



## 2015 RiboClub Program

*New frontiers in RNA biology and human diseases*

**21-23 September**

**In partnership with the Institut de Génétique Moléculaire de Montpellier**

*Hôtel et Villégiature Chéribourg*

*2603 Chemin du Parc*

*Orford (Magog) Québec*

### **Sunday, September 20<sup>th</sup>, 2015**

- 15:00 – 18:00      Registration for early arrivals
- 18:00 – 19:30      “Jazzy” welcome cocktail
- 19:30 – 21:30      Special opening dinner

### **Monday, September 21<sup>st</sup>, 2015**

- 08:00 – 09:00      Registration
- 09:00 – 09:10      Welcome notes (Sherif Abou Elela)
- 09:10 – 09:15      Presentation of Keynote speaker (Benoit Chabot)
- 09:15 – 10:15      **Keynote presentation**  
Mechanism-based antisense therapy targeting splicing or NMD  
**Adrian Krainer**, Cold Spring Harbor Laboratory, New York
- 10:15 – 10:30      Coffee break

### **Session 1:**

RNA processing and decay

Chair: Witold Filipowicz (Host: François Bachand)

- 10:30 – 10:35      Introduction
- 10:35 – 11:00      Mechanism and regulation of miRNA-mediated repression in cultured cells and mouse retina  
**Witold Filipowicz**, Friedrich Miescher Institute for Biomedical Research, Basel



- 11:00 – 11:25 Messenger RNA regulation by the piRNA pathway in drosophila  
**Martine Simonelig**, Institut de Génétique Humaine, Montpellier
- 11:25 – 11:50 Starting from the end: From eukaryotic mRNA decay mechanisms to diseases  
**Bertrand Séraphin**, IGBMC, Illkirch
- 11:50 – 12:03 The eIF4E-binding protein 4E-T is a component of the mRNA decay machinery that bridges the 5' and 3' termini of target mRNAs  
**Marc R. Fabian**, McGill University, Montreal
- 12:03 – 12:16 A polyadenylation-dependent 3' end maturation pathway is required for the synthesis of the human telomerase RNA  
**François Bachand**, Université de Sherbrooke, Sherbrooke
- 12:16 – 12:29 Two-in-one RNA maturation: tRNA modification and tRNA folding by one enzyme  
**Ute Kothe**, University of Lethbridge, Lethbridge
- 12:29 – 12:42 Ribozymes and siRNAs targeting the Gag RNA of HIV for gene and drug therapy  
**Anne Gatignol**, Lady Davis Institute for Medical Research, Montreal
- 12:42 – 13:45 Lunch

## Session 2:

New frontiers in non-coding RNA biology

Chair: Bryan R. Cullen (Host: Michelle Scott)

- 13:45 – 13:50 Introduction
- 13:50 – 14:15 Viruses and microRNAs  
**Bryan R. Cullen**, Duke University, Durham
- 14:15 – 14:40 Role of non-coding RNAs in mammalian genomic imprinting  
**Robert Feil**, IGMM, Montpellier
- 14:40 – 14:53 Pol II CTD Tyr1 phosphorylation: a nuclear quality control to limit pervasive transcription?  
**Jean-Christophe Andrau**, IGMM, Montpellier
- 14:53 – 15:06 Single molecule characterization of eRNA localization and function  
**Daniel Zenklusen**, Université de Montréal, Montréal



- 15:06 – 15:19 On the availability of microRNA-induced silencing complexes, saturation of microRNA-binding sites, and stoichiometry  
**Vinay K. Mayya**, McGill University, Montreal
- 15:19 – 15:32 GW182-free microRNA silencing complex controls gene expression during animal embryogenesis.  
**Martin Simard**, Université Laval, Quebec
- 15:32 – 15:45 New partners for TLC1 RNA  
**Raymund Wellinger**, Université de Sherbrooke, Sherbrooke
- 15:45 – 16:00 Coffee Break

### **Session 3:**

RNA localization and transport

Chair: Michael Kiebler (Host: Brendan Bell)

- 16:00 – 16:05 Introduction
- 16:05 – 16:30 The role of RNA-binding proteins in dendritic mRNA localization  
**Michael Kiebler**, LMU, Munich
- 16:30 – 16:55 Systematic analysis of the sub-cellular localization of mRNAs coding for motor proteins  
**Edouard Bertrand**, IGMM, Montpellier
- 16:55 – 17:20 Spatial and temporal control of the maternal-to-zygotic transition in *Drosophila*  
**Howard Lipshitz**, University of Toronto, Toronto
- 17:20 – 17:33 Characterization of a new cis-acting signal required for the Anxa2 mRNA axonal localization by SMN  
**Florence Rage**, IGMM, Montpellier
- 17:33 – 17:46 Systematic characterization of the subcellular distribution properties of human RNA binding proteins  
**Eric Lécuyer**, IRCM, Montreal
- 17:46 – 17:59 RNP complex purification, characterization, and Improvement of RNA Mango  
**Peter Unrau**, Simon Fraser University, Vancouver
- 18:00 – 19:00 Poster competition IA: (Odd numbers)



- 19:00 – 20:00 Poster competition IB: (Even numbers)
- 20:00 – 21:00 Dinner
- 21:00 – 21:05 Presentations of the travel awards  
**Michelle Scott**, Université de Sherbrooke, Sherbrooke
- 21:25 – 21:30 Presentation of the after dinner speaker  
**Raymund Wellinger**, Université de Sherbrooke, Sherbrooke
- 21:30 – 22:30 **After-dinner general presentation**  
The Miracle  
**Paul McKellips**, One Health Research, Washington D.C

## Tuesday, September 22<sup>nd</sup>, 2015

- 07:00 – 08:40 Breakfast

### Session 4:

Translation apparatus and regulatory mechanisms of protein synthesis

Chair: Nahum Sonenberg (Host: Martin Bisailon)

- 08:40 – 08:45 Introduction
- 08:45 – 09:10 Translational control by the eIF4E homolog, 4EHP  
**Nahum Sonenberg**, McGill University, Montreal
- 09:10 – 09:35 Structure and function of viral RNAs that manipulate or co-opt host cell machinery  
**Jeffrey Kieft**, University of Colorado, Denver
- 09:35 – 10:00 Messenger RNA surveillance revealed by biochemistry and ribosome profiling  
**Rachel Green**, John Hopkins University School of Medicine, Baltimore
- 10:00 – 10:25 Rocaglamide A converts RNA helicase eIF4A into a sequence-specific translational repressor  
**Nicholas Ingolia**, University of California, Berkeley
- 10:25 – 11:04 Coffee break



- 11:04 – 11:17 Aven recognition of RNA G-quadruplexes regulates translation of the mixed lineage leukemia proto-oncogenes  
**Stéphane Richard**, McGill University, Montreal
- 11:17 – 11:30 The search for natural protein RNA covalent interactions  
**Nabanita De**, Harvard University, Boston

### **Session 5A:**

Transcriptome detection, prediction and annotation

Chair: Alain Jacquier (Host: Benoit Chabot)

- 11:30 – 11:35 Introduction
- 11:35 – 12:00 Quality control of transcription start site selection by nonsense-mediated-mRNA decay  
**Alain Jacquier**, Institut Pasteur, Paris
- 12:00 – 12:25 Large-scale discovery of RNA binding sites and assigning of functions to RNA binding proteins  
**Gene Yeo**, UC San Diego, La Jolla
- 12:25 – 12:35 2015 Group Photo
- 12:35 – 13:35 Lunch
- 13:35 – 14:00 Special presentation: funding news and information from The Natural Sciences and Engineering Research Council of Canada  
**Sylvie Roy**, NSERC

### **Session 5B:**

Transcriptome detection, prediction and annotation

Chair: Alain Jacquier (Host: Benoit Chabot)

- 14:00 – 14:25 Widespread alternative and aberrant splicing revealed by lariat sequencing  
**Jeffrey Pleiss**, Cornell University, New York
- 14:25 – 14:38 Finding and characterizing noncoding RNAs in bacteria  
**Jonathan Perreault**, Institut Armand-Frappier, Laval
- 14:38 – 14:51 Polycomb repressive complex 2 (PRC2) interacting non-coding RNAs  
**Athanasios Zovoilis**, Harvard Medical School, Boston



- 14:51 – 15:09 **Student's Best Seminar Award**  
Introduced by student representatives
- 15:09 – 15:39 **Alumnus of the Year Award**  
Introduced by student representatives  
Live cell imaging of ANCHOR tagged viruses, from high content screening to deep in-cell localization.  
**Franck Gallardo**, NeoVirTech SAS Advanced Technological Institute for Life Sciences

**Session 6:**  
Splicing regulation

Chair: Karla Neugebauer (Host: Sherif Abou Elela)

- 15:39 – 15:44 Introduction
- 15:44 – 16:09 Co-transcriptional splicing: full speed ahead!  
**Karla Neugebauer**, Yale School of Medicine, New Haven
- 16:09 – 16:22 Duality of a transcription factor : SOX9 regulates alternative splicing independently of its transcriptional activity  
**Peggy Raynaud**, CRBM, Montpellier
- 16:22 – 16:35 Staufen1 regulates alternative splicing events associated with myotonic dystrophy type I through intronic inverted alu repeat elements  
**Jocelyn Cote**, University of Ottawa, Ottawa
- 16:35 – 16:55 Coffee Break
- 16:55 – 17:20 Connecting DNA damage to the alternative splicing of apoptotic and DNA repair genes  
**Benoit Chabot**, Université de Sherbrooke, Sherbrooke
- 17:20 – 17:33 Evidence for independent evolution of pre-mRNA spliced-leader (SL) trans-splicing in the tunicates  
**Kenneth E. M. Hastings**, McGill University, Montreal
- 17:33 – 17:58 Role of a neuronal-specific alternative splicing regulatory network in autism spectrum disorders  
**Mathieu Quesnel-Vallieres**, University of Toronto, Toronto
- 18:00 – 19:00 Poster competition IIA (Odd numbers)



- 19:00 – 20:00 Poster competition IIB: (Even numbers)
- 20:00 – 21:30 Banquet
- 21:30 – 22:00 Entertainment break (Part 1)
- 22:00 – 22:20 Poster prizes  
**François Bachand**, Université de Sherbrooke
- 22:20 – 22:25 RNA Group and Blue jacket award  
**Benoit Chabot**, Université de Sherbrooke
- 22:25 – 23:10 Entertainment break (Part 2)
- 23:10 – ..... Dance

### Wednesday, September 23<sup>rd</sup>, 2015

- 07:00 – 08:30 Breakfast

#### Session 7A:

RNA driven pathologies

Chair: Jamal Tazi (Host: Jean-Pierre Perreault)

- 08:30 – 08:35 Introduction
- 08:35 – 09:00 Durable control of viral rebound with a new drug ABX464 targeting Rev – mediated viral RNA biogenesis  
**Jamal Tazi**, IGMM, Montpellier
- 09:00 – 09:25 Alternative splicing regulatory networks in development and their disruption in disease  
**Thomas Cooper**, Baylor College of Medicine, Houston
- 09:25 – 09:50 The RNA helicase DDX39B regulates alternative splicing of the interleukin-7 receptor exon 6 and is a novel susceptibility gene for Multiple Sclerosis  
**Mariano Garcia-Blanco**, University of Texas Medical Branch, Galveston
- 09:50 – 10:03 Controlling virus infection using Small Molecule Modulation of RNA Splicing  
**Alan Cochrane**, University of Toronto, Toronto



- 10:03 – 10:16 The impact of modulating STAT3 expression and activity on cancer-induced cachexia  
**Imed-Eddine Gallouzi**, McGill University, Montreal
- 10:16 – 10:29 Altered activity and telomere association of premature aging disease-associated variants in the human telomerase “insertion in fingers” domain  
**Chantal Autexier**, Lady Davis Institute, Montreal
- 10:29 – 11:15 Coffee break

### **Session 7B:**

RNA driven pathologies

Chair: Jamal Tazi (Host: Jean-Pierre Perreault)

- 11:15 – 11:40 Regulation of erythropoiesis by mRNA-binding proteins  
**Wenqian Hu**, Massachusetts Institute of Technology, Massachusetts
- 11:40 – 12:05 Mechanistic dissection of UsnRNP biogenesis and its role in disease  
**Utz Fischer**, University of Würzburg, Würzburg
- 12:05 – 12:30 RNA-targeted treatment for myotonic dystrophy  
**Charles Thornton**, University of Rochester, Rochester
- 12:30 – 13:35 **Student Choice Seminar**  
Introduction by the student representatives  
Non-Watson-Crick base pairs, RNA architectural modules and recognition fidelity in translation  
**Eric Westhof**, Institut de Biologie Moléculaire et Cellulaire, Strasbourg
- 13:35 – 14:45 Lunch

**Departure**