

# RNA 2022

## The 27<sup>th</sup> Annual Meeting of the RNA Society

**MAY 31<sup>ST</sup> – JUNE 5<sup>TH</sup>, 2022**  
**UNIVERSITY OF COLORADO - BOULDER**  
**BOULDER, COLORADO, USA**





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VIEW OUR SCHEDULED EVENTS:

## SPONSORED SEMINAR

06/02 7:45AM - 8:45AM | CHEM140 | *Breakfast Included*

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Title: *'RNA genomics technologies: Accelerating RNA research'*

Karen B. Chapman, PhD, MS. *Chief Scientific Officer*

## CONCURRENT 6

*Interconnected Process* | 06/02 11:00AM - 12:30PM | MATH100

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Title: *'Scalable Detection of RNA binding protein (RBP)*

*Binding Sites by Proximity-Based Ligation of DNA*

*Barcoded Antibodies to RBP-protected RNA fragments'*

Dan Lorenz, PhD. *Associate Director of Research*



# **RNA 2022**

## **The 27<sup>th</sup> Annual Meeting of the RNA Society**



**May 31<sup>st</sup> – June 5<sup>th</sup>, 2022  
University of Colorado - Boulder  
Boulder, Colorado, USA**

### **MEETING ORGANIZERS**

**Roy Parker** (lead), University of Colorado, USA  
**Amy Buck**, University of Edinburgh, UK  
**Howard Chang**, Stanford University, USA  
**Kristen Lynch**, University of Pennsylvania, USA  
**Stepanka Vanacova**, CEITEC, Masaryk University, Czech Republic  
**Rui-Ming Xu**, Chinese Academy of Sciences, Institute of  
Biophysics, PR China



May 3, 2022

Greetings, fellow RNA aficionados!

It is my great pleasure to welcome you to RNA 2022. After two years online, let us celebrate in Boulder the awesome return to in-person interactions. We will meet again face-to-face, sharing our thoughts and exchanging ideas. This is the time to renew friendships and extend networks, and jointly explore current and future trends of RNA research.

Thank you for enthusiastically participating in every aspect of RNA 2022. Throughout the conference, you will be exposed to stunning science as well as opportunities to meet the Editors of the RNA journal, and discuss concrete actions to promote diversity, equity, and inclusion in the RNA Society. Your engagement is vital to our advance as a community.

I wish you all an enjoyable and memorable meeting.

Carmo

Maria Carmo-Fonseca  
President, RNA Society

# THE RNA SOCIETY

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## Officers of the RNA Society FY 2021

### **President (2021–2022)**

Maria Carmo-Fonseca  
Univ of Lisbon, Portugal

### **Past President (2019–2020)**

Anna Marie Pyle  
Yale Univ, USA

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## Committee Chairs

### **Business Development Committee**

Gianpiero Di Leva  
Keele Univ, UK

### **Diversity, Equity & Inclusion Committee**

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Harvard Medical School, USA

### **Fundraising & Development Committee**

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School, USA

### **Media & Communications Committee**

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USA

### **Meetings Committee**

Benoit Chabot  
Univ de Sherbrooke, Canada

### **Membership Committee**

Kristin Koutmou  
Univ of Michigan, USA

## GENERAL MEETING GUIDELINES

Citation of abstracts presented during RNA 2022 (in bibliographies or other) is strictly prohibited. Material should be treated as personal communication and is to be cited only with the expressed written consent of the author(s).

Abstracts can be found in the digital meeting program online. Login to Oxford Abstracts with the email address and password used when registering for the meeting



### **NO UNAUTHORIZED PHOTOGRAPHY OF ANY MATERIAL PRESENTED DURING THE MEETING.**

To encourage sharing of unpublished data at the RNA Society Annual Meeting, taking of photographs and/or videos during scientific sessions (oral or poster), or of posters outside of session hours, is strictly prohibited.

Violators of this policy may have their equipment confiscated (cameras, cell phones, etc.) and/or be asked to leave the conference and have their registration privileges revoked without reimbursement.

### **USE OF SOCIAL MEDIA**

The official hash tag of the 27th Annual Meeting of the RNA Society is **#RNA22**. Meeting participants are encouraged to share the amazing science they experience at RNA 2022 on Social Media platforms; however, please respect the following rules when using the #RNA22 hash tag on Twitter, or when talking about the meeting on other Social Media platforms:

1. Be polite and respectful of others and their work in your messaging.
2. Do not transmit photographs of slides or posters - under any circumstance.
3. Do not transmit photographs of conference attendees without their verbal consent.
4. Requests from presenters to refrain from sharing content of their talks and/or posters on Social Media must be respected and adhered to. Presenters may label their talk slides and/or posters with "DO NOT POST."

### **Front cover image:**

*Cover art by SciStories, LLC. "Boulder RNA Biology Discoveries"  
From left to right: RNA Synthesis (Caruthers lab), Group I intron structure (Cech Lab), Hammer Head Ribozyme structure (Uhlenbeck lab) and RNA SELEX (Gold lab).*

## COVID-19 VACCINE REQUIREMENT

Attendees must be fully vaccinated at the time of the meeting. Individuals were asked to provide proof of vaccination at the time of registration by up-loading a copy of their vaccination card clearly showing receipt of two or more doses of a WHO-approved COVID-19 vaccine. Acceptable vaccines included FDA approved or authorized and WHO Emergency Use Listing vaccines. <https://www.cdc.gov/coronavirus/2019-ncov/travelers/proof-of-vaccination.html#covid-vaccines>

Medical waivers are allowed in the form of a Medical Exemption signed by a physician accompanied by a negative COVID PCR test within 72 hours of the beginning of the meeting.

The online registration form included a required check box by which meeting attendees attest that their vaccination status or physician-endorsed medical exemption is valid.

We want to be very clear that the meeting is on the campus of CU Boulder which will remain open to the public. The meeting spaces do not accommodate 3 feet social distancing. The RNA Society encourages masking in all indoor spaces.



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# Exhibitors



# Poster Awards



# Advertisers





## INVITATION TO MEMBERSHIP

The RNA SOCIETY is a non-profit scientific organization established in 1993 with the mission of promoting RNA education and research worldwide. The RNA SOCIETY is the premier intellectual home for all those interested in RNA scientific research and is interdisciplinary in nature. We welcome new members from all disciplines, careers and professional stages, and appreciate the unique perspectives all of our members contribute to the organization.

### Members work in numerous areas of RNA science including, but not limited to:

Bioinformatics/ Computational Biology	Ribosomes & Translational Regulation	RNA Structure & Folding
Heterochromatin	RNA & Disease	RNA Therapeutics
Silencing	RNA Binding Proteins	RNA Transport & Localization
Integration of Nuclear Gene Expression Processes	RNA Catalysis	RNA Quality Control/ Surveillance
Methods/Protocol Development	RNA Dynamics	RNA Viruses & Viral RNA Mechanisms
Noncoding RNA (e.g. tRNA, lncRNA, piRNA)	RNA Editing	RNAi & miRNA
Ribonucleases	RNA High-Throughput Analysis	RNP Biosynthesis, Structure and Function
Riboregulation	RNA Maturation	Splicing & Alternative Splicing Mechanisms
	RNA-Protein Interactions	Telomerase
	RNA Stability/ Degradation	

### Benefits of RNA Society membership include:

- Complementary personal subscription to the RNA SOCIETY journal, **RNA**
- Reduced Author Page Charges for publishing in **RNA**
  - Discounted manuscript publication fees - \$1,000 (\$1,500 for non-members)
  - Reduced Open Access fees - \$2,000 (\$2,500 for non-members).
  - Unlimited FREE color figures
- Reduced registration fees to attend the RNA SOCIETY Annual Meeting – a savings of \$200-\$300
- Professional Development opportunities for junior scientists, including our successful Mentoring Program
- No-fee job posting on the RNA SOCIETY website
- Members have exclusive eligibility for:
  - RNA SOCIETY-sponsored annual Awards & Prizes
  - Sponsorship in support of RNA-related conferences you organize
  - Opportunities for RESEARCH PRESENTATION FELLOWSHIPS (waiving registration fees to attend the RNA SOCIETY Annual Meeting)
  - CHILDCARE, DEPENDENT CARE & DISABILITY ALLOWANCES to attend RNA SOCIETY Annual Meeting
  - Sponsorship for your locally-organized RNA events through the RNA SALON PROGRAM
- And, best of all, being part of an active and supportive international community of RNA researchers!

RNA SOCIETY **membership fees are highly competitive with reduced rates for Student and Post-doctoral researchers. Multi-year and Lifetime memberships are also available at further discounted rates.**

**Visit the RNA SOCIETY website at [www.rnasociety.org](http://www.rnasociety.org) for more information and to apply today.**



## RNA-Protein interactions in space and time

**Join Lexogen's Morning Session  
at the #RNA2022!**



June 3, 2022



7:45 a.m. Mountain time



Chemistry 140



# PROGRAM SCHEDULE

## TUESDAY, MAY 31

14:00 – 20:00 **Registration**

*University Memorial Center (UMC), Aspen Rooms*

16:30 – 18:30 **Reception/Dinner**

*University Memorial Center (UMC), Glenn Miller  
Ballrooms & Outdoor South Terrace*

19:00 – 21:00 **Opening Session**

*Macky Auditorium Hall*

Welcome

Keynote 1: **Joan Steitz**, Yale University


Keynote 2: **Venki Ramakrishnan**, MRC Laboratory  
of Molecular Biology

Co-chairs: **Roy Parker**, Univ of Colorado, Boulder, and  
**Kristen Lynch**, Univ of Pennsylvania


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## WEDNESDAY, JUNE 1

- 07:45 – 08:45    **Sponsored Seminar**  
*Chemistry (CHEM) 140*  
**Sponsored by Moderna**
- 08:00 – 19:00    **Registration**  
*University Memorial Center (UMC), Room 285*
- 09:00 – 10:30    **Plenary Session 1: “RNA Modifications: from Mapping to Function”**  
*Macky Auditorium Hall*  
Chair: **Michael Jantsch**, Medical Univ of Vienna  
**Sponsored by Moderna**
- 10:30 – 11:00    COFFEE BREAK  
*Macky, front lawn*
- 11:00 – 12:30    **Plenary Session 2: “Splicing Regulation”**  
*Macky Auditorium Hall*  
Chair: **Woan-Yuh Tarn**, Academia Sinica
- 12:30 – 14:00    LUNCH  
*Center for Community (C4C)*
- 14:00 – 16:15    **Concurrent Session 1: “LncRNA Biology”**  
*Macky Auditorium Hall*  
Chair: **Ling-Ling Chen**, Shanghai Inst of Biochemistry & Cell Biology and **John Rinn**, Univ of Colorado, Boulder
- 16:15 – 16:45    **Concurrent Session 2: “RNA Structure/Folding & Regulation + Origins of Life”**  
*Chemistry (CHEM) 140*  
Chair: **Qiangfeng (Cliff) Zhang**, Tsinghua Univ and **Hannes Mutschler**, Technical Univ Dortmund  
**Sponsored by Eclipse Bioinnovations**
- 16:45 – 19:00    COFFEE BREAK  
*Macky, front lawn*
- 19:00 – 20:30    **Plenary Session 3: “RNA in Disease”**  
*Macky Auditorium Hall*  
Chair: **Aunish Kalsotra**, Univ of Illinois, Urbana-Champaign  
**Sponsored by Moderna**
- Junior Scientists Social**  
*University Memorial Center (UMC) Outdoor South Terrace*

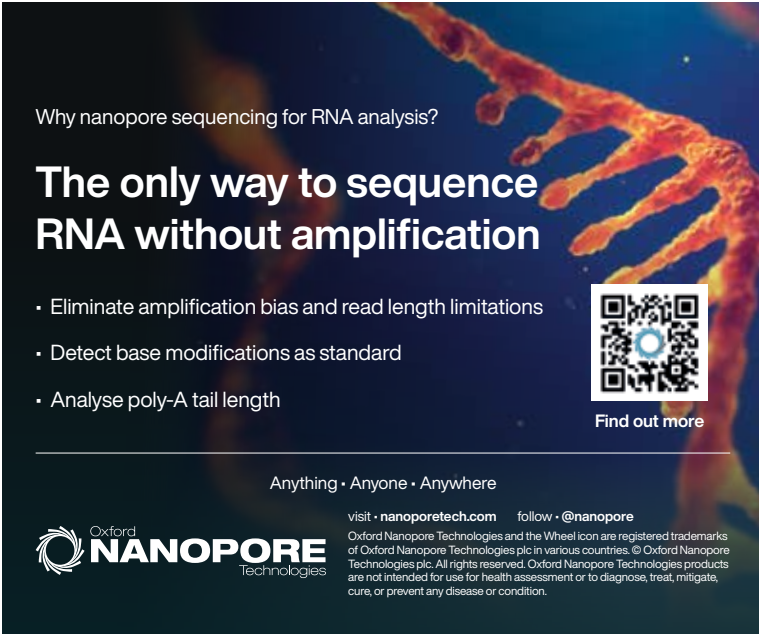
## WEDNESDAY, JUNE 1 (continued)

19:00 – 20:30 DINNER  
*Center for Community (C4C)*

20:30 – 23:00 **Meetings Committee Dinner**  
*Center for Community (C4C) / Room S350*

### **Poster Session 1**


*University Memorial Center (UMC)*  
*Glenn Miller Ballroom/Aspen Rooms/Rooms 235 and 247*



Why nanopore sequencing for RNA analysis?

## The only way to sequence RNA without amplification

- Eliminate amplification bias and read length limitations
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- Analyse poly-A tail length




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## THURSDAY, JUNE 2

- 07:45 – 08:45    **Sponsored Seminar**  
*Chemistry (CHEM) 140*  
**Sponsored by Eclipse Bioinnovations**
- 08:00 – 13:30    **Registration**  
*University Memorial Center (UMC), Room 285*
- 09:00 – 10:30    **Concurrent Session 3: “CRISPR”**  
*Muenzinger (MUEN) E050*  
Chair: **Luke Gilbert**, Univ of California, San Francisco
- Concurrent Session 4: “Subcellular Location”**  
*Chemistry (CHEM) 140*  
Chair: **Matthew Taliaferro**, Univ of Colorado, Anschutz Medical Campus
- Concurrent Session 5: “Synthesis and Processing of RNA”**  
*Mathematics (MATH) 100*  
Chair: **Katja Straesser**, Justus Liebig Univ Giessen  
**Sponsored by Moderna**
- 10:30 – 11:00    COFFEE BREAK  
*University Memorial Center (UMC), Outdoor South Terrace*
- 11:00 – 12:30    **Concurrent Session 6: “Interconnected Processes”**  
*Mathematics (MATH) 100*  
Chair: **Muge Kuyumcu-Martinez**, Univ of Texas Medical Branch
- Concurrent Session 7: “Non-coding RNA Biogenesis and Modification”**  
*Muenzinger (MUEN) E050*  
Chair: **Jane Jackman**, Ohio State Univ  
**Sponsored by Eclipse Bioinnovations**
- Concurrent Session 8: “RNA-based Therapeutics”**  
*Chemistry (CHEM) 140*  
Chair: **Amanda Hargrove**, Duke Univ  
**Sponsored by Moderna**
- 12:45 – 13:45    **Sponsored Seminar**  
*Chemistry (CHEM) 140*  
**Sponsored by Oxford Nanopore Technologies**

## THURSDAY, JUNE 2 (continued)

13:45 – 19:30  
Free afternoon

**LUNCH TO GO**  
*Pick up at University Memorial Center / Outdoor  
South Terrace*

19:30 – 20:30

**Meet the Editors Reception**  
*Koenig Alumni Center*

20:30 – 23:00

**Poster Session 2**  
*University Memorial Center (UMC) – Glenn Miller  
Ballroom / Aspen Rooms / Rooms 235 and 247*



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## FRIDAY, JUNE 3

- 07:45 – 08:45 **Sponsored Seminar**  
*Chemistry (CHEM) 140*  
**Sponsored by Lexogen**
- 08:00 – 19:00 **Registration**  
*University Memorial Center (UMC), Room 285*
- 09:00 – 10:30 **Plenary Session 4: “Translation Mechanisms”**  
*Macky Auditorium Hall*  
Chair: **Thomas Preiss**, Australian National Univ  
**Sponsored by Moderna**
- 10:30 – 11:00 COFFEE BREAK  
*Macky, front lawn*
- 11:00 – 12:30 **DEI Panel: “Diverse Voices from Rising Scientists”**  
*Macky Auditorium Hall*  
Organized by the RNA Society DEI Committee  
Chair: **Natoya Peart**, Univ of Pennsylvania  
Panelists: **Pheonah Badu**, Univ at Albany (SUNY);  
**Ewelina Malecka-Grajek**, Johns Hopkins Univ;  
**Andrew Santiago-Frangos**, Montana State Univ;  
**Kyle Cottrell**, Washington Univ in St. Louis
- 12:30 – 14:00 MENTORING LUNCH  
*Center for Community (C4C)*  
Organizer: **Nancy Greenbaum**, Hunter College, CUNY
- 12:30 – 14:00 LUNCH  
*Center for Community (C4C)*
- 14:00 – 16:15 **Plenary Session 5: “RNP Granules and Phase Transitions”**  
*Macky Auditorium Hall*  
Chair: **Stephanie Moon**, Univ of Michigan
- 16:15 – 16:45 COFFEE BREAK  
*Macky, front lawn*
- 16:45 – 19:00 **Concurrent Session 9: “Alternative Splicing”**  
*Chemistry (CHEM) 140*  
Chair: **Jimena Giudice**, Univ of North Carolina, Chapel Hill and **Shalini Sharma**, Univ of Arizona  
**Sponsored by Moderna**

## FRIDAY, JUNE 3 (continued)

### **Concurrent Session 10: “Bioinformatics and Genomics”**

*Muenzinger (MUEN) E050*

Chair: Kathi Zarnack, Goethe Univ Frankfurt

**Sponsored by Eclipse Bioinnovations**

### **Concurrent Session 11: “RNP Assembly”**

*Mathematics (MATH) 100*

Chair: **Nicholas Conrad**, Univ of Texas Southwestern

**Sponsored by Moderna**

19:00 – 20:30 **DINNER**

*Center for Community (C4C)*

19:00 – 20:30 **Board of Directors Dinner/Meeting**

*Center for Community (C4C) / Room S350*

20:30 – 23:00 **Poster Session 3**

*University Memorial Center (UMC) – Glenn Miller Ballroom /  
Aspen Rooms / Rooms 235 and 247*

## SATURDAY, JUNE 4

07:45 – 08:45 **Sponsored Seminar**

*Chemistry (CHEM) 140*

**Sponsored by Immagina Biotechnology**

08:00 – 17:30 **Registration**

*University Memorial Center (UMC), Room 285*

09:00 – 11:00 **Concurrent Session 12: “RNA Modifications: Mechanisms and Structures”**

*Muenzinger (MUEN) E050*

Chair: **Wendy Gilbert**, Yale University

**Sponsored by Eclipse Bioinnovations**

### **Concurrent Session 13: “Biological Roles and Regulation of Translation”**

*Chemistry (CHEM) 140*

Chair: **Joel McManus**, Carnegie Mellon Univ

**Sponsored by Immagina Biotechnology**

## SATURDAY, JUNE 4 (continued)

### Concurrent Session 14: “Ribozymes and Riboswitches”

*Mathematics (MATH) 100*

Chair: **Aiming Ren**, Zhejiang Univ and  
**Robert Batey**, Univ of Colorado, Boulder

11:00 – 11:30 COFFEE BREAK

*University Memorial Center (UMC) Outdoor  
South Terrace*

11:30 – 13:00 **Concurrent 15: “Viral RNA and Innate Immune Response”**

*Chemistry (CHEM) 140*

Chair: **Sara Cherry**, Univ of Pennsylvania

### Junior Scientists Panel: “How to Advance In and Outside of Academia”

*Muenzinger (MUEN) E050*

Organized by the RNA Society Junior Scientist Committee

Chair: **Liana Boraas**, Yale Univ

Panelists: **Eugene Yeo**, Univ of California, San Diego;

**Jillian Ramos**, Univ of Colorado; **Ryan Flynn**, Boston

Children's Hospital & Harvard Univ; **Kathi Zarnack**,

Buchmann Inst for Molecular Life Sciences, Goethe Univ;

**Jean Ge**, Wolf Greenfield, Intellectual Property Law

13:00 – 14:30 LUNCH

*Center for Community (C4C)*

14:30 – 16:45 **Concurrent Session 16: “Small RNAs”**

*Chemistry (CHEM) 140*

Chair: **Yukihide Tomari**, Univ of Tokyo

**Sponsored by Eclipse Bioinnovations**

### Concurrent Session 17: “RNA Turnover”

*Muenzinger (MUEN) E050*

Chair: **Andrzej Dziembowski**, Lab of RNA Biology  
and Functional Genomics, IIMCB Warsaw

**Sponsored by Lexogen**

16:45 – 17:15 COFFEE BREAK

*Macky, front lawn*

## SATURDAY, JUNE 4 (continued)

17:15 – 18:45 **Awards Ceremony**  
*Macky Auditorium Hall*

18:45 – 19:30 Transfer to Embassy Suites by Hilton (on own)

19:30 – 23:30 **Closing Reception/Dinner/Dance**  
Embassy Suites by Hilton  
2601 Canyon Boulevard

## SUNDAY, JUNE 5

**Conference concludes**

