

**Advances and Challenges in Protein-RNA
Recognition, Regulation and Prediction
Dagstuhl, August 18-23 2019**

Sunday – August 18

18:00- Dinner
19:30-20:00 Welcoming
20:00- Get together at the Dagstuhl wine cellar

Monday – August 19

Protein-RNA recognition: from structural to computational approaches

Morning session: Chair Yael Mandel-Gutfreund

9:00-9:40 Fred Allain- ETH Zurich
Small molecule and proteins interacting with RNA in neuromuscular diseases

9:40-10:20 Andres Ramos- University College London
Exploring inter-domain cooperation in RNA binding proteins

10:20-11:00 Coffee

11:00-11:40 Michael Sattler- Helmholtz Zentrum-Munchen,
Combining integrative structural biology and large-scale approaches to decode regulatory protein-RNA interactions

11:40-12:00 Michael Uhl- Universitat Freiburg
GraphProt2: deep learning for graphs meets RBP binding site prediction

12:00 Lunch

Afternoon session: Chair Florian Heyl

14:00-14:40 Jorg Fallmann- Universitat Leipzig
Cooperative/Antagonistic RBP interactions mediated by RNA structure

14:40-15:20 Yaron Orenstein- Ben Gurion University-Beer Sheva
Predicting RNA shape to improve protein-RNA binding prediction

15:20-16:00 Coffee

16:00- 16:40 Owe Ohler – Max-Dellbruck-Centrum-Berlin
Interpreting deep networks to extract RBP target preferences

16:40-17:20 Alex Sasse- University of Toronto
Eukaryotic-wide reconstruction of RNA-binding protein specificity by joint-matrix factorization

17:20-18:00 Discussion I - Led by Yael Mandel-Gutfreund
18:00 Dinner

Get together at the Dagstuhl wine cellar

Tuesday – August 20

Hightthroughput characterization of protein-RNA and RNA-RNA interactions

Morning session: Chair Amir Argoetti

9:00-9:40 Donny Licatalosi - Case Western Reserve University, Cleveland

Deconstructing an essential RNA regulatory program

9:40-10:20 Eckhard Jankowsky- Case Western Reserve University, Cleveland

The kinetic landscape of Dazl - RNA binding in cells

10:20-11:00 Coffee

11:00-11:40 Jolian Konig- Institut fur Molekular Biology-Mainz

Genomic views of splicing regulation

11:40-12:00 Florian Heyl- Universitat Freiburg

Evaluation and Classification of Peak Profiles for Protein-RNA Binding Predictions

12:00 Lunch

Afternoon session: Chair Uwe Ohler

14:00-14:40 Kathi Zarnack- Goethe Universitat- Frankfurt

Computational Approaches to Posttranscriptional Gene Regulation in Human Biology and Disease

14:40-15:20 Rolf Backofen - Universitat Freiburg

What can we do with CLIP-data?

15:20-16:00 Coffee

16:00-16:40 Michelle Scott –University of Sherbrooke

Characterizing the snoRNA interaction network through transcriptomics profiling, RNA-RNA interactomics and machine learning

16:40-17:00 Irmtraud Meyer- Max-Dellbruck-Centrum-Berlin

Predicting novel trans RNA-RNA interactions

17:00-18:00 Discussion II – Led by Rolf Backofen

18:00 Dinner

Get together at the Dagstuhl wine cellar

Wednesday –August 21

Unconventional Protein-RNA and Protein non-coding RNA interactions

Morning session: Chair Rolf Backofen

9:00-9:40 Tim Hughes – University of Toronto

Exploring intrinsic RNA binding of unconventional RBPs

9:40-10:20 Yael Mandel-Gutfreund –Technion, Haifa

RNA-mediated transcriptional regulation: a systematic search for new players

10:20-11:00 Coffee

11:00-11:40 Jay Gorodkin – University of Copenhagen

Associating non-coding RNAs to proteins: from RNA structure to literature mining

11:40-12:20 Teresa Przytycka – National Center of Biotechnology, Bethesda

Untangling DNA sequence and structure contributions to TF binding specificity

12:20 Lunch

Organized tour + dinner offsite
(more details to come...)

Thursday –August 22

Experimental and computational approaches to study post-transcriptional regulation

Morning session: Chair Michael Uhl

9:00-9:40 Marina Chekulaeva - Max-Dellbrück-Centrum-Berlin

Mechanisms of RNA localization in neurons

9:40-10:20 Markus Landthaler - Max-Dellbrück-Centrum-Berlin

Posttranscriptional regulation in space and time

10:20-11:00 Coffee

11:00-11:20 Hilal Kazan –Antalya International University

A Translational Repression Complex in Developing Mammalian Neural Stem Cells that Regulates Neuronal Specification

11:20-12:00 Neelanjan (Neel) Mukherjee –University of Colorado, Aurora

RBP Regulatory Control of Human Steroidogenesis

12:00 Lunch

Afternoon session: Chair Alex Sasse

14:00-14:40 Charles Vejnar –Yale University, New Haven
Breaking apart 3'-UTRs to model in vivo post-transcriptional regulation

14:40-15:20 Michal Rabani Drier- Hebrew University of Jerusalem
Dynamic post-transcriptional RNA regulation in early zebrafish development

15:20-16:00 Coffee

16:00-16:40 Olivia Risslan – University of Colorado, Denver
Connections between translation and mRNA decay

16:40-17:20 Jianyang (Michael) Zeng – Tsinghua University, Beijing
Machine Learning for Decoding Post-Transcriptional and Translational Regulation

17:20-18:00 Discussion III – Led by Uwe Ohler

18:00 Dinner

Get together at the Dagstuhl wine cellar

Friday

Breakfast +checkout

10:00 Closing discussion + future plans...

12:30 lunch + departure