

# RNA MASS SPECTROMETRY VIRTUAL SYMPOSIUM

**UNLOCKING EPITRANSCRIPTOMICS WITH CUTTING-EDGE MASS SPECTROMETRY TOOLS**

**THURS., APRIL 10- FRI., APRIL 11, 2025**

**\*REGISTER HERE\***

HOSTED BY THE NIH/NHGRI CENTER FOR GENOMIC INFORMATION ENCODED BY RNA NUCLEOTIDE MODIFICATIONS

Join us for a two-day symposium featuring global experts in RNA mass spectrometry, sharing the latest research and innovations in RNA modifications and sequencing.

## **DAY 1 - THURSDAY, APRIL 10, 2025**

10:00 AM – Welcome and Introduction

10:05 AM – 10:40 AM – **Keynote Speaker:** Dr. Tom Suzuki (University of Tokyo, Japan)  
*"Expanding World of tRNA Modifications in Health and Disease."*

### **Session I: MASS SPECTROMETRY ANALYSIS AND GLOBAL PROFILING OF RNA MODIFICATIONS**

*(Moderator: Dr. Samie Jaffrey - Weill Cornell Medicine)*

10:40 AM – Dr. Bi-Feng Yuan (Wuhan University, China)

*"Exploring RNA Modifications Through Mass Spectrometry and Their Correlations with Diseases and Environmental Exposure."*

11:05 AM – Dr. Stefanie Kaiser (Goethe-University Frankfurt, Germany)

*"Hunting for truth - towards more accurate RNA modification stoichiometry."*

11:30 AM – Dr. Henning Urlaub (Max-Planck Institute, Germany)

*"Chemical crosslinking extends and complements UV crosslinking in analysis of RNA/DNA nucleic acid-protein interactions by Mass Spectrometry."*

11:55 AM – Dr. Yinsheng Wang (University of California – Riverside)

*"Mass Spectrometry for Revealing the Roles of RNA Methylation in Nucleotide Repeat Expansion Diseases."*

**12:20 PM – 1:20 PM – Lunch Break**

### **Session II: MASS SPECTROMETRY SEQUENCING OF RNA**

*(Moderator: Dr. Scott Blanchard – St. Jude's Research Hospital)*

1:20 PM – Dr. Kristin Koutmou (University of Michigan)

*"Integrating LC-MS/MS and nanopore approaches to directly sequence RNA."*

1:45 PM – Dr. Shenglong Zhang (SUNY- University at Albany)

*"NextGen MassSpec-Seq: Unlocking RNA's True Sequence and the First Human RNome."*

2:10 PM – Dr. Benjamin A. Garcia (Washington University. In St. Louis)

*"Quantitative mass spectrometry approaches for characterization of RNA modifications."*

2:35 PM – Dr. Qi Chen (University of Utah)

*"Complete decoding of tsRNA modifications reveals structural and functional principles."*

**3:00 PM – Break**

**3:10 PM – 3:40 PM - PANEL DISCUSSION WITH PRESENTERS (Moderator: Dr. Kate Meyer – Duke University)**

Dr. Qi Chen, Dr. Peter Dedon, Dr. Robert Ross, Dr. Dan Fabris, Dr. Henning Urlaub, Dr. Benjamin Garcia

## **DAY 2 – FRIDAY, APRIL 11, 2025**

10:00 AM - 10:40 AM – **Keynote Speaker:** Dr. Peter Dedon (MIT) *"New tools for epitranscriptome systems biology and drug discovery."*

### **Session III: FUTURE DIRECTIONS FOR MASS SPECTROMETRY STUDIES OF RNA AND MODIFICATIONS**

*(Moderator: Dr. Samie Jaffrey - Weill Cornell Medicine)*

10:40 AM – Dr. Mark Helm (Johannes Gutenberg Univ.) *"RNA modification damage."*

11:05 AM – Dr. Dan Fabris (University of Connecticut) *"Divide-and-conquer strategies for the MS characterization of progressively larger nucleic acids."*

11:30 AM – Dr. Ralph Kleiner (Princeton University) *"Characterization of the subcellular distribution of post-transcriptionally modified RNAs."*

11:55 AM – Dr. Robert Ross (Thermo Fisher Scientific) *"Characterizing RNA Modification by High Resolution Mass Spectrometry."*

12:20 PM - Closing Remarks