2020 AAAS Annual Meeting

Envisioning Tomorrow’s Earth

February 13–16 • Seattle, WA
Washington State Convention Center
Sheraton Grand Seattle Hotel
Grand Hyatt Seattle

186th Meeting of the American Association for the Advancement of Science

Time and location of events are subject to change. Please refer to the online program and mobile app for the most up-to-date information.
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Welcome to Seattle

Dear Colleagues:

Scientific and technological research have been invaluable in developing ways of improving life on Earth. The 2020 AAAS Annual Meeting theme, Envisioning Tomorrow’s Earth, considers how efforts and advances in science and technology can respond to the new challenges faced by society.

Thank you for joining us at the 186th Meeting of the American Association for the Advancement of Science and welcome to the city of Seattle. This meeting is the culmination of the efforts of a diverse range of individuals in a myriad of disciplines. We are grateful to the presenters, exhibitors, the AAAS Scientific Program Committee, the AAAS Sections, and to those who spent a considerable amount of time evaluating the many excellent ideas and proposals for this year’s sessions and events.

The AAAS Annual Meeting is the premier event at which you can network with future collaborators from different disciplines, and we hope that our program inspires dynamic conversations about the future of the scientific endeavor.

Steven Chu
AAAS President and Program Chair
William R. Kenan, Jr., Professor of Physics
Stanford University

Ana Mari Cauce
President
University of Washington

President and Local Chair
General Information

Attendee Logistics

Registrants are required to wear their badges at all times when attending the Annual Meeting. Anyone without a valid meeting badge may be denied entry.

Do you need the full schedule?
Download the app here: [aaas.org/app](http://aaas.org/app)

Social Media

Hashtag:
#AAASmtg

Twitter:
@AAASmeetings

Live-tweeting and sharing of AAAS Annual Meeting content on social media is welcomed. If a meeting speaker does not wish to have his/her research shared by Twitter, Facebook, or other social networks, he/she should make an announcement before and during his/her presentation. Courtesy in communications is encouraged by AAAS. Speakers should be aware that most AAAS Annual Meeting events are open to the news media, and some are open to the public. AAAS strongly encourages compliance with speaker requests regarding social-media sharing but cannot guarantee it. Concerns and questions about this policy should be directed to AAAS Meetings staff at meetings@aaas.org.

Video- or audio-taping of any session or parts thereof for commercial purposes are not permitted without prior approval from the speakers, organizers, and AAAS.

Locations

Attendee Registration and Information

Washington State Convention Center, 4th Floor Atrium Lobby

Thursday
February 13
7:30AM–6:30PM

Friday–Sunday
February 14–16
7:30AM–5:30PM

Speaker Ready Room

For speakers only

Washington State Convention Center, 618

Thursday
February 13
11:00AM–5:30PM

Friday–Saturday
February 14–15
7:00AM–5:00PM

Sunday
February 16
7:00AM–3:30PM

Expo Hall

Check app for event schedule

Washington State Convention Center, 4B

Thursday
February 13
6:30PM–8:00PM

Friday
February 14
9:30AM–2:00PM
3:00PM–5:00PM

Saturday–Sunday
February 15–16
9:30AM–5:00PM

Safe Space

AAAS is committed to providing a safe environment for all participants at the AAAS Annual Meeting. If an individual experiences or witnesses harassment, AAAS offers a Safe Space to meet confidentially with professional advocates trained in offering individuals information, emotional support, and assistance in finding resources and deciding next steps, including filing a formal complaint with the AAAS Office of Meetings and Special Events. Individuals do not have to file a complaint to access the services of these advocates. Advocates are also available for those seeking advice on how to help a friend or colleague
who may be the victim of harassment. These advocates can be found at:

Washington State Convention Center, 310

Friday–Sunday
February 14–16 8:00AM–5:00PM

For immediate emergencies that require police or medical response, or if at any time you feel unsafe, contact venue security or call 9-1-1.

Newsroom Registration
For newsroom registrants only

Washington State Convention Center, 203

Thursday
February 13 7:00AM–5:00PM

Friday–Sunday
February 14–16 7:30AM–5:00PM

Family Science Days

Sheraton Grand, 2nd Floor, Grand Ballroom

Saturday–Sunday
February 15–16 11:00AM–4:00PM

Meeting Practices and Policies

AAAS is committed to providing a safe and productive meeting environment that fosters open dialogue and the exchange of scientific ideas, promotes equal opportunities and treatment for all participants, and is free of harassment and discrimination. All participants are expected to treat others with respect and consideration, follow venue rules, and alert staff or security of any dangerous situations or anyone in distress. Speakers are expected to uphold standards of scientific integrity and professional ethics. AAAS recognizes that there are areas of science that are controversial. The AAAS Annual Meeting can serve as an effective forum to consider and debate science-relevant viewpoints in an orderly, respectful, and fair manner. The policies herein apply to all attendees, speakers, exhibitors, staff, contractors, volunteers, and guests at the Annual Meeting and related events.

Harassment

Harassment includes speech or behavior that is not welcome or is personally offensive, whether it is based on ethnicity, gender, religion, age, body size, disability, veteran status, marital status, sexual orientation, gender identity, or any other reason not related to scientific merit. It includes stalking, unnecessary touching, and unwelcome attention. Behavior that is acceptable to one person may not be acceptable to another, so use discretion to be sure that respect is communicated. Harassment intended in a joking manner still constitutes unacceptable behavior. Retaliation for reporting harassment is also a violation of this policy, as is reporting an incident in bad faith.

AAAS is committed to supporting a productive working environment for everyone at the meeting. If an individual experiences or witnesses harassment, they should contact AAAS Meetings staff at meetings@aaas.org or (202) 326–6450, or use a venue phone and ask for security if they feel unsafe. A Safe Space staffed with advocates is provided for those who want to explore options, next steps, and assistance filling official reports. All complaints will be treated seriously and responded to promptly. After investigating, AAAS will consult with the individual filing the complaint prior to taking any action.

AAAS reserves the right to remove an individual from the Annual Meeting without warning or refund, prohibit attendance at future AAAS meetings, and notify the individual’s employer.

Conflict of Interest

AAAS requires clear disclosures from all presenters at its Annual Meeting regarding any financial holdings, funding sources, or affiliations that might raise
General Information

questions of bias or be perceived to have potentially influenced presentation content. AAAS expects that all Annual Meeting speakers, organizers, and moderators are committed to full, forthright, and transparent disclosure of any potential conflicts of interest.

When in doubt, presenters are asked to disclose any concerns or questions by contacting AAAS Meetings staff at meetings@aaas.org. Significant disclosures may be made public, as appropriate on a case by case basis, within the AAAS Annual Meeting program.

No Smoking or Vaping

On December 30, 1971, the AAAS Council adopted a motion requesting that persons in attendance refrain from smoking at Council meetings and scientific and public sessions. We ask that all persons who attend the meeting comply with this ruling.

Meeting Development

The symposia, seminars, and lectures of the AAAS Annual Meeting are developed through a peer-review selection process overseen by the AAAS Annual Meeting Program Committee. Peer reviewers are asked to examine proposed symposium topics for scientific significance, timeliness, balance, and clarity of organization. This review is based on a description of the proposed session and does not include a technical examination of individual presentations. For more information on how the program is developed, visit meetings.aaas.org/program.

Disclaimers

Abstracts and synopses of material presented at the AAAS Annual Meeting or published in this volume reflect the individual views of the author and not necessarily those of the AAAS, its Council, Board of Directors, officers, or the views of the institutions with which the authors are affiliated.

Presentation of ideas, products, or publications at the AAAS Annual Meeting or the reporting of them in resulting news accounts does not constitute endorsement by AAAS.

Abstracts are submitted by the authors and AAAS is not responsible for the content contained in abstracts. All questions regarding them should be directed to the authors.

Attendees at the meeting may be audiotaped, videotaped, or photographed by AAAS, and their images may be used in promotional or other AAAS materials.

Coffee and seating in session rooms is available on a first-come, first-served basis.

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# Plenary Sessions

## PLENARY SESSIONS

### THURSDAY, FEBRUARY 13

**AAAS President’s Address**

<table>
<thead>
<tr>
<th>Speaker</th>
<th>Affiliation</th>
<th>Time</th>
<th>Location</th>
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</thead>
<tbody>
<tr>
<td>Steven Chu</td>
<td>Stanford University</td>
<td>5:00PM–6:30PM</td>
<td>Washington State Convention Center, 4A</td>
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</tbody>
</table>

Presented by:

![Johnson & Johnson](node)

### FRIDAY, FEBRUARY 14

**The Second Antibiotic Era**

<table>
<thead>
<tr>
<th>Speaker</th>
<th>Affiliation</th>
<th>Time</th>
<th>Location</th>
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</thead>
<tbody>
<tr>
<td>Maryn McKenna</td>
<td>Journalist and author</td>
<td>5:15PM–6:30PM</td>
<td>Washington State Convention Center, 4A</td>
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</tbody>
</table>

Presented by:

![European Union](node)

### SATURDAY, FEBRUARY 15

**The Social Life of DNA and the Need for a New Bioethics**

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<tr>
<th>Speaker</th>
<th>Affiliation</th>
<th>Time</th>
<th>Location</th>
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<tbody>
<tr>
<td>Alondra Nelson</td>
<td>Institute for Advanced Study/ Social Science Research Council</td>
<td>5:15PM–6:30PM</td>
<td>Washington State Convention Center, 4A</td>
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### SUNDAY, FEBRUARY 16

**Develop for Quantum Impact**

<table>
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<tr>
<th>Speaker</th>
<th>Affiliation</th>
<th>Time</th>
<th>Location</th>
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<tbody>
<tr>
<td>Krysta Svore</td>
<td>Microsoft Corporation</td>
<td>5:15PM–6:30PM</td>
<td>Washington State Convention Center, 4A</td>
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</tbody>
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Topical Sessions

**TOPICAL SESSIONS**

**SATURDAY, FEBRUARY 15**

**Variation is the Norm: Darwin’s Population and the Science of Emotion**

<table>
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<th>Speaker</th>
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<th>Time</th>
<th>Location</th>
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<tbody>
<tr>
<td>Lisa Feldman Barrett</td>
<td>Northeastern University</td>
<td>NOON–1:00PM</td>
<td>615–616</td>
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**AI Advances and Aspirations**

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<tr>
<th>Speaker</th>
<th>Affiliation</th>
<th>Time</th>
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<tbody>
<tr>
<td>Eric Horvitz</td>
<td>Microsoft Research</td>
<td>NOON–1:00PM</td>
<td>6C</td>
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**Space Domain Prediction and Awareness**

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<th>Speaker</th>
<th>Affiliation</th>
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<th>Location</th>
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<tbody>
<tr>
<td>Moriba Jah</td>
<td>University of Texas at Austin</td>
<td>NOON–1:00PM</td>
<td>6A</td>
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**Baby Brains and our Neuro-Futures**

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<th>Speaker</th>
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<th>Time</th>
<th>Location</th>
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<tbody>
<tr>
<td>Patricia Kuhl</td>
<td>University of Washington</td>
<td>NOON–1:00PM</td>
<td>603</td>
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</tbody>
</table>

**TOPICAL SESSIONS**

**SUNDAY, FEBRUARY 16**

**Seas the Day: Science Driving Ocean and Climate Solutions**

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<th>Speaker</th>
<th>Affiliation</th>
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<th>Location</th>
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<tbody>
<tr>
<td>The Honorable Jane Lubchenco</td>
<td>Oregon State University</td>
<td>NOON–1:00PM</td>
<td>6B</td>
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</tbody>
</table>

**Beyond Complacency: Renewing America’s Endless Frontier**

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<tr>
<th>Speaker</th>
<th>Affiliation</th>
<th>Time</th>
<th>Location</th>
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<tbody>
<tr>
<td>Diane L. Souvaine</td>
<td>National Science Board</td>
<td>NOON–1:00PM</td>
<td>619–620</td>
</tr>
</tbody>
</table>

**Geoengineering and our Climate Future**

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<th>Speaker</th>
<th>Affiliation</th>
<th>Time</th>
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<tbody>
<tr>
<td>David Keith</td>
<td>Harvard University</td>
<td>NOON–1:00PM</td>
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**Transgender Children**

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<th>Speaker</th>
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<th>Time</th>
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</thead>
<tbody>
<tr>
<td>Kristina Olson</td>
<td>University of Washington</td>
<td>NOON–1:00PM</td>
<td>6A</td>
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</tbody>
</table>
Topical Sessions

SUNDAY, FEBRUARY 16

Quantum Cloud Computing

Elham Kashefi
University of Edinburgh
NOON–1:00PM
Washington State Convention Center 6C

The Indigenous/Science Project: Collaborative Practice as Witnessing

Alison Wylie
University of British Columbia
NOON–1:00PM
Washington State Convention Center 6C

Milestone Celebrations

The Milestones for the 2020 Annual Meeting celebrate events that have increased access to and advances in the scientific endeavor, bringing discussion of scientific topics into everyday life.

19th Amendment
In August 1920, Congress ratified the 19th Amendment. The legal validation for women’s voting rights has resulted, directly or indirectly, in the great advances women and other underrepresented groups have made in all spheres of public and private life.

Town Hall: 100 Years of the 19th Amendment: A Discussion on Progress and Challenges
Washington State Convention Center, 6E
Saturday, February 15
1:30PM–3:00PM

SPEAKERS
Jane Junn, University of Southern California
Michael Latner, California Polytechnic State University
Arti Garg, Engineers & Scientists Acting Locally

MODERATOR
Gretchen Goldman, 500 Women Scientists

DISCUSSANT
Alejandra Tres, Readysetvote.org

ORGANIZER
Gretchen Goldman, 500 Women Scientists

Download the Annual Meeting app for the most up-to-date information about the meeting program:

aaas.org/app
Science—The Endless Frontier Report
In 1945, engineer Vannevar Bush created this extensive report for then-president Franklin D. Roosevelt. It provided many justifications for the value of the scientific endeavor and the ways it can support U.S. policy, and has had global and wide-ranging impact in government funding for the sciences in the years since its publication.

Topical Lecture: Diane L. Souvaine: Beyond Complacency: Renewing America’s Endless Frontier
Washington State Convention Center, 619–620
Saturday, February 15
NOON–1:00PM

Earth Day
In 1970, Senator Gaylord Nelson of Wisconsin established the first Earth Day, an occasion to raise awareness about environmental concerns for individuals from all walks of life. In doing so, he began a national conversation about how best to protect America’s natural resources in the years to come.

Town Hall: Talking About and Acting on Climate Locally
Washington State Convention Center, 6E
Saturday, February 15
10:00AM–11:30AM

SPEAKERS
Burke Hales, Oregon State University
Margaret Redsteer, University of Washington, Bothell

MODERATOR
Jessica Hellmann, University of Minnesota

ORGANIZERS
Elana Kimbrell, AAAS Center for Public Engagement with Science and Technology
Emily Cloyd, AAAS Center for Public Engagement with Science and Technology

Town Hall: The Economics of Climate Change
Washington State Convention Center, 6E
Saturday, February 15
3:30PM–5:00PM

SPEAKERS
HRH Princess Sumaya bint El Hassan, Royal Scientific Society of Jordan
Solomon Hsiang, University of California, Berkeley
Frances C. Moore, University of California, Davis

MODERATOR
Leonardo Martinez-Diaz, World Resources Institute

ORGANIZER
Ashira Beutler-Greene, American Association for the Advancement of Science
Chronological Summary

Wednesday, February 12

9:00AM–4:00PM BUSINESS MEETINGS
Committee on Opportunities in Science 2020 Meeting
Sheraton Grand, Cedar B
By invitation only

1:00PM–2:30PM LOCAL SCIENCE TOURS
Behind the Scenes at the Burke Museum: A Tour of Biology Research and Collection Spaces
Burke Museum of Natural History and Culture
Pre-registration required

1:00PM–5:00PM SPECIAL SESSIONS
Mini-Catalyzing Advocacy in Science and Engineering (CASE) Workshop
Sheraton Grand, Redwood AB
Pre-registration required

2:00PM–4:00PM LOCAL SCIENCE TOURS
Exploring the Bellevue Wetlands
Mercer Slough Environmental Education Center
Pre-registration required

7:00PM–9:00PM SPECIAL EVENTS
Film screening: Secrets of the Universe
Pacific Science Center
Pre-registration required

Thursday, February 14

9:00AM–10:30AM SEMINARS
Communicating Science: Engaging with the Media on Science-Society Topics
Washington State Convention Center, 6B
Pre-registration required

9:30AM–4:00PM BUSINESS MEETINGS
Responsible Research and Innovation Networked Globally (RRING)—A Glocal Workshop
Sheraton Grand, Metropolitan Ballroom B

11:00AM–12:30PM SEMINARS
Communicating Science: Building Community for Inclusive Public Engagement with Science
Washington State Convention Center, 6B
Pre-registration required

1:00PM–2:00PM SPECIAL SESSIONS
Engaging Scientists and Engineers in Policy (ESEP) Discussion
Washington State Convention Center, 6B
Pre-registration required

2:00PM–3:00PM LOCAL SCIENCE TOURS
Laboratory Tours at the Allen Institute
Allen Institute
Pre-registration required

2:30PM–4:00PM SEMINARS
Communicating Science: Afternoon Breakout Sessions
Washington State Convention Center, 6B
Pre-registration required
Thursday/Friday

4:00PM–5:00PM  SPECIAL EVENTS
AAAS Leshner Fellows Announcement Reception
Sheraton Grand, Redwood A
By invitation only

5:00PM–6:30PM  PLENARY SESSIONS
Steven Chu: President’s Address
Washington State Convention Center, Plenary Hall 4A
Presented by:

6:30PM–8:00PM  SPECIAL EVENTS
Welcome to Seattle Reception
Washington State Convention Center, Expo
Presented by:

Friday, February 15

6:30AM–8:00AM  BUSINESS MEETINGS
General Meeting of the Section Leadership
Grand Hyatt, Princessa Ballroom 1
Open to all Section Officers

8:00AM–9:30AM  SCIENTIFIC SESSIONS
An Aging World: Pitfalls and Promise
Washington State Convention Center, 603

Bioinformatics and AI: Innovative Approaches to Research and Data Storage
Washington State Convention Center, 606

Carbon Economy: Considerations for the United States and Pacific Rim
Washington State Convention Center, 6C

Climate Change Solutions: Capturing Greenhouse Gas Emissions in Land
Washington State Convention Center, 613

Herbicide Resistance: Catalyzing Transdisciplinary Science
Washington State Convention Center, 6A

Learning Through Citizen Science: Enhancing Opportunities by Design
Washington State Convention Center, 609

Mentorship: Toward a Culture of Effectiveness and Inclusivity
Washington State Convention Center, 611

Molecular Probes and Imaging: Exploring the Inner Universe
Washington State Convention Center, 615–616

New Approaches to Fairness in Automated Decision Making
Washington State Convention Center, 619–620

Science During Crisis: Best Practices, Research Needs, and Policy Priorities
Washington State Convention Center, 612

Science is Political, Not Partisan: Best Practices for Science Policy Advocates
Washington State Convention Center, 604

The Biological Engineering Revolution: Strategies for a Sustainable Scale-up
Washington State Convention Center, 607

The Drug Abuse Crisis: Key Findings From Three Landmark Studies
Washington State Convention Center, 6B
Friday

8:00AM–9:30AM  SCREENING ROOM

*Rise of the Mammals*
Washington State Convention Center, 617
Presented by University of Washington

8:00AM–9:30AM  BUSINESS MEETINGS

*AERA/CGS Open Science Listening Session 1*
Sheraton Grand, Greenwood

8:00AM–NOON  BUSINESS MEETINGS

*Committee on Science, Engineering, and Public Policy (COSEPP) Meeting: Day 2*
Sheraton Grand, Ballard
By invitation only

8:00AM–5:00PM  BUSINESS MEETINGS

*AAAS Committee on Scientific Freedom and Responsibility (CSFR)*
Sheraton Grand, Medina
By invitation only

9:00AM–NOON  BUSINESS MEETINGS

*Mathematics Section Business Meeting*
Sheraton Grand, Cedar AB
Open to all registrants

*Pharmaceutical Sciences Section Business Meeting*
Sheraton Grand, Juniper
Open to all registrants

9:30AM–12:30PM  BUSINESS MEETINGS

*Engineering Section Business Meeting*
Sheraton Grand, Aspen
Open to all registrants

10:00AM–11:30AM  SCIENTIFIC SESSIONS

*Convergent Science: Combating Africa’s Wildlife Crisis*
Washington State Convention Center, 607

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Friday

*Earth-sized Planets Orbiting Other Stars: How To Find and Study Them*
Washington State Convention Center, 603

*Gerrymandering and Mathematics: Redistricting the Nation*
Washington State Convention Center, 6C

*Green Toxicology*
Washington State Convention Center, 619–620

*Learning from Protactile DeafBlind Communities: Toward a More Tactile Future*
Washington State Convention Center, 606

*Living Donors: How Volunteers Give Tissues and Time to Advance Science*
Washington State Convention Center, 609

*Local Solutions to Global Challenges: A Community-based Approach to Innovation*
Washington State Convention Center, 611

*Particle Therapy: Perspectives from Physics, Medicine, and Economics*
Washington State Convention Center, 604

*Sustainable Agriculture: Launching Standardized Microbial Ecosystems*
Washington State Convention Center, 6A

*The Future of Earth’s Climate: A World of Extremes*
Washington State Convention Center, 6B

*The Reef Crisis in Earth’s Future*
Washington State Convention Center, 615–616

*Transforming Higher Education Culture: Coordinating Reform with Agents of Change*
Washington State Convention Center, 612
Friday

**Unique Solutions for Renewable Energy, Marine Energy Storage, and Water Usage**
Washington State Convention Center, 613

10:00AM–11:30AM TOWN HALLS

**Balancing Science with Concerns About National Security**
Washington State Convention Center, 6E

10:00AM–11:30AM SCREENING ROOM

**The Bit Player**
Washington State Convention Center, 617
Presented by University of Washington

10:00AM–11:30AM SPECIAL SESSIONS

**Breaking a Big Science Story through Film: Rise of the Mammals**
Washington State Convention Center, 608

10:00AM–11:30AM CAREER WORKSHOPS

**Communications, Engagement and Advocacy: The Role of Science in Decision-making**
Washington State Convention Center, 401

**Envisioning the Global Professional: Uncovering Career Opportunities Worldwide**
Washington State Convention Center, 4C-3

**Learning to Manage and Mentor: Skills for Long-term Success in Science**
Washington State Convention Center, 4C-4

10:00AM–NOON BUSINESS MEETINGS

**AAAS Meeting of Affiliates**
Grand Hyatt, Princesa Ballroom 2
Open to all affiliate representatives

Friday

**Social, Economic, and Political Sciences Section Business Meeting**
Sheraton Grand, Kirkland
Open to all registrants

10:45AM–2:00PM BUSINESS MEETINGS

**NAAS Delegates Assembly and Forum**
Sheraton Grand, Issaquah AB

NOON—1:30PM SCIENTIFIC SESSIONS

**Beethoven at 250 and the Science of Music: Emotion, Memory, and Health**
Washington State Convention Center, 6B

**Diversity, Equity, and Inclusion: Recommendations from Physics and Astronomy**
Washington State Convention Center, 604

**Food of the Future: Developing New Sustainable, and Healthy Sources**
Washington State Convention Center, 6C

**Human Embryo Research Revisited: Scientific, Ethical, Legal, and Social Issues**
Washington State Convention Center, 613

**Natural History Collections and Biodiversity’s Future**
Washington State Convention Center, 606

**Ocean Outbreaks on a Changing Planet**
Washington State Convention Center, 6A

**Oral Cancer: Using the HPV Vaccine for Prevention**
Washington State Convention Center, 607

**Responding to Climate Change: Science, Religion, and Cultural Practices**
Washington State Convention Center, 611
**Friday**

**Strengthening Sustainability Programs and Curricula in Higher Education**  
Washington State Convention Center, 612

**The Neuroscience of Addiction: Policy Considerations**  
Washington State Convention Center, 615–616

**Urban Resilience and Emergency Response: The Climate Change Perspective**  
Washington State Convention Center, 603

**Using Data and AI to Disrupt Sex Trafficking**  
Washington State Convention Center, 609

**Wildfire Smoke and Public Health: The Science at the Nexus**  
Washington State Convention Center, 619–620

**NOON—1:30PM TOWN HALLS**

**Bringing Scientific Evidence to Meet Local Policy Challenges**  
Washington State Convention Center, 6E

**NOON—1:30PM SCREENING ROOM**

**Moonlight Sonata: Deafness in Three Movements**  
Washington State Convention Center, 617  
Presented by University of Washington

**NOON—1:30PM SPECIAL SESSIONS**

**Implementing Sustainable Solutions in a Changing World**  
Washington State Convention Center, 608

**NOON—1:30PM CAREER WORKSHOPS**

**Citizens, Scientists, and Elections: How Scientists are Engaging in 2020**  
Washington State Convention Center, 4C-4

**How to Make Compelling Outreach Videos When Your Science Seems Dull**  
Washington State Convention Center, 4C-3

**Impacting the Research Enterprise Through Careers in Research Development**  
Washington State Convention Center, 401

**NOON—3:00PM BUSINESS MEETINGS**

**Industrial Science and Technology Section Business Meeting**  
Sheraton Grand, Redwood AB  
Open to all registrants

**2:00PM–3:00PM PLENARY LECTURE**

**Bill Gates**  
Washington State Convention Center, Plenary Hall 4A

**3:00PM–4:30PM SPECIAL EVENT**

**SciComm Training Discussion: Foundational Skills for Science Communication**  
Sheraton Grand, Capitol Hill

**So You Want to Be an S&T Policy Fellow? Conversations with Current and Alumni Fellows**  
Sheraton Grand, Ravenna BC

**3:30PM–5:00PM SCIENTIFIC SESSIONS**

**Averting Catastrophic Biological Incidents in the Future**  
Washington State Convention Center, 609

**Ecosystems’ True Value: European Efforts to Map and Account for Nature**  
Washington State Convention Center, 603

**Ethical Risks of Voice Technology: A Sociolinguistic Perspective**  
Washington State Convention Center, 613
Friday

**Evolution of Criminal Justice: How Science and Evidence-Based Policy Interact**
Washington State Convention Center, 604

**How to Counter Intersectional Biases in Social Media**
Washington State Convention Center, 6B

**Oil Spills: Advances in Mitigating Impact and Consequences**
Washington State Convention Center, 612

**Public Trust in Science: Strength and Skepticism**
Washington State Convention Center, 619–620

**Robotic Companions and the Future of AI**
Washington State Convention Center, 611

**Smart New Energy Vehicles and Intelligent Transportation**
Washington State Convention Center, 606

**Synthetic Biology: Digital Design of Living Systems**
Washington State Convention Center, 6A

**The Changing Identity Landscape: Multiracial, Intersex, & Transgender People**
Washington State Convention Center, 615–616

**Urban Sustainability: Support From Artificial Intelligence and Big Earth Data**
Washington State Convention Center, 6C

**Using Computing to Sustainably Feed a Growing Population**
Washington State Convention Center, 607

3:30PM–5:00PM **TOWN HALLS**
**Combatting Sexual and Gender Harassment in STEMM: An Enterprise Approach**
Washington State Convention Center, 6E

3:30PM–5:00PM **SCREENING ROOM**
**I AM HUMAN**
Washington State Convention Center, 617
Presented by University of Washington

3:30PM–5:00PM **SPECIAL SESSIONS**
**Legacy, Voice, and Complexity in Science and Storytelling**
Washington State Convention Center, 608

3:30PM–5:00PM **CAREER WORKSHOPS**
**Envisioning Your Career of Tomorrow, Today**
Washington State Convention Center, 4C-4

**Strategies for Securing Philanthropic Funds in Science and Health**
Washington State Convention Center, 4C-3

**The (Gross) Anatomy of Responding to Peer Review Commentary**
Washington State Convention Center, 401

3:30PM–5:00PM **BUSINESS MEETINGS**
**Journal of Science Policy and Governance Board Meeting**
Sheraton Grand, Kirkland

**Urban Science Advice—INGSA**
Grand Hyatt, Portland AB

3:30PM–5:00PM **E-POSTER SESSIONS**
**General E-Poster Presentations**
Washington State Convention Center, Expo Hall, E-Poster Pods
Friday

5:15PM–6:30PM  PLENARY SESSIONS
Maryn McKenna: The Second Antibiotic Era
Washington State Convention Center, Plenary Hall 4A
Presented by

6:30PM–8:00PM  SPECIAL EVENTS
2020 AAAS Annual Meeting Member Reception
Washington State Convention Center, 4th Floor Galleria

Connecting Scientific and Religious Communities: AAAS DoSER Reception
Sheraton Grand, Ballard

7:00PM–8:30PM  SPECIAL EVENTS
Biological Sciences Section Reception
Sheraton Grand, Metropolitan Ballroom B

7:00PM–9:30PM  BUSINESS MEETINGS
Education Section Business Meeting
Sheraton Grand, Issaquah AB
Open to all registrants

Agriculture, Food, and Renewable Resources Section Business Meeting
Sheraton Grand, Redwood A
Open to all registrants

Astronomy Section Business Meeting
Sheraton Grand, Juniper
Open to all registrants

Chemistry Section Business Meeting
Sheraton Grand, Greenwood
Open to all registrants

Friday/Saturday

Information, Computing, and Communication Section Business Meeting
Sheraton Grand, Redwood B
Open to all registrants

Linguistics and Language Science Section Business Meeting
Sheraton Grand, Aspen
Open to all registrants

Neuroscience Section Business Meeting
Sheraton Grand, Madrona
Open to all registrants

Physics Section Business Meeting
Sheraton Grand, Leschi
Open to all registrants

Societal Impacts of Science and Engineering Section Business Meeting
Sheraton Grand, Ravenna A,B,C
Open to all registrants

Saturday, February 15

7:00AM–9:00AM  SPECIAL EVENTS
Women and Minority Scientists and Engineers Networking Breakfast
Presented by

Sheraton Grand, Metropolitan Ballroom A
By invitation only

8:00AM–9:30AM  SCIENTIFIC SESSIONS
Artificial Intelligence Research: A Community Roadmap
Washington State Convention Center, 6B

Climate and Marine Ecosystems: Exploration, Prediction, and Protection
Washington State Convention Center, 603
Engineering Biology and the Promotion of Community Security  
Washington State Convention Center, 607

Immigration, Crime, and Justice: A Data-driven Investigation  
Washington State Convention Center, 6A

Improving Food Security Policies: Innovative Agriculture and Market Monitoring  
Washington State Convention Center, 611

Inclusion in the Academy: Exploring Identity and Equity in the STEM Community  
Washington State Convention Center, 615–616

Resilience in the Digital Age  
Washington State Convention Center, 606

Science Advocacy: Lobbying for Evidence  
Washington State Convention Center, 6C

Sequencing the Genomes of Life: Protecting Biodiversity and Sustaining Society  
Washington State Convention Center, 608

The Reproducibility Revolution: Impacts on Science, Journalism, and Society  
Washington State Convention Center, 619–620

8:00AM–9:30AM SCREENING ROOM  
The Future of Food  
Washington State Convention Center, 617 Presented by University of Washington

8:00AM–10:00AM SPECIAL EVENTS  
AAAS Fellows Forum  
Washington State Convention Center, Plenary Hall 4A  
By invitation only

9:00AM–NOON BUSINESS MEETINGS  
Dentistry and Oral Health Sciences Section Business Meeting  
Sheraton Grand, Juniper  
Open to all registrants

9:30AM–1:00PM E-POSTER SESSIONS  
Student E-Poster Session, Saturday  
Washington State Convention Center, Expo Hall, E-Poster Pods  
Pod 1: Brain and Behavior  
Pod 2: Environment & Ecology  
Pod 3: Environment & Ecology  
Pod 4: Medicine & Public Health  
Pod 5: Technology, Engineering, & Math Physical Science  
Pod 6: Science in Society

10:00AM–11:30AM SCIENTIFIC SESSIONS  
Adapting to Climate Change: Improving Connections Between Science and Society  
Washington State Convention Center, 615–616

Washington State Convention Center, 608

Citizen Science and Big Data: From Engagement to Action  
Washington State Convention Center, 619–620

Detecting, Combating, and Identifying Dis and Mis-information  
Washington State Convention Center, 6C

Detecting Life and Extraterrestrial Technologies  
Washington State Convention Center, 6A

Ethical Issues in Artificial Intelligence  
Washington State Convention Center, 609

Finding the Lost Einsteins  
Washington State Convention Center, 611
Saturday

**Nourishing People and Planet: Building a Better, Balanced Food System for 2050**  
Washington State Convention Center, 6B

**Political Animals: Behavior, Knowledge, Reason, and Tomorrow’s Policymaking**  
Washington State Convention Center, 607

**STEM Research Experiences for High School Students**  
Washington State Convention Center, 612

**The Digital Transformation of Societies: Addressing Technological Disruption**  
Washington State Convention Center, 606

**Women’s Leadership in the Global Science System**  
Washington State Convention Center, 603

10:00AM–11:30AM **TOWN HALLS**

**Talking About and Acting on Climate Locally**  
Washington State Convention Center, 6E

10:00AM–11:30AM **SPECIAL SESSIONS**

**The Science of Homelessness**  
Washington State Convention Center, 613

10:00AM–11:30AM **CAREER WORKSHOPS**

**European Union Grants: Shake Up Your Research Abroad**  
Washington State Convention Center, 4C-3

**From the Bench to the Ballot: Scientists in Elected Office**  
Washington State Convention Center, 401

**Make ‘em Laugh: Science Comedy to Ignite Curiosity and Increase Self-confidence**  
Washington State Convention Center, 4C-4

10:00AM–11:30AM **SPONSORED WORKSHOP**

**The Science of Communicating About Science**,  
Sponsored by University of Florida  
Washington State Convention Center, 4C-2

10:00AM–NOON **BUSINESS MEETINGS**

**Anthropology Section Business Meeting**  
Sheraton Grand, Ballard  
Open to all registrants

**Atmospheric and Hydrospheric Sciences Section Business Meeting**  
Sheraton Grand, Greenwood  
Open to all registrants

**Biological Sciences Section Business Meeting**  
Sheraton Grand, Redwood A  
Open to all registrants

**General Interest in Science and Engineering Section Business Meeting**  
Sheraton Grand, Cedar AB  
Open to all registrants

**Geology and Geography Section Business Meeting**  
Sheraton Grand, Capitol Hill  
Open to all registrants

**History and Philosophy of Science Section Business Meeting**  
Sheraton Grand, Madrona  
Open to all registrants

**Medical Sciences Section Business Meeting**  
Sheraton Grand, Redwood B  
Open to all registrants

**Meeting of the Foundation for Science and Disability**  
Sheraton Grand, Leschi
### Psychology Section Business Meeting
Sheraton Grand, Medina  
*Open to all registrants*

### Statistics Section Business Meeting
Sheraton Grand, Kirkland  
*Open to all registrants*

#### Saturday

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<tr>
<th>Time</th>
<th>Event</th>
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</table>
| 10:00AM–12:30PM | **SCREENING ROOM**  
**AAAS-Kavli Science Journalism Awards Film Showcase**  
Washington State Convention Center, 617  
Presented by University of Washington |
| 11:30AM–2:00PM | **SPECIAL EVENTS**  
**AAAS President's Circle Luncheon**  
Grand Hyatt, Princessa Ballroom 1 and 2  
*By invitation only* |
| NOON–1:00PM   | **TOPICAL LECTURES**  
**Eric Horvitz: AI Advances and Aspirations**  
Washington State Convention Center, 6C |
|               | **Moriba Jah: Space Domain Prediction and Awareness**  
Washington State Convention Center, 6A |
|               | **Patricia Kuhl: Baby Brains and Our Neuro-Futures**  
Washington State Convention Center, 603 |
|               | **Jane Lubchenco: Seas the Day: Science Driving Ocean and Climate Solutions**  
Washington State Convention Center, 6B |

<table>
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<tr>
<th>JOHN P. MCGOVERN LECTURE IN THE BEHAVIORAL SCIENCES</th>
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| **Lisa Feldman Barrett: Variation is the Norm: Darwin’s Population Thinking and the Science of Emotion**  
Washington State Convention Center, 615–616 |
| **Diane L Souvaine: Beyond Complacency: Renewing America’s Endless Frontier**  
Washington State Convention Center, 619–620 |

| 1:30PM–3:00PM | **SCIENTIFIC SESSIONS**  
**Boundary Spanning: Environmental Science and Decision-making**  
Washington State Convention Center, 607 |
|               | **Clean Aviation in Tomorrow’s World**  
Washington State Convention Center, 608 |
|               | **Climate Change Mitigation: The Roles of Industry and the Private Sector**  
Washington State Convention Center, 603 |
|               | **Communication Through Touch: From Babies to Social Robots**  
Washington State Convention Center, 6C |
|               | **Health Disparities: The Intersection of Psychology, History, Law, and Medicine**  
Washington State Convention Center, 606 |
|               | **Improved Wildfire Resilience: Leveraging Science and Technology**  
Washington State Convention Center, 615–616 |
|               | **Infectious Disease Forecasting: Models and Machine Learning**  
Washington State Convention Center, 6A |
|               | **Nature Conservation and Computational Technologies: Expanding the Scale**  
Washington State Convention Center, 613 |
|               | **Public Engagement at Universities: Pathways for Institutional Support**  
Washington State Convention Center, 609 |
|               | **Saving Science Journalism: Actions for Science Communication Researchers**  
Washington State Convention Center, 611 |
|               | **Socially Integrative Cities: Paving the Way to Urban Sustainability**  
Washington State Convention Center, 619–620 |
 Saturday

1:30PM–3:00PM TOWN HALLS

**The Future of Water and Human Decision-making**
Washington State Convention Center, 6B

**Tracing How Scientific Infrastructure Accelerates Discovery**
Washington State Convention Center, 612

1:30PM–3:00PM SCREENING ROOM

**American Premiere: Under Thin Ice**
Washington State Convention Center, 617
Presented by University of Washington

1:30PM–3:00PM CAREER WORKSHOPS

**Crafting a Narrative for Your Post-academic Career**
Washington State Convention Center, 401

**Navigating Difficult Situations in Public Science Communication**
Washington State Convention Center, 4C-4

**Science in the Public Arena: Informing Decision Makers in High-Profile Settings**
Washington State Convention Center, 4C-3

1:30PM–3:00PM SPONSORED WORKSHOPS

**Genomics, Past and Future, with a Preview of Upcoming Film Ken Burns Presents The Gene: An Intimate History**
Sponsored by NIH-National Human Genome Research Institute
Washington State Convention Center, 4C-2

1:30PM–3:00PM BUSINESS MEETINGS

**Committee on Council Affairs: Open Hearing**
Grand Hyatt, Discovery AB

2:30PM–3:30PM BUSINESS MEETINGS

**Committee on Council Affairs: Open Hearing**
Grand Hyatt, Discovery AB

3:30PM–5:00PM SCIENTIFIC SESSIONS

**AI for Climate Change Adaptation**
Washington State Convention Center, 608

**China’s Road Towards Ecological Civilization and Environmental Sustainability**
Washington State Convention Center, 619–620

**Envisioning Ocean Climate Solutions for the Next Generation**
Washington State Convention Center, 612

**Equity in Genomic Medicine: Giving Voice to Indigenous Genetic Variation**
Washington State Convention Center, 606

**Ethnography, Observation, and Natural History: Tools for Ethical Science**
Washington State Convention Center, 611

**Evolving Concepts of Scientific Integrity and Practice**
Washington State Convention Center, 6A
Saturday

Geoscience Literacy and Community Resilience
Washington State Convention Center, 603

How Congress Uses Science and Technology for Policy: Emerging Research
Washington State Convention Center, 615–616

Is the Coast Toast? Cascadia Mega-Earthquakes, Tsunamis, and Potential Impacts
Washington State Convention Center, 6B

Next Generation Computer Hardware
Washington State Convention Center, 613

Pharmaceutical Manufacturing: Sustainable Innovations to Produce Zero Waste
Washington State Convention Center, 607

Supporting the Whole Student: Mental Health, Substance Abuse, and Well-Being
Washington State Convention Center, 609

Tomorrow’s Table: Plant Genetics and the Future of Food
Washington State Convention Center, 6C

3:30PM–5:00PM TOWN HALLS

The Economics of Climate Change
Washington State Convention Center, 6E

3:30PM–5:00PM SCREENING ROOM

Chasing Einstein
Washington State Convention Center, 617
Presented by University of Washington

3:30PM–5:00PM CAREER WORKSHOPS

Bull’s Eye: Developing Specific Aims for a Successful Research Proposal
Washington State Convention Center, 4C-4

Exploring Careers at National Laboratories
Washington State Convention Center, 4C-3

Exploring Diverse Avenues to a Career in Science Policy
Washington State Convention Center, 401

3:30PM–5:00PM BUSINESS MEETINGS

Committee on Council Affairs: Closed Hearing
Grand Hyatt, Portland AB
Closed meeting

3:30PM–5:00PM SPECIAL EVENTS

Science Media Roundtables
Washington State Convention Center, Center 4C-1

4:00PM–5:00PM SPECIAL EVENTS

AAAS/Kavli Reception Anniversary
Washington State Convention Center, Level 4 Galleria

5:15PM–6:30PM PLENARY SESSIONS

Alondra Nelson: The Social Life of DNA and the Need for a New Bioethics
Washington State Convention Center, Plenary Hall 4A

6:30PM–8:00PM SPECIAL EVENTS

The AAAS International Reception Presented by UK Research and Innovation
Grand Hyatt, Leonosa Ballroom

AAAS Science on Tap Brew Event
Optimism Brewery
Saturday/Sunday

7:00PM–8:30PM SPECIAL EVENTS

2020 Science Policy Networking Mixer
Sheraton Grand, Metropolitan Ballroom A

Public Engagement with Science Networking Reception
Sheraton Grand, Ravenna A,B,C

8:00PM–10:00PM SPECIAL EVENTS

Annals of Improbable Research
Sheraton Grand, Princesa Ballroom

Sunday, February 16

8:00AM–9:30AM FLASH TALKS

Health and the Mind
Washington State Convention Center, 604
Presented by Science on Tap

8:00AM–9:30AM SCIENTIFIC SESSIONS

50th Anniversary of the Vietnam Draft: Lessons for the Sciences
Washington State Convention Center, 615–616

Artificial Intelligence and Machine Learning: Designing for Safety and Security
Washington State Convention Center, 6A

Biological Invasion Forecasting: Uniting Climate Change, Transport, and Trade
Washington State Convention Center, 608

Diet for a Sick Planet: Reducing Emissions and the Burden of Chronic Disease
Washington State Convention Center, 609

8:00AM–9:30AM SCREENING ROOM

The Other Side of Mars
Washington State Convention Center, 617
Presented by University of Washington

9:00AM–11:00AM BUSINESS MEETINGS

Legislative Science Advice: An International Research Agenda
Sheraton Grand, Greenwood

9:00AM–NOON SPECIAL SESSIONS

Science Communication and Engagement with Religious Publics
Sheraton Grand, Ravenna A,B,C

9:00AM–12:30PM BUSINESS MEETINGS

Meeting of the AAAS Council
Grand Hyatt, Eliza Anderson Amphitheater

Dynamic RNA Modifications: Roles in Disease and Environmental Response
Washington State Convention Center, 613–614

Ethical Concerns With Advances in Technology and Genetics
Washington State Convention Center, 6C

Factories Reimagined: Making Industrial Work More Appealing
Washington State Convention Center, 6B

Psychological Science: Lessons for the Law
Washington State Convention Center, 603

Science Communication Strategies for Building Relationships with the Public
Washington State Convention Center, 607

The Global Water Cycle: Understanding Today and Tomorrow
Washington State Convention Center, 619–620

9:00AM–12:30PM BUSINESS MEETINGS

Meeting of the AAAS Council
Grand Hyatt, Eliza Anderson Amphitheater
Sunday

9:30AM–1:00PM  E-POSTER SESSIONS

Student E-Poster Session, Sunday
Washington State Convention Center, Expo Hall, E-Poster Pods
Pod 1: Biochemistry & Molecular Biology
Pod 2: Biochemistry & Molecular Biology
Pod 3: Cell Biology
Pod 4: Developmental Biology, Genetics & Immunology
Pod 5: Developmental Biology, Genetics & Immunology
Pod 6: Social Sciences

10:00AM–11:30AM  FLASH TALKS

Environment and the Lived Experience
Washington State Convention Center, 604
Presented by Science on Tap

10:00AM–11:30AM  SCIENTIFIC SESSIONS

Cultural Connections: Communicating Science to Communities and Congress
Washington State Convention Center, 619–620

Food Safety Regulations: Carcinogens and the Relevance of the Delaney Clause
Washington State Convention Center, 609

Fossil Fuel Production and Climate Change: Aligning Goals and Policies
Washington State Convention Center, 6A

Grasslands and Savannas: Human Imperatives and Biodiversity Conservation
Washington State Convention Center, 6C

Human Cell Atlas: Transforming Biology and Healthcare
Washington State Convention Center, 608

Inclusivity and Equity in Course-based Undergraduate Research Experiences
Washington State Convention Center, 615–616

Solar Geoengineering Research Around the Globe
Washington State Convention Center, 613

Transforming Global and Public Health through Nature
Washington State Convention Center, 6B

Urban Paving is Going Places
Washington State Convention Center, 607

10:00AM–11:30AM  TOWN HALLS

Science Engagement and Advocacy: From Theory to Practice
Washington State Convention Center, 6E

10:00AM–11:30AM  SCREENING ROOM

The Pollinators
Washington State Convention Center, 617
Presented by University of Washington

10:00AM–11:30AM  CAREER WORKSHOPS

Careers in State Science, Technology, and Innovation Policy
Washington State Convention Center, 4C-3

10:00AM–11:30PM  SPECIAL SESSIONS

Data-driven Innovations in Coastal Resilience Assessment: USA and UK Perspectives
Washington State Convention Center, 603

Self-documentation of Field Research and Visual Communication
Washington State Convention Center, 401
Envisioning Tomorrow’s STEM Workplace: Think Globally, Act Locally
Washington State Convention Center, 4C-4

10:30AM–NOON  BUSINESS MEETINGS
AAAS Science & Technology Policy Fellowships Alumni Meeting
Sheraton Grand, Capitol Hill

NOON–1:00PM  TOPICAL LECTURES
Elham Kashefi: Quantum Cloud Computing
Washington State Convention Center, 6C

David Keith: Geoengineering and Our Climate Future
Washington State Convention Center, 6B

Kristina Olson: Transgender Children
Washington State Convention Center, 6A

SARTON MEMORIAL LECTURE IN THE HISTORY AND PHILOSOPHY OF SCIENCE
Alison Wylie: The Indigenous/Science Project: Collaborative Practice as Witnessing
Washington State Convention Center, 603

NOON–1:30PM  SCREENING ROOM
Picture Character
Washington State Convention Center, 617
Presented by University of Washington

1:30PM–3:00PM  FLASH TALKS
Human Development and Innovation
Washington State Convention Center, 604
Presented by Science on Tap

1:30PM–3:00PM  SCIENTIFIC SESSIONS
Arctic Influences on Severe Winter Weather
Washington State Convention Center, 6B

Crop Diversification: Ensuring a Sustainable Global Food Supply
Washington State Convention Center, 608

Geospatial Insights for a Sustainable Environment
Washington State Convention Center, 619–620

Imperiled Cultural Heritage: Mitigating Threats, Co-producing Knowledge
Washington State Convention Center, 607

Nature Remade: Engineering Life from the Past to Future Worlds
Washington State Convention Center, 603

Reading Emotions From Facial Expressions: Implications for Technology and Health
Washington State Convention Center, 615–616

Social Media and the Transformation of Science Advice
Washington State Convention Center, 613–614

Synthetic Biology and the Next-Generation Bioeconomy
Washington State Convention Center, 609

The Future of Sustainability Science in the United States
Washington State Convention Center, 6A

Viewing Tomorrow’s Earth from Space and Surface
Washington State Convention Center, 6C

1:30PM–3:00PM  TOWN HALLS
Greening the 2021 Annual Meeting: Taking Action in the Desert
Washington State Convention Center, 6E
Sunday

1:30PM–3:00PM CAREER WORKSHOPS
   How Youth Can Contribute to the Sustainable Development Goals
   Washington State Convention Center, 4C-4

   OUT on the Job Search: Finding a Welcoming Environment
   Washington State Convention Center, 4C-3

   Teaching Inclusively with Evidence-Based Strategies
   Washington State Convention Center, 401

1:30PM–5:00PM SCREENING ROOM
   Oliver Sacks: His Own Life
   Washington State Convention Center, 617
   Presented by University of Washington

3:30PM–5:00PM TOWN HALLS
   Developing Ethical Guidelines for Science Journalism
   Washington State Convention Center, 6E

3:30PM–5:00PM FLASH TALKS
   Communication and Community-building
   Washington State Convention Center, 604
   Presented by Science on Tap

3:30PM–5:00PM CAREER WORKSHOPS
   Building A Responsive Network For Tomorrow’s Science Communication Needs
   Washington State Convention Center, 401

   Friends of the Science Pod: Podcasting, Outreach, and Professional Networking
   Washington State Convention Center, 4C-4

   Shaping STEM Policy Without Changing Careers: Local Government Opportunities
   Washington State Convention Center, 4C-3

5:15PM–6:30PM PLENARY SESSIONS
   Krysta Svore: Develop for Quantum Impact
   Washington State Convention Center, Plenary Hall 4A

3:30PM–5:00PM SCIENTIFIC SESSIONS
   Biological Normalcy and Human Variation: Three Case Studies
   Washington State Convention Center, 615–616

   Climate Change and Climate Extremes: Precipitation and Projections
   Washington State Convention Center, 619–620

   Constructing and Perceiving Beauty
   Washington State Convention Center, 608

   Death In the 21st Century: What is Left Behind
   Washington State Convention Center, 6B

   Implicit Bias, Explicit Science
   Washington State Convention Center, 603

   Washington State Convention Center, 613

   Marine Mammal Heath Assessments: Informing Scientists, Policy, and the Public
   Washington State Convention Center, 609

   Tackling Social Risk Factors, Health, and Care
   Washington State Convention Center, 607

   The Global Carbon Cycle: Implications for Life Beyond the 21st Century
   Washington State Convention Center, 6C

   Women in STEMM: Addressing Underrepresentation
   Washington State Convention Center, 6A
Session Sponsors

The following AAAS Sections and other organizations played a role in developing or financially supporting the sessions listed below.

AAAS SECTIONS

AGRICULTURE, FOOD, AND RENEWABLE RESOURCES (O)
Food of the Future: Developing New, Sustainable, and Healthy Sources

ANTHROPOLOGY (H)

ASTRONOMY (D)

ATMOSPHERIC AND HYDROSPHERIC SCIENCES (W)
Fossil Fuel Production and Climate Change: Aligning Goals and Policies
The Reef Crisis in Earth’s Future

BIOLOGICAL SCIENCES (G)
Biological Invasion Forecasting: Uniting Climate Change, Transport, and Trade
Flash Talks
How Congress Uses Science and Technology for Policy: Emerging Research
Sustainable Agriculture: Launching Standardized Microbial Ecosystems
Synthetic Biology and the Next-Generation Bioeconomy
Tomorrow’s Table: Plant Genetics and the Future of Food
Tracing How Scientific Infrastructure Accelerates Discovery
Urban Paving is Going Places
Women’s Leadership in the Global Science System

CHEMISTRY (C)

DENTISTRY AND ORAL HEALTH SCIENCES (R)
Oral Cancer: Using the HPV Vaccine for Prevention

EDUCATION (Q)
Inclusion in the Academy: Exploring Identity and Equity in the STEM Community
Inclusivity and Equity in Course-based Undergraduate Research Experiences
Transforming Higher Education Culture: Coordinating Reform with Agents of Change

ENGINEERING (M)
Carbon Economy: Considerations for the United States and Pacific Rim

Ethical Issues in Artificial Intelligence
Food of the Future: Developing New, Sustainable, and Healthy Sources
Fossil Fuel Production and Climate Change: Aligning Goals and Policies
Pharmaceutical Manufacturing: Sustainable Innovations to Produce Zero Waste
Social Media and the Transformation of Science Advice
The Biological Engineering Revolution: Strategies for a Sustainable Scale-up
The Digital Transformation of Societies: Addressing Technological Disruption

GENERAL INTEREST IN SCIENCE AND ENGINEERING (Y)
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