

2004 RUSTBELT RNA MEETING



PROGRAM

Friday November 19, 2004

12:00 – 1:00 pm Meeting Registration

1:00 – 1:10 pm Opening Remarks

Session I: pre-mRNA Splicing

1:10 – 1:30pm 5' -Splice Site Recognition in Mammalian Cells: Identification of Intronic Silencers Using Functional SELEX

Yang Yu, Xiang H-F. Zhang, Patricia A. Maroney, Lawrence A. Chasin, Timothy W. Nilsen*

Case Western Reserve University/Columbia University

1:30 – 1:50pm Identification of Proteins Involved in Constitutive Splicing

Brian N. Griffith, Lisa M. Salati*

West Virginia University

1:50 – 2:10pm Hu proteins regulate the neuron-specific processing of the human calcitonin/CGRP pre-mRNA by inhibiting polyadenylation of the non-neuronal 3' terminal exon

Hui Zhu, Robert Hasman and Hua Lou*

Case Western Reserve University

Coffee Break

2:10 – 2:30pm

Session II: RNA-Protein Interactions

2:30 – 2:50pm Pseudouridine Synthases: revisiting and refining a mechanism that seemed settled

Christopher J. Spedaliere, Joy M. Ginter, Murray V. Johnston, Eugene G. Mueller*

University of Delaware

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2:50 – 3:10pm Discriminate RNP Remodeling and Conformational Proofreading by a DEAD-box Protein

Heath A. Bowers, Margaret E. Fairman, Wen Wang, Eckhard Jankowsky*
Case Western Reserve University

3:10 – 3:30pm Primary sequence and RNA secondary structure are important for high affinity CsrA binding

Ashok Kumar Dubey, Tony Romeo, Paul Babitzke
Pennsylvania State University/Emory University

Poster Session

3:30 – 6:00pm 3:45 – 4:50 pm odd numbers present

4:50 – 6:00 pm even number present

Dinner (Upstairs in the Mezzanine)

6:00 – 7:00pm

Session III: Transcription and mRNA decay

7:10 – 7:30pm Transcription pauses in the untranslated leader of *Bacillus subtilis* trp operon

Alexander V. Yakhnin, Helen Yakhnin, Paul Babitzke*
Pennsylvania State University

7:30 – 7:50pm Binding and Structural Studies of *Bacillus subtilis* Antiterminator Bulge/tRNA Complex Formation Using Fluorescence Techniques

John A. Means, Steffen Wolf, Akwasi Agyeman, Jeremy Burton, Jennifer V. Hines*
Ohio University/Universität Leipzig

7:50 – 8:10pm Application of an Invasive Cleavage Assay to Study the Effect of AU-rich Elementson mRNA Turnover Rates

Elizabeth L. Murray, Daniel R. Schoenberg*
The Ohio State University

8:10 – 8:20pm Tyrosine phosphorylation of PMR1 is required for the targeting and degradation of polyribosome-bound substrate mRNA

Daniel R. Schoenberg*, Feng Yang, Yong Peng
The Ohio State University

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**Coffee Break
8:20 – 8:40pm**

Session IV: RNA Structure and Folding

- 8:40 – 9:00pm Protein-RNA interactions in the central domain of the 30 S ribosomal subunit**
Kris Ann Baker, Tonya Faulk, James R. Williamson, Philip R. Cunningham*
Wayne State University/ The Scripps Research Institute
- 9:00 – 9:20pm Structural Origin of the Memory Effect in Single Hairpin Ribozymes**
David Rueda, Mark Ditzler, Xiaowei Zhuang, Nils Walter*
University of Michigan/Harvard University
- 9:20 – 9:40pm Peripheral sequence elements key to self-cleavage activity of natural hammerhead ribozymes by forming tertiary contacts**
Manami Roychowdhury-Saha, Sugata Roychowdhury, Donald H. Burke*
Indiana University

**Evening Reception (Central Lobby Area)
9:45 pm – 12:00 midnight**

All PIs – please stay in the meeting room for the RRM04 planning meeting for a few minutes after the last evening session

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Continental Breakfast (In the Meeting Room)

7:45am-8:30am

Session V: Catalytic RNAs

8:30 -8:50am Endogenously expressed multimeric self-cleaving hammerhead ribozymes ablate mutant collagen *IN CELLULO*

Belinda E. Peace, Jane B. Florer, David Witte, Yoel Smicun, Iva Toudjarska,
George Wu, Michael W. Kilpatrick, Petros Tsipouras, and Richard J. Wenstrup*
Cincinnati Children's Hospital Research Foundation/ University of Connecticut

8:50 - 9:10am Leader conformation of a bound precursor tRNA at the B. subtilis RNase P holoenzyme active site

John Hsieh, David Rueda, Nils G. Walter, Carol A. Fierke*
University of Michigan

9:10-9:30am The protein component of Ribonuclease P from Escherichia coli enhances affinity for both precursor and product tRNA

Lei Sun, Frank Campell, Michael E. Harris*
Case Western Reserve University

9:30 – 9:50am Mechanism and Control of Allostery in Kin.46, a Self-thiophosphorylating RNA

Steven S. Rhee, Donald H. Burke*
Indiana University

Coffee Break

9:50 – 10:10am

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Session VI: RNA and Technology

10:10-10:20am Enzymatic ligation of tethered mononucleotides by DNA ligase

David Nickens, James T. Patterson, Donald H. Burke*
Indiana University

10:20 – 10:50am Directional and Orientational Compensation of Self-Assembling Tecto-RNA

Lorena Nasalean, Bachar Hassan, Marina Mirzoyan, and Neocles Leontis*
Luc Jaeger
Bowling Green State University/University of California, Santa Barbara

Session VII: RNA and Gene Expression

10:50 – 11:10am Spatial Organization of Nuclear DNA by Nucleolar Gathering of tRNA Genes

Rebecca A. Haeusler, Martin Thompson, Paul D. Good, David R. Engelke*
University of Michigan/Michigan Technological University

11:10 – 11:30am Translational control in macrophage inflammation

Paul Fox*, Prabha Sampath, Barsanjit Mazumder
Lerner Research Institute/ University of Washington/ Cleveland State University

**11:30 – 11:50pm Identification and characterization of new RNA editing substrates in
Physarum mitochondria**

Jonatha Gott*, Neeta Parimi, Ralf Bundschuh
Case Western Reserve University /Ohio State University

Closing Remarks and the Presentation of the Dharmacon Awards

11:50-12:10pm