राष्ट्र ीय प्रौद्योगिक संस्थान- आंध्रप्रदेश
NATIONAL INSTITUTEOFTECHNOLOGYANDHRA PRADESH
TADEPALLIGUDEM – 534101, WEST GODAVARI DIST., ANDHRA PRADESH, INDIA.

BIOTECHNOLOGY ENGINEERING ASSOCIATION

DEPARTMENT OF BIOTECHNOLOGY

TECHKRIYA 2K25

As part of TECHKRIYA 2K25, the Biotechnology Engineering Association of NIT Andhra Pradesh successfully organized a series of creative and intellectually stimulating events that combined scientific concepts with innovation and fun. Each event was thoughtfully designed to spark curiosity, enhance practical understanding, and showcase the artistic side of biotechnology. The activities encouraged active participation from students across disciplines, fostering teamwork, critical thinking, and problem-solving skills. Through these events, participants were provided a platform to apply theoretical knowledge to real-world scenarios while engaging in a vibrant and collaborative learning environment, thereby enriching the overall technical and academic spirit of the fest.

THE EVENTS CONDUCTED WERE :

1.DOC IT CHALLENGE
2.CHROMATIC CULTURE
3.MICROPIETTE RANGOLI

Each event was uniquely crafted to inspire scientific curiosity, creativity, and hands-on learning among participants. The activities encouraged students to explore the beauty of biotechnology through innovation, precision, and teamwork, while also strengthening their analytical and problem-solving abilities. Participants gained valuable exposure to practical applications of core biotechnological concepts in an engaging and interactive manner. The events received an enthusiastic response from participants, with active involvement and positive feedback throughout, marking the Biotechnology Engineering Association’s remarkable contribution to making TECHKRIYA 2K25 a grand success.

1. DOC IT CHALLENGE

Event date : 10th & 11th October 2025

Event time : 10:00 AM – 5:00 PM IST

Venue : MMM204

INTRODUCTION :

Protein Docking was one of the most exciting and intellectually stimulating events organized under TECHKRIYA 2K25, the annual tech fest of NIT Andhra Pradesh, by the Biotechnology Engineering Association. The event was designed to combine scientific knowledge, logical thinking, and creativity in a fun, game-based format.

EVENT FORMAT :

The Protein Docking Challenge was one of the most interactive and concept-based events organized by the Biotechnology Engineering Association under TECHKRIYA 2K25, the annual technical fest of NIT Andhra Pradesh. The event was designed to simulate the real process of protein–ligand docking in an engaging and game-like format, blending scientific understanding with problem-solving and quick thinking.
Participants analyzed blue and yellow proteins to find the correct match. Of the three yellow proteins, only one fit the blue protein's shape and size, mimicking real molecular binding.

Participants had to complete up to Level 8 within three minutes, using logical reasoning and spatial awareness to dock the proteins correctly. The interactive interface allowed them to rotate the protein structures by double-clicking on the enzymes, adding a realistic and dynamic touch to the simulation.
This event served as a qualifying round for the next stage, testing participants' observation skills, accuracy, and presence of mind under time constraints. It was designed to evaluate the participants' ability to interpret complex visual and conceptual cues efficiently while maintaining precision under pressure. The competitive format encouraged quick decision-making and strategic thinking, making the activity both challenging and engaging. The Protein Docking Challenge received an enthusiastic response from students, successfully combining the thrill of competition with the fundamental principles of molecular biology and computational analysis.

ORGANIZING TEAM :

Doc it challenge was organized by BEA Association , NIT Andhra Pradesh.

ORGANIZING MEMBERS:

Khiti Pragyan Mishra - Joint Secretary
Pradeep Kumar Saini - Executive Member
Kinjal Chaudhary - Executive Member
Sahil Singh - Executive Membere

• Problem-Solving Skills:

By identifying the correct binding pairs within a limited time, participants enhanced their logical reasoning and spatial problem- solving abilities while simulating real biological mechanisms in a game-like setup.

• Time Management & Focus:

Completing all eight levels within three minutes required participants to stay focused and make quick, accurate decisions under pressure, improving their ability to think efficiently in time- bound conditions.

• Technical Familiarity & Engagement:

The interactive, rotating 3D docking interface gave participants hands-on exposure to how molecular docking visualization tools function, blending theory with practical simulation in a fun and engaging way.

• Curiosity & Scientific Creativity:

The event successfully sparked students' curiosity about bioinformatics and structural biology, motivating them to explore advanced topics in protein modeling and computational biology in the future.

OUTCOMES :

• Scientific & Analytical Thinking:

Participants developed a strong understanding of molecular interactions by analyzing how proteins bind based on their shapes and sizes. The event encouraged scientific reasoning, visual analysis, and precision thinking similar to real protein–ligand docking studies.

2. CHROMATIC CULTURE:

Event date : 10th & 11th October 2025
Event time : 10:00AM – 5:00 PM IST
Venue : MMM204

Introduction :

The Chromatic Culture event, organized by the Biotechnology Engineering Association under TECHKRIYA 2K25, beautifully combined science and art. Participants used different microbial cultures on agar plates to create colorful designs and patterns, showcasing the natural pigments produced by microorganisms. The event encouraged creativity, precision, and hands-on microbiological skills, making it one of the most unique and engaging attractions of TECHKRIYA 2K25.

EVENT FORMAT :

Objective:

Participants will create artistic patterns on agar plates using microbial cultures, demonstrating creativity, precision, and understanding of microbial pigmentation.

Procedure:

1. Participants are provided with prepared agar plates and iodine solution
2. Using a sterile streaking loop, participants draw designs or patterns on the agar surface.
3. Different colors will appear depending on the type of agar and microbial interaction, creating visually striking patterns.

Qualifying Round:

For qualification to the next stage, participants must complete a small pattern or design within 45 seconds, demonstrating accuracy and speed.

Evaluation Criteria:

Creativity and uniqueness of the design precision and technique in streaking effective use of microbial pigmentation to enhance visual appeal.

ORGANIZING MEMBERS:

Ms. Sanhita (Faculty)
P.Yuvraj - Executive
B. Vanshika Mani - Executive
S. Reshma - Executive
G.S. Siri - Executive

OUTCOMES :

• Creativity and Scientific Expression:

Participants showcased their artistic and scientific skills by creating unique patterns using microbial cultures, fostering an appreciation for the aesthetic side of biotechnology.

• Hands-on Microbiology Skills:

The event provided practical experience with agar plate techniques, streaking, and microbial handling, enhancing participants' laboratory proficiency.

3. MICROPIPETTE RANGOLI:

Event date : 10th & 11th October 2025

Event time : 10:00 AM – 5:00 PM IST

Venue : MMM202

INTRODUCTION :

The Micropipette Rangoli event, organized by the Biotechnology Engineering Association under TECHKRIYA 2K25, showcased
the blend of science and art. Participants used micropipettes and colored solutions to create intricate, drop-by-drop designs inspired by DNA and microorganisms, highlighting precision, creativity, and scientific skill.

Objective :

To combine scientific accuracy with artistic creativity by creating rangoli designs using micropipettes and colored solutions showcasing participants precision and imagination.

Procedure :

1. Participants are provided with micropipettes colored liquids and a design area.
2. Using the micropipette, they create drop-by-drop patterns to form rangoli designs based on scientific or creative themes such as DNA structures, microorganisms, animals, or any artistic concept of their choice.
3. The designs should be neat, well-structured, and visually appealing.

Qualifying Round :

To qualify for the next stage (Rapid Fire Round), participants must complete their rangoli design within 3 minutes.

Evaluation Criteria :

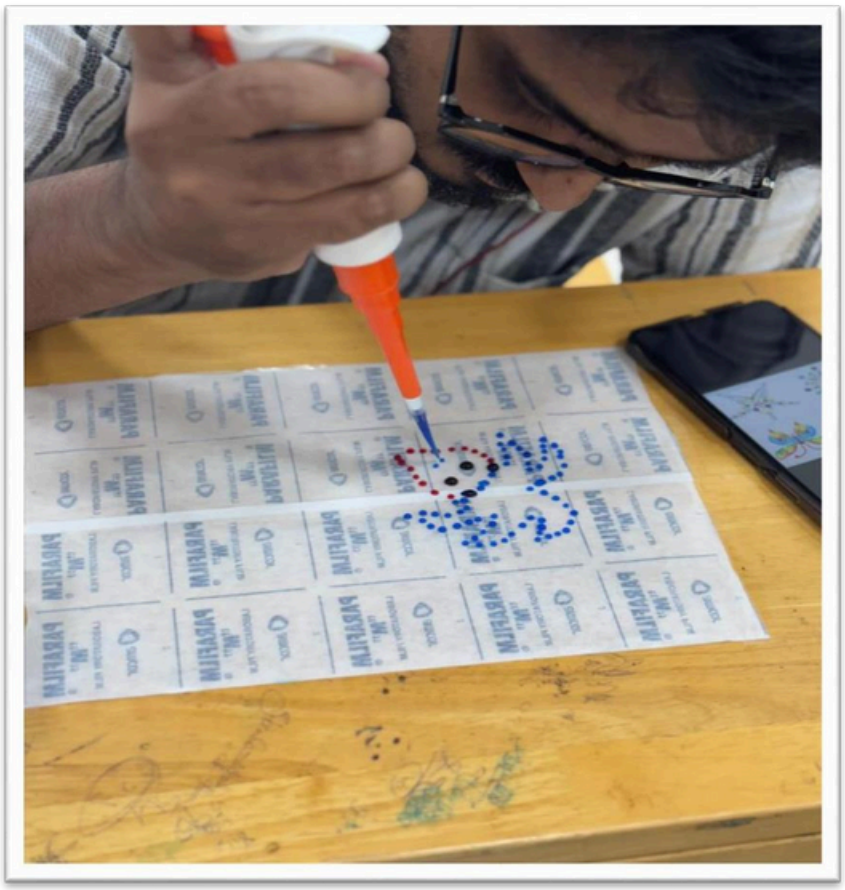
1. Creativity and theme representation
2. Precision and pipetting technique
3. Neatness and overall presentation

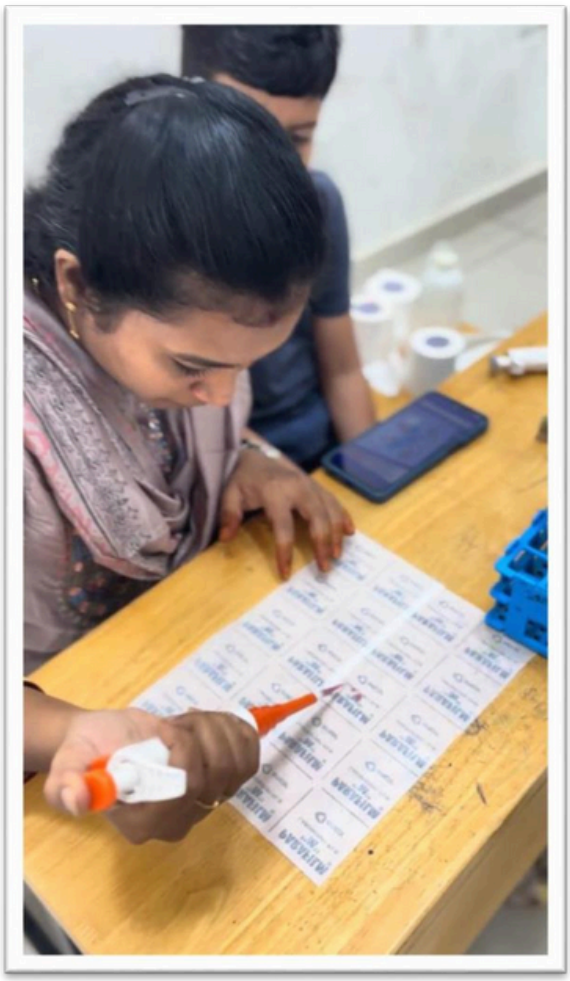
Organizing members:

Gunja Naveen - Joint secretary
G. Chandrika - Executive
Allu Ganesh - Executive
D. Deepesh - Executive
Holy Rock - Executive

Outcomes :

• Precision and Laboratory Skills:
Participants improved their accuracy, hand–eye coordination, and control while using micropipettes — essential skills in biotechnology experiments.
• Creativity and Innovation:
The event encouraged participants to think creatively and express
scientific concepts through artistic rangoli designs made drop by drop.
• Time Management and Focus:
Completing the rangoli within the time limit enhanced participants'
ability to work efficiently and maintain focus under pressure.





4. Rapid Fire:

INTRODUCTION :

The Rapid Fire Round was the final and most thrilling stage of the Biotechnology events organized under TECHKRIYA 2K25 by the Biotechnology Engineering Association, NIT Andhra Pradesh. This round was designed to test participants' general knowledge, presence of mind, and quick thinking across a wide range of topics including music, sports, biology, games, food, and health. It served as a fun and competitive conclusion to the series of events, keeping the participants fully engaged till the end.

Objective :

To evaluate participants awareness, reflexes, and ability to think under pressure through rapid, timed questioning.

Procedure :

1. Each participant or team was asked 5 rapid-fire questions covering various general topics such as songs, music, biology, sports, health, and food.
2. Questions were displayed or asked directly, and participants had to respond instantly and accurately within a limited time.
3. Scores were awarded based on the number of correct answers and response speed.
4. The round maintained a fast-paced and exciting atmosphere, bringing out the participants' confidence and presence of mind.

Organizing members:

Urvashi Pal - Secretary
Abdul Soheil - Joint Secretary

Outcomes :

• Quick Thinking and Presence of Mind:
Participants developed the ability to think fast and respond accurately under time constraints.
• Confidence and Communication Skills:
Answering spontaneous questions in front of an audience boosted
participants' confidence and speaking ability.
• Engagement and Team Spirit:
The exciting and competitive nature of the round kept both participants and the audience actively involved till the end.

PHOTOGRAPHY:

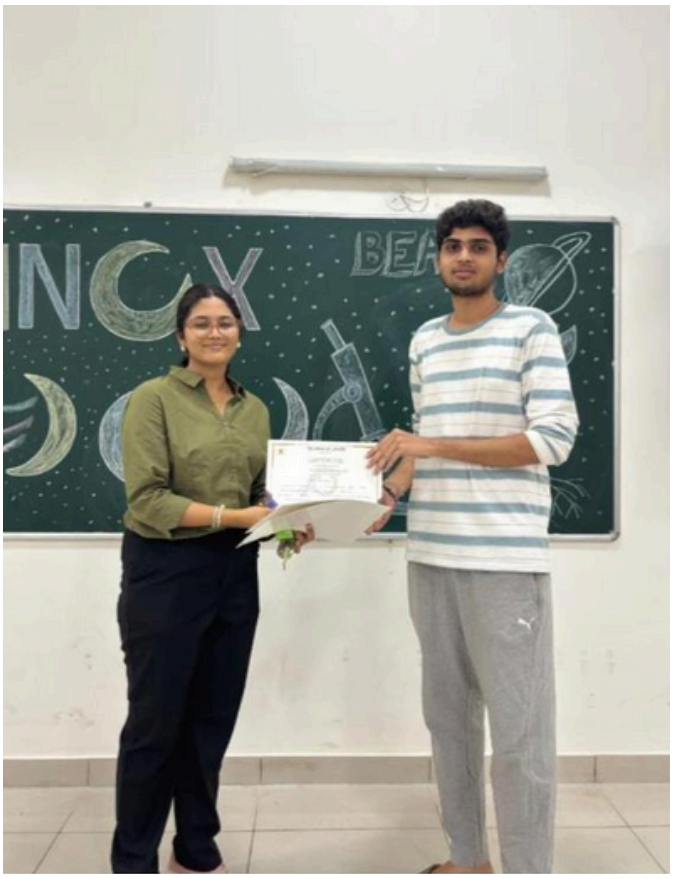
Madhu sri– Joint secretary
B. Sanjay Sahul – Executive

Entry management :

Kiran Sai P – Executive

WINNERS:

Aryan-4th year (Biotechnology)
Ganesh -4th year (civil Engineering)
Sai Bhuvan-2nd year (Mechanical Engineering)
Sunny-2nd year (Mechanical engineering)
Aniruddh-2nd year (Mechanical Engineering)

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