



Cima
Universidad
de Navarra

PAMPLONA

OCTOBER 9th-11th

2024

BRIDGING RNA BIOLOGY AND THERAPY:

Exploring the Frontiers of Advanced Medicine

COORDINATOR

Maite Huarte

PhD - Director of DNA and RNA Medicine Division, CIMA

CO-ORGANIZERS

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BRIDGING RNA BIOLOGY AND THERAPY:

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WEDNESDAY, 9th OCTOBER 2024

SESSION 1

FUNCTIONAL ncRNAs AND RNA MODIFICATIONS IN DEVELOPMENT AND DISEASE

1. 1. Noncoding RNA

- Chair: **Prof. Eleonora Leucci**
PhD, Katholieke Universiteit Leuven, Belgium
- 15:00 - 15:10 **Welcome/Presentation**
Maite Huarte
PhD, DNA and RNA Medicine Division Director, Cima
- 15:10 - 15:50 **Keynote - RNA origin of sex biased immunity**
Dr. Howard Chang
MD, PhD, Stanford University, USA
- 15:50 - 16:15 **RNA-based mechanisms orchestrating the cell cycle and genome stability in cancer**
Dr. Lovorka Stojic
MSc, PhD, Barts Cancer Institute, UK
- 16:15 - 16:40 **Coding and non-coding lncRNAs in Hepatocellular Carcinoma**
Dr. Puri Fortes
CIMA, Spain
- 16:40 - 16:55 **Short talk 1**
CRISPR-powered discovery of long non-coding RNA therapeutics in lung cancer
Michela Coan
University College Dublin, Ireland
- 16:55 - 17:10 **Short talk 2**
Alteration of the M6A Regulatory genes, with the special implication of virma, is crucial for the multiple myeloma development
Estíbaliz Urizar-Compains
CIMA, Spain
- 17:10 - 17:40 *Coffee break*

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- Chair: **Marta Montes**
CIMA, Spain
- 17:40 - 18:05 **Functions and modes of action of cis-acting long noncoding RNAs**
Prof. Igor Ulitsky
BSc, PhD, Weizmann Institute of Science, Israel
- 18:05 - 18:30 **Eradicating drug tolerance persister cancer cells by targeting lncRNAs**
Prof. Eleonora Leucci
PhD, Katholieke Universiteit Leuven, Belgium
- 18:30 - 18:55 **Noncoding RNA in the Coordination of DNA Replication and Genomic Stability**
Dr. Maite Huarte
PhD, CIMA, Spain
- 18:55 - 19:10 **Short talk 3**
The type 1 diabetes-associated lncRNA lncICOS-LG participates in virus-induced pancreatic cell apoptosis
Leire Bergara-Mugururza
University of the Basque Country, Spain

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1. 2. RNA Modifications

- Chair: **Dr. Samie Jaffrey**
MD, PhD, Cornell University, USA
- 09:00 - 09:25 **Tuning the ribosome in health and disease?**
Dr. Anders Lund
PhD, Biotech Research and Innovation Centre (BRIC), Denmark
- 09:25 - 09:50 **Harnessing noncoding RNA modifications for innovative disease therapies**
Dr. Ainara Castellanos
PhD, University of the Basque Country, Spain
- 09:50 - 10:15 **Targeting RNA methylases in cancer**
Dr. Sandra Blanco
PhD, Centro de Investigación del Cáncer (CIC), Spain
- 10:15 - 10:30 **Short talk 4**
Single-cell discovery of m6A RNA modifications in the hippocampus
Shuangshuang Feng
Chinese Institute for Brain Research, China
- 10:30 - 10:45 **Short talk 5**
RNA-based regulatory mechanisms to target cellular senescence
Marta Montes
CIMA, Spain
- 10:45 - 11:15 *Coffee break*

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SESSION 2 | ADVANCING RNA THERAPEUTICS

2. 1. RNA Aptamers

Chair: **Dr. Puri Fortes**
CIMA, Spain

11:15 - 11:40 **Drug-regulated aptamers for controlling gene expression and cell function**

Dr. Samie Jaffrey
MD, PhD, Cornell University, USA

11:40 - 12:05

Novel advances in mRNA therapeutics and delivery

Dr. Paloma Giangrande
PhD, Eleven Therapeutics, USA

12:05 - 12:30

Aptamers for cancer immunotherapy

Dr. Fernando Pastor
CIMA, Spain

12:30 - 12:55

Topical application of aptamers

Dr. Günter Mayer
PhD, Cornell University, USA

12:55 - 13:10

Short talk 6

Computational design of DNA and RNA aptamers disrupting RAD51-BRCA2 interaction in cancer therapy

Giulia Milordini
Istituto Italiano di Tecnologia, Italy

13:10 - 13:25

Short talk 7

Generation of locked nucleic acid-modified RNA transcripts and aptamers using a mutant T7 RNA polymerase

Kevin Neis
Aarhus University, Denmark

13:25 - 15:00

Lunch and poster presentations

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2. 2. RNA Delivery

- Chair: Dr. Miao-Chih Tsai
MSc, PhD, Stanford University, USA
- 15:00 - 15:25 **Engineering polymer/lipid nanocarriers for specific RNA delivery**
Dr. María José Alonso
University of Santiago de Compostela, Spain
- 15:25 - 15:50 **Design of adjuvant-modified nanoparticles for next-generation mRNA vaccines**
Dr. Camilla Foged
University of Copenhagen, Denmark
- 15:50 - 16:15 **Versatility of LNP mRNA therapies: from rare to liver infectious diseases**
Dr. Ramón Díaz Trelles
PhD, Seawolf Therapeutics, USA
- 16:15 - 16:30 **Short talk 8**
Dual-functionalized small interfering RNA for targeted delivery and endosomal escape
Simon Christian Vinther
Aarhus University, Denmark
- 16:30 - 17:00 *Coffee break*
- Chair: Dr. Cristian Smerdou
CIMA, Spain
- 17:00 - 17:25 **Advancing Personalized Nanomedicine Through RNA Nanoparticles**
Dr. María Blanco-Prieto
University of Navarra, Spain
- 17:25 - 17:50 **Engineering Circular RNA Therapeutics**
Dr. Miao-Chih Tsai
MSc, PhD, Stanford University, USA
- 17:50 - 18:15 **Next generation of mRNA based vaccines**
Dr. Patrick Baumhof
PhD, CureVac, Germany

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SESSION 3

TARGETING RNA SPLICING

Chair:

Rubén Hernández
CIMA, Spain

09:00 - 09:40

Antisense Modulation of RNA Splicing for Rare Disease Therapy

Dr. Adrian Krainer
PhD, Cold Spring Harbor Laboratory, USA

09:40 - 10:05

Targeting RNA-processing in neurological disorders with antisense oligonucleotides and beyond

Dr. Lorea Blázquez
PhD, Biogipuzkoa Health Research Institute, Spain

10:05 - 10:30

Therapeutic approaches for RNA splicing modulation in oncology

Dr. Juan Valcárcel
PhD, Center for Genomic Regulation (CRG), Spain

10:30 - 10:45

Short talk 9

Development of splice Switching Oligonucleotides
and therapeutic exosomes for liver pathologies
Santiago Vernia

Institute of Biomedicine of Valencia, IBV CSIC, Spain

10:45 - 11:00

Short talk 10

Tumor suppressor role of RBM10 in lung
adenocarcinoma is exerted through circular RNAs
biogenesis regulation

Ana Utrilla
Granada University, GENYO, Spain

11:00 - 11:30

Coffee break

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SESSION 4

THERAPEUTIC mRNA

Chair:

Fernando Pastor
CIMA, Spain

11:30 - 12:10

Local Immunotherapies based on IL-12 and IL-18

Dr. Ignacio Melero
MD, PhD, CIMA, Spain

12:10 - 12:25

Short talk 11

Targeting PD-1-positive lymphocytes with immunocytokines delivered by self-amplifying RNA enhances IL-12 antitumor activity

Noelia Silva-Pilipich
Navarra University, Spain

12:25 - 13:05

Cancer Epitranscriptomics: from knowledge to applications

Dr. Manel Esteller
*MD, PhD, Instituto de Investigación contra la Leucemia
Josep Carreras, Spain*

13:05 - 13:20

Closing remarks

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Abstract Submission

The Scientific Committee welcomes submissions for abstract presentations at the Bridging RNA Biology and Therapy: Exploring the Frontiers of Advanced Medicine.

Online submission of abstracts will be open from May 6th to September 2nd.

Submit your abstract here

<https://doctaforum.com/bridgingrnabiologyandtherapy/abstracts>

Venue

CIMA - Universidad de Navarra

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