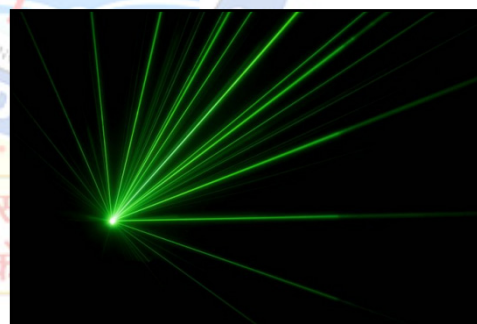
The research was published recently in *Nature Photonics*.

The scientists have achieved this remarkable result by returning to a simple laser technology that is common in telecommunications, metrology, and spectroscopy. These lasers use an effect known as soliton waves, which are waves of light that maintain their shape over long distances.

Solitons were first identified in the early 19th century, not in light but in water waves in the industrial canals of England.

“The fact that soliton waves in light maintain their shape means they are excellent for a wide range of applications, including telecommunications and spectrometry,” said lead author Dr. Antoine Runge from the School of Physics.

“However, while lasers producing these solitons are simple to make, they do not pack much punch. A completely different – and expensive – physical system is required to produce the high-energy optical pulses used in manufacturing.”



New soliton laser pulses deliver high energy in a trillionth of a second.

Co-author Dr. Andrea Blanco-Redondo, Head of Silicon Photonics at Nokia Bell Labs in the US, said: “Soliton lasers are the most simple, cost-effective and robust way to achieve these short bursts. However, until now, conventional soliton lasers could not deliver enough energy.

“Our results have the potential to make soliton lasers useful for biomedical applications,” said Dr. Blanco-Redondo, who was previously at the University of Sydney Nano Institute.

This research builds on earlier work established by the team at the University of Sydney Institute for Photonics and Optical Science, which published its discovery of pure-quartic solitons in 2016.

A new law in laser physics

In a normal soliton laser, the energy of light is inversely proportional to its pulse duration, demonstrated by the equation $E = 1/t$. If you halve the pulse time of the light, you get twice the amount of energy.

Using quartic solitons, the energy of light is inversely proportional to the third power of the pulse duration, or $E = 1/t^3$. This means if your pulse time is halved, the energy it delivers in that time is multiplied by a factor of eight.

“It is this demonstration of a new law in laser physics that is most important in our research,” Dr. Runge said. “We have shown that $E = 1/t^3$ and we hope this will change how lasers can be applied in the future.”

Establishing this proof of principle will enable the team to make more powerful soliton lasers.

Dr. Blanco-Redondo said: “In this research we produced pulses that are as short as a trillionth of a second, but we have plans to get much shorter than that.”

“Our next goal is to produce femtosecond duration pulses – one quadrillionth of a second,” Dr. Runge said. “This will mean ultra-short laser pulses with hundreds of kilowatts of peak power.”

Professor De Sterke said: “We hope this type of laser can open a new way to apply laser light when we need high peak energy but where the base material is not damaged.”

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“The pure-quartic soliton laser” by Antoine F. J. Runge, Darren D. Hudson, Kevin K. K. Tam, C. Martijn de Sterke and Andrea Blanco-Redondo, 25 May 2020, *Nature Photonics*. DOI: [10.1038/s41566-020-0629-6](https://doi.org/10.1038/s41566-020-0629-6)

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This work was supported by the Australian Research Council (ARC) Discovery Project (grant no. DP180102234), the University of Sydney Professor Harry Messel Research Fellowship and the Asian Office of Aerospace R&D (AOARD) (grant no. FA2386-19-1-4067).

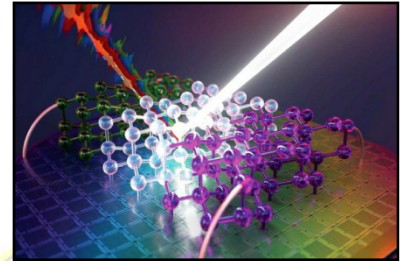
<https://scitechdaily.com/a-new-law-in-laser-physics-could-make-eye-surgery-simpler-high-energy-pulses-in-a-trillionth-of-a-second/>

New analysis shows promise of quantum spintronics based on silicon carbide

By Steve Koppes

Silicon carbide is in the race to become the leading material for developing an expanding system of quantum networks, according to an international team of scientists from the University of Chicago.

“What started out as a basic scientific enterprise by our group a number of years ago has developed into an exciting opportunity to engineer new quantum systems,” said David Awschalom, Liew Family Professor of Molecular Engineering at the Pritzker School of Molecular Engineering (PME), senior scientist at Argonne National Laboratory and director of the Chicago Quantum Exchange. “This particular system is already a successful commercial electronics technology; industry is well-prepared to manufacture devices.”



Prof. David Awschalom and 12 co-authors presented their analysis of quantum spintronics in the May 11, 2020 cover article of *Applied Physics Letters*. Credit: University of Chicago

Awschalom and 12 co-authors presented their analysis of this technologically promising field—called quantum spintronics—in the May 11, 2020 cover article of *Applied Physics Letters*. Quantum spintronics uses the “spin” or magnetization of electrons and atomic nuclei to store and process information.

In their article, Awschalom and colleagues from UChicago, the University of Stuttgart, in Germany, and Linköping University, in Sweden, summarized the relative advantages that various quantum spintronics systems offer for developing new technologies. The paper coincides with an increasing industrial interest in using various types of quantum states to build prototype technologies for new types of sensing, communication, and computing.

Awschalom and co-authors focused their analysis on how semiconductors made of silicon carbide can serve as a highly flexible quantum technological platform. This material already is used for manufacturing power electronics, hybrid vehicles, and solid-state lighting. Surprisingly, Awschalom’s team describes how this everyday material can trap single electron spins to create the next generation of scalable quantum technologies.

“It’s exciting to think about working with foundries and commercial partners to move these technologies out of the lab and into the real world, using the same techniques that make your smartphone’s processor,” said UChicago postdoctoral scholar Chris Anderson, a co-author on the article.

“What started out as a basic scientific enterprise by our group a number of years ago has developed into an exciting opportunity to engineer new quantum systems.” — *Prof. David Awschalom*

An especially important advance in quantum information science highlighted in the article has been the ability to create and electrically control individual quantum states in commercial silicon carbide wafers that maintain quantum coherence, the length of time a quantum state can survive, for many milliseconds. Without quantum coherence, quantum computers and other technologies cannot operate. Many milliseconds, as brief as that may seem, ranks among the best quantum coherence times attained by any existing semiconductor. And Awschalom’s group is working on a technique that will greatly increase the quantum coherence time in silicon carbide materials. These increased coherence times are a direct result of the unique nature of the silicon carbide host, further indicating the promise of silicon carbide as an ideal material for quantum systems.

Awschalom and co-authors also describe that they can take a page from the modern electronics industry's playbook to drastically improve their quantum states. "Electronic devices are all about shuffling electrons around in a controlled way," said Anderson. "It turns out that we can use the same tricks to move electrons around to get rid of all of the unwanted electrical noise that our sensitive quantum system might see."

Integrating qubits and photons for quantum communications

Another important advance in the application of silicon carbide to quantum communications is the integration of quantum bits with photons (individual particles of light), to transfer quantum information from matter to light, and then back to matter once again. Much like how the internet derives its usefulness and power from linking together many computers, an interface between matter and light is needed for sending quantum information over long distances, allowing quantum devices to communicate with each other to form vastly more powerful and complex systems.

"It's exciting to think about working with foundries and commercial partners to move these technologies out of the lab and into the real world, using the same techniques that make your smartphone's processor." — *Postdoctoral scholar Chris Anderson*

"Not only do you want to create quantum bits that are robust and controllable in a semiconductor, but you'd like to be able to convert these into controllable photons," Awschalom explained.

In this way, quantum information can be transformed from a single electron spin into a single photon for transmission over long distances. The spin-photon conversion process could also serve as quantum "wiring" for two quantum machines sitting a few meters to hundreds of miles apart.

This will be important for the construction of a long-range quantum network. Entangled quantum states could be used to send information between the network's two endpoints. The exciting part is that this information can be perfectly secured; not by a man-made algorithm, but instead by the fundamental laws of physics.

"The excitement behind quantum networks stems not only from the possibly unfathomable amount of quantum computation power available distributed over many quantum devices, but also that the transferred information is provably secure without extensive cryptographic measures," said Kevin Miao, a graduate student in Awschalom's group at UChicago and another co-author on the article.

The signals holding that quantum information would begin to weaken over 100 miles if transmitted over optical fibers, greatly limiting future networks of quantum devices. Their range could be extended, however, by swapping the entangled state multiple times to build larger-scale networks. "This is exactly where we hope silicon carbide can make a big impact," said Awschalom.

Awschalom's group has additionally shown that silicon carbide has built-in quantum memories that consist of the quantum states of the atomic nuclei of the crystal. "If you have quantum memory, you can store the information and then move it back into the electron spin for processing," Awschalom said. "Because these states are so fragile it's important to have these long-lived memories"

Awschalom suspects that new applications may be coming soon. "It's surprising how quickly things are moving from what began as fundamental science measurements in our labs in the last few years to some really interesting demonstrations and future technologies now. It shows how difficult it is to make predictions in this field."

Reference: "Developing silicon carbide for quantum spintronics" by Nguyen T. Son, Christopher P. Anderson, Alexandre Bourassa, Kevin C. Miao, Charles Babin, Matthias Widmann, Matthias Niethammer, Jawad Ul Hassan, Naoya Morioka, Ivan G. Ivanov, Florian Kaiser, Joerg Wrachtrup and David D. Awschalom, 11 May 2020, *Applied Physics Letters*.
[DOI: 10.1063/5.0004454](https://doi.org/10.1063/5.0004454)

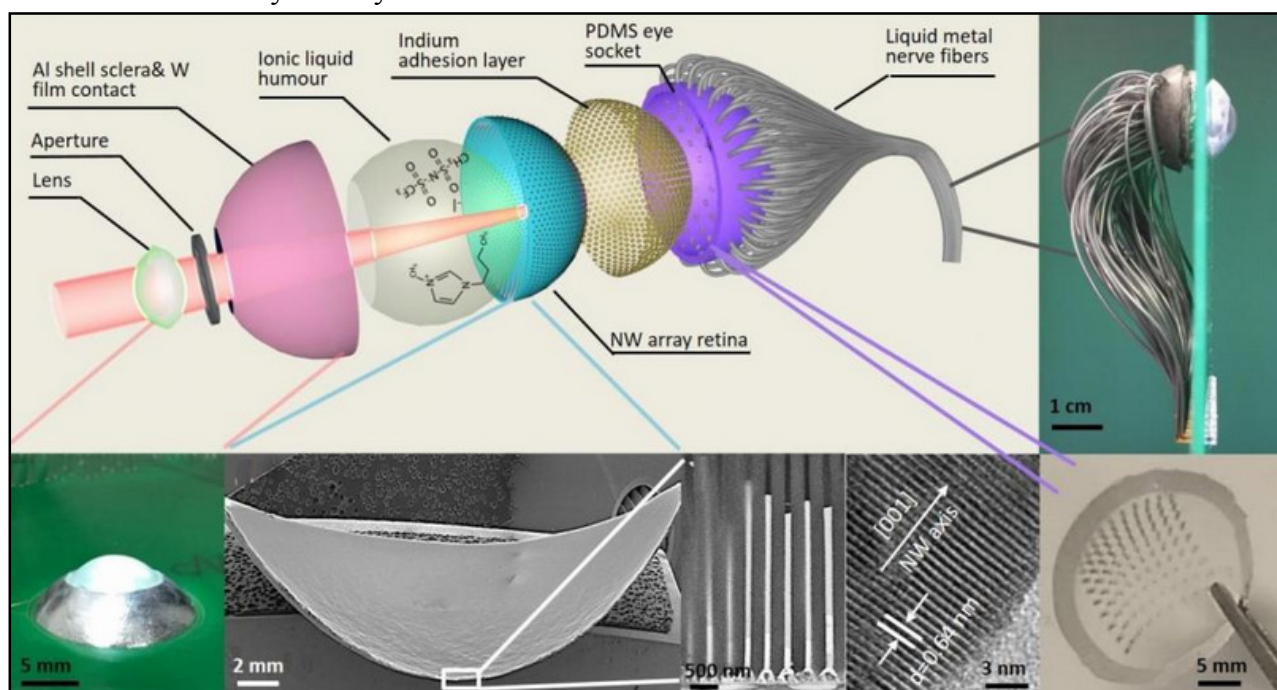
<https://scitechdaily.com/new-analysis-shows-promise-of-quantum-spintronics-based-on-silicon-carbide/>

Sun, 21 June 2020

Superhuman sight: Scientists develop 3D prosthetic eye better than real thing

By Jacob Roshgadol

Hong Kong: It may sound like science fiction, but it's real science at its finest. An international team of scientists has created a 3D artificial eye that looks human-like — and actually functions better than a human eye or any other bionic creation.



An international team led by HKUST scientists has developed the world's first 3D artificial eye with capabilities better than existing bionic eyes and in some cases, even exceed those of the human eyes, bringing vision to humanoid robots and new hope to patients with visual impairment. (Image credit: HKUST)

This is a huge breakthrough in the development of human-like prosthetics. Current prosthetic eyes do not provide much clarity. They usually require special sunglasses and a group of external wires to produce a 2D image that's of poor quality. Development of the technology was led by scientists at the Hong Kong University of Science and Technology.

"I have always been a big fan of science fiction, and I believe many technologies featured in stories such as those of intergalactic travel, will one day become reality. However, regardless of image resolution, angle of views or user-friendliness, the current bionic eyes are still of no match to their natural human counterpart," says professor Fan Zhiyong, of the university's Department of Electronic and Computer Engineering, in a media release. "A new technology to address these problems is in urgent need, and it gives me a strong motivation to start this unconventional project."

Fan spent nine years working on the project.

'Electrochemical Eye'

Not only does the new prosthetic resemble a human eyeball, it provides clearer images than one. Dubbed the "Electrochemical Eye," it will even be capable of performing superhuman functions like detecting infrared light and radiation. The name is derived from an electrochemical process that solar cells use. Each nanowire and photo sensor in the retina of the artificial eye functions like a miniature solar cell.

Thus, scientists chose the name “Electrochemical Eye” since it takes advantage of this electrochemical process to function.

The 3D artificial retina is the critical component that gives the prosthetic this incredible functionality. The artificial retina is made of a bundle of nanowire light sensors — really tiny light receptors that function like the photoreceptors of the human eye. The research team demonstrated the capabilities of this retina and prosthetic eye by connecting the bundle of nanowires to artificial nerves that connect to the computer. This allows the scientists to see what the prosthetic eye “sees” by displaying the image on the computer screen.

Prosthetic eye comes with super-human advantage

So what exactly makes the prosthetic eye better than the real thing? First, our eyes have blind spots where the optic nerves come through the retina to connect to photoreceptors. In the prosthetic retina the optic nerves are scattered across the retina instead of crossing it at a single point. In other words, there is no blind spot.

The other major feature of the Electrochemical Eye is that the nanowires are capable of receiving more light signals than the photoreceptors of the human eye. This may give the prosthetic the ability to receive higher-resolution images than the human eye, and quite possibly the ability to see in the dark.

Not ready for real life...yet

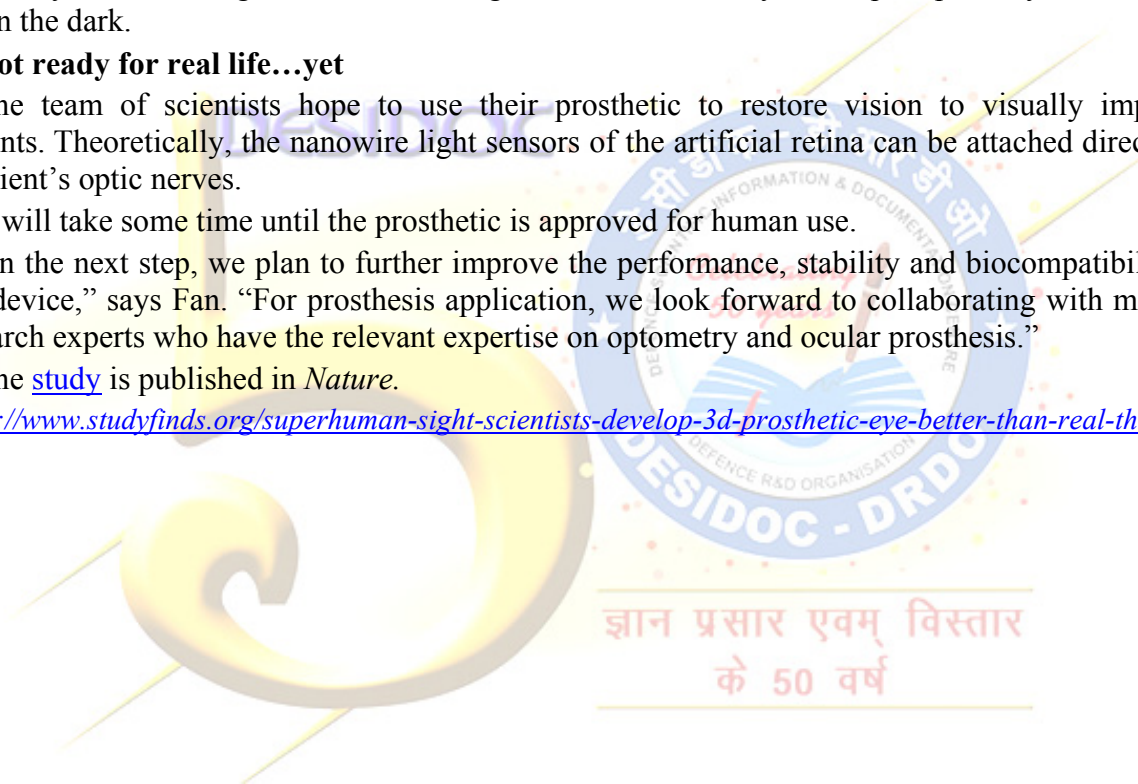
The team of scientists hope to use their prosthetic to restore vision to visually impaired patients. Theoretically, the nanowire light sensors of the artificial retina can be attached directly to a patient’s optic nerves.

It will take some time until the prosthetic is approved for human use.

“In the next step, we plan to further improve the performance, stability and biocompatibility of our device,” says Fan. “For prosthesis application, we look forward to collaborating with medical research experts who have the relevant expertise on optometry and ocular prosthesis.”

The [study](#) is published in *Nature*.

<https://www.studyfinds.org/superhuman-sight-scientists-develop-3d-prosthetic-eye-better-than-real-thing/>



Loss of smell, taste symptoms can help quarantining potential COVID-19 patients: Study

London: COVID-19 could be suspected when patients report severe reduction of taste and smell in the absence of nasal obstruction, according to a study which says the findings can help general physicians identify and quarantine potential infected individuals before confirmation of diagnosis.

In the study, published in the journal JAMA Otolaryngology Head & Neck Surgery, scientists surveyed 204 COVID-19 patients and found that taste reduction was present in 55 per cent of them, whereas smell reduction was observed in about 41 per cent of the people.

Based on the results of the survey, the researchers, including those from Humanitas University in Italy, said the reduction of taste and/or smell may be a frequent and early symptom of COVID-19.

The telephone survey study investigated patients diagnosed with COVID-19 from March 5 to March 23, 2020, who were hospitalised or discharged from a medical centre. It said the patients who were unable to answer -- intubated, receiving noninvasive ventilation, or deceased, or unreachable by telephone -- were excluded from the study.



"Of 359 consecutive patients, 204 fulfilled the inclusion criteria, 76 were unable to answer, 76 were unreachable by telephone, and three refused," the scientists noted in the study. The study said 116 patients reported reduction of taste and/or smell, while 113 participants noted they had taste reduction and 85 with smell reduction.

"Severe reduction of taste was present in 81 patients (39.7 per cent), and severe reduction of smell was present in 72 patients (35.3 per cent)," the scientists noted in the study. They said only 12 patients with severe taste reduction, and 12 patients with severe smell reduction reported severe nasal obstruction.

The researchers said severe reduction of taste and smell was more prevalent in female patients than in male patients, and in middle aged individuals more than in young people. "Our results showed a significant difference between reduction of taste and/or smell compared with the other sinonasal manifestations," the study noted.

Citing the limitations of the study, the scientists said the symptoms were self-reported, adding that further research involving more objective assessment of the patients for loss of smell and taste sensations may help validate the current findings.

From the research, they believe general practitioners may play a major role in identifying potential COVID-19 cases at an early stage when taste or smell alterations manifest, and in suggesting quarantine for such patients before confirmation or exclusion of the diagnosis.

<https://www.oneindia.com/india/loss-of-smell-taste-symptoms-can-help-quarantining-potential-covid-19-patients-study-3108332.html>

Coronavirus can spread through teardrops, says study at Victoria Hospital

By Akhil Kadidal

Bengaluru: Though it is well known that coronavirus can spread through droplets and aerosols, a new study by Victoria Hospital has found that its viral RNA can also spread through teardrops.

The study involving a test group of 45 COVID-19 patients at the hospital found that none of the patients had “ocular manifestations” of the disease such as conjunctivitis (pink eye), but one tested positive for SARS-CoV-2 in the conjunctival swab.

“Though the positivity rate of detecting SARS-CoV 2 in the conjunctival swabs is very less, care should be exercised during the ocular examination of patients of COVID-19,” the authors wrote.

“The most direct implication of this is that ophthalmologists now needed to take precautions while examining patients. However, the finding also indicated that a person with undiagnosed COVID-19 can inadvertently spread the disease by smearing vitreous eye fluid on common surfaces,” explained one of the authors, Dr Ambica Rangaiah of the Department of Microbiology, Bangalore Medical College and Research Institute (BMRCI).

A researcher involved in the study added that chances of spreading the virus through conjunctival secretions are higher if the individual had redness of the eyes, sticky discharge, burning, or watering eyes, especially if the secretion has active viral RNA.

The implications are telling, said BMRCI dean Dr C R Jayanthi. “Common people are unaware that the virus is present in tears. So, they tend to touch their eyes with unclean hands and can thereby transmit the virus,” she said.

The 45 test subjects ranged in the six to 75 age group, with the majority falling into the age group of 21 to 40. Suspect cases and those patients who were critically ill had been excluded from the study.

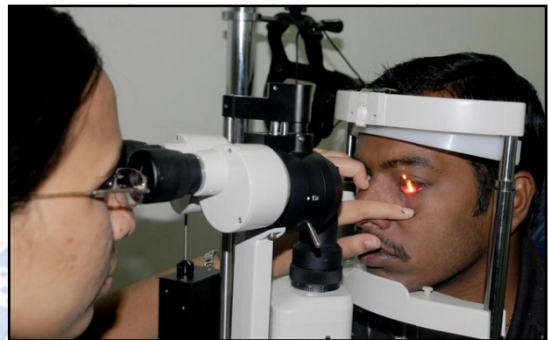
The COVID patient who tested positive for the conjunctival swab was a 24-year-old asymptomatic man known to have several COVID-19 contacts, indicating his ability to transmit the disease.

An earlier study of 30 patients in Zhejiang, China, who suffered from COVID-induced pneumonia, also discovered a single patient with conjunctivitis who tested positive in a conjunctival swab.

“This shows that as in asymptomatic COVID-19 patients, that there could be no outward ocular manifestation of the disease,” Dr Ambica said.

The study was published in the Indian Journal of Ophthalmology.

<https://www.deccanherald.com/science-and-environment/coronavirus-can-spread-through-teardrops-says-study-at-victoria-hospital-851982.html>



Get MMR vaccine shot now to protect against severe Covid-19

- *A clinical trial with MMR in high-risk populations may provide a low-risk-high-reward preventive measure in saving lives during the Covid-19 pandemic*
- *Mortality in COVID-19 cases is strongly associated with progressive lung inflammation and eventual sepsis*

Washington: In yet another hope to fight several Covid-19 symptoms, administering the MMR (measles, mumps, rubella) vaccine could serve as a preventive measure to dampen septic inflammation associated with the virus infection, say researchers.

Vaccination with MMR in immune-competent individuals has no contraindications and may be especially effective for health care workers who can easily be exposed to Covid-19, said experts in a paper published in mBio, a journal of the American Society for Microbiology.

"A clinical trial with MMR in high-risk populations may provide a low-risk-high-reward preventive measure in saving lives during the Covid-19 pandemic," said Dr Paul Fidel, Associate Dean for Research at Louisiana State University Health School of Dentistry.

"I don't think it's going to hurt anybody to have an MMR vaccine that would protect against the measles, mumps, and rubella with this potential added benefit of helping against Covid-19," Fidel added.

Mounting evidence demonstrates that live attenuated vaccines provide non-specific protection against lethal infections unrelated to the target pathogen of the vaccine by inducing trained nonspecific innate immune cells for improved host responses against subsequent infections.

Live attenuated vaccines induce nonspecific effects representing "trained innate immunity" by training leukocyte (immune system cells) precursors in the bone marrow to function more effectively against broader infectious insults.

In the laboratory of Dr Mairi Noverr, Professor of Microbiology and Immunology at Tulane University School of Medicine in New Orleans, in collaboration with Dr. Fidel, vaccination with a live attenuated fungal strain-induced trained innate protection against lethal polymicrobial sepsis.

Mortality in COVID-19 cases is strongly associated with progressive lung inflammation and eventual sepsis.

Recent events provide support for the researchers' hypothesis.

The milder symptoms seen in the 955 sailors on the USS Roosevelt who tested positive for Covid-19 (only one hospitalization) may have been a consequence of the fact that the MMR vaccinations are given to all U.S. Navy recruits.

In addition, epidemiological data suggest a correlation between people in geographical locations who routinely receive the MMR vaccine and reduced Covid-19 death rates.

"COVID-19 has not had a big impact on children, and the researchers hypothesize that one reason children are protected against viral infections that induce sepsis is their more recent and more frequent exposures to live attenuated vaccines that can also induce the trained suppressive MDSCs that limit inflammation and sepsis," the authors wrote.

The researchers propose a clinical trial to test whether the MMR vaccine can protect against COVID-19 and, in the meantime, suggest that all adults, especially health care workers and individuals in nursing homes get the MMR vaccine.

<https://www.livemint.com/news/india/get-mmr-vaccine-shot-now-to-protect-against-severe-covid-19-11592722414715.html>

COVID-19 vaccine reaches phase 2 of trials in China

A COVID-19 vaccine manufacturing plant of the institute in Kunming, capital city Yunnan Province, will be put into use in the second half of 2020, according to the report

Beijing: An inactivated COVID-19 vaccine candidate developed by the Institute of Medical Biology under the Chinese Academy of Medical Sciences has entered phase-2 clinical trials in China, the Science and Technology Daily reported Saturday.

The phase-2 trials, which further evaluate the immunogenicity and safety of the vaccine in humans, are conducted in the southwestern province of Yunnan.

The institute started the phase-1 clinical trials in May. Nearly 200 volunteers aged between 18 and 59 received the vaccine in West China Second University Hospital in Sichuan Province. The study was randomized, double-blind and placebo-controlled.

A COVID-19 vaccine manufacturing plant of the institute in Kunming, capital city Yunnan Province, will be put into use in the second half of 2020, according to the report.

The institute has rich experience and strong capabilities in vaccine research. It has developed and produced attenuated live vaccines and inactivated vaccines against polio, shielding hundreds of thousands of Chinese children from being disabled, the report said.

So far, five COVID-19 vaccine candidates have been approved for clinical trials in China, accounting for 40 percent of the total vaccines in clinical trials worldwide, according to the Ministry of Science and Technology.

<https://www.timesnownews.com/health/article/covid-19-vaccine-reaches-phase-2-of-trials-in-china/609589>



COVID-19 vaccine reaches phase 2 of trials in China | Photo Credit: iStock Images

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