

## Seminars in Microbiology

Monday, April 14, 2014

Salle de séminaire 7172, CMU

**11:30 – 12:30**

### Norbert Polacek

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## The ribosome as novel target for small regulatory RNAs



The Polacek laboratory aims at deepening the molecular understanding of non-protein-coding RNAs (ncRNAs) in large ribonucleoprotein (RNP) complexes. In particular they study the ribosome and the vault complex. To unravel the functional contributions of specific rRNA nucleotides for protein synthesis, they have developed an 'atomic mutagenesis' approach. This tool allows manipulating single functional groups or even single atoms of rRNA residues within the ribosome. To study translation regulation, they recently performed genomic screens seeking for novel small ncRNAs that directly bind and possibly regulate translating ribosomes in model organisms from all three domains of life. (from [http://www.dcb.unibe.ch/content/forschung/forschungsgruppen/polacek/index\\_eng.html](http://www.dcb.unibe.ch/content/forschung/forschungsgruppen/polacek/index_eng.html))

Pircher et al., (2014). An mRNA-Derived Noncoding RNA Targets and Regulates the Ribosome. *Mol Cell*. 2014 Mar 25.

Zywicki et al., (2012) Revealing stable processing products from ribosome-associated small RNAs by deep-sequencing data analysis. *Nucleic Acids Res* ;40:4013-24.

Erlacher et al., Generation of chemically engineered ribosomes for atomic mutagenesis studies on protein biosynthesis. *Nat Protoc*. 2011 May;6(5):580-92

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Sandwiches will be offered after the seminar