CENTER FOR ANATOMY AND CELL BIOLOGY
MEDICAL UNIVERSITY OF VIENNA

Vienna RNA Conference: RNA Modification and Processing

26th – 29th October 2022
Medical University of Vienna
Van Swieten Saal
Van-Swieten-Gasse 1a, 1090 Vienna

Programme

Wednesday, 26th October 2022

13:00-14:00
Registration

14:00-14:10
Welcome

14:10-15:30
RNA Mods: Interaction and Dynamics I
Chair: Elisa Vilardo, MedUni Vienna

CRAC(k)ing the mysteries of uncharacterized RNA methyltransferases
Markus Bohnsack, UMG - University of Göttingen

Studying RNA-protein interactions by mass spectrometry
Sarah Pawusch, Group Butter, IMB Mainz

tRNA abundance and modification dynamics during zebrafish embryo development
Tom Rappol, Group Vilardo, MedUni Vienna

15:30-16:00
Coffee Break

16:00-17:20
RNA Mods: Interaction and Dynamics II
Chair: Andrea Pauli, IMP Vienna

Advances in the understanding of dormant ribosome regulation
Josef Roehsner, Group Pauli, IMP Vienna

Landscape of tRNA modifier during early ectodermal differentiation
Sophia Flad, Group Frye, DKFZ Heidelberg

RNA stability controlled by m6A methylation mediates X-to-autosome dosage compensation in mammals
Nadine Körtel, Group König, IMB Mainz

Deletion of the RNA methyltransferase Nsun5 reduces frailty in mice
Markus Schosserer, MedUni Vienna

17:20
Dinner at Van Swieten Saal

Thursday, 27th October 2022

09:00-10:20
RNA Mods: Detection and Prediction
Chair: Mark Helm, JGU Mainz

Computational Methods for RNA Modification Prediction
Andreas Hildebrandt, JGU Mainz

Differential assessment of human disease-associated ribosomal RNA modifications using Nanopore direct RNA sequencing
Christoph Dieterich, University Hospital Heidelberg

Generation of a point modified RNA construct database for the development of machine learning based RNA modification detection models using Nanopore direct RNA sequencing
Stefan Mündnich, Group Helm, JGU Mainz

What determines an RNA modification site: visiting structural and functional features
Andrea Tanzer, MedUni Vienna

10:20-10:50
Coffee Break

10:50-12:10
tRNA Mods and Processing
Chair: Matthias Schaefer, MedUni Vienna

Expanding world of tRNA modifications and disease relevance
Tsutomu Suzuki, University of Tokyo

The structure of the RTCB-Archease complex reveals the activation principle of the human tRNA ligase
Jirka Peschek, BZH – University of Heidelberg

A Combination of Tracing tRNA Fragment-Containing Protein Complexes in vivo and in vitro Activity Assays Identifies RNA Helicases that Unwind Angiogenin-Processed tRNAs
Aleksej Drino, Group Schaefer, MedUni Vienna

12:20-14:00
Lunch at Van Swieten Saal

14:00-15:20
tRNA Mods: Detection and Tools
Chair: Ronald Micura, Uni Innsbruck

Advances in Analyzing Modified RNAs by Mass Spectrometry
Patrick Limbach, University of Cincinnati

Functional integration of a semi-synthetic azido-queuosine derivative into translation and a tRNA modification circuit
Mark Helm, JGU Mainz

1-Deazaguanosine modified RNA – The missing piece for functional RNA atomic mutagenesis
Raphael Bereiter, Group Micura, Uni Innsbruck

15:20-15:50
Coffee Break

15:50-17:30
RNA Modifications and RNA Structure
Chair: Walter Rossmanith, MedUni Vienna

TBA
Scott Blanchard, St. Jude Children's Research Hospital

Predicting the effect of modified nucleotides on RNA structure
Ivo Hofacker, Uni Vienna

***In vivo* studies of the methylation at position 9 in human mitochondrial tRNAs**
Danijela Radovanović, Group Rossmanith, MedUni Vienna

Mechanistic insights into RNA surveillance by the canonical poly(A) polymerase Pla1 of the MTREC complex
Irmgard Sinning, BZH – University of Heidelberg

17:45-19:15
Dinner at Van Swieten Saal

19:30-22:00
Poster Session at Van Swieten Saal

Friday, 28th October 2022

09:00-10:20
RNA Mods and Disease I
Chair: Alexandra Lusser, MedUni Innsbruck

Reduced severity of DSS-induced colitis in mice with pre-edited Filamin A mRNA is linked to immune modulation and microbial shifts
Cornelia Vesely, MedUni Vienna

Revisiting METTL3 dependencies in bladder cancer
Jonas Koch, Group Lyko, DKFZ Heidelberg

Ensemble analysis of mRNA editing, modification, and processing in macrophages
Chih-Yuan Kao, Group Stöcklin, University of Heidelberg

6-Thioguanosine monophosphate prodrugs with the potential to overcome thiopurine resistance
Magdalena Fickl, Group Lusser, MedUni Innsbruck

10:20-10:50
Coffee Break

10:50-12:30
RNA Mods and Disease II
Chair: Carrie Bernecky, IST Austria

TBA
Stefan Momma, University Hospital Frankfurt

Nanoparticles for targeted RNA delivery
Nina Papavasiliou, DKFZ Heidelberg

Development of DNMT2 Inhibitors based on S-adenosylhomocysteine
Marvin Schwickert, Group Schirmeister, JGU

Establishment of biophysical Affinity Assays for Evaluation of MTase Inhibitors
Robert Zimmermann, Group Schirmeister, JGU

13:00
Lunch and Guided Tours at Josephinum

17:30
Dinner at Weingut Feuerwehr Wagner

Saturday, 29th October 2022

09:00-10:40
RNA Dynamics and Turnover
Chair: Stefan Ameres, Perutz Labs Vienna

Global analysis by LC-MS/MS of N6-methyladenosine and inosine in mRNA reveal complex incidence
Štěpánka Vaňáčová, CEITEC MU, Brno

The novel nuclease complex PUCH processes piRNA 5' ends in *C. elegans*
Nadezda Podvalnaya, Group Ketting, IMB Mainz

Systematic profiling and kinetic modeling of RNA 3´-end uridylation reveals molecular principles underlying non-coding RNA quality control in *Drosophila*
Annamaria Sgromo, Group Ameres, Perutz Labs, Vienna

The stability of ANGEL2 is regulated by posttranslational modifications
Moritz Leitner, Group Martinez, Perutz Labs, Vienna

10:40-11:10
Coffee Break

11:10-12:10
Designing RNAs
Chair: Ivo Hofacker, Uni Vienna

TBA
Claudia Höbartner, University of Würzburg

Scaling catalytic contributions of small self-cleaving ribozymes
Michaela Egger, Group Micura, Uni Innsbruck

12:30-14:00
Lunch at Stiegl Ambulanz

14:15-15:35
Immunity
Chair: Michael Jantsch, MedUni Vienna

Characterization of endogenous RNAs triggering MDA5 activation
Rajagopal Varada, Group Jantsch, MedUni Vienna

Tumor warm-up with editopes: RNA editing for immunotherapy
Beatrice Casati, Group Papavasiliou, DKFZ Heidelberg

The Role of Ribonuclease 6 On Bacterial RNA Processing For TLR8 Stimulation
Ivanéia Nunes, Group Dalpke, University Hospital Dresden

Role of MDA5 phosphorylation in RNA recognition
David Michalik, Group Bernecky, IST Austria

15:35-15:55
Coffee Break

15:55-18:00
tRNAs and Translation
Chair: Javier Martinez, Perutz Labs Vienna

tRNA-modification defects induce a coordinated response of cellular quality control pathways
Sebastian Leidel, DCBP – University of Bern

Probing the effect of New1 on co-translational quality control
Max Müller, Group Winz, JGU Mainz

Towards the Absolute Quantification of Sperm-Containing tRNA-Derived Small RNAs
Matthias Schaefer, MedUni Vienna

Initiation at AUGUG and GUGUG sequences leads to translation of overlapping reading frames in E. coli
Matthias Erlacher, MedUni Innsbruck

Concluding Remarks

Locations and Addresses

Van Swieten Saal
Van-Swieten-Gasse 1a, 1090 Vienna

Josephinum
Währinger Straße 25, 1090 Vienna

Weingut Feuerwehr Wagner
Grinzinger Straße 53, 1190 Vienna

Stiegl Ambulanz
Alser Straße 4, 1090 Vienna

Hotel Boltzmann
Boltzmanngasse 8, 1090 Vienna

Hotel Regina
Rooseveltplatz 15, 1090 Vienna

Covid notice:
Please make sure to test yourself before the meeting. Wear a face mask wherever possible and do not attend the meeting when you feel sick. Covid positive individuals are not allowed to participate.
A convenient test facility is at "Apotheke zur Austria" at Währingerstraße 18, 1090 Vienna.

Confidentiality Agreement:
Information from talks and posters is confidential and hence for internal use only.

In Cooperation with:

FWF Der Wissenschaftsfonds.

RNA DEGO

DFG Deutsche Forschungsgemeinschaft

RMaP

Please be aware that photographs and/or video footage will be taken at the event. These may be used for the purpose of documenting or reporting the event and published in print and online media, on various social media platforms and on MedUni Vienna's website.

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