RNA 2021

The 26th Annual Meeting of the RNA Society On-line May 25–June 4, 2021

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RNA 2021 On-Line

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THE 26th Annual Meeting of the RNA Society

May 25th – June 4th, 2021

GENERAL INFORMATION

Citation of abstracts presented during RNA 2021 On-line (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).



NO UNAUTHORIZED PHOTOGRAPHY OF ANY MATTER PRESENTED DURING THE ON-LINE MEETING: To encourage sharing of unpublished data at the RNA Society Annual Meeting, taking of photographs, screenshots, videos, and/or downloading or saving any material is strictly prohibited.

USE OF SOCIAL MEDIA: The official hash tag of the 26th Annual Meeting of the RNA Society is #RNA2021. The organizers encourage attendees to tweet about the amazing science they experience during the meeting. However, please respect these few simple rules when using the #RNA2021 hash tag, or when talking about the meeting on Twitter and other social media platforms:

- 1. Be polite and respectful of others in all of your messaging.
- 2. Do not transmit images (of any type) of slides or posters under any circumstances.
- 3. Tweeters must adhere to requests from presenters who ask attendees to refrain from tweeting the content of their talks and posters.



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May 3, 2021

Greetings to all participants!

It is my great pleasure to welcome you to RNA 2021. For the second time in the history of our Society, the conference will be completely conducted on a digital platform. Although live interactions remain easier and more rewarding, there are many virtues in virtual meetings. Namely, holding the conference on-line is a great opportunity to reach a wider community of RNA scientists across the world than a traditional conference could include. So, be bold and explore the unprecedented potential for networking during the meeting.

Thanks to your enthusiastic participation, RNA 2021 will be a memorable event full of exciting moments and surprising experiences. Get ready for stunning science coming your way.

I wish you all a successful and enjoyable meeting.

Carmo

Maria Carmo-Fonseca President, RNA Society

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RNA 2022

The 27th Annual Meeting of the RNA Society will be held in Boulder, Colorado, USA from May 31st to June 5th, 2022, on the campus of the University of Colorado.

2022 Organizers

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nts	With over 48,000 members in
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The RNA Society was established in 1993 to facilitate sharing and dissemination of experimental results and emerging concepts in RNA science. The Society is an interdisciplinary, cohesive intellectual home for those interested in all aspects of RNA research. We welcome new members from all scientific disciplines and we look forward to sharing the new perspectives they bring to the Society.

Our members work in numerous areas of RNA science including but not limited to:

Methods in RNA and RNP Research RNAi and miRNA **Ribosomes and Translation Regulation** Splicing Regulation and Alternative Splicing **RNA Turnover and Surveillance** Integration of Nuclear Gene Expression Processes **RNA Regulation in Neurons and Specialized Cells RNA Structure and Folding RNA** and **Disease:** Therapeutic Strategies Viral RNA Mechanisms

Benefits of RNA Society membership include:

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- Reduced charges for those who publish in RNA
 - o A \$500 discount on the manuscript publication fee
 - immediately upon publication o Free color figures
- Reduced registration fees for the annual meeting of the RNA Society
- issues affecting the Society and RNA science
- the RNA Society
- Access to a Directory of Members (available on-line)
- Free job postings on the RNA Society website
- Salon program)

These benefits more than offset the cost of a one-year RNA Society membership. Additionally, two- and three-year memberships (as well as lifetime membership) are also available at a discounted rate. Please see our on-line membership registration system for full details.

> Please take a moment to start or renew your RNA Society membership at http://rnasociety.org/become-a-member/



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PROGRAM-RNA 2021 ON-LINE

The 26th Annual Meeting of the RNA Society May 25 – June 4, 2021

08:00-08:15	Opening Remarks: RNA 2021 Or
08:15-09:15	Keynote Lecture 1: Xiang-dong F
09:15-09:30	Break
09:30-12:45	Concurrent Session 1: Alternative Sponsored by Locanabio Co-chairs: Zefeng Wang, Shanghai Sciences and Liana Lareau, Univ oj
09:30-12:45	Concurrent Session 2: RNA Struc <i>Co-chairs: Yue Wan, Genome Inst o</i>

Wednesday, 26 May

07:45-08:45	Poster Session 1 Sponsored by Moderna
	Topic categories: Bioinformatics and Genomics High Through-put Discovery New Technologies Transcription: Mechanism and Bio
	Chromatin & Epigenetics Interconnected Processes RNA Transport and Localization Chemical Biology of RNA RNA Synthetic Biology and Syste Origins of Life and Evolution
08:45-11:15	Concurrent Session 3: High Throug <i>Co-chairs: Eric Van Nostrand, Baylor</i> <i>Inst Curie</i>
09:00-11:15	Concurrent Session 4: Non-coding <i>Co-chairs: Brigitte Pertschy, Univ of</i>
11:15-11:30	Break
11:30-12:30	Keynote Lecture 2: Jennifer Doudn Sponsored by Locanabio
14:00-15:00	Sponsored Seminar: Jumpcode Ger

Tuesday, 25 May

rganizers Fu, Univ of California San Diego

e Splicing and Regulation

Inst for Nutrition and Health, Chinese Academy of of California Berkeley

cture, Folding and Regulation of Singapore and Chun Kit Kwok, City Univ of Hong Kong

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r College of Medicine and Alena Shkumatava,

RNA Biogenesis and Modifications

Graz and Tao Pan, Univ of Chicago

a, Univ of California Berkeley

enomics

Thursday, 27 May

- 08:00-09:00 Sponsored Seminar: Locanabio
- 09:00-09:15 Break
- **Concurrent Session 5: CRISPR-Cas Biology and Applications** 09:15-10:45 Co-chairs: Chase Beisel, Helmholtz Inst for RNA-based Infection Research and Samuel Sternberg, Columbia Univ
- 09:15-11:45 Concurrent Session 6A: RNA in Disease Sponsored by Locanabio Co-chairs: Elif Sarinay-Cenik, Univ of Texas Austin and Rotem Karni, Hebrew Univ
- 11:00-13:00 Concurrent Session 7/8: Ribozymes and Riboswitches Co-chairs: Alexander Serganov, New York Univ School of Medicine and Claudia Höbartner, Univ Würzburg
- 13:00-14:00 Junior Scientists Networking and Job Jamboree
- 14:00-15:00 Sponsored Seminar: Lexogen

Friday, 28 May

08:00-10:00	Concurrent Session 9: Long Non-coding RNA Biology
	Sponsored by Ionis Pharmaceuticals
	Chairs: Karissa Sanbonmatsu, Los Alamos National Lab and Selene Fernandez-Valverde,
	LANGEBIO, Cinvestav
08:00-10:00	Concurrent Session 10A: Small RNAs
	Co-chairs: Mofang Liu, Inst of Biochemistry and Cell Biology, Chinese Academy of Science
	and Ignacio Rubio-Somoza, Ctr for Research in Agricultural Genomics
10:00-10:15	Break
10:15-12:15	Diversity, Equity and Inclusion Panel
	Chair: Shobha Vasudevan, Massachusetts General Hospital Cancer Ctr and Harvard Univ
	Panelists: Tracy Johnson, Univ of California Los Angeles; Mo Motamedi, MGH Cancer Ctr
	and Harvard Medical School; Holly Winter, Locanabio; Michael Summers, HHMI/Univ of
	Maryland; Barbara Golden,
	Purdue Univ; Anissa Brown, NIH, NIGMS
12:15-12:45	Break
12:45-13:45	Sponsored Seminar: Oxford Nanopore



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Saturday, 29 May 08:00-10:00 Concurrent Session 11: RNP Assembly Co-chairs: Livio Pellizzoni, Columbia Univ and Homa Ghalei, Emory Univ School of Medicine 08:00-10:00 **Concurrent Session 12: Subcellular RNA Localization and Spatial Transcriptomics** Co-chairs: Jingyi Fei, Univ of Chicago and Marvin Tanenbaum, Hubrecht Inst 10:00-10:15 Break 10:15-11:15 2020 Lifetime Achievement Award Lecture: Matthias Hentze, EMBL 11:15-12:30 Break 12:30-13:30 **Poster Session 2** Sponsored by Moderna **Topic categories:** Long Non-coding RNAs and Circular RNAs Small Non-coding RNAs in Eukaryotes Extracellular RNA **RNA** Turnover Viral RNAs

08:00-09:00	Junior Scientists Social
9:00-11:00	Concurrent Session 13: Bioinform <i>Chairs: Uwe Ohler, Max Delbrück</i>
09:00-11:15	Concurrent Session 14A: Mechan <i>Co-chairs: Hani Zaher, Washington</i> <i>RNA-based Infection Research</i>
1:15-11:30	Break
1:30-13:30	Entrepreneurship Panel <i>Chair: Peter Chu, Eclipse Bioinnov</i>
	Panelists: Rachel Haurwitz, Caribo Storm Therapeutics; Kevin Weeks, F MIRXES

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Sunday, 30 May

natics and Genomics

Ctr and Harold Pimentel, Univ of California Los Angeles

isms and Regulation of Translation

Univ in St. Louis and Neva Caliskan, Helmholtz Inst for

vations

ou Biosciences; Noam Shomron, Variantyx; Eric Miska, Ribometrix; Yun Yang, CircCode; Too Heng-Phon,

Monday, 31 May

09:15-10:30	Concurrent Session 15: Interconnected Processes <i>Co-chairs: Stirling Churchman, Harvard Medical School and Maayan Salton, Hebrew Univ</i>
09:15-10:45	Concurrent Session 16: RNA-based Therapeutics and Small-Molecule Interactions Sponsored by Eclipse Bioinnovations Co-chairs: Amanda Hargrove, Duke Univ and Michelle Hastings, Rosalind Franklin Univ
10:45-11:00	Break
11:00-12:00	Poster Session 3 Sponsored by Moderna
	Topic categories: RNA and Cellular Immunity RNA and Disease Targeting RNA for Therapy and Diagnostics Translation Mechanism Translation Regulation
	Tuesday, 1 June
08:00-09:00	2021 Lifetime Achievement Award Lecture: Melissa Moore, Moderna

- 09:00-09:15 Break
- 09:15-11:00 **Concurrent Session 17: RNA Modifications** Sponsored by Locanabio Co-chairs: Stacy Horner, Duke Univ and Chengqi Yi, Peking Univ
- 09:15-11:15 Concurrent Session 18: RNP Granules and Phase Transitions Co-chairs: Simon Alberti, Technische Univ Dresden and Graciela Boccaccio, Inst Leloir
- 11:15-11:30 Break
- Poster Session 4 11:30-12:30 Sponsored by Moderna

Topic categories:

RNA Structure, Folding and Modeling Regulatory RNAs in Bacteria and Archaea **Ribozymes and Riboswitches RNA** Nanotechnology RNPs: Biogenesis, Structure and Function **Ribosome Biogenesis and Modification**

12:45-13:45 Sponsored Seminar: Eclipse Bionnovations



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Predicting dynamic cellular protein-RNA interactions by deep learning using in vivo RNA structures

Cell Res. 2021 Feb 23;1-22. doi: 10.1038/s41422-021-00476-y.

*2019 impact factor 20.507 (Clarivate Analytics, 2020)

Coinfection with influenza A virus enhances SARS-CoV-2 infectivity Cell Res. 2021 Feb 18;1-9. doi: 10.1038/s41422-021-00473-1.

Establishment of intestinal organoid cultures modeling injury-associated epithelial regeneration Cell Res. 2021 Mar;31(3):259-271. doi: 10.1038/s41422-020-00453-x.

Neddylation of PTEN regulates its nuclear import and promotes tumor development Cell Res. 2021 Mar;31(3):291-311. doi: 10.1038/s41422-020-00443-z.

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SPRINGER NATURE

08:00-10:45	Concurrent Session 6B: RNA in I Sponsored by Locanabio Co-chairs: Elif Sarinay-Cenik, Uni [*]
08:00-11:00	Concurrent Session 19: Viral RN Co-chairs: Blanton Tolbert, Case W Pennsylvania
11:00-11:15	Break
11:15-12:45	Biotechnology Career Panel Co-chairs: Gene Yeo, Univ of Calife Therapeutics
	Panelists: Jim Burns, Locanabio; K Murphy, Samantha Murphy Consul Katie Warner, Ribometrix; Erin Sot
12:45-13:00	Break
13:00-14:00	Junior Scientists Social Sponsored by Locanabio

08:00-09:00	Poster Session 5 Sponsored by Moderna
	Topic categories: RNA Modification and Editing tRNA: Processing and Function Granules and Condensates Splicing Mechanism Splicing Regulation and Alternative Spl Polyadenylation and 3' End Formation
09:00-10:00	Keynote Lecture 3: Irene Bozzoni,
10:00-10:15	Break
10:15-12:15	Concurrent Session 20: Synthesis Co-chairs: Seychelle Vos, Massachu Cancer Research
10:15-12:30	Concurrent Session 21: RNA Turn Co-chairs: Sandra Wolin, RNA Biolo
	Univ

www.nature.com/cr

Wednesday, 2 June

Disease

iv of Texas Austin and Rotem Karni, Hebrew Univ

A and Innate Immune Response Vestern Reserve Univ and Kristen Lynch, Univ of

fornia San Diego and Joseph Lewcock, Denali

Kristina Bowyer, Ionis Pharmaceuticals; Samantha lting, Inc.; Kathleen McGinness, Arrakis Therapeutics; to. Ionis Pharmaceuticals

Thursday, 3 June

licing

Sapienza Univ of Rome and Italian Inst of Technology

and Processing of RNA setts Inst of Technology and Vlad Pena, The Inst of

nover ogy Lab, National Cancer Inst and Kate Meyer, Duke

Friday, 4 June

- Keynote Lecture 4: Sarah Woodson, Johns Hopkins Univ 08:00-09:00
- 09:00-09:15 Break
- 09:15-11:15 Concurrent Session 10B: Small RNAs

Co-chairs: Mofang Liu, Inst of Biochemistry and Cell Biology, Chinese Academy of Science and Ignacio Rubio-Somoza, Ctr for Research in Agricultural Genomics

- 09:15-11:45 Concurrent Session 14B: Mechanisms and Regulation of Translation Co-chairs: Hani Zaher, Washington Univ in St. Louis and Neva Caliskan, Helmholtz Inst for **RNA-based Infection Research**
- 11:45-12:00 Break
- 12:00-14:00 **Bioinformatics Grand Challenges** Sponsored by Eclipse Bioinnovations

Organizers: Michelle Meyer, Boston College; Yoseph Barash, Univ of Pennsylvania; Sharon Aviran, Univ of California Davis; Mihaela Zavolan, Univ of Basel

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Regards,

Warren Shore President United States Biological

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The RNA Society Lifetime Achievement Award acknowledges the impact of an outstanding RNA scientist on the general scientific community. Each year beginning in 2003, the Board of Directors has selected the recipient who receives a lifetime membership in the RNA Society in recognition of their outstanding contributions. The award is presented at the Annual RNA Meeting, where the recipient gives a special address to the RNA Society.

Previous winners include Joan Steitz (2003), Harry Noller (2004), John Abelson (2005), Christine Guthrie (2006), Walter Keller (2007), Norm Pace (2008), Thomas Cech (2009), Fritz Eckstein (2010), Witold Filipowicz (2011), Olke Uhlenbeck (2012), Phillip Sharp (2013), Reinhard Lührmann (2014), Anita Hopper (2015), Eric Westhof (2016), Lynne Maquat (2017), Jean Beggs (2018), Adrian Krainer (2019) and Matthias Hentze (2020).

Congratulations to Melissa Moore, of Moderna Therapeutics, who is the winner of the 2021 RNA Society Lifetime Achievement in Science Award.

The RNA Society Service Award



The RNA Society Service Award is given in appreciation of outstanding service to the RNA community. The overall mission of the RNA Society is to facilitate sharing and dissemination of experimental results and emerging concepts in RNA research. Each year, the Board of Directors identifies the recipient of this award who has made exemplary contributions to these goals.

Previous winners include Tim Nilsen (2003), Chris Greer (2004), Jean Beggs (2005), Olke Uhlenbeck (2006), Marvin Wickens (2007), Eric Westhof (2008), Anita Hopper (2009), Lynne Maquat (2010), Evelyn Jabri (2011), Brenda Peculis (2012), Ann Marie Micenmacher (2014), David Lilley (2015), Andrea Barta (2016), Andrew Feig (2017), Elizabeth Tran (2018), Jim McSwiggen (2019) and Sarah Woodson (2020).

Congratulations to Juan Valcárcel, of the Center for Genomic Regulation, Barcelona, who is the winner of the 2021 RNA Society Service Award.

The RNA Society Elisa Izaurralde Award

The RNA Society Elisa Izaurralde Award was established in 2019 to celebrate the life and achievements of Dr. Elisa Izaurralde, former Director of the Department of Biochemistry at the Max Planck Institute for Developmental Biology in Tubingen, Germany, and a generous friend and colleague to the RNA community. The award is psresented to an early career researcher who embodies Elisa's dedication to science and employs innovative approaches to their research, teaching and service. This award is open to scientists who are 5-15 years post-PhD and who hold an independent research position at an academic institution. Successful applicants are selected by members of the RNA Society Board of Directors.

The previous winner was Lori Passmore (2020).

Congratulations to Gene Yeo, of the University of California, San Diego, USA, who is the winner of the 2021 RNA Society Elisa Izaurralde Award for Innovation in Research, Teaching and Service.



Gene Yeo

The RNA Society Lifetime Achievement in Science Award

The RNA Society Mid-Career Award

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Previous winners include Karla Neugebauer (2017), Nils Walter (2017), Erik Sontheimer (2018), Ailong Ke (2019) and Jernej Ule (2020).

Congratulations to Ling-Ling Chen, of the Shanghai Institute of Biochemistry and Cell Biology of the Chinese Academy of Sciences, who is the winner of the 2021 RNA Society Mid-Career Award.

The RNA Society Early-Career Award



The RNA Society Early-Career Award is given in recognition of a scientist who has made significant contributions to their field in the first 7 years of their career as an independent investigator.

Previous winners include Wendy Gilbert (2017), Gene Yeo (2017), Andrei Korostelev (2018), Maria Barna (2019) and Igor Ulitsky (2020).

Congratulations to Schraga Schwartz, of the Weizmann Institute of Science, Israel, who is the winner of the 2021 RNA Society Early-Career Award.

Schraga Schwartz

NGE Supporting the Future

The RNA Society/Scaringe Young Scientist Award was established to recognize the was made to the student author(s) of the best paper, as selected by the editors, published

achievement of young scientists engaged in RNA research and to encourage them to pursue a career in the field of RNA. In 2004 and 2005, the RNA Society Scaringe Award during the previous year in RNA. The winners of the 2004 and 2005 awards were Stefano Marzi and Ramesh Pillai, respectively. In 2006, this award was revamped and opened to all junior scientists (graduate students and postdoctoral fellows) from all regions of the world who have made a significant contribution to the broad area of RNA. The award is no longer restricted to authors who have published in the RNA journal. The award includes a cash prize and support for travel and registration costs for the awardee(s) to attend the annual RNA Society meeting.





Previous graduate student winners include: Jeff Barrick (2006), Malte Beringer (2007), Qi Zhang (2008), Jeremey Wilusz (2009), John Calarco (2010), Jasmine Perez (2011), Chenguang Gong (2012), Tatjana Trcek Pulisic (2012), Wenwen Fang (2013), David Weinberg (2014), Samuel Sternberg (2015), Katherine Warner (2015), Ryan Flynn (2016), Nian Liu (2016), Malik Chaker-Margot (2017), Madeline Sherlock (2018), Boxuan Zhao (2018), Michael Chen (2019), Max Wilkinson (2019) and Robert Battaglia (2020).

Januka Athukoralage Jonathan Bohlen



Anna Loveland



Kathrin Leppek

Congratulations to the winners of the 2021 RNA Society Scaringe Awards: Graduate students Januka Athukoralage, of the University of St. Andrews, and Jonathan Bohlen, of the German Cancer Research Center (DFKZ), along with postdoctoral fellows Kathrin Leppek, of Stanford University, and Anna Loveland, of the University of Massachusetts Medical School.



The RNA Society Mid-Career Award is given in recognition of a scientist who has made significant contributions to their field in the first 15 years of their career as an independent investigator.

The RNA Society Scaringe Award

Previous postdoctoral fellow winners include Megan Talkington (2006), Zefeng Wang (2007), Alexei Aravin (2008), Shobha Vasudevan (2009), Luciano Marraffini (2010), Hani Zaher (2011), Kotaro Nakanishi (2012), Dipali Sashital (2012), Je-Hyun Yoon (2013), Jinwei Zhang (2014), Olga Anczukow-Camarda (2015), Schraga Schwartz (2015), Basil Greber (2016), Thi Hoang Duong Nguyen (2016), Zhipeng Lu (2017), Fuguo Jiang (2018), Xuebing Wu (2019) and Furgan Fazal (2020) and Sebastian Fica (2020).



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