School of Medicine

The University of North Carolina at Chapel Hill
The Center for Molecular Medicine

Frontiers in Molecular Medicine Research

Date: April 14th, 2026
Location: Carolina Club, 150 Stadium Drive, Chapel Hill, NC
Time: 8:30 AM – 5:20 PM

Program

8:00 AM – 9:00 AM	Registration & Breakfast

Morning Program

9:00 AM – 9:10 AM	Welcome Remarks	Samuel M Young, Jr, PhD CMM Director
9:10 AM – 10:40 AM	**Session I: Decoding RNA: Novel Insights into Gene Regulations and Control of Expression**	
9:10 AM – 9:40 AM	Small Nucleolar RNAs (snoRNAs) as Human Guide RNAs in Gene Expression Regulation	Bei Liu, PhD
9:40 AM – 10:10 AM	The Ribosome Decides: Controlling mRNA Translation in Infection and Neurodegeneration	Ranen Aviner, PhD
10:10 AM – 10:40 AM	Direct RNA Nanopore Sequencing Reveals Rapid Changes to RNA Modifications in Human Pancreatic Beta Cell Lines Following Glucose Stimulation	Leland Taylor, PhD
10:40 AM – 11:10 AM	Coffee Break	
11:10 AM – 12:40 PM	**Session II: Defining Molecular Switches in Cell Fate and Disease**	
11:10 AM – 11:40 AM	Protein-Small Biomolecule Interactions in Tissue Homeostasis and Cancer Progression	Weili Miao, PhD
11:40 AM – 12:10 PM	Decoding Aberrant Hepatocyte Metabolism at the Single Cell Level	Junichi Okada, MD, PhD
12:10 PM – 12:40 PM	Defining the Role of the Integrated Stress Response in Rare Neuromuscular Diseases Using Mouse and hiPSC Models	Timothy Hines, PhD
12:40 PM – 1:40 PM	Lunch Break	

Afternoon Program

1:40 PM – 3:10 PM	**Session III: Interrogating Immunity in Context: Tissues, Brain, and Diseases**	
1:40 PM – 2:10 PM	Innate-Adaptive Duality in NK cells	Adriana Mujal, PhD
2:10 PM – 2:40 PM	New Technologies for Dissecting Immune Contributions to Brain Health and Disease	Michael Gallagher, PhD
2:40 PM – 3:10 PM	Engineering Immune Tolerance for Next-Generation T1D Therapies	Jessie Barra, PhD
3:10 PM – 3:40 PM	Coffee Break	
3:40 PM – 5:10 PM	**Session IV: Engineering Therapeutics: Delivery to Gene Therapy**	
3:40 PM – 4:10 PM	Decoding Molecular Complexity: From Self-Replicating Minimal Cells to Single-Molecule Disease Signatures	Stephanie Zhang, PhD
4:10 PM – 4:40 PM	Programming Lipid Nanoparticles for Selective Control of Tropism and In Vivo Gene Expression	Chandra Bhattacharya, PhD
4:40 PM – 5:10 PM	Liver-Directed Gene Therapy for Inherited Metabolic Disorders	Marco De Giorgi, PhD
5:10 PM – 5:20 PM	Closing Remarks & Adjournment	Samuel M Young, Jr, PhD

Center for Molecular Medicine

Our Purpose

To harness the power of human ingenuity to uncover the roots of genetic and complex diseases and to drive discoveries that alleviate suffering and improve people's lives.

Our Vision

The Center for Molecular Medicine refuses to accept the current landscape of medical treatments as it is and is instead committed to creating the future as it should be. We are dedicated to transforming medicine through pioneering breakthroughs that redefine how genetic and complex diseases are understood and treated.

https://www.med.unc/edu/molecularmedicine/