

BioQuest Hackathon 2025

Event Name: BioQuest Hackathon 2025

Duration: 40 Hours (December 5–7, 2025)

Venue: Gujarat Biotechnology University (GBU), near GIFT City, Gandhinagar

Organisers: Gujarat Biotechnology University (GBU) in collaboration with Snehshilp Foundation and Satani Research Centre

1. Overview

BioQuest Hackathon 2025 was a flagship, 40-hour intensive biotechnology and biomedical innovation challenge aimed at fostering **problem-driven, translational, and interdisciplinary innovation** among students and early-stage innovators. The event brought together young minds to develop real-world solutions at the intersection of **biotechnology, healthcare, sustainability, and artificial intelligence**, aligned with national priorities such as **BioE3 (Biotechnology for Economy, Environment and Employment)** and **Viksit Bharat @ 2047**.

The hackathon followed a **decathlon-style format**, combining ideation, continuous development, expert mentoring, interim reviews, and final evaluation, thereby promoting experiential learning and innovation under real-world constraints.

2. Objectives

The key objectives of BioQuest Hackathon 2025 were to:

- Promote **innovation-led problem solving** in biotechnology and allied domains
- Encourage **AI–Bio convergence** and data-driven biological solutions
- Bridge the gap between **academic knowledge and real-world applications**
- Build an **entrepreneurial and translational research mindset**
- Provide structured **mentorship, validation, and exposure** to young innovators

3. Participation and Response

The event received a **strong and diverse participation response**, with **61 registrations**, including solo innovators and multidisciplinary teams of up to five members. Participants came from varied academic backgrounds such as **medical biotechnology, bioinformatics, agriculture, environmental biotechnology, pharmaceutical sciences, electronics, software engineering, and AI/ML**.

The ideas submitted covered a wide innovation spectrum—from early-stage concepts to prototype-level and research-driven proposals—addressing challenges in **biotechnology, healthcare, diagnostics, women's health, environmental sustainability, agriculture, and Bio-AI applications**. The diversity of domains and maturity levels reflected an inclusive innovation ecosystem.

4. Event Flow and Mentorship

BioQuest Hackathon 2025 was conducted over **three continuous days**, including overnight development sessions. The programme featured:

- Opening ceremony and challenge briefing
- Multiple **expert roundtable discussions**
- Continuous mentoring by faculty and domain experts
- Interim reviews for feedback and course correction

- Final project presentations and evaluation

Mentorship focused on **scientific feasibility, scalability, ethical and regulatory considerations, and translational potential**, enabling teams to refine their solutions rapidly and effectively.

5. Awarded Projects

Based on predefined evaluation criteria—innovation, feasibility, impact, and presentation—the following projects were recognised:

First Prize (₹50,000):

Herboheal – Ayurveda-based Wound Healing System

Team: Genius Bio

An affordable, herbal wound-care solution combining a herbal-infused bandage and recovery cream using Neem, Tulsi, Turmeric, and Aloe vera. The project addresses antimicrobial resistance and rural healthcare accessibility.

Second Prize (₹30,000):

HydroCURE – Glucose-Responsive Therapy for Diabetic Vulvovaginal Candidiasis

A dual-hydrogel “kill-and-restore” system offering glucose-triggered antifungal delivery along with probiotic microbiome restoration for recurrent infections in diabetic women.

Third Prize (₹10,000):

CryoLeaf – Biodegradable Cold-Chain Packaging Solution

A first-of-its-kind cold-chain packaging system using **mushroom mycelium and bio-based PCM gel**, replacing Styrofoam and chemical gel packs. CryoLeaf maintains 2–8°C for 4–6 hours, is 25–35% cheaper, reduces energy use by up to 80%, and supports green job creation.

6. Bio-AI Innovation and GBU Support

A notable highlight was the participation of **five Bio-AI-focused teams** working at the convergence of biotechnology and artificial intelligence. These teams received structured guidance and technical mentoring from **Gujarat Biotechnology University**.

7. Outcomes and Impact

BioQuest Hackathon 2025 successfully:

- Strengthened **innovation culture and interdisciplinary collaboration**
- Enabled students to develop **solution-oriented, scalable ideas**
- Identified projects with potential for **incubation, SSIP funding, and further research**
- Reinforced GBU’s role as a hub for **research-led, innovation-driven biotechnology education**

8. Conclusion

BioQuest Hackathon 2025 emerged as a **high-impact innovation platform**, demonstrating how structured mentorship, continuous engagement, and challenge-based learning can empower the next generation of biotech innovators. The event significantly contributed to building future-ready talent aligned with India’s biotechnology and innovation ambitions.



