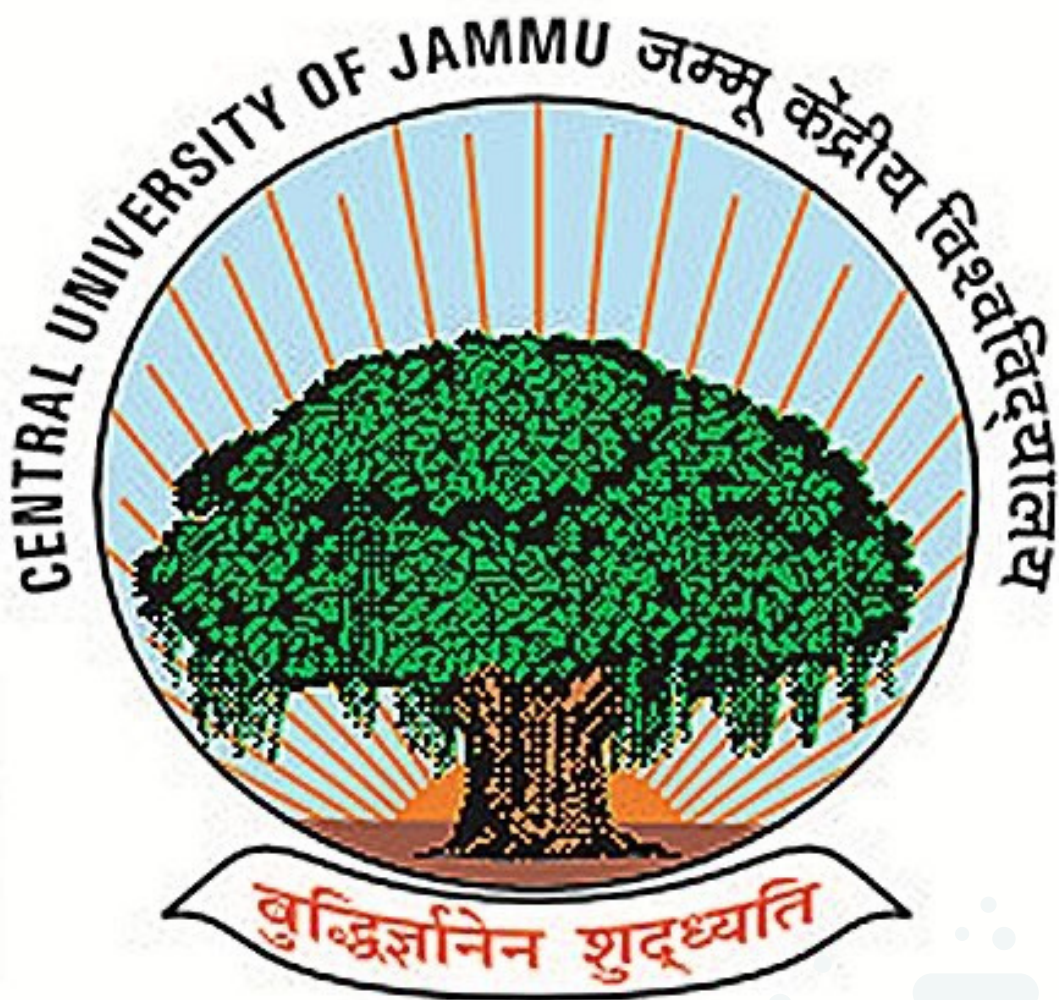


By Students of CMB (Centre for Molecular Biology)

MONTHLY MAGAZINE 2025 EDITION



POWERED BY CUROSITY,
DRIVEN BY STUDENTS

BIOTECH GAZETTE

JULY 2025 Edition

An Initiative by the students of Centre for Molecular Biology

Guided by the motto 'बुद्धिर्ज्ञानेन शुध्यति' (**Knowledge refines, purifies, and sharpens the mind**), Central University of Jammu celebrates a decade of academic excellence. Embracing NEP 2020, we prioritize high-quality teaching, impactful research, and community engagement to bridge the student-institution gap. Central University of Jammu empowers students with knowledge and skills to become critical thinkers, ethical leaders, and responsible citizens, contributing to a brighter future for India.



Prof. (Dr.) Sanjeev Jain
Hon'ble Vice Chancellor

We are immensely proud to have Prof. Sanjeev Jain at the helm of our institution. Under his visionary leadership, we have witnessed remarkable growth and progress in both academic and research excellence. His unwavering dedication to fostering a culture of innovation and inclusivity has significantly enriched our community. The Hon'ble Vice-Chancellor's commitment to nurturing young minds and promoting collaborative endeavors has set a high standard for all of us to aspire.

We are delighted to recognize the exceptional leadership of our esteemed Head of Department, Dr Narendra K Bairwa. His dedication to academic excellence and unwavering commitment to advancing our field have been truly inspiring. Through his innovative approaches and collaborative spirit, he has fostered a vibrant learning environment that encourages growth and discovery.



Dr Narendra K Bairwa
Director CMB

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We are deeply grateful for the invaluable guidance and unwavering support provided by our esteemed faculty mentors. Their commitment to sharing knowledge, offering encouragement, and inspiring the next generation has left an indelible mark on our community.

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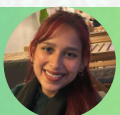
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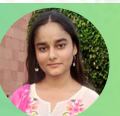
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We are incredibly proud of the outstanding work done by our dedicated editorial team, Genetic Guild. Their passion for excellence and commitment to delivering high-quality content have been instrumental in shaping our newsletter. Through their meticulous attention to detail and unwavering dedication, they have ensured that every issue is both informative and engaging for our readers.

"SEARCHING THE SKIES, QUESTIONING THE SILENCE"

Theme: "Searching the Skies, Questioning the Silence"

Every July 2, World UFO Day unites enthusiasts worldwide to spark curiosity about the unknown, inspire imagination, and encourage thoughtful discussion about our place in the universe whether you're a sky watcher, scientist, skeptic, or simply someone who wonders what lies beyond.



Why We Observe World UFO Day?

World UFO Day was established to:-

- Encourage public curiosity and informed dialogue about Unidentified Flying Objects (UFOs) and Unidentified Aerial Phenomena (UAPs).
- Inspire interest in scientific exploration and the pursuit of answers regarding unusual sightings and cosmic mysteries.
- Advocate for openness in releasing information related to aerial encounters and government-held data.
- Create a common platform where believers and skeptics alike can exchange ideas respectfully.
- Rather than fueling myths, the goal is to promote inquiry, awareness, and imagination about what might lie beyond Earth.

"Searching the Skies"
This part of the theme reflects our ageless habit of gazing upward. From ancient civilizations tracking stars to modern citizens capturing sky footage on their smartphones, humanity has always searched the heavens for signs, stories, and answers.

Theme: "Questioning the Silence"
Silence can be telling
Withheld info - raises questions

Key Questions:
- Why not explained?
- What determines investigation?
"Are we accepting stence!"

Call to Action
• Push for transparency
• Seek truth with integrity
Think critically

Ways to Get Involved

Look Up: Spend time stargazing or scanning the skies. Log your observations and share them with friends or online communities.

Learn More: Dive into documentaries, books, or podcasts about space, sightings, or alien theories. Feed your curiosity with credible sources.

Advocate for Openness: Support calls for public access to government data on UAPs and UFOs.

Get Creative: Use the topic as inspiration for art, storytelling, film, music, or essays.

Start Conversations: Discuss this year's theme with others. Ask, "Why do we ignore or silence the unknown?"

Final Thought World UFO Day isn't about proving aliens exist. It's about keeping the spirit of curiosity alive, promoting transparency, and recognizing that we're all part of a vast, largely unexplored universe. This July 2nd, don't just look up think deeply. The stars may be silent, but your questions shouldn't be.



WORLD ZOOZNOSES DAY 2025

One Health: United Against Zoonotic Threats

On July 6, 1885, Louis Pasteur changed the course of medical history with the first rabies vaccine a milestone that is now commemorated globally as World Zoonoses Day. This year, the theme underlines the vital need for integrated human-animal-environment health strategies. With zoonotic diseases accounting for over 60 % of human infections and three out of four emerging diseases originating in animals, the message is clear: we must act together to prevent future outbreaks. Join us as FAO, ILRI, ISID, and others launch initiatives to strengthen early detection, promote biosecurity, and empower communities worldwide.

Origins & History

World Zoonoses Day commemorates the landmark moment when Louis Pasteur administered the first successful rabies vaccine on July 6, 1885, saving a young boy's life and marking a turning point in the fight against animal-to-human disease transmission (ISID). Since then, July 6 has symbolized global efforts to recognize and prevent zoonotic pathogens.



COMMEMORATING LOUIS PASTEUR'S
FIRST RABIES VACCINE
A MILESTONE IN PUBLIC HEALTH

Why It Matters in 2025

Over 60 % of known human infectious diseases and about 75 % of emerging infections originate in animals-from rabies to COVID-19, Ebola, avian influenza, Rift Valley fever, and more (FAOHome).

Industrial farming, deforestation, wildlife trade, and climate change continue to increase the risk of spillover-i.e. pathogens jumping from animals to humans (ISID).

Surveillance gaps, especially in underserved regions, and antimicrobial resistance (AMR), notably from antibiotic overuse in animals, complicate control efforts (ISID).



Major Developments in 2025

FAO Webinar Series Launch:

To mark the day, the Food and Agriculture Organization (FAO) hosted an online series titled "Tackling Zoonoses at Source: Call for Action in Agri-food Systems". The sessions featured experts like Prof. Marion Koopmans, focusing on early detection, spillover drivers, and prevention strategies especially in agrifood contexts (FAOHome).

ILRI Highlights Rift Valley Fever Research:

The International Livestock Research Institute (ILRI) spotlighted its work on Rift Valley fever (RVF), a mosquito-borne zoonosis exacerbated by climate variability. Advances include predictive modeling, diagnostics, and policy outreach to improve early warning across East Africa (ILRI).

ISID Calls for Integrated Action:

The International Society for Infectious Diseases (ISID) released a statement urging global adoption of One Health strategies.

Key messages include:

Cross-sectoral surveillance and data sharing
Adoption of genomic tools for early pathogen detection
Biosecurity measures, especially in high-risk animal-human interfaces

The ISID emphasized that zoonoses are warning signals of unsustainable ecosystems and stressed collective responsibility in safeguarding planetary health (ISID, FAOHome).

- The One Health approach- linking human, animal, and environmental health is central to preventing future pandemics.
- Preventive action via vaccination, biosecurity, responsible animal care, and hygiene is essential.
- Public awareness, policy reform, and robust surveillance systems remain critical to reducing transmission risk.

"The sun doesn't send a bill."

Dr. Hermann Scheer's words ring truer than ever in 2025. On Global Energy Independence Day, we're not just marking a date we're declaring freedom from reliance on others' wires, wars, and wells. This day celebrates our progress toward sustainable, self-reliant energy and reminds us of the urgent need for true energy independence.

2025: Energy for Everyone, By Everyone

This year's theme is : "Power to the People. Literally."

This year isn't about headlines like "more solar panels installed" or "less oil imported." This year, it's about who controls the power switch and now, it's finally in the hands of the people. In rural India, over 3 million microgrids are up and running, many built by women-led local cooperatives. In Nigeria, rusting oil rigs have become floating solar farms that share electricity automatically through AI and in Finland, people are now trading energy with each other just like they trade stocks on the world's first quantum energy grid.

What's New?

1. Nature's Own Batteries

Researchers in Japan built the first battery made entirely from algae and silk proteins. Soon, your phone might charge on power that's 100% biodegradable. No e-waste. No pollution. Just nature and science in sync.

2. AI That Thinks Ahead

A startup in Boston built "NeuroVolt" an AI that predicts how much power a nation will need...before it's even needed. How? By studying social trends and behavior (with privacy intact). It's no longer "meet the demand" now, it's "see the future."

3. Power From Space

Yes, it happened: China successfully beamed solar power from space1 megawatt, wirelessly, from a satellite down to Earth. It works at night. It works in storms. And it might just change everything.

What Can We Do?

Energy independence demands collective action: governments must invest in sustainable infrastructure, industries must innovate with clean energy, and individuals must conserve and support renewables.

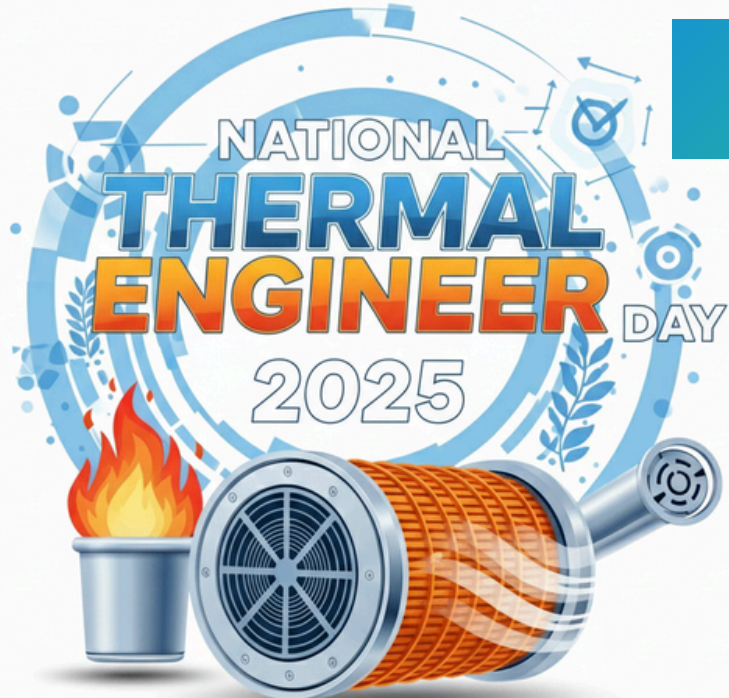
Global Collaboration: True progress comes from international cooperation sharing technology, resources, and expertise to accelerate renewable adoption and secure a greener future.



What is Energy Independence?

"Energy independence refers to a nation's ability to fulfill its energy needs using domestic resources, thereby reducing reliance on foreign suppliers. This self-sufficiency enhances economic stability, bolsters national security, and minimizes exposure to geopolitical tensions and volatile energy markets. By embracing energy independence, countries can diversify their energy mix- prioritizing renewables like solar, wind, hydro, and geothermal-and accelerate the transition toward cleaner, more sustainable energy systems."

Today isn't just a date it's a declaration. A spark lit by science, fueled by people, and powered by possibility. We're not just running on energy we're running on imagination.



“Celebrating the Science of Heat, the Engineers of Innovation”

Each year, National Thermal Engineer Day is observed on 24 July to acknowledge the critical yet often overlooked work of thermal engineers the professionals who ensure that the systems powering our lives operate efficiently and safely. From mobile phones and satellites to power plants and electric vehicles, thermal engineers are at the core of reliable performance.

First established in 2014 by Advanced Thermal Solutions, Inc., this day coincides with the height of summer heat symbolic of the daily challenges these engineers tackle. The 2025 theme, “Empowering Sustainable Innovation Through Thermal Engineering”, reinforces the profession’s growing importance in addressing global energy demands, climate resilience, and technological advancement.

“There’s nothing I believe in more strongly than getting young people interested in science and engineering, for a better tomorrow.” - Bill Nye

“Science is about knowing; engineering is about doing.” - Henry Petroski



“Behind Every System, There’s a Human Story”

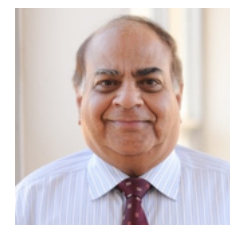
Thermal engineering is not just about equations and machines; it is about the minds behind them. Each system designed is a result of hours of calculation, creativity, and careful problem-solving. Whether it’s improving the thermal efficiency of a turbine or preventing battery fires in electric vehicles, these engineers are quietly protecting lives, resources, and progress.

India’s own pioneers in the field, such as **Dr. Yogesh Jaluria** a global authority in heat transfer and **Dr. Govindan Sundararajan**, who advanced high-temperature coatings for engines, exemplify the impact of this discipline on national and global scales.

Yet, most thermal engineers work away from the limelight, their contributions deeply embedded in the systems we often take for granted.

Observing this day reaffirms the vital role of thermal engineers in driving clean energy, safeguarding technology, and shaping a resilient future. It is a call to inspire students and institutions alike to advance this critical field

“The future of clean energy and technology depends on minds like yours—may this day spark your journey in thermal engineering.”

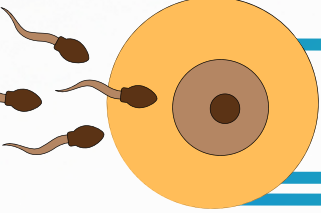


Dr. Yogesh Jaluria



Dr. Govindan Sundararajan





World Embryologist Day 2025

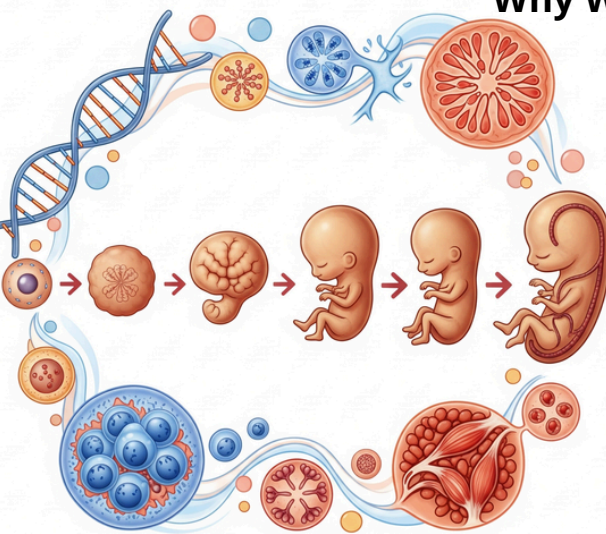
Honoring the Guardians of Life, Before Birth Every year on July 25, the world comes together to recognize and celebrate the work of embryologists-the quiet yet crucial professionals at the heart of reproductive medicine. Often working behind the microscope and away from the spotlight, these experts in human embryology are the lifelines of In Vitro Fertilization (IVF) and other assisted reproductive technologies (ART).

- With unwavering precision and scientific excellence, embryologists guide fertilized eggs from single cells to developing embryos turning hope into reality for millions facing infertility.

- As of today, over 12 million babies have been born worldwide through IVF, a number that continues to rise thanks in no small part to the dedicated efforts of embryologists.



Why World Embryologist Day Matters ?



1. **Acknowledging Expert Contributions** Embryologists combine knowledge of biology, medicine, and precision lab techniques to handle gametes (eggs and sperm) and embryos with extraordinary care facilitating successful pregnancies every day.

2. **Educating the Public about IVF** It is a moment to inform and empower people with science-based knowledge about IVF and ART, debunking myths and promoting open conversations.

3. **Highlighting Innovation in Reproductive Medicine** From cryopreservation to genetic screening, the field of embryology continues to evolve rapidly offering new possibilities to individuals and couples across the globe.

4. **Reducing Stigma and Encouraging Support** Infertility can be emotionally isolating. By sharing stories and spotlighting breakthroughs, this day helps reduce societal stigma and encourages people to seek help without shame.

Why July 25? This day commemorates the birth anniversary of Louise Joy Brown, the world's first baby born via IVF on July 25, 1978, in Oldham, England.

- Her arrival marked a revolutionary milestone in medical science and human history- paving the way for modern fertility treatments. Louise's birth was the result of pioneering work by:

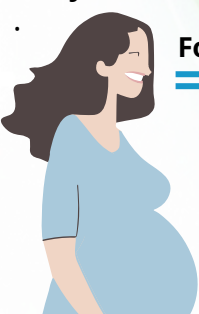
- Dr. Robert (Bob) Edwards – Biologist and Nobel Laureate
- Dr. Patrick Steptoe – Obstetrician and gynecologist
- Jean Purdy – Nurse and embryology lab technician



Focus of World Embryologist Day 2025

While the official theme for 2025 may be announced closer to the date, the global focus remains consistent:

1. Celebrate advancements in fertility science
2. Raise awareness about infertility and reproductive challenges
3. Recognize the skill and dedication of embryologists worldwide



"To every embryologist -thank you for your quiet strength, your unmatched precision, and the countless smiles you help create."



The Kargil War took place between May and July 1999 in the Kargil district of Jammu and Kashmir. It was initiated by the infiltration of Pakistani troops and militants into Indian territory. Operation Vijay was launched by India to reclaim the occupied peaks. After intense battles at high altitudes and extreme weather conditions, the Indian Army succeeded in driving out the intruders. On 26 July 1999 India declared victory and since then this day is commemorated as Kargil Vijay Diwas.

Kargil Vijay Diwas is observed every year on 26 July to honor the courage, valor and sacrifice of the Indian Armed Forces. The aim is to remember the heroes who defended the nation during the Kargil War of 1999 and to inspire future generations with their example.

The day is marked by patriotic events across the country including ceremonies at war memorials, parades, cultural programs, lectures, and interactions with war veterans. The main event is held at the Kargil War Memorial in Drass where senior leaders, armed forces personnel and families of martyrs gather to pay homage.

Kargil Vijay Diwas honors the unsung heroes whose names may not be in history books but whose sacrifices live in every Indian heart.

Facts:

1. The Kargil War lasted for about 60 days.
2. More than 500 Indian soldiers sacrificed their lives.
3. The war was fought in extremely challenging conditions at altitudes of 16,000 to 18,000 feet.
4. Operation Vijay is remembered as one of the most difficult military campaigns of independent India.
5. Captain Vikram Batra, Lieutenant Manoj Kumar Pandey, Grenadier Yogendra Singh Yadav and Rifleman Sanjay Kumar were among those awarded the Param Vir Chakra.

**Captain
Vikram Batra**



**Grenadier
Yogendra
Singh Yadav**



**Flight
Lieutenant
Gunjan
Saxena**



**Lieutenant
Manoj
Kumar
Pandey**



The Kargil War Memorial at Drass, Ladakh, stands as a symbol of valor and sacrifice, reminding us of the soldiers who laid down their lives to protect our nation. Beneath the Tricolor rests the immortal spirit of the heroes who proved that courage knows no height and sacrifice knows no limit.

यह स्मारक हमें याद दिलाता है कि वीर जवानों की शहादत से ही आज का भारत सुरक्षित है।

"Every stone here echoes the bravery and undying spirit of our soldiers."

Kargil Vijay Diwas is not only a reminder of the bravery of our armed forces but also a call for unity and responsibility towards the nation. Let us salute our heroes and take inspiration from their sacrifice to contribute positively to our country.

"शहीदों की चिताओं पर लगेंगे हर बरस मेले, वतन पर मिटने वालों का यही बाकी निशां होगा।"

DR. A.P.J. ABDUL KALAM DEATH ANNIVERSARY

The People's President, The Nation's Dreamer
"Dream, dream, dream. Dreams transform into thoughts and thoughts result in action." These timeless words by Dr. A.P.J. Abdul Kalam echo across classrooms, labs, and homes in India and beyond. He was not just a scientist, not just a President he was the man who taught an entire generation to believe in the power of dreams.

Avul Pakir Jainulabdeen Abdul Kalam (1931-2015) was born in Rameswaram, Tamil Nadu, in a modest family. Rising from simplicity, he went on to become one of India's most respected scientists, leaders, and visionaries. Known as the "Missile Man of India" for spearheading India's missile and space programs, he later became the 11th President of India (2002–2007).



A scientist. A teacher. A dreamer. Forever, People's President

But more than titles, Dr. Kalam was a teacher at heart. Whether addressing world leaders or village children, his mission was the same to ignite young minds.

Kalam's Contributions: Science with Soul The Missile Man: He played a central role in developing the Agni and Prithvi missiles, strengthening India's defense capabilities.

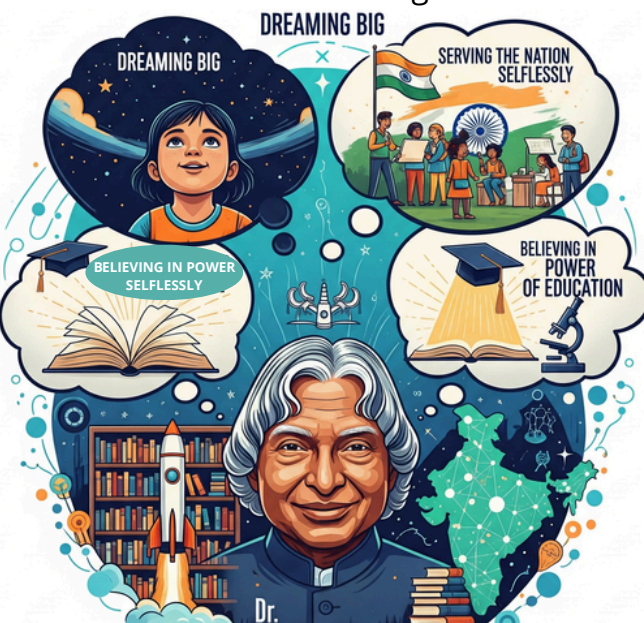
Pokhran-II Tests (1998): As the chief scientific advisor, he was pivotal in India's nuclear tests, making India a recognized nuclear power.

Space and Satellites: His work with ISRO contributed to India's SLV-III launch vehicle, placing Rohini satellite into orbit.

Vision 2020: His roadmap to transform India into a developed nation emphasized technology, education, and self-reliance.

Kalam Beyond Borders: Dr. Kalam's legacy is not confined to India. His ideas on peace, sustainable development, and education resonate globally. Universities worldwide invite students to study his vision of blending spirituality with science.

Science for Society His push for affordable healthcare technology continues in innovations like low-cost stents and rural telemedicine. **Education for All** Digital classrooms and India's National Education Policy echo his belief that learning should reach every doorstep.



The Heart of Kalam's Legacy Dr. Kalam's life is not just about rockets, books, or awards. It is about:

Dreaming big without fear
Serving the nation selflessly
Believing in the power of education

The Day Without Fear When Dr. Kalam passed away in 2015 ironically, while delivering a lecture to students, the nation stood still. But his death was not an end. It was a reminder that a life lived for others never truly fades.

Even today, children celebrate his birthday, October 15th, as World Students' Day because no one symbolized the student spirit better than him.

Youth Are Not Waiting. They're Building. From ISRO's Chandrayaan missions to India's growing startup ecosystem, young innovators are carrying his torch forward.

INTERNATIONAL TIGER DAY

Global Tiger Day, also known as International Tiger Day roars back around the world every July 29th, uniting governments, NGOs, communities and individuals in a shared mission: to protect and celebrate one of our planet's most iconic species.

THEME 2025:

The official theme is: "Securing the future of Tigers with Indigenous Peoples and Local Communities at the heart."

It highlights inclusive conservation efforts that prioritize local and indigenous leadership, recognizing that durable solutions come from people who live with and protect the land.

Who Spearheaded It?

Although the summit was hosted by the Russian government, key global organizations such as the World Wildlife Fund (WWF), Global Tiger Forum, and the World Bank played pivotal roles. Russian President Vladimir Putin backed new laws against poaching and initiated the Amur Tiger Centre under the Russian Geographical Society, reinforcing global collaboration for tiger protection.



How It All Began?

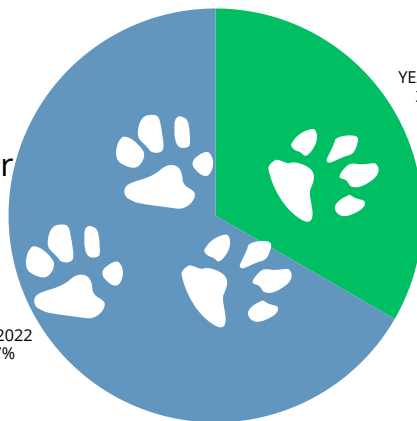
A Striped Journey Global Tiger Day was established in 2010 during the First International Tiger Forum, held in St. Petersburg, Russia. The forum brought together 13 tiger range countries including India, Nepal, Bhutan, Malaysia, Indonesia, Russia, and others to address the alarming decline in wild tiger populations.

At the summit, leaders endorsed the St. Petersburg Declaration, setting an ambitious goal:



- Double the wild tiger population by 2022 - a campaign known as TX2.
- To support this goal, the Global Tiger Recovery Program was initiated to coordinate international funding, anti-poaching efforts, habitat restoration, and population monitoring.
- To support this goal, the Global Tiger Recovery Program was initiated to coordinate international funding, anti-poaching efforts, habitat restoration, and population monitoring.

Major Milestones & Success Stories India's Tiger Revival:



Through focused initiatives like Project Tiger (launched in 1973 under the Wildlife Protection Act, 1972), India has emerged as a global leader in tiger conservation. The population has grown from around 1,800 in 2006 to over 3,600 as per recent estimates (NTCA, 2022).



How you can roar for Tigers by small actions?

Adopt a Tiger (Symbolically): Support trusted organizations like WWF, Panthera, or 21st Century Tiger by sponsoring a tiger -funding goes directly into habitat protection and ranger support.

Raise Awareness Online: Use hashtags like #TigerDay, #RoarForTigers, and #DoubleTigers to share facts, art, and campaigns on social media.

Buy Smart: Choose products with certified sustainable palm oil, paper, and wood to help reduce deforestation in tiger habitats.

Support Grassroots Action: Volunteer or donate to local NGOs, youth-led initiatives, or community groups that work directly in conservation.

References

International Tiger Day-

- <https://www.earthreminder.com/world-tiger-day/>
- <https://globaltigerforum.org/>
- <https://panthera.org/>

Global Energy Independence day-

- <https://www.oscar-science.com/blog/global-energy-independence-day-paving-the-way-to-a-sustainable-future>
- <https://www.jagranjosh.com/general-knowledge/global-energy-independence-day-2023-1688955689-1>

World Zoonoses day-

- <https://isid.org/world-zoonoses-day-one-world-one-health-prevent-zoonoses/>
- <https://www.drishtias.com/daily-updates/daily-news-analysis/world-zoonosis-day>

National Thermal Engineer day-

- Advanced Thermal Solutions, Inc. – <https://www.qats.com>
- DaysoftheYear.com – <https://www.daysoftheyear.com/days/national-thermal-engineer-day>
- Wikipedia – https://en.wikipedia.org/wiki/Thermal_engineering
- Palify.io – “National Thermal Engineer Day 2025 Theme” – <https://palify.io/articles>

Dr. A.P.J. Abdul Kalam Death anniversary-

- <https://www.jagranjosh.com/general-knowledge/apj-abdul-kalam-quotes>

Kargil Vijay Diwas -

- <https://pixahive.com/photo/kargil-war-memorial/>

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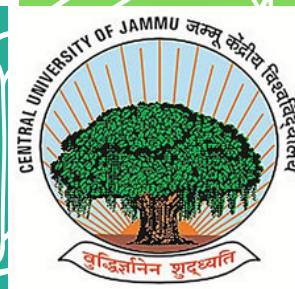
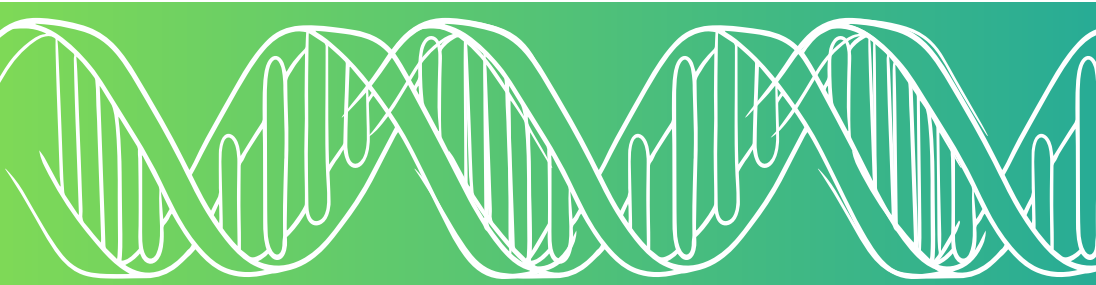
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