

IMBA, Vienna, May 21st - 23rd 2014





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Ameres, Brennecke & Martinez Laboratories

9thMICROSYMPOSIUMon SMALL RNAs

Wednesday May 21st

09.00 – 11.00	Registration and Poster Setup / Snacks
11.00 – 11.10	Welcome and Introduction

Structure and Mechanism 1

11.10 - 11.40	Ian MacRae – Structural basis for miRNA-mediated repression by human Ago2
11.40 – 12.10	Sebastién Pfeffer – Regulating the regulators, how viruses modulate microRNA expression
12.10 - 12.30	Johannes Grillari (featured by Exiqon) – Secreted microvesicular miR-31 inhibits osteogenic differentiation of mesenchymal stem cells
12.30 - 13.00	Agnieszka Rybak-Wolf (Rajewsky Lab) – Transcriptome-wide identification of Dicer binding in human and C. elegans reveals a variety of substrates
13.00 - 14.00	Lunch

14.00 – 15.00 Keynote Lecture 1 – Bill Theurkauf

Building an adaptive genome defense system

15.00 – 16.00 PhD Workshop – Part 1

Stanley Dinesh Chandradoss (Joo Lab) – Single-molecule view on the molecular mechanism of the microRNA target search

Daniel Holoch (Moazed Lab) – Small RNA loading licenses Argonaute for assembly into a transcriptional silencing complex

Emmanuelle Theron (Vaury Lab) – Germline control of transposable elements: between global repression and controlled permissiveness

<u>16.00 – 17.00</u> Coffee Break

Genome Defense 1

17.00 – 17.30	Zissimos Mourelatos – piRNAs and their targets
17.30 – 18.00	Julie Claycomb – Dissecting the nuclear roles of the C. elegans CSR-1 pathway
18.00 – 18.30	Constanze Kindler (Qiagen) – Characterization of RNA from extracellular vesicles
18.30 – 19.00	John Preall (Hannon Lab) – piRNA precursor designation in the Drosophila germ line

19.00 – 19.20 EMBO Journal

19.30 Dinner at the IMBA/IMP cafeteria

Thursday May 22nd

Small RNA Biology 1

09.00 - 09.30	Eric Lai – Biology of small RNAs in Drosophila
09.30 – 10.00	Carla Saleh – Evidence of long-lasting antiviral immunity in insects
10.00 - 10.30	Daniel Cifuentes (Giraldez Lab) – Deciphering the post-transcriptional regula- tory networks during vertebrate embryogenesis
10.30 - 11.30	Coffee Break

Structure and Mechanism 2

11.30 - 12.00	René Ketting – Parental effects in small RNA pathways
12.00 - 12.30	Carlos Fabian Flores-Jasso (Zamore lab) – Exploring the molecular mecha- nisms of target recognition by small RNA-guided Argonaute proteins
<u>12.30 — 13.30</u>	Lunch

CRISPR Biology and Technology

13.30 – 14.00	Martin Jinek – To be determined
14.00 – 14.20	Peter Duchek – Genome engineering in Drosophila using CRISPR/Cas9
14.20 – 14.50	Emmanuelle Charpentier – The bacterial CRISPR-Cas9 system: mechanisms and evolution
14.50 – 16.00	<u>Coffee break</u>

16.00 – 17.00 Keynote Lecture 2 – Feng Zhang

Genome editing using CRISPR-Cas9

17.00 Tour and Dinner for academic speakers

Bar for PhD Workshop speakers

Friday May 23rd

Genome Defense 2

09.00 – 09.30	Ramesh Pillai – Molecular mechanisms of piRNA amplification
09.30 – 10.00	Kazufumi Mochizuki – The Tetrahymena HSP90 co-chaperon Coi12p promotes siRNA loading by ATP-independent and ATP-dependent mechanisms
10.00 - 10.30	Stéphane Ronsseray – piRNAs and epigenetic conversion in Drosophila
<u>10.30 — 11.00</u>	Coffee Break

11.00 – 12.00	PhD Workshop – Part 2
	Swapnil Perhad (Theurkauf Lab) – Evidence of evolution of a species-specific interface between nuclear pores and the transposon silencing system
	Agarwal Vikram (Bartel Lab) – MicroRNA targeting in mammals
	Jan Suhren (Mochizuki Lab) – The HP1-like protein Coi6p is required for RNAi- mediated DNA elimination in Tetrahymena thermophila
12.00 - 12.30	Dubravka Pezic (Aravin lab) – piRNA pathway targets active LINE-1 elements to establish repressive H3K9me3 mark in mouse male germ cells
12.30 - 13.00	Rippei Hayashi (Brennecke Lab) – Deposition of the Exon Junction Complex to pre-mRNAs facilitates the definition of neighboring introns in Drosophila

13.00 – 15.00 Lunch and Poster Viewing



Small RNA Biology 2

15.00 – 15.30	Olivier Voinnet – A sensitized genetic screen reveals a novel RNA-mediated
	antiviral pathway conserved in plants and mammals
15.30 – 16.00	Mathew Poy – Micro-managing the pancreatic beta cell

Structure and Mechanism 3

16.00 - 16.30	Qinghua Liu – Reconstitution of Death Star, a RISCy business
16.30 – 17.00	Stefan Ameres – Post-transcriptional modification of precursor-microRNAs
	controls small RNA biogenesis in Drosophila

17.00 Award and closing of the meeting

<u>17.30 Dinner</u>

Posters:

MicroRNA targeting in mammals

Agarwal, Vikram, Massachusetts Institute of Technology, Cambridge, United States

- **PID-1 is a novel factor that operates during 21U RNA biogenesis in Caenorhabditis elegans** Albuquerque, Bruno, IMB – Mainz, Mainz, Germany
- **Aubergine iCLIP reveals regulation of germ cell specification mRNAs by the piRNA pathway** Barckmann, Bridlin, Institute of Human Genetics, Montpellier, France

Lentiviral miRNA-sponge a novel strategy for the identification of candidate genes contributing to Down syndrome

Bofill De Ros, Xavier, IDIBAPS, Barcelona, Spain

Single-molecule view on the molecular mechanism of the microRNA target search Chnadradoss, Stanley Dinesh, Delft University of Technology, Delft, Netherlands

Processing of short HIV-1 transcripts into miRNA

Das, Atze, University of Amsterdam, Amsterdam, The Netherlands

The Let-7f MicroRNA Functions as a Negative Regulator of hepatic Differentiation of Human Adipose Tissue Derived Stem Cells

Davoodian, Nahid, Tarbiat Modares university, Tehran, Iran

Find and functionally characterize compounds inhibiting the microRNA pathway on the global level

Faltynkova, Jana, Institute of Molecular Genetics of the ASCR, Prague, Czech Republic

Global effects of the CSR-1 RNAi pathway on transcriptional landscape in C. elegans.

Germano, Cecere, Columbia University, New York, United States

- **Small RNA loading licenses Argonaute for assembly into a transcriptional silencing complex** Holoch, Daniel, Harvard Medical School Department of Cell Biology, Boston, MA, USA
- **Defense against viral attack: single-molecule view on a bacterial adaptive immune system** Joo, Chirlmin, Delft University of Technology, Delft, Netherlands
- Virus induced gene silencing in wheat for a gene responsible for nitrogen uptake Kaur, Navneet, Indian Institute of Technology Roorkee, Rorkee, India

RISC-associated adenoviral miRNAs, their targets, and global changes in the cellular targetome during infection

Klein, Reinhard, University of Applied Sciences Krems, Krems, Austria

TRIM-NHL proteins: developmental regulation through RNA binding

Lödige, Inga, Universität Regensburg/Biochemie I, Regensburg, Deutschland

Argonaute and Triman Generate Dicer-Independent priRNAs and Mature siRNAs to Initiate Heterochromatin Formation

Marasovic, Mirela, Gene Center Munich, Munich, Germany

Unexpected effects of expressed dsRNA in mammalian cells Nejepinska, Jana, Institute of Molecular Genetics, AS CR, Prague, Czech Republic

Bayesian framework to detect evolutionary correlations in the conservation patterns of site pairs in vertebrate whole-genome alignments

Obermayer, Benedikt, Max-Delbrück-Center Berlin, Berlin, Germany

- **Role of dengue non structural proteins in the regulation of small RNAs in human cell lines** Pavan Kumar, Kakumani, ICGEB New Delhi, New Delhi, India
- *microRNA titration by pseudo-targets: an alternative explanation to seed match conservation Pinzon Restrepo, Natalia, IGH du CNRS, Montpellier, France*
- *miR-26a and miR-26b as key regulators of human white and brite adipocyte differentiation Scheideler, Marcel, Graz University of Technology, Graz, Austria*

Targeting CAG repeats by miRNA-like siRNAs analyzed by luciferase assay. Stroynowska-Czerwinska, Anna, Institute of Bioorganic Chemistry, PAS, Pozna, Poland

The HP1-like protein Coi6p is required for RNAi-mediated DNA elimination in Tetrahymena thermophila

Suhren, Jan Henrik, IMBA, Vienna, Austria

Searching for small compound inhibitors of microRNA pathway

Svoboda, Petr, Institute of Molecular Genetics ASCR, Prague, Czech Republic

Germline control of transposable elements: between global repression and controlled permissiveness

Theron, Emmanuelle, GReD, Clermont Ferrand, France

A proteomic screen identifies novel regulators of micro-RNA biogenesis

Treiber, Thomas, University of Regensburg, Regensburg, Germany

siRNAs and piRNAs synergize to repress transposable elements in the Drosophila adult brain.

van den Beek, Marius, Pierre and Maie Curie University, Paris, France

Convergent antisense transcription and availability of the Dicer ribonuclease are the key determinant for primary siRNA generation

Yu, Ruby, Harvard Medical School, Boston, USA

Potent and specific inhibition of mRNA and IncRNA using LNA™-enhanced antisense oligonucleotides

Klitten, Laura, Exiqon, Vedbaek, Denmark





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The 9th MICROSYMPOSIUM on SMALL RNAs

Jutta Dammann, Tibor Kulcsar, Denise Langer, Elena Bertolini Wolfgang Racholz, Herbert Schmidt, Hannes Tkadletz, Stefan Trinker, Brian Reichholf, Ivica Sowemimo, the Cafeteria Team and the Reception Team.

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