

2021 RiboClub Program  
**Transcriptomics and cancer biology**

*Featuring RNA-Strasbourg Community*

*September 20-23 – RiboZoom (EDT Time Zone)*

*Pre-recorded posters are available at all time during the meeting at [riboclub.org](http://riboclub.org)*

**Monday, September 20, 2021 (Day 1)**

- 10:30 – 10:45      **Welcome notes and Announcements**  
**Sherif Abou Elela**, *Université de Sherbrooke, Sherbrooke*
- 10:45 – 11:30      **Opening Lecture**  
**Dynamics of eukaryotic translation initiation**  
**Joseph Puglisi**, *Stanford University, Stanford*  
Introduction by Sean McKenna, *University of Manitoba, Winnipeg*

**Session 1: Ribosome function**

Chair: Marlene Oeffinger, *Université de Montréal, Montréal*

- 11:45 – 11:50      **Student Micro-talk #1: Uridylation of plant viral RNAs**  
**Anne Caroline Joly**, *Université de Strasbourg, Strasbourg*
- 11:50 – 12:05      **Quality control during biogenesis of the large ribosomal subunit**  
**Kamena Kostova**, *Carnegie Institute for Science, Washington*
- 12:10 – 12:25      **Pseudouridine-free ribosome exhibits distinct inter-subunit movements**  
**Hong Li**, *Florida State University, Tallahassee*
- 12:30 – 12:45      **The chaperone Tsr2 regulates Rps26 release and reincorporation from mature ribosomes to enable a reversible, ribosome-mediated response to stress**  
**Katrin Karbstein**, *The Scripps Research Institute, Jupiter*
- 12:50 – 13:50      **Lunch Break**

**Session 2: Translation regulation**

Chair: Marc Fabian, *McGill University, Montreal*

- 13:50 – 13:55      **Student Micro-talk #2: Integrative modeling allows a global and precise identification of functional miRNA target genes**  
**Constance Ciaudo**, *ETH Zurich, Zurich*
- 13:55 – 14:10      **eIF3 interacts with histone H4 messenger RNA to regulate its translation**  
**Christine Allmann**, *Université de Strasbourg, Strasbourg*
- 14:15 – 14:30      **Regulation of mRNA translation by eIF5B in glioblastoma**  
**Nehal Thakor**, *University of Lethbridge, Lethbridge*
- 14:35 – 14:50      **Co-translational chloroplast protein targeting; extending this paradigm to the photosynthetic organelle**  
**William Zerges**, *Concordia University, Montréal*
- 14:55 – 15:10      **Real-time observation of co-translational membrane protein insertion at the bacterial translocon**  
**Evan Mercier**, *Max-Planck Institute for Biophysical Chemistry, Göttingen*
- 15:15 – 15:30      **The good, the bad and the ugly – non-canonical translational GTPases and their role in translation regulation and antimicrobial resistance**  
**Hans-Joachim Wieden**, *University of Manitoba, Winnipeg*
- 15:35 – 15:55      **Short Break**

### **Session 3: Epigenetics and RNA modification**

Chair: Christopher Holley, *Duke University, Durham*

- 15:55 – 16:00      **Student Micro-talk #3: An expanded landscape of unusually short RNAs in eukaryotic organisms provide discovery of two functional rRFs of 12 and 13 nt.**  
**Marine Lambert**, *McGill University, Montréal*
- 16:00 – 16:15      **Identification and validation of 2'-O-methylation sites on mRNA**  
**Christopher Holley**, *Duke University, Durham*
- 16:20 – 16:35      **m6A and YTHDF proteins control mRNA localization in neurons**  
**Mathieu Flamand**, *Duke University, Durham*
- 16:40 – 16:55      **AGO1 regulates major satellite transcripts and H3K9me3 distribution at pericentromeric regions in mESCs**

**Constance Ciaudo**, *ETH Zurich, Zurich*

17:00 – 17:15      **pre-piRNA trimming and 2'-O-methylation protect piRNAs from tailing and degradation**  
**Wen Tang**, *Ohio State University, Columbus*

#### **Session 4: Bacterial non-coding RNA**

Chair: **Éric Massé**, *Université de Sherbrooke, Sherbrooke*

17:20 – 17:25      **Student Micro-talk #4: A viral protein disrupts stress granule assembly by modulating RNA export**  
**Jibin Sadasivan**, *University of British Columbia, Vancouver*

17:25 – 17:40      **RsaC sRNA is a connection node between metal homeostasis and oxidative stress response in *Staphylococcus aureus***  
**David Lalaouna**, *Université de Strasbourg, Strasbourg*

17:45 – 18:00      **From high-resolution mechanisms to genome editing applications for type I CRISPR-Cas (CRISPR-Cas3)**  
**Ailong Ke**, *Cornell University, Ithaca*

18:05 – 18:20      **Mechanism of RNA recognition by FinO RNA chaperones**  
**Mark Glover**, *University of Alberta, Edmonton*

18:25 – 18:40      **A small RNA, PprS, mediates stress response network in *Deinococcus radiodurans***  
**Jordan Villa**, *University of Texas at Austin, Austin*

## **Tuesday, September 21, 2021 (Day 2)**

09:00 – 10:30      **Poster session #1**  
#Eva Renard, #Cédric Verriez, #Oscar Wilkins, #Noémie Mercier,  
#Laura Barrientos, #Aurélie Devinck, #Mohammad Reza Naghdi,  
#Alyssa Ekdahl, #Léna Audebert, #Anne Caroline Joly,  
#Roberto Bahena-Ceron, #Athena Sklias, #Marjorie Chery,  
#Étienne Fafard-Couture, #Constance Ciaudo, #Kristina Atanasova,  
#Luís Filipe Zandonadi Guimarães, #Monika Vilimova, #Maxime Duval,  
#Lauren Kwiatek, #Claire Husser, #Viktoriiia Bavykina, #Martina Pitolli,  
#Quetia Joseph, #Marilyn Whelan, #Herrade Meichel,  
#Jessica Avila Lopez, #Marine Lambert

## Session 5: RNA and cancer biology

Chair: Jean-Philippe Brosseau, *Université de Sherbrooke, Sherbrooke*

- 11:00 – 11:15      **Integrative genomic discovery and drugging of long noncoding RNAs in cancer**  
**Rory Johnson**, *University College of Dublin, Dublin*
- 11:20 – 11:35      **The dual life of lncRNA BORG in healthy and cancerous tissues**  
**Saba Valadkhan**, *Case Western Reserve University, Cleveland*
- 11:40 – 11:55      **Oncogenic mechanisms of DIS3 mutations in Multiple Myeloma**  
**Tomasz Kuliński**, *International Institute of Molecular and Cell Biology, Warsaw*
- 12:00 – 12:15      **H/ACA snoRNAs promote tumour aggressiveness in high-grade ovarian cancer in a host gene independent manner**  
**Laurence Faucher-Giguère**, *Université de Sherbrooke, Sherbrooke*
- 12:20 – 12:35      **Cis regulation within a cluster of viral microRNAs**  
**Sébastien Pfeffer**, *Université de Strasbourg, Strasbourg*
- 12:40 – 13:05      **Lunch Break**

## Session 6: RNA structure-function analysis

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

- 13:05 – 13:20      **Detecting transient RNA structures that influence in vivo folding in silico**  
**Irmtraud Meyer**, *Berlin Institute for Medical Systems Biology, Berlin*
- 13:25 – 13:40      **Two-dimensional and three-dimensional structure-function relationships for individual long non-coding RNAs**  
**Karissa Sanbonmatsu**, *Los Alamos National Laboratory, Los Alamos*
- 13:45 – 14:00      **Evolutionary conservation of RNA sequence and structure**  
**Elena Rivas**, *Harvard University, Cambridge*
- 14:05 – 14:20      **Structure-based discovery of new functions in large RNAs**  
**Kevin Weeks**, *University of North Carolina, Chapel Hill*

14:25 – 14:40 **Finding recurrent RNA structural networks with fast maximal common subgraphs of edge-colored graphs**  
*Antoine Paul Soulé, McGill University, Montréal*

14:45 – 15:00 **Short Break**

### **Session 7: Eukaryotic non-coding RNA**

Chair: Martin Simard, *Université Laval, Québec*

15:00 – 15:15 **Importance of conserved elements in the formation of RNA stabilizing triplex-forming motifs**  
*Seyed Torabi, Yale University, New Haven*

15:20 – 15:35 **Dynamics of human tRNA repertoires as a function of cell identity**  
*Danny Nedialkova, Max-Planck Institute of Biochemistry, Martinsried*

15:40 – 15:55 **tRNA nuclear export - surprising tRNA family preferences, precociousness, and quality control**  
*Anita Hopper, Ohio State University, Columbus*

16:00 – 16:15 **miR-206 is critical for differentiation of skeletal muscle cells and directly regulates newly identified target mRNAs**  
*Jennifer Kugel, University of Colorado Boulder, Boulder*

16:20 – 16:35 **Identification of a novel RNA-binding function for the C-terminal extension of the telomerase-associated protein, dyskerin**  
*Chantal Autexier, McGill University, Montréal*

17:00 – 19:00 *Closed special session, C2R2 consortium and RiboCare initiatives consultation (upon invitation, participation code will be sent by e. mail)*

## **Wednesday, September 22, 2021 (Day 3)**

### **Session 8: Deciphering the transcriptome**

Chair: Benoit Laurent, *Université de Sherbrooke, Sherbrooke*

10:40 – 10:55 **Unravelling the function of the TAPIR long non-coding RNA in regulating pluripotent cell states**  
*Samer Hussein, Université Laval, Laval*

- 11:00 – 11:15      **NERD-seq: A nanopore direct RNA sequencing approach for non-coding RNAs**  
*Athanasios Zovoilis, University of Lethbridge, Lethbridge*
- 11:20 – 11:35      **CoLoC-seq, a new high-throughput approach to profile organelle transcriptomes**  
*Alexandre Smirnov, Université de Strasbourg, Strasbourg*
- 11:40 – 11:55      **Deciphering the transcriptome at single-molecule resolution**  
*Martin Smith, Université de Montréal, Montréal*
- 12:00 – 12:15      **Identification of HIV-1 Vif host cell RNA targets and impact on viral replication**  
*Benjamin Stupfler, Université de Strasbourg, Strasbourg*
- 12:20 – 12:35      **Enhanced cross-linking and immunoprecipitation elucidate viral protein-RNA interactions in SARS-CoV-2 infection**  
*Joy Xiang, University of California San Diego, La Jolla*
- 12:40 – 13:30      **Lunch Break**
- 13:30 – 14:15      **Special RiboClub Plenary Lecture, introduction by Raymund Wellinger, Université de Sherbrooke, Sherbrooke**  
**The World of RNA: from CRISPR Gene Editing and mRNA Vaccines to Regulation of Epigenetics**  
*Tom Cech, University of Colorado, Boulder*
- 14:30 – 14:40      **Blue Jacket Award**  
*Benoit Laurent, Université de Sherbrooke, Sherbrooke*
- 15:00 – 18:00      **Poster session #2**  
*#Farnaz Mansouri-Noori, #Michael Charrette, #Courtney Geer, #Jibin Sadasivan, #Marc-Antoine Turcotte, #Yihang Chen, #Sandra Lakrib, #Gabriel Reis Ferreira, #Hyeong Jin Kim, #Cynthia Fonderson, #Bimaldeep Singh, #Preethi Seelam Prabhakar, #James McFarlane, #Macarena Gimenez, #Yani Bouaziz, #Jennifer Porat, #Kyra Kerkhofs, #David Ferland-McCollough, #Jean-François Laurendeau, #Danny Bergeron, #Jeffrey McDonald, #Benjamin Donovan, #Anaïs Vannutelli, #Christophe Hudon, #Subha Dahal, #Samia Djerroud, #Paweł Krawczyk, #Asieh Alikhah*

## Thursday, September 23, 2021 (Day 4)

### Session 9: Regulation and tools of splicing

Chair: Benoit Chabot, *Université de Sherbrooke, Sherbrooke*

- 10:40 – 10:55      **Splice-switching antisense oligonucleotides for the treatment of CLN3 Batten disease**  
**Michelle Hastings**, *Rosalind Franklin University of Medicine and Science, North Chicago*
- 11:00 – 11:15      **Single-molecule imaging suggests compact and spliceosome dependent organization of long introns**  
**Daniel Zenklusen**, *Université de Montréal, Montréal*
- 11:20 – 11:35      **Systematic mapping of nuclear domain-associated transcripts reveals speckles and lamina as hubs of functionally distinct populations of retained introns**  
**Rasim Barutcu**, *University of Toronto, Toronto*
- 11:40 – 11:55      **hnRNPA1B, a splice variant of HNRNPA1, is spatially and temporally regulated**  
**Myriam Gagné**, *Université de Montréal, Montréal*
- 12:00 – 12:15      **Spliceosome defects may regulate senescence through alternative splicing**  
**Mathieu Deschênes**, *Université de Sherbrooke, Sherbrooke*
- 12:20 – 12:35      **The human nuclear poly(A)-binding protein PABPN1 functions as a regulator of intron retention**  
**François Bachand**, *Université de Sherbrooke, Sherbrooke*
- 12:40 – 13:05      **Lunch Break**  
*Optional presentation of Sherbrooke RNomics platform services*

### Session 10: RNA processing and degradation

Chair: François Bachand, *Université de Sherbrooke, Sherbrooke*

- 13:05 – 13:20      **Cleavage/polyadenylation factor CstF64 regulates the differentiation of monocytes to macrophages**

**Srimoyee Mukherjee**, *Tufts University School of Medicine, Boston*

13:25 – 13:40      **Molecular mechanism underlying the attenuation of the heat shock response**

**Maria Vera Ugalde**, *McGill University, Montréal*

13:45 – 14:00      **mRNA uridylation prevents the biogenesis of illegitimate siRNAs in Arabidopsis**

**Dominique Gagliardi**, *Université de Strasbourg, Strasbourg*

14:05 – 14:20      **Peculiar features of Chlamydomonas mitochondrial gene expression**

**Laurence Drouard**, *Université de Strasbourg, Strasbourg*

14:25 – 14:40      **Short Break**

### **Session 11: Transcription and 3' end formation**

Chair: **Brendan Bell**, *Université de Sherbrooke, Sherbrooke*

14:40 – 14:55      **Structural basis for transcription complex disruption by the Mfd translocase**

**Seth Darst**, *Rockefeller University, New York*

15:00 – 15:15      **Genetic screen for suppressors of lncRNA-mediated transcription interference identifies a gain-of-function mutation in the essential Pol2 termination factor Seb1**

**Beate Schwer**, *Weill Cornell Medical College, New York*

15:20 – 15:35      **A clamping RNA polymerase ribozyme**

**Peter Unrau**, *Simon Fraser University, Burnaby*

15:40 – 15:55      **R-Loop recognition: from FMRP to an IDRome**

**Alaji Bah**, *SUNY Upstate Medical University, Syracuse*

16:00 – 16:15      **Molecular details of CPSF subunits assembly: The Cleavage complex**

**Stéphane Thore**, *Université de Bordeaux, Bordeaux*

16:20 – 16:30      **Break**

### **Session 12 : Students' choices**



- 16:30 – 16:35      **Best Poster award**, *introduction by the student representatives*
- 16:35 – 17:00      **Best seminar awards**, *introduction by the student representatives*  
**RNA Granules are Mediators of Cellular Senescence and Age-Related Disease**  
*Amr Omer, McGill University, Montréal*
- 17:00 – 18:00      **Students' choice**, *introduction by the student representatives*  
**Kinetic selection of small regulatory RNA by the Hfq chaperone**  
*Sarah Woodson, Johns Hopkins University, Baltimore*