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# समाचार पत्रों से चयित अंश Newspapers Clippings

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**THE TIMES OF INDIA**

Thu, 25 June 2020

## Banarasi saree weavers join Covid battle, make PPE kits

*By Binay Singh*

Varanasi: The nimble fingers skilled in weaving the famous Banarasi sarees known for their opulent, intricate embroidery and zari are nowadays busy making life-saving personal protective equipment (PPE) in Prime Minister Narendra Modi's constituency Varanasi to fight against the Covid-19 pandemic.

Around 20-25 artisans are busy making PPE kits at a unit in Patia locality of the city. Before the novel coronavirus outbreak, these craftsmen were engaged in traditional works like embroidery and garment making to meet the demands of the fashion world.

Now, they are working to ensure protection of frontline corona warriors like doctors and health workers by making protective gears for them.



"We have been in the business of Banarasi saree for generations. When the Covid-19 lockdown hit our trade, I thought of making PPE kits. We started working in this direction with the help of the industry department," unit owner Govind Agrawal told TOI on Wednesday.

"We utilized our existing manpower as they are skilled in making readymade garments and sent seven samples to the Defence Research and Development Organisation (DRDO) for testing and approval. All the samples were approved," he said.

"The samples were also certified by SIPRA Lab.

We manufacture over 200 PPE kits per day and can make more as per demand. Presently, we have a stock of 3,000 kits," Agrawal said.

Since there was shortage of PPE kits, the industry department encouraged Agrawal.

"It is the first DRDO certified unit manufacturing PPE kits in the whole eastern UP. The DRDO certification is essential for manufacturing PPE kits for government use," said joint commissioner, industries, Umesh Singh.

"The unit can manufacture 5,000 PPE kits in a month and can increase it to 10,000 per month.

Process is underway to get the unit registered with Government e-Marketplace (GeM) for supply to government hospitals," he added.

"We manufacture over 200 PPE kits per day and can make more as per demand. Presently, we have a stock of 3,000 kits," Agrawal said.

"We imported a taping machine from Taiwan for this purpose. We will supply the PPE kits at a reasonable price within Rs. 500. Since starting this work, we are also feeling that we are contributing to the battle against coronavirus pandemic," said Agrawal.

<https://timesofindia.indiatimes.com/city/varanasi/banarasi-saree-weavers-join-covid-battle-make-ppe-kits/articleshow/76579332.cms>

### DRDO developing agricultural technologies for locals and army in high altitude areas of eastern Ladakh

*The Defence Institute of High Altitude Research (DIHAR), a DRDO lab based in Leh, has been contributing to the agro-animal development of the Ladakh region by providing training programs on the cultivation techniques and technologies that it has developed for locals at places such as Shyok, Darbuk, Tangtse and Demchok*

*By Shaurya Karanbir Gurung*

New Delhi: Close to the sites of the ongoing confrontation between Indian and Chinese troops in Eastern Ladakh, the Defence Research and Development Organisation has been researching and developing agricultural technologies for crop cultivation in the cold temperatures and high altitude areas in the region that have largely been adopted by border villages. The DRDO has also been helping the army, deployed in forward locations where accessibility is restricted, in using crop cultivation techniques suited for that environment to ensure a regular supply of fresh food.

The Defence Institute of High Altitude Research (DIHAR), a DRDO lab based in Leh, has been contributing to the agro-animal development of the Ladakh region by providing training programs on the cultivation techniques and technologies that it has developed for locals at places such as Shyok, Darbuk, Tangtse and Demchok. The institute has been mandated to boost the local availability of fresh food for troops deployed in the Ladakh sector by local farmers by developing technologies through research and development programmes. The border villages, where the DIHAR has been carrying out outreach programmes, are located close to key military locations along the Line of Actual Control with China. This ensures that what is produced by farmers at these villages can easily reach troops.

For instance, the villages, Shyok and Darbuk, are the main areas located on a 255-km road to Daulet Beg Oldie, which is 20 km south of the strategic Karakoram pass (that divides Ladakh from China's Xinjiang province) and the location of an advanced landing ground. The areas are also located to the site of the over month-long confrontation between Indian and Chinese troops in Galwan Valley, Hot Springs and Pangong Tso.

Villagers from Shyok are trained on different cultivation techniques at DIHAR's branch in the Siachen sector, located north of the village. Greenhouse technologies developed by DIHAR have also been set up at Shyok. They were developed, because the fresh vegetables could not be grown in the open during winters in the region when temperatures dipped to -25 degrees Celsius. The lab developed the trench greenhouse for this purpose, which can be developed by locally available resources. "The technology has also been adopted by the defence forces, which over the last three years have established about 200 trench greenhouses at different locations along the border," an official said on the condition of anonymity.

The institute has installed greenhouses for vegetable production throughout the year at remote army posts, which are not easily accessible by vehicles and therefore regular supply of fresh



Indian soldiers walk at the foothills of a mountain range near Leh, the joint capital of the union territory of Ladakh, on June 24, 2020.

vegetables is affected. It has also been conducting regular training for army personnel on agro-practises for these greenhouses.

The DIHAR has developed the polyench greenhouse technology, which has been adopted by the State Agriculture Department, Ladakh Autonomous Hill Development Council (LAHDC), that provides 50 percent subsidy to farmers for adopting the technology. It has also developed an improved passive solar greenhouse named 'Ladakh Greenhouse' wherein the night temperature remains 8-12°C warmer as compared to traditional passive greenhouses. "For the three consecutive years DIHAR has demonstrated feasibility of growing tomato, cabbage, cauliflower and knol-khol even under sub zero conditions, which otherwise is not possible in conventional greenhouses. The technology has formally been transferred to UT Ladakh in 2019 for large scale adoption among farmers," an official said, adding that the DIHAR has also submitted a report to the Union Territory of Ladakh on greenhouse technologies.

DIHAR has also developed a net-zero energy based potato storage technology, an underground structure, to cater to the army's requirement of fresh potato supplies during the winters in remote corners of Ladakh. Officials said that with the help of this technology the army can meet their demands of the vegetable from local farmers. Earlier, there was not any cost effective storage technology for potatoes that can be applied in Ladakh. Potatoes have to be air transported from Chandigarh during winters and sometimes during summers to cater to the army's demand.

The DIHAR has managed to grow 101 different types of vegetables at its research station. Farmers in Ladakh have adopted technologies to grow 23 types of these vegetables and supply them to the army through the farmer's cooperative society. Local farmers, presently, are able to meet 48 percent of the army's fresh food requirement.

As water is a scarce resource in Ladakh, the institute has also done extensive studies on black plastic mulching (a protective covering spread on the ground to reduce evaporation and maintain even soil temperature), which has resulted in a two-fold increase in crops such as tomatoes and capsicum. Farmers in Ladakh are now extensively using this technique. The DIHAR has also introduced watermelon into the fields of local farmers. Last year, local farmers supplied 3.5 metric tons of the fruit to the army. The institute has also created a high-altitude survival garden to impart training to army and paramilitary forces about survival and emergency food for use during patrolling and mountain warfare.

<https://economictimes.indiatimes.com/news/defence/drdo-developing-agricultural-technologies-for-locals-and-army-in-high-altitude-areas-of-eastern-ladakh/articleshow/76557244.cms>

ज्ञान प्रसार एवम् विस्तार  
के 50 वर्ष

## DRDO ने दुर्लभ विषनाग से तैयार की सफेद दाग की दवा ल्यूकोस्किन

**रक्षा अनुसंधान विकास संस्थान (DRDO) के वैज्ञानिकों ने लंबे रिसर्च के बाद ल्यूकोस्किन (Lukoskin) दवा को तैयार किया। विषनाग औषधि सूरज की किरणों की मदद से सफेद दाग को बढ़ने से रोकने में प्रभावी है।**

दुर्लभ बूटी विषनाग से सफेद दाग (Leucoderma) को खत्म करने में बड़ी कामयाबी हासिल हुई है। करीब 10 हजार फुट की ऊंचाई पर मिलने वाले विषनाग से तैयार DRDO की ल्यूकोस्किन (Lukoskin), सफेद दाग के इलाज में काफी असरदार है। रक्षा अनुसंधान विकास संस्थान (DRDO) के वैज्ञानिकों ने लंबे रिसर्च के बाद ल्यूकोस्किन दवा को तैयार किया। विषनाग औषधि सफेद दाग को बढ़ने से रोकने में प्रभावी है साथ ही इसे पूरी तरह से खत्म भी कर रही है। विषनाग के अलावा कौंच, बाकुची, मंडूकपर्णी, एलोवेरा, तुलसी जड़ी बूटियां भी मिलकर सफेद दाग को रोकती हैं।

**ल्यूकोस्किन को लगाने के बाद सुबह-शाम 10 मिनट धूप में बैठने से होता है फायदा**

विश्व विटिलिगो दिवस (World Vitiligo Day) की पूर्व संध्या पर भारतीय वैज्ञानिकों की इस सफलता के बारे में एमिल फॉर्मास्युटिकल के कार्यकारी निदेशक संचित शर्मा ने कहा कि विषनाग काफी दुर्लभ बूटी है। विषनाग से तैयार ल्यूकोस्किन को लगाने के बाद सुबह और शाम 10-10 मिनट धूप में बैठने की सलाह दी जाती है, क्योंकि सुबह की धूप से त्वचा को नुकसान भी कम होता है। साथ ही विटामिन भी शरीर को मिलते हैं। उन्होंने बताया कि अब तक डेढ़ लाख मरीज रजिस्टर हैं जिनमें से 70-75 प्रतिशत तक मरीजों में इसके पॉजिटिव रिजल्ट मिले हैं।

**देश में 4 से 5 प्रतिशत लोगों में है सफेद दाग की परेशानी**

जानकारी के अनुसार देश में करीब 4 से 5 प्रतिशत लोगों में सफेद दाग की परेशानी देखने को मिलती है। जबकि विश्व स्तर पर यह आंकड़ा करीब 1 से 2 प्रतिशत है। राजस्थान, गुजरात, मध्यप्रदेश, बिहार और उत्तर प्रदेश में इसके ज्यादा मरीज हैं। दक्षिणी राज्यों में भी मरीजों की संख्या अधिक है। चूंकि सफेद दाग को लेकर देश में मिथक भी बहुत हैं, ऐसे में भारतीय वैज्ञानिकों का अध्ययन लाखों लोगों के लिए संजीवनी के रूप में सामने आया है। इसका इस्तेमाल आसान बनाने के लिए पीने और लगाने (ओरल और क्रीम) दो टाइप दिए हैं।

दिल्ली की आयुर्वेद विशेषज्ञ डॉ नितिका कोहली बताती हैं कि सफेद दाग की बीमारी से पीड़ित मरीज खासतौर पर महिलाएं मानिसक रूप से भी परेशान रहती हैं। समाज और उनके घर-परिवार में इस परेशानी को छुआछूत से जोड़कर देखते हैं जोकि एकदम गलत है। ल्यूकोस्किन के बेहतर परिणाम लगातार देखने को मिल रहे हैं। इसकी ओरल खुराक का असर इम्युनिटी बढ़ाने में भी मिला है।

<https://www/tv9bharatvarsh.com/india/drdo-developed-lukoskin-medicine-for-skin-disease-leucoderma-237646.html>



## आयुर्वेदिक जड़ी बूटी से त्वचा के सफेद धब्बों को खत्म करने में कामयाबी

**डीआरडीओ के मुताबिक, विषनाग से सफेद दाग (ल्यूकोडर्मा) को खत्म करने में बड़ी कामयाबी हासिल हुई है। करीब 10 हजार फुट की ऊंचाई पर मिलने वाली विषनाग और अन्य बूटियों के मिश्रण से तैयार 'ल्यूको स्किन' के अब सफल परिणाम सामने आ रहे हैं।**

आपने कई लोगों की स्किन पर सफेद दाग-धब्बे देखे होंगे। भारत में कई लोग इस स्किन डिजीज का शिकार हैं। अब एक दुर्लभ बूटी विषनाग के जरिए इस समस्या का हल खोज लिया गया है। डीआरडीओ के मुताबिक, विषनाग से सफेद दाग (ल्यूकोडर्मा) को खत्म करने में बड़ी कामयाबी हासिल हुई है। करीब 10 हजार फुट की ऊंचाई पर मिलने वाली विषनाग और अन्य बूटियों के मिश्रण से तैयार 'ल्यूको स्किन' के अब सफल परिणाम सामने आ रहे हैं। बता दें कि इस बीमारी के प्रति लोगों को जागरूक करने के लिए हर साल 25 जून को विश्व विटिलिगो दिवस मनाया जाता है।

देश में अब तक करीब डेढ़ लाख मरीजों का रजिस्ट्रेशन हो चुका है, जिनमें 75 फीसदी तक सफल परिणाम मिले हैं। रक्षा अनुसंधान विकास संस्थान (डीआरडीओ) के वैज्ञानिकों ने एक लंबे अध्ययन के बाद ल्यूको स्किन दवा को तैयार किया था। विषनाग औषधि सूरज की किरणों की मदद से सफेद दाग को बढ़ने से रोकने में प्रभावी है। साथ ही इसे पूरी तरह से खत्म भी कर रही है। विषनाग के अलावा कौंच, बाकुची, मंडूकपर्णी, एलोवेरा, तुलसी इत्यादि जड़ी बूटियां भी मिलकर सफेद दाग को रोकती हैं।



विषनाग से सफेद दाग (ल्यूकोडर्मा) को खत्म करने में बड़ी कामयाबी हासिल हुई है।

विश्व विटिलिगो दिवस की पूर्व संध्या पर भारतीय वैज्ञानिकों की इस बड़ी सफलता के बारे में एमिल फॉर्मास्युटिकल के कार्यकारी निदेशक संचित शर्मा बताते हैं कि विषनाग काफी दुर्लभ बूटी है। इससे तैयार ल्यूकोस्किन को लगाने के बाद सुबह और शाम 10-10 मिनट धूप की किरणों में बैठने की सलाह दी जाती है, क्योंकि सुबह की धूप से त्वचा को नुकसान भी कम होता है। साथ ही विटामिन भी शरीर को मिलते हैं। उन्होंने बताया कि अब तक डेढ़ लाख मरीज पंजीकृत हो चुके हैं जिनमें से 70 से 75 फीसदी तक मरीजों में इसके सफल परिणाम मिले हैं।

जानकारी के अनुसार देश में करीब 4 से 5 फीसदी लोगों में सफेद दाग की परेशानी देखने को मिलती है। जबकि विश्व स्तर पर यह आंकड़ा करीब 1 या 2 फीसदी है। राजस्थान, गुजरात, मध्यप्रदेश, बिहार और उत्तर प्रदेश में ज्यादातर मरीज हैं। दक्षिणी राज्यों में भी मरीजों की संख्या ज्यादा बताई जाती है। चूंकि सफेद दाग को लेकर देश में सामाजिक भ्रांतियां और मानसिक वेदना भी बहुत है। ऐसे में भारतीय वैज्ञानिकों का अध्ययन लाखों लोगों के लिए संजीवनी के रूप में सामने आया है। इसका इस्तेमाल आसान बनाने के लिए पीने और लगाने (ओरल व क्रीम) दो स्वरूप दिए हैं।

<https://aajtak.intoday.in/story/drdo-developed-herbal-drug-to-treat-skin-disease-leucoderma-tlif-1-1203883.html>

## बड़ी कामयाबी: डीआरडीओ ने इस दुर्लभ बूटी से तैयार किया सफेद दाग की अचूक दवा

जानकारी के अनुसार देश में करीब 4 से 5 फीसदी लोगों में सफेद दाग की परेशानी देखने को मिलती है।

Edited By Munna Kumar

White Stain Medicine: दुर्लभ बूटी विषनाग से सफेद दाग (ल्यूकोडर्मा) को खत्म करने में बड़ी कामयाबी हासिल हुई है। करीब 10 हजार फुट की ऊंचाई पर मिलने वाली विषनाग और अन्य बूटियों के मिश्रण से तैयार डीआरडीओ की ल्यूकोस्किन के अब सफल परिणाम सामने आ रहे हैं। जानकारी के अनुसार देश में करीब 4 से 5 फीसदी लोगों में सफेद दाग की परेशानी देखने को मिलती है। जबकि विश्व स्तर पर यह आंकड़ा करीब 1 से दो फीसदी है। रक्षा अनुसंधान विकास संस्थान (डीआरडीओ) के वैज्ञानिकों ने एक लंबे अध्ययन के बाद ल्यूकोस्किन दवा को तैयार किया। विषनाग औषधि सूरज की किरणों की मदद से सफेद दाग को बढ़ने से रोकने में प्रभावी है साथ ही इसे पूरी तरह से खत्म भी कर रही है। विषनाग के अलावा कोंच, बाकुची, मंडूकपर्णी, एलोवेरा, तुलसी इत्यादि जड़ी बूटियां भी मिलकर सफेद दाग को रोकती हैं।

विश्व विटिलिगो दिवस की पूर्व संध्या पर भारतीय वैज्ञानिकों की इस सफलता के बारे में एमिल फॉर्मास्युटिकल के कार्यकारी निदेशक संचित शर्मा ने कहा कि विषनाग काफी दुर्लभ बूटी है। इससे तैयार ल्यूकोस्किन को लगाने के बाद सुबह और शाम 10-10 मिनट धूप की किरणों में बैठने की सलाह दी जाती है, क्योंकि सुबह की धूप से त्वचा को नुकसान भी कम होता है। साथ ही विटामिन भी शरीर को मिलते हैं। उन्होंने बताया कि अब तक डेढ़ लाख मरीज पंजीकृत हो चुके हैं जिनमें से 70 से 75 फीसदी तक मरीजों में इसके सफल परिणाम मिले हैं।

जानकारी के अनुसार देश में करीब 4 से 5 फीसदी लोगों में सफेद दाग की परेशानी देखने को मिलती है। जबकि विश्व स्तर पर यह आंकड़ा करीब 1 से दो फीसदी है। राजस्थान, गुजरात, मध्यप्रदेश, बिहार और उत्तर प्रदेश में ज्यादातर मरीज हैं। दक्षिणी राज्यों में भी मरीजों की संख्या ज्यादा बताई जाती है। चूंकि सफेद दाग को लेकर देश में सामाजिक भ्रांतियां और मानसिक वेदना भी बहुत है। ऐसे में भारतीय वैज्ञानिकों का अध्ययन लाखों लोगों के लिए संजीवनी के रूप में सामने आया है। इसका इस्तेमाल आसान बनाने के लिए पीने और लगाने (ओरल व क्रीम) दो स्वरूप दिए हैं।

दिल्ली की आयुर्वेद विशेषज्ञ डॉ. नितिका कोहली बताती हैं कि सफेद दाग की परेशानी से ग्रस्त मरीज खासतौर पर महिलाएं मानसिक रूप से भी पीड़ित रहती हैं। समाज और उनके घर-परिवार में इस परेशानी को छुआछूत से जोड़कर देखते हैं जोकि एकदम गलत है। ल्यूकोस्किन के बेहतर परिणाम लगातार देखने को मिल रहे हैं। इसकी ओरल (पीने की खुराक) का असर इम्युनिटी (रोग प्रतिरोधक क्षमता) को बढ़ाने में भी मिला है।

<https://www.india.com/hindi-news/health/great-success-drdo-prepared-white-stain-medicine-from-vishnaag-rare-herbs-4066762/>



**hindustantimes**

Thu, 25 June 2020

## ‘Proud to see Indian Army’s contingent participate’: Rajnath attends Victory day parade in Moscow

*The Victory Day parade, which was originally supposed to take place on May 9, was postponed amid the Covid-19 pandemic*

*Edited By Sparshita Saxena*

New Delhi: Defence minister Rajnath Singh on Wednesday attended the Victory Day Parade at Red Square in Moscow, Russia on the occasion of the 75th anniversary of the Soviet victory over Nazi Germany.

“Attending the Victory Day Parade at Red Square in Moscow today to commemorate the 75th Anniversary of Victory of the Soviet People in the Great Patriotic War of 1941-1945,” Singh tweeted, adding that he feels proud on the participation of Indian Army’s Tri-Service contingent in the parade.

The Victory Day parade, which was originally supposed to take place on May 9, was postponed amid the Covid-19 pandemic.

“Impressive turnout of the Tri-Service contingent of the Indian Armed Forces at the Victory Day Parade in Moscow is indeed an extremely proud and happy moment for me,” Singh tweeted. The Indian contingent is participating in the parade along with the armed forces personnel from at least 11 countries, including China.

The defence minister is in Russia on a three-day visit and arrived in Moscow on Tuesday on the invitation of the Russian Ministry of Defence to attend the Parade.

On Tuesday, Singh tweeted about his visit to Moscow and described it as the “first foreign visit from India of an official delegation during the COVID pandemic”.

“This is a sign of our special friendship. Despite all the difficulties of the pandemic, our bilateral relations are keeping good contacts at the various levels,” Singh had tweeted.

The defence minister said that India looks forward to welcoming the Russian President at the invitation of PM Modi later this year.

On Tuesday, Singh held talks with Russia’s Deputy Prime Minister Yury Borisov and said the discussions were “very positive and productive”.

“I have been assured that ongoing contracts will be maintained and not just maintained, in a number of cases will be taken forward in a shorter time,” he stated.

<https://www.hindustantimes.com/india-news/proud-to-see-indian-army-s-tri-service-contingent-participate-rajnath-singh-attends-victory-day-parade-in-moscow/story-cfsOvEPtxgJkVArzEC2i5H.html>



Union defence minister Rajnath Singh in Moscow. (@rajnathsingh/Twitter)

## From joint secretary-level meet to Indian Army Chief's visit to Ladakh: Latest updates on India-China border face-off

*Experts have said that the restoration of status quo in the Finger Area on the north bank of Ladakh's Pangong Tso will determine the success of efforts to cool tensions along the contested India-China border*

*Edited By Meenakshi Ray*

New Delhi: The tension between India and China after the deadliest border clash in more than half a century, which left 20 Indian Army soldiers dead in Galwan Valley in eastern Ladakh last week, is still simmering.

Both the countries have held several meetings to resolve the confrontation along the Line of Actual Control (LAC). Another meeting will take place on Wednesday.

Here are the latest updates on the border row:

- Members of the Working Mechanism for Consultation and Coordination on India-China border affairs (WMCC) will meet and attempt to resolve the stand-off at four points in east Ladakh.
- During the joint secretary-level WMCC meeting, the Indian side will have maps and charts ready and re-look at old treaties to make their point about how the claim by the People's Liberation Army (PLA) on the border is wrong and why the status quo ante must be restored for a strong bilateral relationship.
- Indian Army chief General MM Naravane, who is on a two-day visit to Ladakh, will go to forward locations in the eastern Ladakh area on Wednesday, according to news agency ANI. Gen Naravane will also interact with troops on the ground there, ANI reported.
- ANI has also reported, citing US intelligence assessment, that a senior Chinese general authorised his forces to attack Indian troops in the Galwan River valley last week, resulting in a brutal skirmish that killed dozens and dramatically escalated tensions between the two neighbours.
- Before Wednesday's talks, an 11-hour meeting between top commanders at Moldeo on the Chinese side of the LAC was held on Monday to cool tensions and thin the military build-up on both sides of the border. Indian and Chinese military commanders reached a "mutual consensus to disengage" from all "friction areas" along the contested LAC.
- Experts have said that the restoration of status quo in the Finger Area on the north bank of Ladakh's Pangong Tso will determine the success of efforts to cool tensions along the contested border.
- PLA has set up permanent bunkers, pillboxes and observation posts between Fingers Four and Eight and getting it to pull down those structures and move back to their original positions at Finger Eight will be the toughest part of the disengagement process, said an official asking not to be named. The Finger Area refers to a set of eight cliffs jutting out of the Sirijap range that overlooks the Pangong Lake.
- India has increased technical drone surveillance of the area and the Indo-Tibetan Border Police (ITBP) has inducted more battalions into the sector to support army along the LAC.
- India has also deployed its specialised high-altitude forces along LAC to repel any transgression in the western, middle or eastern sectors, officials have said.

- The violent face-off in the Galwan Valley resulted in 20 deaths on the Indian side and the PLA suffered 43 casualties, according to Indian officials, but Beijing has not confirmed the fatalities. A Chinese spokesperson on Tuesday dismissed such reports as “fake news”.
- China had deployed up to 10,000 troops in these areas with the military buildup including fighter jets, helicopters, tanks, artillery guns, missile systems and air defence radars. India has matched the neighbour’s military moves.

<https://www.hindustantimes.com/india-news/from-joint-secretary-level-meet-to-indian-army-chief-s-visit-to-ladakh-latest-updates-on-india-china-border-face-off/story-0PIFjcQaOBnZEMO44TADLI.html>

**TIMESNOWNEWS.COM**

Thu, 25 June 2020

## **Army Chief visits forward areas in Ladakh, reviews operational preparedness amid India-China border tensions**

*The Chief of the Army Staff “commended the troops for their high morale and exhorted them to continue working with zeal and enthusiasm”, the Indian Army said*

Leh (Ladakh): Army Chief General MM Naravane, who is on a two-day visit to Ladakh amid the ongoing standoff with China, on Wednesday visited forward locations in eastern Ladakh. The Indian Army said on Twitter that the Chief reviewed operational readiness and situation on the ground, in the wake of border tensions with China and the June 15-16 Galwan Valley clash, in which 20 soldiers including the Commanding Officer of 16 Bihar regiment were martyred.

The Chief of the Army Staff “commended the troops for their high morale and exhorted them to continue working with zeal and enthusiasm”, the Additional Directorate General of Public Information of the Indian Army tweeted.

The Army Chief also awarded commendation cards to the soldiers who fought with Chinese troops in the face-offs in eastern Ladakh sector recently. It may be noted that Indian and Chinese troops have been engaged in violent face-offs in Pangong Tso (lake), Finger area and the Galwan River valley.

“Army Chief Gen MM Naravane visited forward areas in Eastern Ladakh today and reviewed operational situation. He was accompanied by Lt Gen YK Joshi, General Officer Commanding-in-Chief, Northern Command and Lt Gen Harinder Singh, General Officer Commanding, Fire & Fury Corps.

“The Army Chief was briefed by General Officer Commanding, Trishul Division about the prevailing situation and operational preparedness in Eastern Ladakh. He interacted with troops deployed in the Sector and complimented them for their steadfastness and high morale.

“Later, Army Chief General MM Naravane accompanied by Lieutenant General YK Joshi visited Headquarters of Fire & Fury Corps, where he was briefed by Lieutenant General Harinder Singh,” the Army said in a statement later.

Today is the second day of Army Chief’s Ladakh visit, during which he is reviewing the on-ground situation and the progress in talks with the Chinese Army.

On his first day in Ladakh yesterday, the Army Chief had interacted with the lone local MP Jamyang Tsering Namgyal. Also present during the interaction were Northern Army Commander and Leh Corps Commander.

General Naravane had also paid a visit to an Army hospital where he met Army soldiers who were injured in the clash at Galwan valley on the intervening night of June 15 and 16. The soldiers are undergoing treatment at the hospital.

On Monday in Delhi, the Army Chief had met the top Army commanders and discussed the security situation.

India and China have been holding military-level talks to defuse the tensions at the Line of Actual Control (LAC) – the 3,488-km-long de-facto border between the two countries.

<https://www.timesnownews.com/india/article/army-chief-visits-forward-areas-in-ladakh-reviews-operational-preparedness-amid-india-china-border-tensions/611192>

INDIA  
TODAY

Thu, 25 June 2020

## Meet the 5 Ladakh troops commended by Army Chief Gen Naravane today for fighting off Chinese

*Indian Army chief General MM Naravane awarded 'Commendation Cards' to five Army personnel who fought valiantly during the recent face-offs with the Chinese army in the Ladakh region. Here is what you need to know about the bravehearts*

*By Shiv Aroor*

New Delhi: Let's talk for a moment today about the single official photograph released by the Indian Army today.

The picture, taken at an undisclosed forward area in eastern Ladakh, shows Army chief General Manoj Naravane pinning commendation badges on a line-up of soldiers. With Leh Corps commander Lt Gen Harinder Singh behind him and Army Northern Commander Lt Gen YK Joshi to his left, the Army Chief



Commendation cards, in the form of metal badges, are awarded for 'individual acts of gallantry or distinguished service or devotion to duty performed either in operation or non-operational areas'.

The five soldiers chosen for the field decoration from the leadership were involved in two separate incidents on the Line of Actual Control, forty days apart. (India Today photo)

In this case, the five soldiers chosen for the field decoration from the leadership were involved in two separate incidents on the Line of Actual Control, forty days apart.

The first three badges were pinned by the Army chief on soldiers involved in the June 15 incident at the Galwan Valley's Patrol Point 14. India Today has learnt that the badges have been given to a soldier from a frontline infantry unit and attached units that saw action in the violent escalation.

The June 15 clash involved personnel from 16 Bihar, 3 Punjab and two artillery units, the 3 Medium Regiment and 81 Field Regiment.

The other two badges were on soldiers from the 17 Kumaon regiment (called the Bhaduria Paltan for actions in the 1971 war) for acts of valour in the violent May 5-6 night brawl with Chinese troops in the Pangong Tso sector.

The brawl is seen as the starting point of the continuing standoff between troops in the area. The Pangong sector has since seen an aggressive mobilisation by Chinese forces along the Finger 4 ridgeline, with another brawl taking place in the last week of May. Things have remained tense in this area ever since.

While the Commendation badges are an immediate recognition of field valour, it is highly likely that soldiers and officers from these units will receive operational decorations in the coming months, as will Colonel Santosh Babu and the 19 men who were killed in action fighting Chinese troops nearly a kilometre deep across the Line of Actual Control.

Speaking about the commendations, Army infantry veteran and commentator Brigadier Sandeep Thapar (Retd.) said, "Imagine the morale of the troops, the unit and the Corps if the Army chief could pin a Vir Chakra on brave troops in the field at times like this. Commendation badges are the only thing the Chief can award because the Chakra decorations are decided at the MoD level. I do wish there could be a field award system that would permit decorations immediately during times like this. Would go a long way in recognising troops immediately."

The Army chief rounded off his two-day stop in Ladakh with visits to Darbuk, Demchok and Chushul today, after spending time with recuperating soldiers from the Galwan clash at the 153 General Hospital in Leh on Tuesday.

<https://www.indiatoday.in/india/story/meet-the-5-ladakh-troops-commended-by-army-chief-gen-naravane-today-for-fighting-off-chinese-1692344-2020-06-24>



Thu, 25 June 2020

## Army needs to stop sitting on Light Tank, ULH and LCH procurement

By Tushkar Shirodkar

As preparation for a possible conflict with China in high, mountainous areas grows, the Indian Army for years has not been able to procure High altitude weaponry to face China front and has it has built up its resources for the Pakistan front until the deadly clash with Chinese in Galwan Valley of Ladakh. Indian Army's armored directorate a few years back had identified high altitude weapons systems like Light Battle Tank and Ultra-Light Howitzer (ULH) and Light Combat Helicopter which it could need in case of war with China but procurement of those has been stuck in the red tape of bureaucracy.

Indian Army procured BAE System developed M-777 Ultra-Light Howitzer (ULH) from the United States recently but the purchase was of limited quantity and to equip its forces from Ladakh, Sikkim, Arunachal to Assam it could require nearly 5 times more ULH in its inventory due to which Local Private Sector company like Bharat forge had developed MARG 155 mm / 39 caliber ULH and Truck-mounted MARG 155 mm / 39 caliber ULH for the Army but Army is yet to test the system or clear it for procurement.



Post-Doklam standoff with China, the Indian Army had planned procurement of light tank after China tested and deployed its homegrown light tank called Xinqingtian in border areas with India. Currently, India has deployed the Russian-made T-72 tanks in the region but it is still too heavy for the mountainous regions and were made for the Plain and desert warfare, due to which Army had proposed procurement of a 22 ton Light Tank that is capable of operating at heights of more than 3,000 meters in hilly terrain equipped with a 105mm main gun and a 1,000-horsepower engine. Many key Public-Private sector companies have shown interests in the development of Light tank since it could be good opportunity for them to enter Tank Market but Army is yet to even finalise specification of such tanks with many independent defence analysts claiming delays are to make way for Russian developed Sprut-SDM1 Light Tanks.

HAL developed Light Combat Helicopter (LCH) has been developed especially for high altitude warfare and has been extensively tested by the air force and army in the same region where

possible conflict with China can happen. LCH has been granted IOC certification and production facility for LCH is also ready but deal for initial pre-production LCH is still stuck and the Army's plan for a fleet of 100 plus LCH looks like a distant dream.

Light Battle Tank and Ultra-Light Howitzer (ULH) and Light Combat Helicopter were marked as the critical system that will be required by the Indian Army for high altitude warfare but little or no progress has been made to procure them in large scale yet even when Chinese side has showcased similar weapons system in the region. The army needs to get its act together and procure them in a war footing pace.

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<https://idrw.org/army-needs-to-stop-sitting-on-light-tank-ulh-and-lch-procurement/>



Thu, 25 June 2020

## The sharp end of military power

In 1962, an uninformed political leadership, dominant Army brass, and diffident Air Force leadership ensured that a reasonably potent offensive element of the Indian Air Force (IAF) watched from the sidelines as the People's Liberation Army (PLA) rolled into Ladakh and down the Sela Pass into Bomdila. Swayed by the assessments of a British Operations Research expert, Patrick Blackett, and the U.S. Ambassador to New Delhi, John Kenneth Galbraith, then Prime Minister Jawaharlal Nehru balked at the idea of using the IAF to stem the Chinese tide.

IAF fighter pilots posted at air bases that could impact operations in Ladakh and the Tawang Sector (Pathankot and Tezpur) recall that they were battle ready and waited for the call to action that never came.

### Defensive and offensive strategy

Fast forward to the winter of 1986 and the summer of 1987. Following the establishment of a camp at Wangdung grazing grounds in the Sumdorong Chu Valley (northwest of Tawang and in the same area where Indian forces were overwhelmed in 1962), the trio of General Krishnaswamy Sundarji, Lieutenant General Narahari and Major General J.M. Singh put together a logistically viable envelopment strategy that spooked the Chinese with numbers, firepower, and aggression without needless confrontation. An important element of this strategy was the use of helicopters and transport aircraft to facilitate and sustain this deployment.

That was not all. They even developed an offensive strategy to take the battle to Le, the forward most PLA base in the sector. There was close coordination between 4 Corps in Tezpur and the fighter base close by and training was stepped up in the valleys to support offensive operations if required. In an interview with the author, Major General J.M. Singh was emphatic that air power held the key in operations on the Tibetan Plateau. He argued, "We must have the capability to gain and maintain a favourable air situation for limited periods of time, and carry out interdiction to back shallow multi-pronged thrusts across road-less terrain to outflank the Chinese build-up that will take place on the existing road and rail networks."

### **The IAF's advantage**

On June 15, 2020, there was a violent clash at Patrolling Point 14 in Galwan. The ground situation across the entire Line of Actual Control (LAC) is largely one of parity and for any tangible gains or tactical advantage to be gained on the ground the Indian Army needs a numerical superiority of at least 5:1. Therefore, if there is any asymmetric advantage to be gained, it is air power that will prove to be decisive in depleting the PLA's combat potential before it is applied along the LAC.

By all recent operational assessments including one by the Harvard Kennedy School, the IAF currently enjoys both a qualitative and quantitative advantage over the People's Liberation Army Air Force (PLAAF) across the LAC. Its fighter fleet of 4th Generation Aircraft (Su-30 MKIs, Mirage-2000s and MiG-29s) are superior in almost every respect to the PLAAF's J-10s, J-11s and SU-30 MKKs. The IAF has more operational bases than the PLAAF close to the LAC. There is reasonable redundancy and survivability to withstand an initial attack on IAF bases by the PLA Rocket Force (PLARF).

There are, however, two areas of concern. The first is a strong ground-based air defence network strung up by the PLAAF in Tibet comprising the S-300, S-400 and HQ-9 systems that the IAF will have to contest during its offensive operations. The second is the advantage that the PLAAF has in long-range air delivered cruise missiles (500-3,000 km) from the H-6 bomber. As compared to this, the IAF's Su-30 MKI has just been cleared to carry the BrahMos land attack cruise missile with a range of 300 km which could be a significant force multiplier against targets in Aksai Chin and Tibet.

The other area of significant advantage enjoyed by the IAF is in the aerial mobility department where the IAF transport fleet of C-17s, Il-76s, An-32s and C-130s are as proficient in diverse roles as the best air forces in the world. Whether it is rapid troop induction into major bases or at Advance Landing Grounds like DBO, Nyoma or Mechuka, or inter-valley transfer and insertion of special forces with helicopters like the recently inducted Chinooks and the versatile Mi-17 series, these are areas that will provide great confidence to the Indian Army. After initial setbacks in Afghanistan, the U.S. Army has figured out a way to exploit the lethal firepower of the Apache Attack Helicopter at altitudes of 12,000-14,000 feet. It would be reasonable to expect that the IAF's Apaches would add significant firepower in Ladakh.

Finally, in the area of surveillance, China possesses a large complement of the Yaogan series of low earth orbit surveillance satellites that offer it an almost persistent stare capability over areas of interest. To counter this India must leverage its existing space-based surveillance assets and airborne surveillance platforms to support wide-spectrum operations and provide better situational awareness.

### **The importance of air power**

Unless there is vision and an acceptance of the importance of air power in what has been till now a significantly land-centric operational philosophy across the LAC, there is a clear and present danger. In the next decade or so, the IAF will lose its competitive advantage with the PLAAF as the latter has invested heavily in modernisation and is continuing to do so. On the other hand, with deep budgetary cuts and the likelihood of the slowing down of the induction of cutting-edge platforms and weapon systems, the choice is not about what the IAF wants but what the country needs in the prevailing complex security environment. Air power represents the sharp end of contemporary military power. We need to ensure that it does not get blunt.

<https://idr.org/the-sharp-end-of-military-power/#more-229729>

## India reinforces flashpoint area as China holds ground: Sources

Leh: Indian fighter jets roared over the flashpoint Himalayan region on Wednesday as part of a show of strength following a violent clash between the two armies in Galwan valley in eastern Ladakh.

Chinese forces have held onto a chunk of land covering several square kilometres (miles) at the mouth of the Galwan, the Indian military sources told AFP.

The two sides publicly declared they would pull back following the clash, which saw 20 Indian soldiers killed in a battle involving rocks and nail-studded batons.

But both have maintained troops around the valley, with India deploying more forces and trying to project military might.

Indian jets regularly took off Wednesday from a military base in Leh and headed towards the mountainous border 240 kilometres (150 miles) away.

There were also checkpoints on main roads and a frenzy of military activity around the main town, which lies at 3,500 metres (11,500 feet).

Residents reported long lines of military trucks and artillery on roads near Leh.

"We now have a good strength present in the area," an official of the Indian Army's Northern Command told AFP on condition of anonymity, referring to the reinforcements.

Tashi Chhepal, a retired Indian army captain who has served in the area and is based in Leh, said the mobilisation was unprecedented in a sensitive region touching Pakistan as well as China.

"I haven't seen this kind of military movement before," he told AFP.

After the latest round of talks between military commanders on Monday, Chinese foreign ministry spokesman Zhao Lijian said the two sides had "agreed to take necessary measures to promote a cooling of the situation".

But they made similar comments after a fist-fight in May that proved to be a warmup for the deadly clash at Galwan.

Images taken on Sunday by the US satellite firm Maxar showed trucks and huts at camps on the river at 4,500 metres (15,000 feet) near the scene of the fighting. It was not clear whose army they were.

The two countries fought a border war in 1962 but this month's fighting was their deadliest encounter in 53 years.

According to Indian military sources, Chinese troops ambushed Indian soldiers and forced them down a ridge where they had gone to remove a Chinese "encroachment".

A bilateral accord prevents the use of guns, but the fighting was still fierce, reportedly with rocks and batons wrapped with barbed wire.

China has in turn accused Indian soldiers of twice crossing the Line of Actual Control, the unofficial boundary, provoking its troops.

But the Chinese appear to be sticking to their gains at Galwan and the nearby Pangong Tso lake, police intelligence as well as military sources told AFP.

China is now claiming the valley as its own, in statements that India has rejected.

Indian analysts are dubious of the chances of a major easing of the tensions or that India will reclaim the territory.

Harsh Pant from the Observer Research Foundation think-tank in New Delhi said: "Anything that the Chinese now say can't be taken on face value. India, hopefully, has learnt its lessons now."



Amid calls for a boycott of Chinese goods, media reports say Prime Minister Narendra Modi's government could make it more difficult for Chinese companies to do business.

But analysts say there is recognition on both sides that their economies need each other.

"There may be some short term public backlash against China in India, but publicly, Pakistan swamps China as a perceived threat," said Vipin Narang, a security specialist at the Massachusetts Institute of Technology.

"The effects of this crisis, even if it slow burns, may be short lived amongst India's public. And cheap TVs are still cheap TVs."

<https://timesofindia.indiatimes.com/india/india-reinforces-flashpoint-area-as-china-holds-ground-sources/articleshow/76554627.cms>



Thu, 25 June 2020

## India to purchase 20 Russian MiG-29 Jets: A good move?

*In addition, personnel from the Indian military will take part in the Victory Parade in Moscow's Red Square on June 24*

*By Peter Suci*

Even as New Delhi has eyed the American-designed Lockheed Martin F-35, the Indian military still uses a lot of Russian technology—a fact that is unlikely to change. The Indian Air Force (IAF) is now reportedly planning to order thirty-three additional fighters including twenty-one MiG-29 supersonic fighter jets from Russia. The news was first reported in the EconomicTimes of India, which noted that these aircraft would replace the IAF's aging MiG-21 fighters—and of the new aircraft two would-be trainers.

Russia has been working with the IAF to support the modernization of the MiG-29 fighter, and those upgrades will improve the jet aircraft's combat capabilities and enable the fighter to integrate new weapons and technologies. The modernization is expected to increase the service life of the aircraft platform by up to forty years.



The additional aircraft would be a dozen Sukho Su-30 MkI multi-role fighter jets—which now form the backbone of the IAF, bringing the total number of the fifth-generation fighters to 284. Those fighter jets could be manufactured at the Hindustan Aeronautics Ltd. (HAL) facility, where the aircraft are built under license. The aircraft is tailor-made for Indian specifications and integrates Indian systems and avionics, but also includes French and Israeli sub-systems. It shares many features with the Russian-built Sukhoi Su-35.

Last year, a senior executive at the state-owned facility said that it could close this year if no new orders were placed. There were concerns that this could have a domino effect that could have resulted in four hundred local suppliers shutting their doors as a result. While this latest order of twelve additional fighters will keep the Nasik-based factory running through next year, it will also produce eighty-three Tejas Light Combat Aircraft Mk 1A this year at HAL. That will be the largest Made in India project of its kind to date.

This deal between New Delhi and Moscow comes as tensions continue to simmer at the Line of Actual Control (LAC), the de facto border, between India and China in the Kashmir region.

Personnel from the Indian military will take part in the Victory Parade in Moscow's Red Square on June 24.

“India has confirmed its contingent’s participation in the Victory Parade on June 24. We are impatiently waiting for the Indian servicemen to march across Red Square. We are currently agreeing the practical aspects of the upcoming event with the Indian partners,” Russia’s Ambassador to India Nikolai Kudashev told Russian state media last week. “In particular, during the passage of the parade unit, the announcer will highlight India’s contribution to the victory over fascism and the fact that Indian soldiers were awarded the Red Star Orders in 1944.”

The Indian military, which was then in service with the British military, fought on numerous fronts during World War II, but also provided for the delivery of cargoes along the so-called southern trans-Iranian route of the lend-lease program, under which weapons, munitions, equipment spare parts and food were supplied to the Soviet Union through Iran and Iraq.

The Victory Parade, which marks the seventy-fifth anniversary of the Soviet Union’s victory over Nazi Germany in the Great Patriotic War (1941–45), had been scheduled for May 9 but was delayed due to the outbreak of the novel coronavirus in Russia. The June 24 date was chosen to coincide with the seventy-fifth anniversary of the legendary historic parade that took place on that day in 1945.

<https://nationalinterest.org/blog/buzz/india-purchase-20-russian-mig-29-jets-good-move-163367>

## DECCAN Chronicle

Thu, 25 June 2020

# Russia will honour weapons contract with India amid Ladakh tension

*Defence minister Rajnath Singh says he is fully satisfied  
regarding his discussions with Russian counterparts*

*By Pawan Bali*

New Delhi: Defence minister Rajnath Singh, who is on a three-day visit to Moscow, said on Tuesday that he has been assured by Russia that ongoing contracts for weapons will be maintained and in a number of cases will be taken forward in a shorter time.

"All our proposals have received positive response from the Russian side. I am fully satisfied with my discussions," said Mr Singh. Mr Singh will attend the Victory Parade on June 24, in Moscow to commemorate the 75th anniversary of the victory in the Second World War.

India is looking at timely delivery of S400 air defence system at a time of heightened tension with China. According to reports, China has deployed S300 air defence system at the LAC with India. India is also looking for faster delivery of various spares for its weapons and aircraft from Russia.

Meanwhile, defence ministry denied reports in Chinese media that Mr Singh will be meeting with Chinese Defence Minister Wei Fanghe in Moscow on India-China border tensions. "There is no such meeting," said a senior official.

"I can say with confidence that the traditional friendship between India and Russia remain strong. Our mutual interests are solid and we look to future cooperation in the spirit of our special friendship," said Mr Singh.

Defence minister said that India-Russia relations are one of Special and Privileged Strategic Partnership." Our defence relationship is one of its important pillars," he added.

<https://www.deccanchronicle.com/nation/politics/240620/russia-will-honour-weapons-contract-with-india-amid-ladakh-tension.html>



Union Defence Minister Rajnath Singh on his arrival in Moscow for a three day visit. (Images released by: @DefenceMinIndia)

## 10 launches, Gaganyaan, Chandrayaan "disturbed" due to lockdown: ISRO Chief

New Delhi: Ten space missions being prepared for launch this year have been “disturbed” due to the coronavirus-induced lockdown besides delay in the human space and Moon missions, ISRO chief K Sivan said on Wednesday.

The Indian Space Research Organisation (ISRO) will make an assessment of the impact of the lockdown on its missions, he said.

The ISRO chief added that the space agency had planned 10 launches.

“Because of this (pandemic), everything got disturbed. We have to make an assessment after the COVID-19 issue is resolved,” Sivan told PTI.

“Gaganyaan will be impacted because of the lockdown... all industries have not yet started functioning,” Sivan said, adding that in the last few months, the work on the Mission had stopped.

ISRO is dependent on the private sector for manufacturing equipment for its launch. The Micro, Small and Medium Enterprises (MSMEs) which provide equipment to the ISRO are among the worst-hit due to the lockdown, coupled with migration of labourers.

“All our missions (including Chandrayaan-3) have been impacted,” he said.

“We have to assess the impact of the lockdown on Gaganyaan,” Sivan added.

After the hard landing of Chandrayaan-2 last year, ISRO had planned to launch Chandrayaan-3, which was scheduled to be launched later this year.

Gaganyaan, the human space mission, envisages to send three Indians to space by 2022. The four test pilots selected for this mission are currently undergoing training in Russia, but even that was impacted due to coronavirus lockdown in the country.

*(Disclaimer: This story has not been edited by Outlook staff and is auto-generated from news agency feeds. Source: PTI)*

<https://www.outlookindia.com/newscroll/10-launches-gaganyaan-chandrayaan-disturbed-due-to-lockdown-isro-chief/1876481>

## India to provide level playing field to private space players; ISRO to focus on building technologies

*Indian Space Research Organisation will focus more on building new technologies, human spaceflight programmes and deep space missions. New Space India Ltd, the commercial arm of Isro, will engage with startups and private companies for new applications and use the space infrastructure to build them*

Bengaluru: India has set up a new organisation to provide private enterprises a level playing field in building satellites and rockets and launch them using its space agency's infrastructure.

Indian National Space Promotion and Authorisation Centre (In-Space) will hand-hold, promote and guide private industries in space activities through a friendly policy and regulatory environment, Union Minister of State for Space and Atomic Energy, Jitendra Singh said.

In-Space will have members from the Space Commission as well as industry representatives on its board.

Indian Space Research Organisation (Isro) will focus more on building new technologies, human spaceflight programmes and deep space missions. New Space India Ltd (NSIL), the commercial arm of Isro, will engage with startups and private companies for new applications and use the space infrastructure to build them.

"Our aim is to create that type of companies," Isro chairman K Sivan told ET, when asked whether the new structure will allow local companies such as the US-based SpaceX and Blue Origin to emerge in the country. "We are encouraging private industry more than before. We have a roadmap," he said.

Sivan said the private industry is already involved in 80% of the production of satellites and rockets in India, largely as suppliers of systems. Isro is engaging the industry to manufacture its small satellite launch vehicle and polar satellite launch vehicle.

Former Isro chairman G Madhavan Nair said the decision was a logical move to allow private firms in commercial space activities, while Isro focuses on building next generation rockets, satellites and deep space missions.

The National Aeronautics and Space Administration (NASA) in the United States also opened up to the private industry in stages and it has taken several decades for a competitive private sector to emerge there, he said.

The government has had policies for over a decade that allow private companies to build satellites and use remote sensing applications. It, however, did not have policies for rockets as it was complying with the Missile Technology Control Regime (MTCR), even though India was not a signatory, and could not allow rockets with more capabilities.

"The board now can look at this on a case-to-case basis," Nair said.

"If you look at ISRO, programmes have grown more than 10-fold in the last decade or so, whereas the manpower remains the same, at around 15,000 people. The extra resources for rockets, satellites are coming from the industry," he said.

<https://economictimes.indiatimes.com/news/science/india-to-provide-level-playing-field-to-private-space-players-isro-to-focus-on-building-technologies/articleshow/76570482.cms>

Thu, 25 June 2020

## **IN-SPACE to be ISRO's extended arm to encourage private participation in space sector**

*To enable the opening up of space sector for private players and synergize the efforts, the Union Cabinet on Wednesday approved setting up of IN-SPACE (Indian National Space Promotion and Authorization Centre), an extended body meant to supplement the work of Indian Space Research Organization (ISRO)*

*By Sidharth MP*

To enable the opening up of space sector for private players and synergize the efforts, the Union Cabinet on Wednesday approved setting up of IN-SPACE (Indian National Space Promotion and Authorization Centre), an extended body meant to supplement the work of Indian Space Research Organization (ISRO).

The decision was taken at a Cabinet meeting chaired by Prime Minister Narendra Modi.

Calling it a "historic and path-breaking decision which is a departure from the practices of the last 70 years," Minister of State for Space, Dr Jitendra Singh said that this is a long-term reform aimed at boosting private sector participation in space activities and opening up a new culture.

Stating that this was not just budgetary or human-resource facilitation, he added that this was an attempt to stop brain-drain. "We train the best Indian minds at our teaching facility in Thiruvananthapuram, they all get 100% job placement and 60-70% get placed abroad with premium institutions. We don't want to let our best human and non-human assets go unused by our country. We want to put them to optimum use and Make-in India."

The minister added that the concept of IN-SPACE has been worked out and that its organisational structure was being decided.

This decision comes after Finance Minister Nirmala Sitharaman's announcement in May, that the private sector will be a co-traveller in India's Space journey. The announcement was made as a part of policy reforms to fast-track investment effort towards Atmanirbhar Bharat (Self-reliant India).

"Traditionally space activities were working under a shroud of secrecy and space capabilities were limited to a handful of ISRO scientists, but with time, our human resources and expertise in space have improved. We have set a world record by launching 104 satellites, we have done Mangalyaan (mars-mission) and we have training underway for manned-mission Gaganyaan. Chandrayaan-3 is also coming up" Singh said.

According to a statement, the Indian National Space Promotion and Authorization Centre( IN-SPACE) is meant to provide a level playing field for private companies to use Indian space infrastructure. It will also hand-hold, promote and guide the private industries in space activities through encouraging policies and a friendly regulatory environment.

It added that these reforms will allow ISRO to focus more on Research and Development(R&D) activities, new technologies, exploration missions and human spaceflight programme.

The minister also clarified that the existing body New Space India Limited (NSIL) and the new body IN-SPACE would only supplement ISRO's functions and not work at cross purposes. He added that this reform would augment India's Space Commission and warrant the appointment of new roles at the Department of Space.

"ISRO is a basic organization and the key decisions related to activities, missions and projects would remain with them. We have NSIL to facilitate private participation and IN-SPACE would be working on the mechanism of announcement and opportunities for industries by ISRO and meeting the demands the private sector" Jitendra Singh said.

With the decision to set up IN-SPACE being taken by India's cabinet, further details are expected to be revealed by ISRO Chairman and Secretary, Department of Space Dr K Sivan, in his media briefing on Thursday.

WION had earlier reported about how Private players were welcome in India's Space journey, but ISRO needs an organizational revamp to enhance focus on R&D.

<https://www.dnaindia.com/india/report-in-space-to-be-isro-s-extended-arm-to-encourage-private-participation-in-space-sector-2829445>

**BUSINESS  
INSIDER  
INDIA**

Thu, 25 June 2020

## **ISRO can focus more on its own R&D as India sets up new board to govern private participation in the space sector**

*By Prabhjote Gill*

- **India's Union Cabinet is setting up the Indian Space Promotion and Authorisation Centre (IN-SPACE) to govern the participation of private players in the space sector.**
- **Minister of Space and Atomic Energy, Jitendra Singh announced that the board will be in charge of promoting and guiding the space activities of the private industry.**
- **He also said that this will free up the Indian Space Research Organisation to focus more on its own research and development activities.**

The Union Cabinet has announced a new board, the Indian National Space Promotion and Authorisation Centre (IN-SPACE) to provide a level playing field for private companies in the country's space sector. According to the Minister of Space and Atomic Energy, Jitendra Singh, the board will be in charge of promoting and guiding the space activities of the private industry.

"IN-SPACE's structure and other details will be worked out in the coming days," he said during the virtual meeting. The government hopes that setting up an independent board will also allow the Indian Space Research Organisation (ISRO) to focus more on research and development, new technology, space exploration and human spaceflight.

According to Singh, some of the planetary exploration missions will also be opened up to the private sector through an 'announcement of opportunity' mechanism.

The move comes as a way to bolster the earlier announcement by Finance Minister Nirmala Sitharaman on May 16 where she said the Indian Space Research Organisation's (ISRO) testing facilities and data will be opened up for private players.

She also said that future projects for planetary exploration and outer space travel will be opened to the private sector.

"India today is a frontline space-faring nation, but somewhere, the need was felt to change the way we've been working in the past 70 years," said Singh while pointing that not everyone may understand the implications, but that it's a long term reform.

"India's space agency was working very secretly and its capability was limited to only a handful of people working at ISRO. Now human resources and expertise has improved," he added.

<https://www.businessinsider.in/science/space/news/isro-can-focus-more-on-its-own-rd-as-india-sets-up-new-board-to-govern-private-participation-in-the-space-sector/articleshow/76557050.cms>

## 2 researchers of Jadavpur University working on ISRO project on soft landing on moon, other planets

*Professor, Department of Power Engineering, Dr Amitava Gupta said the research takes into account proper landing of the lander - how it moves, how it rotates, that it does not suddenly gain speed while landing due to gravitational pull and pulled back and forth by opposing forces helping it to slow down the descent*

Kolkata: Two Jadavpur University researchers are working for an ISRO project on soft landing on the moon and other planets, an official said.

Sayan Chatterjee, Associate Professor of Electronics and Telecommunications and Co-Investigator of the project, told PTI the simulation based model takes into account the gradual spiral descent during touchdown of lander onto the surface to ensure it does not crashland and touches ground like a feather.

The spiralling is planned when the lander touches down during the terminal phase after getting an angular view if there is a rock or boulder at its landing site, he said.

“We are doing the designing and simulation part based on our data. We can give example of a kite which catches a prey while flying after getting an angular view of the target.

“Once the designing part is done with, ISRO will do the fabrication,” Chatterjee said.

Professor, Department of Power Engineering, Dr Amitava Gupta said the research takes into account proper landing of the lander - how it moves, how it rotates, that it does not suddenly gain speed while landing due to gravitational pull and pulled back and forth by opposing forces helping it to slow down the descent.

“It is not merely all about the ongoing Chandrayaan series project of ISRO, apart from moon, the soft landing may be of use for ISRO’s mission to other planets,” he said.

The project is part of ‘Respond programme’ by ISRO with premier academic institutions related to space science, space technologies.

Chatterjee said for “planets where optical imaging will not work, the imaging has to be adapted appropriately.

“We are involving undergraduate students as interns, allowing them to get an exposure of live projects,” Gupta said.

Pro-Vice Chancellor Prof Chiranjib Bhattacharya said he is proud and happy that two eminent researchers of JU are working on such a project in collaboration with ISRO.

In September, 2019, Vikram lander, named after the father of India's space programme Vikram Sarabhai, had lost contact with the orbiter of the Chandrayaan-2 mission two minutes after it was to touchdown on the lunar surface near the moon's south pole and had a hard-landing close to the location where it was planned to touchdown, ISRO had stated.

As Chandrayaan-3 is expected to take place this year itself, “we think our findings may be of use for next Chandrayaan mission of ISRO,” Chatterjee said.

<https://www.hindustantimes.com/education/2-researchers-of-jadavpur-university-working-on-isro-project-on-soft-landing-on-moon-other-planets/story-UtxinPREKAsfmeIvcD3mBO.html>



Thu, 25 June 2020

# ISRO gets patent for liquid cooling and heating garment, likely for use by Indian astronauts

By Aishwarya Dharni

## Highlights

- **Based on the patent papers filed by ISRO, the garment is made of biocompatible fabrics and parts which will help maintain comfortable body temperature.**
- **Such garments are used in manned space flights as well as during earth-bound operations like firefighting, working in industries etc.**

The Indian Space Research Organisation (ISRO) has acquired a patent for its liquid cooling and heating garment (LCHG) which is suitable for space applications, as reported by *IANS*.

According to the report, the patent is valid for 20 years from the date of the application that was February 8, 2016, and it was granted on June 19, 2020.

ISRO is the patent owner here but there are also four investors: Srirangam Siripothu, Reshmi Balachandran, Saraswathi Kesava Pillai Manu, and Gurumurthy Chandrasekaran.



Based on the patent papers filed by ISRO, the garment is made of biocompatible fabrics and parts which will help maintain comfortable body temperature.

Such garments are used in manned space flights as well as during earth-bound operations like firefighting, working in industries etc.

Based on ISRO's statement, the garment has superior heat transfer efficiency and can be easily used for maintaining the body temperature of the wearer at levels which are suitable for the performance required.

The LCHG is comprised of an outer polymeric fabric tricot and an inner polymeric fabric net that stays in contact with the wearer's skin.

The outer and inner layer of the garment are each separated by a plurality of tubes configured to circulate a heat transfer fluid. The tube is placed in a way that it covers the entire body without any overlaps and removes maximum heat from the wearer.

ISRO is working on a Rs 10,000-crore project called 'Gaganyaan' to send three air force pilots into space for a week. Presently, four Indian Air Force pilots are undergoing astronaut training in Russia. Out of the four, three will be selected to travel into space.

[https://www.indiatimes.com/trending/social-relevance/isro-gets-patent-for-liquid-cooling-and-heating-garment-516441.html#highlight\\_9435](https://www.indiatimes.com/trending/social-relevance/isro-gets-patent-for-liquid-cooling-and-heating-garment-516441.html#highlight_9435)



Thu, 25 June 2020

## **INST develops recyclable copper-oxide catalyst for producing Rufinamide drug**

*The existing technology for producing the drug has an inherent selectivity issue, which often leads to unwanted non-drug isomer ---1, 5-regioisomer*

New Delhi: Scientists at the Institute of Nano Science & Technology (INST), an autonomous institute of the Department of Science and Technology (DST), Govt. of India, have developed a nanotechnology-based industry-friendly and low-cost method for the production of antiepileptic drug 'Rufinamide'.

Dr Jayamurugan Govindasamy and his co-workers from INST have developed a new recyclable copper-oxide catalyst, which plays a crucial role in the key reaction for producing the Rufinamide drug.

The existing technology for producing the drug has an inherent selectivity issue, which often leads to unwanted non-drug isomer ---1, 5-regioisomer. This necessitates the use of organic solvent, high temperature, and the need to purify and separate the soluble catalyst and so on, leading to unfriendly reaction conditions and high production costs.

In the new production method published in the journal Chemical Communications, unlike the traditional CuSO<sub>4</sub> catalyst, the newly designed catalyst comprising of very small-sized (3-5 nm) CuI and CuII is so reactive that the reaction can be conducted efficiently under the aqueous condition and at room temperature. Since the catalyst is coated with slightly modified natural bio-polymer, they are biocompatible and can be separated just by filtration technique.

The new method promises to overcome many of the current challenges in the synthesis of Rufinamide drugs such as high cost, the formation of unwanted 1,5-regioisomer in addition to the required 1,4-regioisomer, limited choice of starting materials (propionic acid derivatives) leading to multistep synthetic sequences, and poor yields due to use of organic solvents and overheating of the reagents.

Dr G. Jayamurugan, a Ramanujan Fellow of DST, and his co-workers used nanotechnology to develop the new recyclable copper-oxide catalyst supported by customized bio-polymer (available abundantly from biomass). The synthesized catalyst turned out to be highly active in aqueous solvents, making manufacture possible under industrial friendly conditions. The reasons for this high activity are the extremely small sizes (3-5 nm) of copper oxide nanoparticles, the mixed oxidation states of CuI and CuII and their synergistic effects. They also found that the product is fully devoid of 1,5-regioisomer, as indicated by the single peak observed for 1,4-regioisomer in the HPLC with >99% purity. The scalability of the reaction was also demonstrated in 10 g scale reactions in the laboratory condition.

The developed catalyst is not only useful for the Rufinamide drug synthesis, but it is also for other organic transformation reactions. The catalyst can be commercialized for academic use, as well as companies deal with fine chemicals that use these reactions.

Having been well optimized under laboratory conditions in the 10 g scale, the catalytic process can be easily translated into the industrial process. Furthermore, because the choice of metal and the polymers are so cheap, the end product of the present catalytic process can be maintained at low-cost. A patent has been filed for the highly efficient, economical, and eco-friendly process.

Presently only a few companies manufacture the costly Rufinamide drug, which epilepsy patients need to consume continuously for their entire life. Hence, the catalytic process developed by the INST team can be used by Active Pharmaceutical Ingredient, producing companies for mass production to bring down the drug cost.

"Several nanotechnology initiatives of DST in seeding the infrastructure, human resources and the Institute of Nanoscience and Technology are now increasingly producing a plethora of useful technologies and products that contribute to an Atam Nirbhar Bharat," said Prof Ashutosh Sharma, Secretary, DST. (With Inputs from PIB)

<https://www.devdiscourse.com/article/technology/1103712-inst-develops-recyclable-copper-oxide-catalyst-for-producing-rufinamide-drug>

## THE TIMES OF INDIA

Thu, 25 June 2020

# China successfully launches last satellite for its BeiDou navigation satellite system

Beijing: China on Tuesday successfully launched the last satellite of its BeiDou Navigation Satellite System (BDS), touted to be a competitor to the Global Positioning System (GPS) of the US, taking another step to becoming a major space power.

The satellite was launched on Tuesday morning from the Xichang Satellite Launch Centre in southwest China's Sichuan Province.

The satellite, the 55th in the family of BeiDou that means "Big Dipper" in Chinese, was successfully sent into space by a Long March-3B carrier rocket, according to the China Satellite Navigation Office, state-run CGTN reported. The launch will mark the completion of the country's domestically developed BeiDou network, one of the four global navigation networks alongside with the US' GPS, Russia's GLONASS and the European Union's Galileo.



India too is building its navigational system called the Indian Regional Navigation Satellite System (IRNSS), with an operational name of NAVIC.

Some of the countries like Pakistan are using BDS. China is also promoting its use in the countries signed-up for its mega Belt and Road Initiative, (BRI).

The BDS-3 satellite was originally scheduled to be launched on June 16, but it was later postponed due to technical problems which were discovered in pre-launch tests.

The latest GEO satellite is the 55th BDS system, and will work with other members of the network, allowing global users to access high-accuracy navigation, positioning and timing as well as communication services, official daily Global Times reported earlier.

Compared to previous generation series, the constellation of BDS-3 with an array of 30 satellites flying on three different orbit planes - three at the GEO, three at the inclined geosynchronous orbits, and 24 at the medium Earth orbit - have higher bandwidth.

They enable enhanced communication capability and carrying more accurate and stable domestically developed atomic clocks to improve the precision of timing and navigation services, the report said.

The first BeiDou satellite entered orbit in 2000, and started providing positioning, navigation, timing and messaging services to domestic users in China and users in the Asia-Pacific region in December 2012.

The BDS system started providing global services at the end of 2018, when construction of the BDS-3 primary system had been completed.

The Tuesday mission will complete the BDS-3 system, which, according to Wu Di, a scholar with the satellite positioning technology centre of Wuhan University, will further enhance the quality of services of the system for global users providing stronger signals.

<https://timesofindia.indiatimes.com/world/china/china-successfully-launches-last-satellite-for-its-beidou-navigation-satellite-system/articleshow/76522452.cms>

### Clinical trials for Covid vaccine, developed by Oxford University, begin in South Africa

*Heatwave risks during pandemic and cardiac problems in ICU patients, ThePrint brings you the latest research on coronavirus*

*By Mohana Basu*

New Delhi: With over 4,80,000 deaths worldwide due to the coronavirus pandemic, the infection continues to surge in several countries. Scientists, across the world, are still attempting to understand the virus better to develop more effective therapies against it.

Here are some of the latest scientific developments on the Covid-19 from across the world.

#### **First Covid-19 vaccine trials start in South Africa**

Scientists at the University of the Witwatersrand have started the first clinical trial in South Africa for a Covid-19 vaccine, which was developed by UK's Oxford University.

The team will test the Ox1Cov-19 Vaccine, often known as the Oxford Vaccine, as part of the VIDA-Trial that aims to find a vaccine for SARS-CoV-2.

The university is collaborating with the University of Oxford and the Oxford Jenner Institute in the UK for this trial.

The technical name of the vaccine is ChAdOx1 nCoV-19, as it is made from a virus called ChAdOx1 — a weakened and non-replicating version of a common cold virus (adenovirus). The vaccine has been engineered to express the SARS-CoV-2 spike protein.

The vaccine is already being evaluated in a large clinical trial in the UK where more than 4,000 participants have been enrolled. In addition to the South African study, similar and related studies are about to start in Brazil as well. An even larger study of the same vaccine of up to 30,000 participants is being planned in the US as well.

#### **New study to look at heatwave risks during Covid-19 pandemic**

Scientists in the US are launching a research project to study whether the Covid-19 pandemic will amplify the public health impacts of extreme heat.

Just like the novel coronavirus, heat waves disproportionately affect the elderly and people with pre-existing health conditions.

Social isolation — especially without adequate cooling — increases people's risk to heat-related illnesses. The researchers state that it is important to understand whether these intersecting risks can compound to produce significant health impacts.

The team will conduct surveys through the summer, querying a total of 3,000 US residents. The surveys will consist of questions about Covid-19 and extreme heat, including self-reported symptoms and potential household coping mechanisms.

The results from the survey can help guide efforts by public health officials to better protect at-risk populations.



A medical worker drops a Covid-19 test sample into a plastic bag at a testing site in Berkeley, California, US | Photographer: David Paul Morris | Bloomberg

## **Covid-19 patients in ICU more likely to suffer from cardiac arrest, heart rhythm disorders**

Patients with Covid-19 who are admitted to the intensive care unit are 10 times more likely than other hospitalised coronavirus patients to suffer cardiac arrest or heart rhythm disorders, a study suggests.

Researchers from the University of Pennsylvania reveal that cardiac arrests and arrhythmias are most likely triggered by a severe, systemic form of the disease.

The study may provide more clarity about the role of SARS-COV-2 in the development of arrhythmias, including irregular heart rate, slow heart rhythms or rapid heart rate that stops by itself within 30 seconds.

## **Scientists publish all-atom models of the coronavirus spike protein**

A team of researchers from the Seoul National University in South Korea, University of Cambridge in UK, and Lehigh University in US have produced the first open-source all-atom models of a full-length coronavirus spike protein.

The “spike” or S-protein of the SARS-CoV-2 facilitates viral entry into the human body cells. Researchers say that the full length model is important because the S-protein plays a central role in viral entry into cells, making it a main target for vaccine and antiviral drug development.

The model, described in a study published in the *Journal of Physical Chemistry B*, was developed using a program that simulates complex biomolecular systems quickly with precision. It enables scientists to understand molecular-level interactions that cannot be observed any other way.

<https://theprint.in/health/clinical-trials-for-covid-vaccine-developed-by-oxford-university-begin-in-south-africa/447865/>

**Mail & Guardian**  
AFRICA'S BEST READ

Thu, 25 June 2020

# **Q&A: 9 things to know about Africa's first Covid-19 vaccine trial**

*By Mia Malan*

On Wednesday, South Africa might be taking a small step towards eradicating Covid-19 when the country enrolls its first participant in a Covid-19 vaccine trial — the continent's first. A vaccine developed by Oxford University will be tested on 2 000 trial volunteers. The University of the Witwatersrand's newly appointed dean of health sciences, and professor of vaccinology, Shabir Madhi, is the study's lead investigator, with the South African Medical Research Council and the Bill & Melinda Gates Foundation funding the trial.

Wondering why we're doing a trial in the first place? Or how and when we'll know if the vaccine being tested has been successful?

We answer nine questions you may have.

## **Why do we need a Covid-19 vaccine?**

From past infectious disease outbreaks, such as smallpox and the Spanish Flu, we've learned that if we don't keep the reproductive rate beneath one, we will see repeated outbreaks. The reproductive rate is how many other people each infected person will infect. The reproductive rate of SARS-CoV-2, which causes the disease Covid-19, is currently about 2.5. In some countries, lockdowns have resulted in reproductive rates of lower than one, but as soon as governments eased lockdown regulations, reproductive rates increased again. Vaccines have proven to be one of the most effective and economical ways to keep infectious diseases under control. Smallpox, for instance, was eradicated in 1979, because of widespread vaccination.

### **Which Covid-19 vaccine candidate will be tested in South Africa?**

We will be testing a potential vaccine developed by the Jenner Institute at Oxford University. The vaccine is called ChAdOx1 nCov-19, because it is made from a virus called ChAdOx1, which is a weakened version of a common cold virus that can't replicate. The vaccine has been engineered to produce a type of protein that is found on the surface of the novel coronavirus. Researchers have shown that the antibodies that are produced against this protein after natural infection are able to kill — or neutralise — the virus when tested in labs. With the vaccine trial, they are trying to establish if this will also happen with people who are infected in their normal living environments.

### **Is the vaccine candidate being tested in only South Africa?**

The vaccine is also being tested on 4 000 people in the UK — by the end of July, that number would have increased to 10 000. Soon, 30 000 people in the United States will participate in a trial and 5 000 people in Brazil have also been enrolled in a clinical trial.

### **Who will participate in South Africa's trial?**

The vaccine will be tested on three groups of people. The first group — 50 HIV-negative people — will be used to establish if the vaccine is safe and what type of immune response it provokes. This group will receive two jabs, four weeks apart. The vaccine will then be tested on 1 900 HIV-negative people (half of the participants will receive the actual vaccine and the other half a placebo) to determine how effective the vaccine is. People in this group will receive one jab, unless data from the first group indicates that two doses are required for an adequate immune response. The last group will be 50 HIV-positive people, who will receive two doses, four weeks apart. In the case of this group, researchers would want to establish if the vaccine is safe for people with HIV to use, and if it provokes an immune response that is comparable to the response provoked in HIV-negative people. Recent data from the Western Cape government revealed that HIV-infected people are about two to three times more likely to die of Covid-19.

### **Will the vaccine be tested on children and elderly people?**

For the first two groups, only healthy adults between 18 and 65 can enrol, so no children or adults older than 65. Researchers say children are a lower priority for a vaccine because studies have shown that they're less likely to become infected with the SARS-CoV-2 coronavirus and also less likely to fall ill with Covid-19. All the people in the HIV-positive group have to be on antiretroviral treatment and, as a result, have low amounts of HIV in their blood (also known as suppressed viral loads).

### **When will we know the results?**

The first participant will be enrolled on Wednesday, June 24. Researchers aim to complete enrollment across multiple sites by mid-August. They plan to follow each participant for 12 months after vaccination. The study's investigators will be able to determine if the vaccine is effective when about 42 Covid-19 cases have been identified. They estimate that these cases will occur between December 2020 and March 2021.

### **How will the researchers know if the vaccine is effective?**

The study investigators will regard the vaccine effective if it reduced potential Covid-19 cases among trial participants who received the vaccine by at least 60%. They will compare the Covid-19 cases among participants who received the actual vaccine and those who got a dummy jab to establish whether the groups who received the vaccine had a lower occurrence of Covid-19 cases.

### **Are other Covid-19 vaccines being developed?**

There are 268 Covid-19 vaccines around the world under development — and the number increases each week. Only six vaccines have reached the stage where they're being tested on humans. Most of the vaccine candidates will never reach that stage. Researchers think we can expect about five vaccines to eventually be licensed.

## Will the world be able to produce enough vaccines?

Even if we find effective vaccines, the world will not be able to produce enough vaccines for everyone by the end of 2021. The question is: who will be prioritised? Some countries argue that if they invested heavily in the development of a vaccine, they should be the first to receive it. For instance, in the case of the vaccine that South Africa is helping to test, one of the companies that will be manufacturing it, AstraZeneca, announced that because of the UK's \$79-million investment, the first 30-million doses of the vaccine would be allocated to that country. But this "vaccine nationalism" is not only morally reprehensible, it is the wrong way to reduce transmission globally [because Covid-19 spreads across borders], researchers in the *Harvard Business Review* write. South African researchers warn that Africa would have to fight for its right to Covid-19 vaccines, just as the continent had to do in the case of HIV treatment.

*(Sources: Wits vaccine launch webinar, presentations of: Shabir Madhi (Wits), Glenda Gray (South African Medical Research Council), Helen Rees (World Health Organisation and South African Health Products Regulatory Authority).*

<https://mg.co.za/coronavirus-essentials/2020-06-24-qa-9-things-to-know-about-africas-first-covid-19-vaccine-trial/>

## Business Standard

Thu, 25 June 2020

### Chinese firm launches phase-3 trial of Covid-19 vaccine in UAE: Report

*This is the first company in China to conduct an overseas clinical trial of the Covid-19 vaccine, state broadcaster CGTN reported*

China's inactivated Covid-19 vaccine candidate has entered the phase-3 clinical trial in the United Arab Emirates, according to Sinopharm's China National Biotec Group (CNBG) on Tuesday.

This is the first company in China to conduct an overseas clinical trial of the Covid-19 vaccine, state broadcaster CGTN reported.

The vaccine, developed by the Wuhan Institute of Biological Products under CNBG affiliated to Sinopharm, has shown promising results in terms of both safety and efficacy in phase-1 and phase-2 clinical trials.

The CNBG is actively promoting overseas cooperation in the phase-3 clinical trial of the vaccine.

The is primarily because there are currently not enough Covid-19 patients in China required for a phase-3 clinical trial, according to experts.

The company has already secured the intention of cooperation of several firms and research institutions from different countries.

[https://www.business-standard.com/article/current-affairs/chinese-firm-launches-phase-3-trial-of-covid-19-vaccine-in-uae-report-120062400141\\_1.html](https://www.business-standard.com/article/current-affairs/chinese-firm-launches-phase-3-trial-of-covid-19-vaccine-in-uae-report-120062400141_1.html)



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## **Researchers develop a "quick and easy" Covid-19 test for population screening with simple means**

Newswise — Global endeavours to fight the Covid-19 pandemic heavily rely on accurate, fast and frequent tests for the coronavirus SARS-CoV-2 – “test, test, test”, as the World Health Organization (WHO) has bluntly put it. Around the globe, the prevailing approach to diagnose acute infections is based on real-time qPCR, a method that amplifies and detects viral nucleic acid molecules in samples obtained from nose and throat swabs. However, qPCR requires sophisticated and expensive equipment and specialist staff to operate it – crucial drawbacks for example in remote or low-resource settings.

Scientists from the Vienna BioCenter and collaborators have now pushed an established nucleic acid detection assay to a new level. The so-called “Loop-mediated isothermal amplification (RT-LAMP)”, first developed twenty years ago, is cheap, simple and quick – features that make it in principle an ideal alternative for routine SARS-CoV-2 detection. However, limited sensitivity and robustness have so far held back RT-LAMP-based assays from entering the center stage for SARS-CoV-2 diagnostics. The improvements introduced by the Viennese team overcome these challenges and make RT-LAMP a potential game-changer for population-scale screening approaches, especially in economically disadvantaged countries.

Starting with a 5-minute lysis step that “breaks open” cells and virus particles, RT-LAMP employs a simple reaction in which the viral RNA is converted into DNA and amplified billionfold within less than 30 minutes. The generation of such tremendous amounts of DNA can be directly observed with the naked eye by a visual colour change from purple to sky-blue in the reaction tube. Combining this method with a simple RNA enrichment step is at the heart of the newly developed method as it boosts sensitivity by orders of magnitude. Neither specialist laboratory equipment nor expert skills are needed – the most challenging step is to keep the sample at a stable temperature of approximately 63°C during the 30 minutes of the reaction, a task that can – if necessary – be fulfilled by re-purposed kitchen devices.

“Our method builds on existing protocols developed for pathogen detection”, says Julius Brennecke of the Institute of Molecular Biotechnology (IMBA) of the Austrian Academy of Sciences. “For SARS-CoV-2-detection, we managed to improve it to a level that matches qPCR-like sensitivity on crude patient samples. We are extremely excited and can barely wait to see it applied. We expect that these improvements, including the ability to perform pooled screening, will make a real difference not only in developing countries, but in low-resource environments anywhere in the World. Sensitive, affordable and rapid SARS-CoV-2 screening and diagnostics approaches are much needed now.”

“The way this whole project unfolded is rather exceptional,” says Andrea Pauli of the Research Institute of Molecular Pathology (IMP). “It started off as a crazy idea, triggered by our believe that as scientists we must act to help in the current pandemic. Through a remarkable coincidence, Max Kellner, an Austrian PhD student at the institute LMB in Cambridge who had prior experience with isothermal amplification methods, got stranded in his hometown Vienna during the lockdown. When we found out, we teamed him up with Vienna BioCenter PhD students Julian Ross and Jakob Schnabl. And so, two groups, normally working on *Drosophila* oogenesis and zebrafish embryology, came together and set foot in a new field. An exceptional level of team spirit and enthusiasm allowed us to push this project much further than we had ever envisioned and made it a once in a life-time experience for everyone involved.”

IMP and IMBA are members of the Vienna BioCenter, and the breakthrough is testimony to the fruitful and collaborative spirit this campus is known for. The lockdown period boosted these

synergistic activities in an unprecedented manner across labs and institutes. While normal research activities have returned to the labs by now, scientists across campus continue to contribute their time and expertise to combat the outbreak of the Covid-19 pandemic. As part of the VCDI (Vienna Covid-19 Diagnostics Initiative) they work jointly on questions that open the door for applications which could benefit millions of people around the world.

The study underlying this news item is available as a preprint on bioRxiv:

Kellner MJ, Ross JJ, Schnabl J, Dekens MPS, Heinen R, Tanner NA, Fritsche-Polanz R, Traugott M, Seitz T, Zoufaly A, Foedinger M, Wenisch C, Zuber J, Vienna Covid-19 Diagnostics Initiative (VCDI), Pauli A, Brennecke J. 2020. Scalable, rapid and highly sensitive isothermal detection of SARS-CoV-2 for laboratory and home testing. bioRxiv doi: 10.1101/2020.06.23.166397

#### **About IMP**

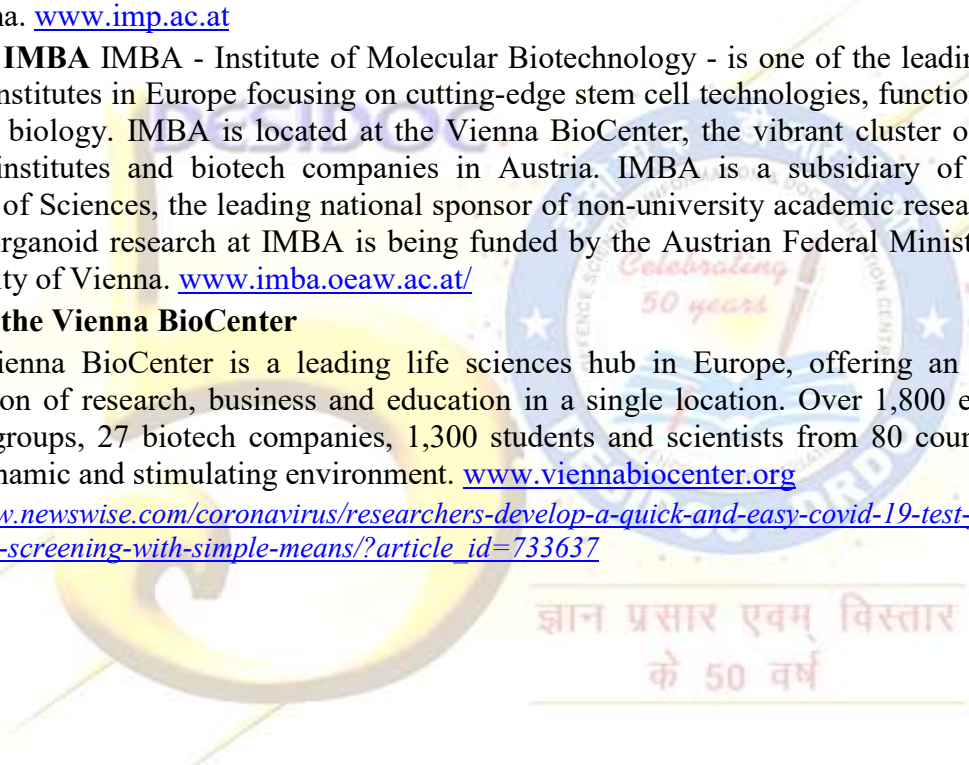
The Research Institute of Molecular Pathology (IMP) in Vienna pursues world-class research in basic molecular biology. It is located at the Vienna BioCenter and largely sponsored by Boehringer Ingelheim. With over 200 scientists from 40 countries, the IMP is committed to scientific discovery of fundamental molecular and cellular mechanisms underlying complex biological phenomena. [www.imp.ac.at](http://www.imp.ac.at)

**About IMBA** IMBA - Institute of Molecular Biotechnology - is one of the leading biomedical research institutes in Europe focusing on cutting-edge stem cell technologies, functional genomics, and RNA biology. IMBA is located at the Vienna BioCenter, the vibrant cluster of universities, research institutes and biotech companies in Austria. IMBA is a subsidiary of the Austrian Academy of Sciences, the leading national sponsor of non-university academic research. The stem cell and organoid research at IMBA is being funded by the Austrian Federal Ministry of Science and the City of Vienna. [www.imba.oeaw.ac.at/](http://www.imba.oeaw.ac.at/)

#### **About the Vienna BioCenter**

The Vienna BioCenter is a leading life sciences hub in Europe, offering an extraordinary combination of research, business and education in a single location. Over 1,800 employees, 91 research groups, 27 biotech companies, 1,300 students and scientists from 80 countries create a highly dynamic and stimulating environment. [www.viennabiocenter.org](http://www.viennabiocenter.org)

[https://www.newswise.com/coronavirus/researchers-develop-a-quick-and-easy-covid-19-test-for-population-screening-with-simple-means/?article\\_id=733637](https://www.newswise.com/coronavirus/researchers-develop-a-quick-and-easy-covid-19-test-for-population-screening-with-simple-means/?article_id=733637)



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