GUEST LECTURE REPORT

ON

GENE EXPRESSION (18-08-2024)

Introduction:

The Department of Zoology and Biotechnology organized an enlightening guest lecture on Gene Expression, on 18th July 2024, by the Resource Person Dr. J. Naveena Lavanya Latha, an esteemed Associate Professor, Department of Biotechnology, Krishna University . The lecture aimed to delve into the intricate mechanisms that govern how genetic information is transcribed and translated into functional proteins within cells.

Objectives of the Programme:

The guest lecture was strategically designed to achieve several key objectives:

- To Enhancing Understanding to deepen participants' comprehension of the complexities involved in gene expression and its regulation.

- To Exploring Mechanisms to explore various mechanisms through which cells regulate gene expression, particularly focusing on prokaryotic systems.

- To Highlighting Specific Examples to illustrate specific examples such as the Lac Operon and the Tryptophan Operon, which exemplify regulatory processes in gene expression.

Guest Talk:

Dr. J. Naveena Lavanya Latha commenced the lecture by providing a foundational overview of gene expression. She meticulously detailed the steps involved in gene expression that can be regulated, encompassing transcriptional control mechanisms and their significance in prokaryotic organisms. The lecture vividly elucidated the distinction between inducible and repressible systems, emphasizing how these regulatory strategies enable cells to adapt their gene expression patterns in response to external stimuli. Dr. Lavanya Latha then delved into specific examples:

- The Lac Operon: This classic example illustrated how genes responsible for lactose metabolism are activated in the presence of lactose, showcasing an inducible system.

- The Tryptophan Operon: Conversely, the regulation of tryptophan biosynthesis genes provided insight into a repressible system, where gene expression is suppressed when tryptophan levels are abundant.

Outcome:

The guest lecture yielded significant outcomes for the participants:

- Enhanced Knowledge: Students gained a deeper understanding of the molecular mechanisms underlying gene expression regulation.

- Practical Insights: Practical applications of gene regulation were highlighted, demonstrating how cells optimize their responses to environmental changes through precise control of gene expression.

- Academic Enrichment: The lecture enriched the academic knowledge base of students and faculty alike, fostering a more comprehensive grasp of molecular biology concepts.

Felicitation:

The event concluded with a felicitation ceremony, honoring the contributions of Dr. J. Naveena Lavanya Latha towards advancing understanding in gene expression. The Sciences Vice Principal Sri P.L.Ramesh , alongside Ms. M.Sahithi, Head of the Department of Zoology, and Sri B. Bhanu Prasad and Ms K. Mounika from the Department of Biotechnology, extended their appreciation for Dr. Lavanya Latha's insightful lecture. Their collective efforts ensured the success of the event, reinforcing the department's commitment to promoting academic excellence and fostering interdisciplinary learning. Several students from III CBZ, II Microbiology, and II Biotechnology degree programs participated in the event. Feedback was collected from participants to guide future improvements and developments in similar initiatives.


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