## HSTalks The Biomedical & Life Sciences Collection

## From COVID-19 to the basics of RNA A Learning Journey

#### How does the SARS-CoV-2 virus infect cells?

AUDIO INTERVIEW



Extract from: **'Interspecies transmission of SARS-CoV-2'** Dr. Dalan Bailey – The Pirbright Institute, UK

**1 min** (02:13 - 03:06)

#### And what are mRNA vaccines?



Extract from: **'Vaccination'** Dr. Anita Milicic – University of Oxford, UK

1 min (17:04 - 18:04)

### Are there other ways of applying this novel approach?



Extract from: **'Imperial College London's saRNA Vaccine - COVAC1'** Dr. Katrina Pollock – Imperial College London, UK

Dr. Katrina Pollock

**3.5 mins** (00:15 - 03:41)

### What about RNA-based therapies against viruses?



Extract from: 'Systemic RNA interference (RNAi) therapeutics for the treatment of HIV-1' Prof. John Rossi – Beckman Research Institute of the City of Hope, USA

1 min (03:46 - 04:58)

#### So, what types of RNA do we have in our cells?



Extract from: **'The biochemistry of DNA and RNA 2: biological function'** Dr. Douglas Houston – University of Edinburgh, UK

**1 min** (01:46 - 02:40)

### And how are mRNA molecules normally produced?



Extract from:

'Gene structure, expression and regulation: DNA structure and replication' Dr. Carole Sargent – University of Cambridge, UK

13 mins (23:15 - 36:30)

# OK, but then how are proteins created from these mRNA molecules?



#### Extract from:

'Gene structure, expression and regulation: translation and regulation of gene expression' Dr. Carole Sargent – University of Cambridge, UK

**14 mins** (00:41 - 14:41)

### And what is RNA interference?

Extract from:

## RNA Interference Functions and Mechanisms in Animals



Richard Carthew, Ph.D. Professor of Molecular Biosciences Northwestern University Evanston, Illinois USA

> Northwestern University

'RNA interference functions and mechanisms in animals'

Prof. Richard Carthew – Northwestern University, USA

24.5 mins (04:10 - 28:43)

# What about the increasing focus in recent years on non-coding RNA in cancer?

Extract from:

The Non-coding RNA Revolution in the Cancer Society



George A. Calin, MD, PhD Professor. Department of Experimental Therapeutics. Division of Cancer Medicina, The University of Taxas MD Antherson Cancer Center, Houston, TX gealin@indanderson org Idapritories program and research/ apatmenter program and lactbalcalm lacindex.html **'The non-coding RNA revolution in the cancer society'** Prof. George Calin – MD Anderson Cancer Center, USA

**35 mins** (12:06 - 46:58)

#### Whole talk:

Recent Advances in the Field of Non-coding RNAs in Cancer



PhD Prof. George Calin

MD Anderson Cancer Center, University of Texas, USA MDAnderson Geneer Center **'Recent advances in the field of non-coding RNAs in cancer '** Prof. George Calin & Dr. Maitri Shah – MD Anderson Cancer Center, USA

35 mins (00:00 - 35:06)