

Alumni Association of Biotechnology

School of Studies in Biotechnology

Pt. Ravishankar Shukla University, Raipur 492 010 Chhattisgarh

Cordially invites you to witness

Popular Lectures *cum* Interactive Sessions with our Esteemed Alumni

Title: Recent Advances in RNA Biology

21 July 2023, 11:15 to 11:55 am



Dr. Rohini Nair
Faculty

Gujarat Biotechnology University, Gandhinagar, India



Lecture Link

Offline Lecture

21 July 2023, 12:10-01:30 pm

Title: Habitat Adapted Fungal Endophytes can
Ameliorate Abiotic and Biotic Stress in Melons



Dr. Vineet Meshram

Research Scientist

Department of Plant Pathology & Weed Research
The Volcani Institute, Agricultural Research
Organization, Rishon LeZion, Israel

Venue: Seminar Hall, SoS in Biotechnology

Report on
Guest Lecture on the topic: “Recent Advances in RNA Biology”

21st July 2023

Organized by
Alumni Association of Biotechnology

Supported by
School of Studies in Biotechnology

Pt. Ravishankar Shukla University, Raipur, Chhattisgarh

On **21st July 2023**, Alumni Association of Biotechnology, School of Studies in Biotechnology, Pt. Ravishankar Shukla University, Raipur, Chhattisgarh, organized a popular lecture titled "**Recent Advances in RNA Biology**" by **Dr. Rohini Nair**, a faculty member at Gujarat Biotechnology University, Gandhinagar, India. The aim is to provide participants with valuable insights into the latest developments in the field of RNA biology. Dr. Rohini Nair, an esteemed expert in the domain, delivered a thought-provoking and enlightening online guest lecture.

Ms Ankita Rathi hosted this session and our head of the department **Dr. Keshav Kant Sahu** presented a warm welcoming to our esteemed guest **Dr Rohini Nair**. A total of 50 participants, including faculty member, alumni members, PhD scholars and M. Sc students, students with respective to other departments and Institute, had been interactively joined the meeting it was an online interactive session going on.

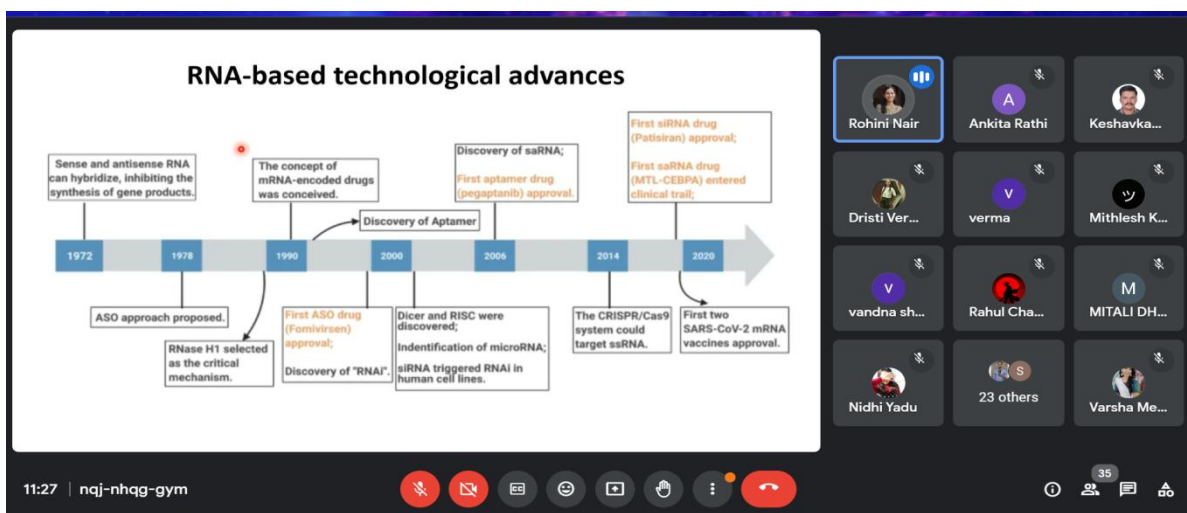
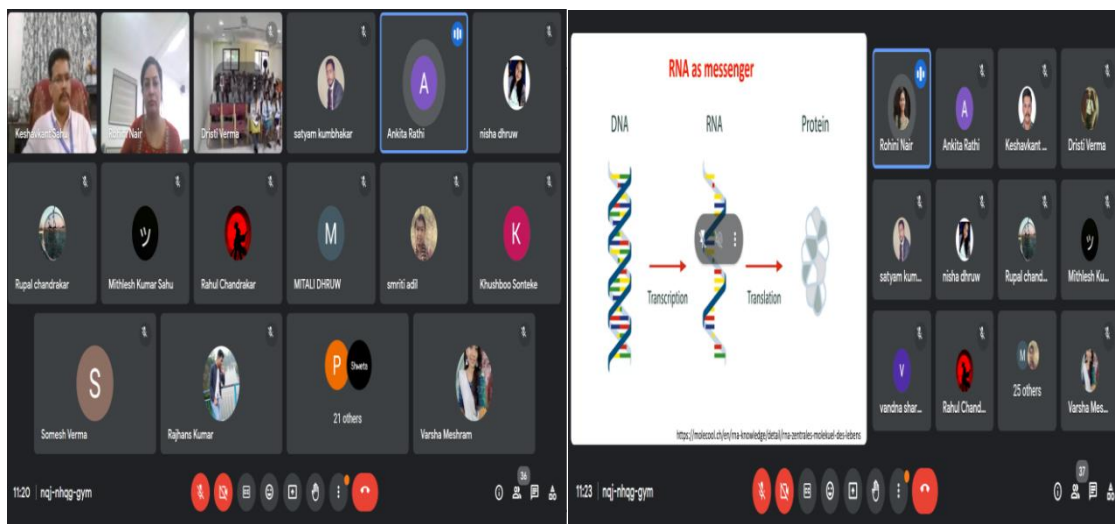
She initiated the session by providing a comprehensive overview of RNA molecules' structure and their pivotal roles in cellular processes. The lecture extensively covered RNA multiplexing and its methodological approach, including the existence of mRNA multiplex in both eukaryotes and prokaryotes. The proteins involved in mRNA multiplexing were also discussed, along with the significant impact of histone proteins (H₄) on reducing mating efficiency. Additionally, she captivated the audience by highlighting the emerging importance of long non-coding RNAs (lncRNAs) in gene regulation. The lecture further explored recent advances in understanding the dynamic interactions between RNAs and proteins, shedding light on the underlying molecular mechanisms involved. She concluded with recent findings on the functional roles of RNA-based technological advances and their potential as diagnostic and therapeutic targets.

Following the presentation, participants engaged in a lively and engaging question-and-answer session, allowing them to seek clarification and delve deeper into specific aspects of RNA biology. Dr. Nair's expertise and articulate responses contributed to a valuable exchange of ideas, making the interactive session highly enriching.

All specific doubts and queries are asked related to this techniques and this field. After that, **Ms Ankita Rathi** presented vote of thanks to **Dr Rohini Nair** for providing their value source of knowledge with us.

Overall, the lecture was a resounding success, showcasing the immense significance of RNA research in advancing our understanding of cellular processes and their implications for human health and disease. The organizers and Dr. Rohini Nair deserve commendation for orchestrating such an enlightening and insightful academic event.

Glimpses of the day



Gene Expression in Prokaryotes

Otoplasm

Gene Expression in Eukaryotes

Do other mRNAs also multiplex into ribonucleoprotein particles?

mRNA	Multiplexing Level
TMEM43B	High
AP3B1	High
HNRNPA2B1	High
SLC6A1	High
SLC6A11	High
SLC6A12	High
SLC6A13	High
SLC6A14	High
SLC6A15	High
SLC6A16	High
SLC6A17	High
SLC6A18	High
SLC6A19	High
SLC6A20	High
SLC6A21	High
SLC6A22	High
SLC6A23	High
SLC6A24	High
SLC6A25	High
SLC6A26	High
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SLC6A29	High
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SLC6A31	High
SLC6A32	High
SLC6A33	High
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SLC6A38	High
SLC6A39	High
SLC6A40	High
SLC6A41	High
SLC6A42	High
SLC6A43	High
SLC6A44	High
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SLC6A47	High
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SLC6A91	High
SLC6A92	High
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SLC6A96	High
SLC6A97	High
SLC6A98	High
SLC6A99	High
SLC6A100	High

Coordination of mRNAs from transcription to translation

Prokaryotes: DNA, R Gene, P, Gene A, Gene B, Gene C, R protein, mRNA, start codon, stop codon, protein A, protein B, protein C.

Eukaryotes: Coordination of transcription, Coordination of translation.

Questions

- Trafficked separately (as single transcripts) or together (as multiplexes – single mRNAs assembled in trans)?
- What is the mechanism of mRNA multiplexing?
- Is RNA multiplexing in the eukaryotes is equivalent to the prokaryotic operon?

Methodological Approach

RaPID: An aptamer based RNA affinity purification

Streptavidin Beads, Streptavidin-binding peptide, Coat Protein, MS2 tag.

RNA ISOLATION

RNA seq
RT-PCR

PROTEIN ISOLATION

Western Blotting
Mass-Spec

Slobodin and Gerst (2010) RNA

Rohini Nair (Presenting)

mRNA multiplexing and Transcriptional operon in Eukaryotes

mRNA multiplexing Role of Histone H4 Physical interaction of chromatin

12:01 | nqj-nhqg-gym


Participants: Rohini Nair, Bipasha Singh, Ankita Rathi, CHITRA NARETI, Drishti Verma, Ayushi Tiwari, Nidhi Yadu, Somesh Verma, 21 others, Varsha Meshram

GPS Map Camera

Raipur, Chhattisgarh, India
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