  Challenges in RNA Structural Modeling and Design  
  
  Dates:     July 7-11, 2014  
  
  Location:  The Telluride Intermediate School, 725 W. Colorado, Telluride,  
             CO 81435  
  
  Organizers: Tamar Schlick: [schlick@nyu.edu](mailto:schlick@nyu.edu" \t "_blank) [(917-592-9979](tel:%28917-592-9979" \t "_blank))  
              Anna Marie Pyle: [anna.pyle@yale.edu](mailto:anna.pyle@yale.edu" \t "_blank) [(203-980-8612](tel:%28203-980-8612" \t "_blank))  
  
  TSRC Hosts: Rory Sullivan [(970-708-4542](tel:%28970-708-4542" \t "_blank)) and Nana Naisbitt [(970-708-0004](tel:%28970-708-0004" \t "_blank))  
  
  
                         Tentative Program

~~~~~~   Sunday, July 6   ~~~~~~  
  
6:00 - 8:00  Information Meet and Greet at Arroyo Gallery and Wine Bar at 220 East Colorado Avenue. Open to all TSRC participants and their families. Cash Bar. TSRC employee on hand to answer questions.

   ~~~~~~   Monday, July 7   ~~~~~~  
  
   8:30 - 9:00  Breakfast at TSRC  
  
   Session I:  RNA Interactions, Mechanisms, and Dynamics  
   Chair: Tamar Schlick  
  
   9:00 -  9:15  Welcome and introduction  
  
   9:15 - 10:00  Sarah Woodson: Dynamic RNA-protein interactions in  
                 ribosome assembly  
  
  10:00 - 10:10  Discussion  
  
  10:10 - 10:30  Coffee break  
  
  10:30 - 11:15  David Lilley: A critical sequence determinant for  
                 k-turn folding in natural RNA molecules  
  
  11:15 - 11:25  Discussion  
  
  11:25 - 12:10  Tao Pan: Consequence of N6-methyl-adenosine modification  
                 in mammalian mRNA on RNA structure and RNA-protein  
                 interactions  
  
  12:10 - 12:20  Discussion  
  
  12:20 - 12:30  Open Discussion (meeting goals, agenda, etc.)  
  
  
  
  Lunch on your own, free afternoon  
  
  
  ~~~~~~ Tuesday, July 8 ~~~~~~  
  
  Breakfast on your own  
  Free time (can organize for group hike?)  
  
  Session II: RNA Modeling and Simulation  
  Chair: Anna-Marie Pyle  
  
  3:00 - 3:45 Robert Jernigan:  Elastic network models for RNA structural  
              dynamics  
  3:45 - 3:55 Discussion  
  
  3:55 - 4:40 Tamar Schlick: Adventures with RNA graphs  
  4:40 - 4:50 Discussion  
  
  
  6:00 - 7:15 "Town Talk":  George Weiblen, Professor of Plant Biology,  
              University of Minnesota:  
              Lead us not into Hemptation: The Genetics of American Cannabis  
  
              Telluride Conference Center in Mountain Village  
  
  ~~~~~~ Wednesday, July 9 ~~~~~~  
  
  8:30 - 9:00 Breakfast at TSRC  
  
  Session III: RNA mechanisms and design  
  Chair: David Lilley  
  
  9:00 -  9:45    Philip Bevilacqua: Combining experiments with theory to  
                  obtain deeper insight into ribozyme mechanism  
  
  9:45 -  9:55    Discussion  
  
  9:55 - 10:15    Coffee Break  
  
10:15 - 11:00    Rob Batey: designing riboswitches from biological  
                  components  
  
11:00 - 11:10    Discussion  
  
11:10 - 11:55    Karissa Sanbonmatsu: Ribosomes, riboswitches and lncRNAs:  
                  modeling and biochemistry  
  
11:55 - 12:05    Discussion  
  
  
   Lunch on your own and free time  
  
  Session IV: Large RNA Challenges  
  Chair: Sarah Woodson  
  
  3:30 - 4:15   Encarna Martinez-Salas: Impact of RNA structure and  
                RNA-binding proteins on the activity of picornavirus  
                IRES elements  
  4:15 - 4:25   Discussion  
  
  4:25 - 5:10   Anna Marie Pyle: Solving and modeling large RNA structures:  
                lessons from group II introns and other large ribozymes  
  5:10 - 5:20   Discussion  
  
  6:00 - 9:00 Picnic at Ah Haa School for the Arts, 300  
          S. Townsend (Family and guests welcome free of charge)  
  
  ~~~~~~ Thursday, July 10 ~~~~~~  
  
  Session V: Mathematical Perspectives in RNA Modeling  
  Chair: Robert Jernigan  
  
   8:30 - 9:00  Breakfast  
  
   9:00 - 9:45  Christine Heitsch: Profiling Small RNA Sequences Reveals  
                Signal at the Substructure Level in a Boltzmann Sample  
   9:45 - 9:55  Discussion  
  
   9:55 - 10:40 Henry Orland: RNA Folding: From Random Matrix Theory to  
                Structure Prediction Algorithms  
  10:40 - 10:50 Discussion  
  
  10:50 - 11:10 Coffee Break  
  
  11:10 -11:55  Louis Petingi: RNA partitioning, a graph-theoretical  
                approach  
  11:55 -12:05  Discussion  
  
  12:05 - 12:50 Christian Laing: Investigating a second-Level of coding  
                between RNA structure and protein structure in RNA viruses  
  12:50 - 1:00  Discussion  
  
  
  TENTATIVE (Optional):  
  Session VI: Perspective Discussion  
   5:00 - 7:00 Open discussion  
  
  
  ~~~~~~ Friday, July 11 ~~~~~~~  
  
  8:30 - 9:00 Breakfast at TSRC  
  
  Session VI: Perspective Discussion  
  
   9:00 - 11:00 Summary  
               Round panel discussion  
               Open challenges  
               Conference report  
               Goals for next meeting (TSRC, June 2016)