

# Telluride Workshop on Plasticity in Biological Organization 2021 (Program)

[Ah Haa School for the Arts](#) (155 W Pacific Ave Telluride, CO 81435)  
(Transformation studio, 2nd floor)

## Monday (Sept. 20th)

### Monday afternoon/evening:

5:00pm to 6:30pm

Meet and greet 221 W. Colorado Ave (Phoenix Bean Cafe)

*Pick up a badge and breakfast gift cards, ask TSRC staff any questions you may have. Note we can splinter off into groups to find dinner in local restaurants after this.*

## Tuesday (Sept. 21st) - 5 talks

### Tuesday morning: Plasticity in molecular structure

11:00 – 11:10 AM

**Welcome/intro (Thomas and Alex)**

11:10 – 11:50 AM

**Shahar Sukenik** (UC Merced)

*Adaptation of intrinsically disordered proteins to change in the cellular environment*

**LUNCH**

### Tuesday afternoon: Protein disorder across scales

1:00 – 1:40 PM

**Lucia Strader** (Duke University)

*Learning IDR stuff from plant AUXIN RESPONSE FACTOR*

1:50 – 2:30 PM

**Max Staller** (UC Berkeley)

*Testing the hypothesis that the physical flexibility enables evolutionary plasticity*

**BREAK (20 min)**

2:50 – 3:30 PM

**Erik Martin** (Dewpoint Therapeutics)

*Connecting protein disorder and dynamics to biomolecular condensation*

3:40 – 4:20 PM

**Randal Halfmann** (Stowers Institute)

*Polyglutamine has a monomeric amyloid nucleus with competing dimensions of order*

### 5:00 pm onward – “Happy Hour” at the Stronghouse Brewpub

283 S. Fir St, Telluride, CO 81435

## Wednesday (Sept. 22nd) - 6 talks

### Wednesday morning: Organismal adaptation

9:00 – 9:40 AM

**Sophie Tintori** (New York University)

*Nematodes from Chernobyl: Building an experimental model system to study variation in radiation tolerance*

9:50 – 10:30 AM

**Thomas Boothby** (University of Wyoming)

*Molecular swiss army knives: tardigrade CAHS proteins mediate desiccation tolerance through multiple mechanisms*

**BREAK (20 min)**

10:50 – 11:30 AM

**Vincent Boudreau** (UC Berkeley)

*Algal mind-control: phototaxis of the giant ciliate Stentor pyriformis is mediated by algal endosymbionts*

**LUNCH**

### Wednesday afternoon: Evolutionary plasticity

1:00 – 1:40 PM

**Alex Holehouse** (Washington University School of Medicine)

*Sequence- and chemical specificity define the functional landscape of intrinsically disordered regions*

1:50 – 2:30 PM

**Anne-Ruxandra Carvunis** (University of Pittsburgh)

*Molecular mechanisms of evolutionary innovation*

**BREAK (20 min)**

2:50 – 3:30 PM

**Frank Smith** (University North Florida)

*Developmental and genomic insights into the evolution of the highly compact tardigrade body plan*

**5:00 pm onward – “Happy Hour” at the Last Dollar Saloon**

100 E Colorado Ave, Telluride, CO 81435

## Thursday (Sept. 23rd) - 6 talks

### Thursday morning: Subcellular organization

- 9:00 – 9:40 AM **Shankar Mukherji** (Washington University in St. Louis)  
*Connecting systems-level organelle biogenesis with cellular growth*
- 9:50 – 10:30 AM **Luke Chao** (Harvard Medical School)  
Subcellular renovation: remodeling of the mitochondrial inner-membrane by Opa1

**BREAK (20 min)**

- 10:50 – 11:30 PM **Jared Toettcher** (Princeton University)  
*Shining a light on how signaling dynamics control cell fate*

**LUNCH**

### Thursday afternoon: Emergent plasticity in complex systems

- 1:00 - 1:40 PM **Liam Holt** (New York University)  
*How does macromolecular crowding affect molecular assembly and motion?*
- 1:50 – 2:30 PM **Ashely Wolf** (UC Berkeley)  
*Bacterial metabolism and competition in the mammalian gut*

**BREAK (20 min)**

- 2:50 – 3:30 PM **Jennifer Hurley** (Rensselaer Polytechnic Institute)  
*Plasticity in the Rigid Circadian Clock*

**5:00 pm onward – “Happy Hour” at TBD**  
(we will decide based on weather, preference for other places)

**Dinner at Oak (7pm - to be confirmed)**

## Friday (Sept. 24th) - 2 talks

### Fri morning: Condensates in cellular organization

9:00 – 9:40 PM      **Keren Lasker** (The Scripps Research Institute)  
Cellular organization in the context of microbial adaptation

9:50 – 10:30 PM      **D. Allan Drummond** (University of Chicago)  
*Stress-induced mRNA condensation*

### **BREAK (20 min)**

10:50 - 12:00      Open discussion

1. Big questions, open directions, places we collectively as a group see as big unknowns in biological plasticity biology
2. Where are the emperor's new clothes? What things are assumed/taken as true that in your opinion are not as true as might be expected.

12:00 → onwards      Group "outing" to Mountain Village for lunch (for those who want).

**5:00 pm onward – "Happy Hour" at TBD**  
(we will decide based on weather, preference for other places)