2013 RiboClub Program  
*Deducing RNA functions from high-throughput data*  
**September 22-25**  
*In partnership with the non-coding RNAs grant in aid and the RNA Society of Japan*  
*Hotel et Villégiature Chéribourg*  
2603 Chemin du Parc  
Orford (Magog) Québec

**Sunday, September 22**

15:00 – 18:00 Registration for early arrivals

**Monday, September 23**

08:00 – 09:00 Registration
09:00 – 09:10 Welcoming notes (Sherif Abou Elela)
09:10 – 09:15 Presentation of Keynote speaker
09:15 – 10:15 **Keynote presentation:**
*The hidden layer of regulatory RNA in human development*
**John Mattick**, University of Queensland, Brisbane
10:15 – 10:40 Coffee break

**Session 1:**  
Translation and ribosome

Chair: Christian Spahn *(session host Martin Bisaillon)*

10:40 – 10:45 Introduction
10:45 – 11:10 Structure and structural dynamics of mammalian ribosomal complexes during translation elongation  
**Christian Spahn**, Humboldt Universität, Berlin
11:10 – 11:35 Reorganization of an intersubunit bridge induced by disparate 16S ribosomal ambiguity mutations mimics an EF-Tu-bound state  
**Kurt Fredrick**, The Ohio State University, Columbia
11:35 – 11:50 Translational control and miRNA-mediated deadenylation via RNA-binding proteins that interact with PAIP2A at the 3’ end of mRNA
Akiko Yanagiya, McGill University, Quebec

11:50 – 12:05 Cancer cells hijack eIF4E2-directed translation initiation for tumorigenesis and adaptation to hypoxia
James Uniacke, University of Guelph, Ontario

12:05 – 12:20 Sequence-specific Modulation of RNA G-Quadruplexes
Jean-Pierre Perreault, Université de Sherbrooke, Québec

12:20 – 12:35 An Arginine-Aspartate network in the active site of E.coli TruB is critical for catalyzing pseudouridine formation
Ute Kothe, University of Lethbridge, Lethbridge

12:35 – 13:45 Lunch

Session 2:
RNA technology and applications
Chair: Feng Zhang (session host Jean-Pierre Perreault)

13:45 – 13:50 Introduction

13:50 – 14:15 Genome Engineering: Technologies and Applications
Feng Zhang, Broad Institute of MIT, Boston

14:15 – 14:40 Genetic code reprogramming for the expression of de novo macrocycles
Hiroaki Suga, University of Tokyo, Tokyo

14:40 – 14:55 Regulation of gene expression by HIV TAR miRNAs
Dominique Ouellet, Université de Laval, Québec

14:55 – 15:20 Aptamer-targeted antigen delivery
Matthew Levy, Albert Einstein College of Medicine, New York

15:20 – 15:35 RNA Tracking in Living Cells with Fluorescence-Activating RNA Aptamers
E. Dolgosheina, Simon Fraser University, Vancouver

15:35 – 16:20 Coffee Break
**Session 3:**
Gene silencing by small RNAs

Chair: Danesh Moazed *(session host Raymund Wellinger)*

16:20 – 16:25  Introduction

16:25 – 16:50  Biogenesis of PIWI-interacting RNAs
**Mikiko Siomi**, University of Tokyo, Tokyo

16:50 – 17:15  RNAi-mediated heterochromatin formation
**Danesh Moazed**, Harvard Medical School, Boston

17:15 – 17:30  Roles of the intron in the dg ncRNA in the formation of centromeric heterochromatin
**Masatoshi Muttazono**, Kumamoto University, Kumamoto

17:30 – 17:45  A developmental switch that activates miRNA-mediated mRNA decay during zebrafish embryogenesis
**Yuichiro Mishima**, University of Tokyo, Tokyo

17:45 – 18:00  Molecular mechanism for the inhibition of let-7 biogenesis by the pluripotency factor Lin28
**Pascale Legault**, Université de Montréal, Montréal

18:00 – 18:15  Defining fundamental steps in the assembly of Drosophila RNAi enzyme complex
**Yukihide Tomari**, University of Tokyo

18:15 – 19:15  Poster competition IA: (Odd numbers)

19:15 – 20:15  Poster competition IB: (Even numbers)

20:15 – 21:15  Dinner

21:15 – 21:20  Presentations of the travel awards
**Eric Massé**, Université de Sherbrooke, Sherbrooke

21:20 – 21:25  Presentation of the after dinner speaker
**Benoit Chabot**, Université de Sherbrooke, Sherbrooke

21:25 – 22:25  **After-dinner general presentation**
My life as an RNA molecule
**Alan Bernstein**, Canadian Institute for Advanced Research
Tuesday, September 24th

7:00 – 8:40 Breakfast

Session 4:
The life cycle of messenger RNA

Chair: Roy Parker (session host Eric Massé)

08:40 – 08:45 Introduction
08:45 – 09:10 The eukaryotic mRNA cycle: Movement of yeast mRNAs between polysomes, stress granules, and P-bodies and its role in the control of translation and degradation
Roy Parker, University of Colorado, Boulder
09:10 – 09:35 Novel E3 ubiquitin ligase is required for an endonucleolytic cleavage of mRNA by translation arrest
Toshifumi Inada, Tohoku University, Sendai
09:35 – 09:50 Coordinated assembly of localization and translational control factors on mRNA during transcription
Pascal Chartrand, Université de Montréal, Montréal
09:50 – 10:05 Developmentally-Regulated Elimination of Damaged Nuclei via a Chk2-Dependent Mechanism of mRNA Nuclear Retention
Éric Lécuyer, IRCM, Montréal
10:05 – 10:50 Coffee break

Session 5:
RNA-mediated genome maintenance

Chair: Fabrizio d’Adda di Fagagna (session host Brendan Bell)

10:50 – 10:55 Introduction
10:55 – 11:20 The direct role of nuclear non coding RNAs at sites of DNA damage in the control of genome integrity
Fabrizio d’Adda di Fagagna, IFOM Foundation, Milan
11:20 – 11:45  RNA-mediated epigenetic silencing in fission yeast
  André Verdel, Université Joseph Fourier, Grenoble

11:45 – 12:00  Mouse Tudor domain containing 12 (Tdrd12) is essential for
  biogenesis of piRNAs entering nuclear Piwi protein Miwi2
  Ramesh S. Pillai, EMBL, Grenoble

12:00 – 12:15  Nol12: ribosome biogenesis meets DNA damage and senescence
  Pierre J Zindy, IRCM, Montréal

12:15 – 12:30  2013 Group Photo

12:30 – 15:05  Lunch and social time

15:05 – 15:30  Students Best Seminar Award
  Introduced by Samuel Rouleau and Julie-Anna Benjamin

Session 6:
Diverse functions of non-coding RNAs

Chair: Shinichi Nakagawa (session host Michelle Scott)

15:30 – 15:35  Introduction

15:35 – 16:00  Functional analyses of abundant nuclear long noncoding RNAs
  Shinichi Nakagawa, RIKEN, Hirosawa

16:00 – 16:25  Structural basis for specific, high-affinity tRNA binding by the T-box
  riboswitch Stem I domain
  Adrian R. Ferré-D’Amaré, National Heart Lung and Blood Institute, Bethesda

16:25 – 16:40  Towards a prebiotically plausible mechanism for the emergence of
  RNA, ribozymes and the RNA World
  Lyssa Martin, Simon Fraser University, Burnaby

16:40 – 16:55  Drosophila Lobe-less RNA is essential for axon guidance in
  development of mushroom body neurons
  Yuji Kageyama, Kobe University, Kobe

16:55 – 18:10  Social time (complimentary cocktail)

18:10 – 19:10  Poster competition IIA (Odd numbers)

19:10 – 20:10  Poster competition IIB: (Even numbers)
20:10 – 22:40  Banquet
21:40 – 22:00  Musical Interlude (Part 1)
22:00 – 22:10  Poster prizes
Michelle Scott, Université de Sherbrooke
22:10 – 22:15  RNA Group and Blue jacket award
Benoit Chabot, Université de Sherbrooke
22:40 – 23:00  Musical Interlude (Part 2)
23:00 – ……  Dance

Wednesday, September 25th

Session 7A:
Deducing RNA functions from high-throughput data

Chair: Stefan Stamm (session host Benoit Chabot)

09:00 – 09:05  Introduction

09:05 – 09:30  The complexity of mammalian transcription
Piero Carninci, RIKEN Center for Life Science Technologies, Kobe

09:30 – 09:45  Conserved features of an RNA promoter for RNA Polymerase II
determined from high-throughput sequencing of a population of
hepatitis delta virus
Martin Pelchat, University of Ottawa, Ottawa

09:45 – 10:10  Splicing kinetics and transcript release from the chromatin
compartment limit the rate of Lipid-A induced gene expression
Doug Black, UCLA, Los Angeles

10:10 – 10:25  Analysis of Natural Compounds that Affect formation of nuclear
speckles and Alternative Pre-mRNA Splicing in Mammalian Cells
Kurogi Yutaro, Kumamoto University, Kumamoto

10:25 – 10:50  Coffee Break
Session 7B:
Deducing RNA functions from high-throughput data

Chair: Stefan Stamm (session host Benoit Chabot)

10:50 – 11:15  Regulation of gene expression by processed snoRNAs
               Stefan Stamm, University of Kentucky, Lexington

11:15 – 11:30  Exploring the roles of the RNA-binding protein FXR1P during
               myogenesis: evidences for regulation of myoblasts cell-cycle and
               terminal differentiation by modulating p21/Cdkn1a mRNA stability
               Laetitia Davidovic, CNRS, Nice

11:30 – 11:45  Genomic view of eukaryotic RNase III reactivity and degradation
               signals
               Mathieu Lavoie, Université de Sherbrooke, Sherbrooke

11:45  – 12:00 InteRRact: A scalable method for predicting conserved RNA-RNA
               interactions
               Daniel Lai, University of British Columbia, Vancouver

12:00 – 13:30 Lunch

13:30 – 13:45 Integrative AUF1 PAR-CLIP analysis uncovers AUF1 role in
               translation and genome integrity
               Je-Hyun Yoon, National Institutes of Health, Baltimore

13:45 – 14:00 A comprehensive analysis of RNA secondary structure with deletion,
               insertion and mutation
               Risa Kawaguchi, University of Tokyo, Tokyo

14:00 – 14:25 RNA modifications as naturally-selected chemical diversity involved in
               various biological processes
               Tsutomu Suzuki, University of Tokyo, Tokyo

14:25 – 15:25 Harry Noller, University of California, Santa Cruz
               Student Choice Seminar
               Introduction by the student’s representatives

Departure