

# NPTEL Video Lecture Topic List - Created by LinuXpert Systems, Chennai

NPTEL Video Course - Biotechnology - NOC:RNA Biology

Subject Co-ordinator - Prof. Rajesh Ramachandran

Co-ordinating Institute - IIT - Madras

Sub-Titles - Available / Unavailable | MP3 Audio Lectures - Available / Unavailable

- Lecture 1 - Introduction to RNA Biology and RNA World - The Beginning
- Lecture 2 - Introduction to RNA Biology and RNA World - Evidences
- Lecture 3 - Introduction to RNA Biology and RNA World - Origin of Monomers
- Lecture 4 - Introduction to RNA Biology and RNA World - Shift to DNA
- Lecture 5 - Introduction to RNA Biology and RNA World - RNA Self Replication
- Lecture 6 - Introduction to RNA Biology and RNA World - Origin of RNA Enzymes
- Lecture 7 - RNA as Enzymes: The Ribozymes
- Lecture 8 - RNA as Enzymes: Structure and Functions
- Lecture 9 - RNA as Enzymes: The Present and Future
- Lecture 10 - RNA Transcription: The Central Dogma
- Lecture 11 - RNA Transcription: Initial Steps
- Lecture 12 - RNA Transcription: Different Stages
- Lecture 13 - RNA Transcription: Termination and RNA Modification
- Lecture 14 - RNA Transcription: Different Polymerases
- Lecture 15 - RNA Processing and Life Cycle: RNA Maturation and RNPs
- Lecture 16 - RNA Processing and Life Cycle: RNA Splicing
- Lecture 17 - RNA Processing and Life Cycle: Post Transcriptional Processing
- Lecture 18 - Alternative RNA Processing and Editing: Alternative Splicing
- Lecture 19 - Alternative RNA Processing and Editing: Implications of Introns
- Lecture 20 - Alternative RNA Processing and Editing: Splicing and Pathology
- Lecture 21 - Alternative RNA Processing and Editing: RNA Editing in Detail
- Lecture 22 - Alternative RNA Processing and Editing: Relevance of RNA Editing
- Lecture 23 - Alternative RNA Processing and Editing: Relevance in Immunology
- Lecture 24 - RNA Splicing, Export and Stability: Relevance of Introns
- Lecture 25 - RNA Splicing, Export and Stability: Introns in RNA Splicing
- Lecture 26 - RNA Splicing, Export and Stability: Different Spliceosomes
- Lecture 27 - RNA Splicing, Export and Stability: SMN Complex
- Lecture 28 - snRNA, rRNA, miRNA, siRNA Processing, Export and Function: Introns and Link to Splicing
- Lecture 29 - snRNA, rRNA, miRNA, siRNA Processing, Export and Function: RNA Helicases

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- Lecture 30 - snRNA, rRNA, miRNA, siRNA Processing, Export and Function: Nucleo Cytoplasmic Transport
- Lecture 31 - snRNA, rRNA, miRNA, siRNA Processing, Export and Function: Nucleoporins and miRNAs
- Lecture 32 - snRNA, rRNA, miRNA, siRNA Processing, Export and Function: RNA Export Mechanisms
- Lecture 33 - snRNA, rRNA, miRNA, siRNA Processing, Export and Function: RNA Quality Control
- Lecture 34 - Mechanisms of RNA Decay and Non Coding RNAs: Decay Pathways
- Lecture 35 - Mechanisms of RNA Decay and Non Coding RNAs: The Exosomes
- Lecture 36 - Mechanisms of RNA Decay and Non Coding RNAs: mRNA Surveillance
- Lecture 37 - Mechanisms of RNA Decay and Non Coding RNAs: Mechanisms of RNA Decay
- Lecture 38 - Mechanisms of RNA Decay and Non Coding RNAs: Autoregulation of RNAs
- Lecture 39 - Mechanisms of RNA Decay and Non Coding RNAs: Introduction to Non-Coding RNAs
- Lecture 40 - Dosage Compensation and X-Inactivation: SRP and Different Modes of Compensation
- Lecture 41 - Dosage Compensation and X-Inactivation: Dosage Compensation of X
- Lecture 42 - Dosage Compensation and X-Inactivation: Omprinted vs Random X Inactivation
- Lecture 43 - Dosage Compensation and X-Inactivation: Molecular Basis of X-Inactivation
- Lecture 44 - Dosage Compensation and X-Inactivation: ES Cells and X-Inactivation
- Lecture 45 - Dosage Compensation, Xist and ncRNA in Imprinting: The Roles of YY1
- Lecture 46 - Dosage Compensation, Xist and ncRNA in Imprinting: shRNAs and Gene Expression
- Lecture 47 - Dosage Compensation, Xist and ncRNA in Imprinting: Mechanism of RNAi in Action
- Lecture 48 - Dosage Compensation, Xist and ncRNA in Imprinting: Genomic Imprinting in Action
- Lecture 49 - Dosage Compensation, Xist and ncRNA in Imprinting: Different ncRNAs and their Roles
- Lecture 50 - Dosage Compensation, Xist and ncRNA in Imprinting: lncRNA-Induced Cancer
- Lecture 51 - Dosage Compensation, Xist and ncRNA in Imprinting: Xist and Cancer
- Lecture 52 - Telomere, Telomerase and Impact on Genomes: The Importance of Telomeres
- Lecture 53 - Telomere, Telomerase and Impact on Genomes: Telomerase and Aging
- Lecture 54 - Telomere, Telomerase and Impact on Genomes: Telomere Length as Marker of Aging
- Lecture 55 - Telomere, Telomerase and Impact on Genomes: Telomeres and Cancer
- Lecture 56 - Telomere, Telomerase and Impact on Genomes: Cell Cycle Arrest
- Lecture 57 - Telomere, Telomerase and Impact on Genomes: Maintenance and Manipulation of Telomeres
- Lecture 58 - Epitranscriptome and Protein Synthesis: Important RNA Modifications
- Lecture 59 - Epitranscriptome and Protein Synthesis: Readers, Writes and Erasers
- Lecture 60 - Epitranscriptome and Protein Synthesis: Biological Implications of RNA Modifications
- Lecture 61 - Epitranscriptome and Protein Synthesis: Roles of RNAs in Translation
- Lecture 62 - Epitranscriptome and Protein Synthesis: Mechanism of Translation