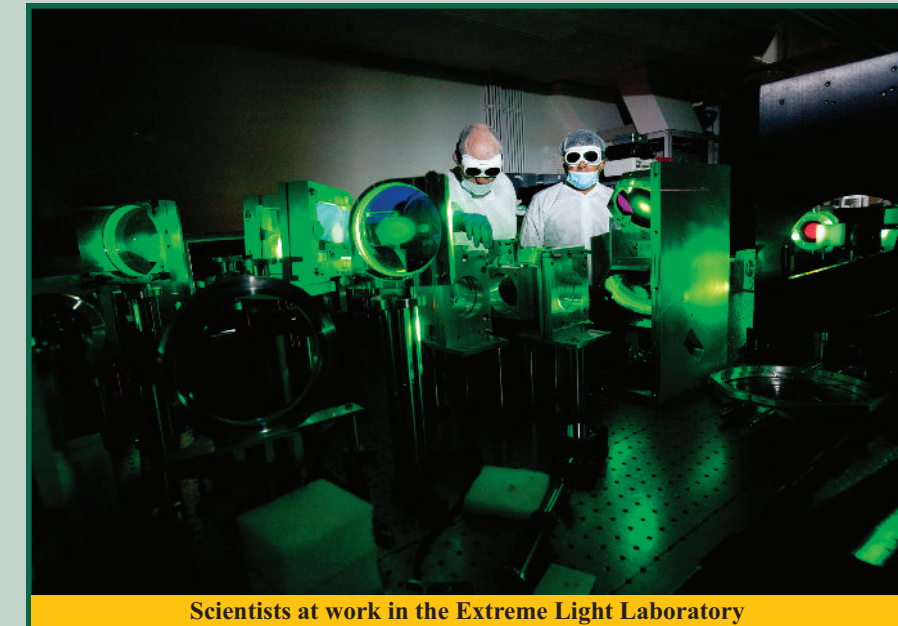


The Sun's got competition

Checking your phone in the middle of the night and being momentarily blinded by its brightness is startling - now imagine a light brighter than the surface of the sun, created inside the Extreme Light Lab. **Gavin Khattria, AIS Mohali, VIII A**, brings to you **part three** of GT's new **Extreme Science Labs** series, where we travel from the scorching arid deserts to sub-zero polar regions, from deep underground to towering mountain peaks, exploring laboratories that host some of the most daring experiments ever conducted.

Where is it situated?

The Extreme Light Laboratory is in the University of Nebraska–Lincoln (UNL), USA. This state-of-the-art laser lab spans three floors in the university's Behlen lab building and it is also home to the Diocles laser, which is one of the most powerful lasers on the planet. Nebraska, where the lab is located, has a humid continental climate, meaning it has hot summers and icy winters. But the temperatures in the lab are always controlled to lower temperatures in order to keep the laser beams stable and ac-



Scientists at work in the Extreme Light Laboratory

curate, for when it comes to science, even the tiniest of fluctuations may skew results.

Testing the unbreakable

This lab has produced the brightest light on Earth. Imagine a light so bright that it shines a billion times brighter than the surface of the sun. It has also observed changes in a vision-enabling interaction between light and matter. Those changes led X-ray pulses with the unique potential to generate images with very high-resolutions for medicine, science, security, and space exploration as well. These laser beams can help us see things at an otherworldly scale!

Built for the extremes

Since extreme science requires extreme gear, the lab boasts of temperature, vibration, and humidity control systems to avoid any disruptions. Inside the lab are three different laser systems: Diocles (0.2–0.7 PW), Diocles high rep-rate (100 TW), and Archimedes (10 TW), each more powerful than the last. And there are three target rooms, two of which are radiation-proof, and the target chambers are designed to maintain high-vacuum environments. Given the sensitive nature of their experiments, special control rooms allow scientists to operate everything from a safe distance.



Lab legends

What makes this lab truly legendary is its creation of the brightest light ever made on Earth. The researchers focused the laser to a point where it could change the way light behaves — something scientists had only theorised about before. This groundbreaking experiment was even published in the journal Nature Photonics.

Why it matters

The powerful light it creates may be used to capture super high-resolution images that help in everything from detecting cancer to scanning distant galaxies. It's also paving the way for new physics experiments with high-intensity lasers. In short, the lab is showing the world that when science meets imagination, even light can be pushed to new extremes. To sum up, this lab shows to humanity that we can do anything with the right resources like getting stunning pictures of faraway worlds in our universe.

So, the next time you see crisp images from space or lasers doing the impossible, just know, the brightest breakthrough might have come from Nebraska!

Read Play and Win 88

Reading your favourite GT can fetch you a prize too. Complete all the boxes below. Click a picture and send it to editor@theglobaltimes.in or submit your responses by visiting The Global Times website (<http://theglobaltimes.in/readplaywin/>). Three lucky winners will win a prize every week!



| | | |
|--|--|--|
| Q.1 What is the tagline of the page 1 top story? | Q.2 Archana Sharma is a _____ at CERN, Geneva. | Q.3 Which historic structure in Sweden has been relocated due to structural risks? |
| Q.4 The Extreme Light Laboratory is situated in _____. | Q.5 How many walls are featured on page 7 educational poster? | Q.6 Who crafted the comic strip on page 8? |
| Q.7 What is Advika Chaudhry's favourite book? | Q.8 What was the cause chosen by the YP team of AIS MV for YP 2024-25? | Q.9. What is the genre of the album, 'Love Yourself: Answer'? |

Name:.....Class:.....School:.....

Results of Read Play & Win-87: **Aviraaj Singh Bajaj**, AIS MV, III A; **Kiansh**, AIS Vas 6, II C; **Bhuvika Jain**, AIS Gur 46, VIII I

Flash-on, science! Capturing Data, Not Just Images

Kriti Verma, GT Network

If you thought selfies and scenic pictures were all that a camera could do, then you must look into scientific photography; where you will explore how scientists can see things beyond their staggering spectacles.

Microscopic media

Think of scientists as the paparazzi snapping glamorous close-ups of germs, tissues, and even those villainous viruses! Photomicrography helps them study samples, understand diseases, and create new medicines.

Capturing cosmic celebs

Astrophotography is your ticket to cosmic selfies with galaxies as

your background. With telescopes looking like space-age cannons and cameras that love long stares, astrophotographers capture celestial treasures, making the sky look more fabulous.

Split-second shots

F1 fan must love those 'quick-capture' photos clicked using ultra-fast shutters, giving scientists a VIP pass to notice what is too quick. Vice versa, in time-lapse, transition is highlighted, so stars move like shooting stars, clouds sprint across the sky.

Beyond the boundaries

Infrared photography allows us to see heat, not just light. We can see plants glow and feverish people becoming heat-beacons. It's used



in environmental science, surveillance, and medical imaging.

Forensic flashes

What if Sherlock Holmes was a photographer? UV photography reveals secrets unseen to the common eye: hidden bruises, surface damage, and chemical traces.

X-ray and MRI

Another vital scientific photography includes MRIs for soft tissues in the brain and X-rays for bones that diagnose medical conditions. Every click saves a life!