DukeNUS Medical School

Signature Seminar Series

SnoRNAs and RNA Modifications in Cardiovascular Disease

ABOUT THE LECTURE

Post-transcriptional modifications of messenger RNA (mRNA) now have a recognized role in regulating gene expression. Base modifications, especially N6-methyladenosine (m6A), influence mRNA splicing, stability, and translation by altering base-pair interactions and recruiting or inhibiting RNA-binding proteins. While there is evidence that internal ribose modification by 2'-O-methylation (Nm) also occurs on mRNA, questions have been raised regarding its detection, and no biological role has been validated for this modification in cells or tissues. Some small nucleolar RNAs (snoRNAs) guide Nm modifications on rRNA and snRNA, and there is a question of whether or not they can also guide this modification on mRNA. Since there are hundreds of box C/D snoRNAs (SNORDs) that can guide Nm modifications, snoRNA-guided modification of mRNA could be a widespread mechanism of post-transcriptional gene regulation. Our work aims to discover whether snoRNA-guided Nm modification of mRNA can provide a significant post-transcriptional regulatory mechanism to regulate gene expression in vivo, especially in the context of cardiovascular health and disease.

Speaker: **Dr Christopher Holley**
Assistant Professor of Medicine
Assistant Research Professor of Molecular Genetics and Microbiology
Duke University School of Medicine

Host: **Prof Patrick Casey**
Senior Vice Dean, Research
Duke-NUS Medical School

Date: **Tuesday, 16 April 2019**

Time: **12.00 PM - 1.00 PM**
(Light refreshments will be served at 11.30 AM)

Venue: **Duke-NUS Medical School**
Amphitheatre, Level 2

Contact Person: **Ms Serene Wie, Duke-NUS Research Affairs Department**
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ABOUT THE SPEAKER

Dr. Holley is an Assistant Professor in the Division of Cardiology at Duke University, where he leads both a basic science laboratory and cares for patients with advanced heart failure. His research has a strong focus on non-coding RNAs, RNA modifications, and RNA-based therapeutics.



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