

RiboClub 2022

September 18-22, Manoir des Sables, Orford, Québec

The next revolution in RNA-based medicine and technologies

Sunday, September 18th

- 15:00 – 18:00 Registration
- 18:00 – 19:30 **Welcome reception**
- 19:30 – 21:30 **Opening dinner and welcome note** by a representative of the Canadian Consortium of RNA Research (C2R2) outreach committee

Monday, September 19th

- 08:00 – 09:00 Registration
- 09:00 – 09:10 **Opening Notes and Announcements**
Sherif Abou Elela, *Université de Sherbrooke, Sherbrooke*
- 09:10 – 09:15 Presentation of Keynote speaker
François Major, *Université de Montréal, Montréal*
- 09:15 – 10:15 **Keynote presentation**
Modeling and design of RNA-only structures
Rhiju Das, *Stanford University, Palo Alto*
- 10:15 – 10:45 **Coffee break**

Session 1: Ribosome biogenesis and translation

Chair: **Melissa Léger-Abraham**, *Harvard Medical School, Boston*

- 10:45 – 10:50 **Introduction by**
Melissa Léger-Abraham, *Harvard Medical School, Boston*
- 10:50 – 11:05 **Single cell quantification of ribosome occupancy in early mouse development**
Can Cenik, *University of Texas, Austin*
- 11:05 – 11:20 **Discovery of factorless internal ribosome entry sites using metagenomic data mining**
Eric Jan, *UBC, Vancouver*
- 11:20 – 11:35 **Ribosome changes by FXR1 reprogram translation for tumor survival in quiescent leukemic cells**
Shobha Vasudevan, *MGH-Harvard Medical School, Boston*
- 11:35 – 11:50 **Regulation of ribosome biogenesis, translation, and cellular adaptation by rRNA 2'-O-methylations**
Homa Ghalei, *Emory University, Atlanta*
- 11:50 – 12:05 **Unfolding, modification and processing of ribosomal RNA by H/ACA small nucleolar Ribonucleoproteins**
Ute Kothe, *University of Manitoba, Winnipeg*

- 12:05 – 12:25 **Panel discussion** moderated by
Melissa Léger-Abraham, *Harvard Medical School, Boston*
- 12:25 – 12:35 **Introduction of the C2R2 education and mentoring initiative**
Eric Jan, *UBC, Vancouver*
- 12:35 – 13:35 **Mentoring Lunch**
organized by **Eric Jan**, *UBC Vancouver*
- 13:35 – 14:25 **Networking time**

Session 2: RNA modifications

Chair: **Michelle Scott**, *Université de Sherbrooke, Sherbrooke*

- 14:25 – 14:30 **Introduction by**
Michelle Scott, *Université de Sherbrooke, Sherbrooke*
- 14:30 – 14:45 **Coupling of chemical treatment and next generation sequencing for RNA modification mapping**
Yuri Motorin, *Université de Lorraine, Vandoeuvre-les-Nancy*
- 14:45 – 15:00 **rRNA modification dynamics in development**
Ivan Milenkovic, *Center for Genomic Regulation, Barcelona*
- 15:00 – 15:15 **Diversity in ribosomal RNA 2'-O-methylation in cancer**
Frédéric Catez, *Cancer research center of Lyon, Lyon*
- 15:15 – 15:30 **An A-to-I editing analysis approach customized for repetitive elements unveils a novel type of epi-transcriptome response to amyloid beta neurotoxicity**
Athanasios Zovoilis, *University of Lethbridge, Lethbridge*
- 15:30 – 16:00 **Coffee Break**
- 16:00 – 16:15 **A role for the RNA modification m⁶A at the virus-host interface**
Stacy Horner, *Duke University School of Medicine, Durham*
- 16:15 – 16:30 **Human Trmt1-mediated m2G/m22G modification regulates mitochondrial RNA processing**
Ru-Juan Liu, *Shanghai Tech University, Shanghai*
- 16:30 – 16:50 **Panel discussion** moderated by
Michelle Scott, *Université de Sherbrooke, Sherbrooke*

Poster Flash Talks #1

- 16:50 – 16:55 **Pretty Sly for a White Fly: Investigating an Atypical Viral Internal Ribosome Entry Site in a Novel Positive-strand RNA Virus**
Yihang Chen, UBC, Vancouver
- 16:55 – 17:00 **Characterization of a non-coding RNA interacting system essential to flaviviral replication**
Tyler Mrozowich, University of Lethbridge, Lethbridge
- 17:00 – 17:05 **Understanding the contribution of snoRNA-mediated rRNA 2'-O-methylations to cell growth and metastasis in a model of non-small cell lung carcinoma**
Sarah Webster, Emory University, Atlanta
- 17:05 – 17:10 **Long-read translome analysis reveals multi-dimensional regulatory modules for translation**
Ari Hong, Seoul National University, Seoul
- 17:10 – 18:10 **Poster competition IA: (Odd numbers)**
- 18:10 – 19:10 **Poster competition IB: (Even numbers)**
- 19:10 – 20:00 **Dinner**
- 20:00 – **Free Social Gathering**

Tuesday, September 20th

07:00 – 08:50 **Breakfast**

Session 3: Non-coding RNAs

Chair: **Marc Fabian**, *McGill University, Montréal*

- 08:50 – 08:55 **Introduction by**
Marc Fabian, *McGill University, Montréal*
- 08:55 – 09:10 **Antagonism by Seedless Sites Expands Rules of microRNA-Mediated Gene Regulation**
Jun Lu, *Yale University, New Haven*
- 09:10 – 09:25 **Specific Argonaute phosphorylation regulates the miRNA binding and function during *C. elegans* development**
Martin Simard, *Université Laval, Québec*
- 09:25 – 09:40 **Functional mechanisms of enhancer and promoter noncoding RNAs in transcriptional regulation**
Yuanchao Xue, *Chinese Academy of Sciences, Beijing*
- 09:40 – 09:55 **Intergenic non-coding RNAs regulating nucleolar structure and function**
Karim Mekhail, *University of Toronto, Toronto*
- 09:55 – 10:10 **Cell state specific isoforms of the conserved lncRNA Tuna differentially influence pluripotency and neurogenesis**
Valérie Watters, *Université Laval, Québec*
- 10:10 – 10:40 **Coffee Break**
- 10:40 – 10:55 **TERRA RNA in epigenetic regulation**
Jeannie Lee, *Harvard Medical School, Boston*
- 10:55 – 11:10 **Imprinted box C/D small nucleolar RNA genes at the Prader-Willi / Angelman syndrome domain**
Jérôme Cavallé, *Center for Integrative Biology, Toulouse*
- 11:10 – 11:25 **Investigations of the biology and chemistry of twister ribozymes from rice**
Philip Bevilacqua, *The Pennsylvania State University, University Park*

- 11:25 – 11:40 **Known non-coding RNAs in bacteria; just the tip of the iceberg**
Jonathan Perreault, *INRS, Laval*
- 11:40 – 12:00 **Panel discussion** moderated by
Marc Fabian, *McGill University, Montréal*
- 12:00 – 13:00 **Lunch**

Session 4: Looking at RNA

Chair: **William Zerges**, *Concordia University, Montréal*

- 13:00 – 13:05 **Introduction by**
William Zerges, *Concordia University, Montréal*
- 13:05 – 13:20 **Localized translation of cell junction mRNAs is required for epithelial cell organization**
Éric Lécuyer, *IRCM, Montréal*
- 13:20 – 13:35 **Imaging single mRNAs uncovers neuronal mechanisms to sustain protein homeostasis**
Maria Vera Ugalde, *McGill University, Montréal*
- 13:35 – 13:50 **Illuminating the Transcriptome**
Andrej Luptak, *University of California, Irvine*
- 13:50 – 14:05 **Stress granules promote chemoresistance by triggering cellular quiescence**
Anthony Khong, *University of Colorado Boulder, Boulder*
- 14:05 – 14:20 **Maturation and transport proteins involved in the early nucleocytoplasmic trafficking of the budding yeast telomerase RNA, Tlc1**
Hannah Neumann, *Université de Sherbrooke, Sherbrooke*
- 14:20 – 14:35 **Panel discussion** moderated by
William Zerges, *Concordia University, Montréal*
- 14:35 – 14:55 **Coffee Break**

Poster Flash Talks #2

- 14:55 – 15:00 **The yeast endonuclease Rnt1 processes and degrades a wide range of messenger RNAs**
Lee-Ann Notice, *University of Texas, Austin*
- 15:00 – 15:05 **miR-642a-3p decreases HIV-1 production by targeting AFF4, but its silencing capacity is hindered by a Dicer-Gag complex**
Sergio Paulo Alpuche-Lazcano, *McGill University, Montreal*
- 15:05 – 15:10 **The lysC riboswitch as a regulatory nexus**
Tithi Ghosh, *Université de Sherbrooke, Sherbrooke*
- 15:10 – 15:15 **Structure Elucidation of RNA Aptamers Bound to Derivative Hoechst Dyes**
Natasha Evans, *University of Waterloo, Waterloo*
- 15:15 – 16:15 **Poster competition IIA: (Even numbers)**
- 16:15 – 17:15 **Poster competition IIB: (Odd numbers)**
- 17:15 – 18:00 **Special Canadian Consortium of RNA Research (C2R2) information and discussion session by the C2R2 Advocacy Committee**
Pascale Legault, *Université de Montréal, Montréal*
- 18:00 – 19:00 **Dinner**
- 19:00 – 20:30 **Equity diversity and inclusion (EDI) Activity**
Organized by the C2R2 EDI committee
Featuring **Shobha Vasudevan**, *Chair of the EDI Committee of the RNA Society*
Animated by **Michelle Scott**, *Université de Sherbrooke, Sherbrooke*

Wednesday, September 21st

07:00 – 09:00 **Breakfast**

Session 5: RNA complexes and processing

Chair: **Stéphane Richard**, *McGill University, Montréal*

- 09:00 – 09:05 **Introduction by**
Stéphane Richard, *McGill University, Montréal*
- 09:05 – 09:20 **Systematic, large-scale studies of RBP function, protein & RNA interactomes**
Gene Yeo, *University California, San Diego*
- 09:20 – 09:35 **Pre-mRNA splicing order across long multi-intronic transcripts**
Karine Choquet, *Harvard Medical School, Boston*
- 09:35 – 09:50 **Arg-tRNA synthetase links inflammatory metabolism to RNA splicing and nuclear trafficking via SRRM2**
Haissi Cui, *University of Toronto, Toronto*
- 09:50 – 10:05 **Systematic exploration of dynamic splicing networks reveals conserved multistage regulators of neurogenesis**
Hong Han, *University of Toronto, Toronto*
- 10:05 – 10:20 **Transcription and the nascent transcript**
David Tollervey, *University of Edinburgh, Edinburgh*
- 10:20 – 10:50 **Coffee Break**
- 10:50 – 11:05 **Quantifying negative selection in human 3'UTRs uncovers evolutionarily constrained targets of RNA-binding proteins**
Scott Findlay, *Massachusetts Institute of Technology, Boston*
- 11:05 – 11:20 **DEAD-box proteins' condensate integration and activity-sensing domains**
Calo Eliezer, *Massachusetts Institute of Technology, Boston*
- 11:20 – 11:35 **Altered tRNA processing is linked to a distinct and unusual La protein in *Tetrahymena thermophila***
Mark Bayfield, *York University, Toronto*

11:35 – 11:50 **Studying RNA structures in single cells**
Yue Wan, *Genome Institute of Singapore, Singapore*

11:50 – 12:10 **Panel discussion** moderated by
Stéphane Richard, *McGill University, Montréal*

12:10 – 12:25 **2022 Group Photo**

12:25 – 13:35 **Lunch**

Session 6: RNA and disease

Chair: **Katherine Borden**, *Université de Montréal, Montréal*

13:35 – 13:40 **Introduction** by
Katherine Borden, *Université de Montréal, Montréal*

13:40 – 13:55 **Discovery of cancer immunotherapy targets from splicing variations**
Mathieu Quesnel-Vallières, *University of Pennsylvania, Philadelphia*

13:55 – 14:10 **Comprehensive analysis of hypoxia-regulated long non-coding RNAs in lung adenocarcinoma cells**
Bernard Mari, *Université Côte d'Azur, Valbonne*

14:10 – 14:25 **Conserved role of the lncRNA CRNDE in regulating senescence and promoting colorectal cancer cell proliferation**
Martin Sauvageau, *IRCM, Montréal*

14:25 – 14:40 **Viral RNA structures as regulators of gene expression and therapeutic targets**
Silvi Rouskin, *Harvard Medical School, Boston*

14:40 – 14:55 **Design and evaluation of siRNAs targeting the SARS-CoV-2 genome**
Robert Scarborough, *McGill University, Montréal*

14:55 – 15:15 **Panel discussion** moderated by
Katherine Borden, *Université de Montréal, Montréal*

15:15 – 15:35 **Coffee Break**

15:35 – 15:40 **Presentation of Travel awards**
François Bachand, *Université de Sherbrooke, Sherbrooke*

- 15:40 – 15:45 **Poster prizes**
Jean-Philippe Brosseau, *Université de Sherbrooke, Sherbrooke*
- 15:45 – 15:50 **Presentation of the Alumnus of the year**
Students' Representatives
- 15:50 – 16:10 **Alumnus of the Year Presentation** (15 min + 5 min questions)
Jean-Denis Beaudoin, *UConn Health, Farmington*
- 16:10 – 16:15 **Presentation of the Best Monthly Seminar Award**
Students' Representatives
- 16:15 – 16:35 **Best Monthly Seminar Award Presentation** (15 min + 5 min questions)
To be announced during the meeting
- 16:35 – 18:00 **Networking and cocktail**
- 18:00 – 19:30 **Industry Gala Dinner**
- 19:30 – 19:35 **Blue Jacket Award**
Stephen Rader, *UNBC, Prince George*
- 19:35 – 19:45 **C2R2 Introduction: A forum for networking and translation of RNA research**
Sherif Abou Elela, *Université de Sherbrooke, Sherbrooke*
- 19:45 – 20:45 **After Dinner Presentation**
Melissa Moore, *Moderna, Inc., Cambridge, Mass, USA*
Introduction by **Jonathan Perreault**, *INRS, Laval*
- 21:00 – **Entertainment**

Thursday, September 22nd

07:00 – 09:30 **Breakfast and Departure**