

162nd
ANNUAL
Meeting
APRIL 25–29, 2025

FRIDAY • APRIL 252

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JOIN THE CONVERSATION



Follow the NAS 162nd Annual Meeting online at nasonline.org/annual-meeting or by joining the conversation on Facebook, X, and Instagram [@theNASciences](#) or use the hashtag [#NAS162](#).

9:30 am–1:00 pm**New Members' Registration** • Room 120

Meeting registration is available for those attending the morning new member events.

New Members' Orientation (by invitation)**10:00–10:45 am** › Plenary Session • Fred Kavli Auditorium**10:45 am–Noon** › Program Expo • Lecture Room and East Court

Learn more about the Academy's mission, membership activities, studies, programs, and special initiatives in a lively and interactive session. During the program expo, you will have the opportunity to meet the Academy leadership and staff, and learn more about how to become involved in activities of interest to you.

Noon–1:00 pm**New Members' Orientation Lunch** (by invitation) • Great Hall**2:00–5:00 pm****PNAS Editorial Board Meeting** (Board members only) • Fairmont Washington Hotel, Ballroom 2, Ballroom Level**4:00–7:00 pm****Registration** • Room 120**5:00–6:30 pm****Council Reception in Honor of Members Elected in 2024** (by invitation) • West Terrace**7:00–8:00 pm****Presentation Ceremony** • Fred Kavli Auditorium* **Live webcast at nasonline.org/NAS162_presentation**

Members and international members elected in 2024 are introduced to their colleagues in the Academy and sign the "Registry of Membership."

Reserved seating is provided for each new member and for guests attending the Council Reception. Other members and guests will be accommodated in unreserved seating on a first-come, first-served basis and will be directed to the Lecture Room and Room 125 when seating has reached capacity.

8:00–9:30 pm**Celebratory Reception for Members Elected in 2024 and Ceremony Guests** • West Terrace

Join our newest members for this celebratory reception.

7:30 am–5:00 pm**Registration** • Room 120

Meeting registration is open throughout the day.

7:30–8:45 am**Breakfast** • West Terrace**7:45–8:45 am****Estate Planning Breakfast: 2025 Gift Planning & Tax Benefits** • Members' Room

During this breakfast session, learn how to leave a legacy that utilizes the latest available tax benefits.

9:00–9:45 am**President's Address** • Fred Kavli Auditorium* **Live webcast at nasonline.org/NAS162_president**

Marcia McNutt presents her annual talk to members and their guests.

10:15 am–12:15 pm**Symposium — Needed: A Dramatic Expansion in Electric Power Transmission Capacity** • Fred Kavli Auditorium* **Live webcast at nasonline.org/NAS162_symposium**

To decarbonize the energy system, while assuring that electric power remains resilient, we must break the logjam that makes it difficult, often impossible, to build new lines to move clean power from locations where it is produced (remote solar, hydro and terrestrial and offshore wind) to the locations where it is needed. Distributed generation and end-use efficiency can help, but the U.S. Department of Energy has argued that if the economy is going to stay strong, and the nation is going to make serious progress in reducing CO₂ emissions, by 2050 the U.S. will need to more than double high-voltage transmission capacity. That will not be possible if all we do is try to build new transmission lines under business as usual. As the experts in this session will explain, success will require the use of new technology, non-traditional rights-of-way, improved public understanding, and more than incremental changes in regulation, law, and public policy.

Organizer: M. Granger Morgan • Hamerschlag University Professor of Engineering, Carnegie Mellon University

Speakers: Larry Bekkedahl, Senior Vice President, Strategy & Advanced Energy Delivery, Portland General Electric

Wändi Bruine de Bruin • Provost Professor of Public Policy, Psychology, and Behavioral Science; Director, Schaeffer Institute's Behavioral Science and Policy Initiative, University of Southern California

Duncan Callaway • Professor and Chair, Energy and Resources Group, University of California, Berkeley

Liza B. Reed • Director of Climate, Niskanen Center

Susan F. Tierney • Senior Advisor, Analysis Group, Inc.

David G. Victor • Professor of Innovation and Public Policy Director, Deep Decarbonization Initiative School of Global Policy and Strategy, University of California, San Diego

12:30–2:15 pm

Lunch • West Terrace

12:30–2:15 pm

Elkan Blout Society Luncheon (by invitation) • Members' Room

12:30–2:15 pm

Lunch—Breaking Barriers: Dava Sobel • *The Elements of Marie Curie: How the Glow of Radium Lit a Path for Women in Science*

Marie Curie, the most celebrated woman scientist of all time, was never the only woman scientist. In *The Elements of Marie Curie*, *New York Times* bestselling author Dava Sobel reveals the discoverer of radium and two-time Nobel Prize winner as a mentor to at least 45 aspiring female physicists and chemists who found their way to her Paris laboratory. “There’s enough detail,” Michelle Franci said of the book in her review for *Nature*, “to permit chemists and physicists to peer over Curie’s shoulder in the lab, as she painstakingly undertakes the fractional crystallization of radium chloride or seals a glass tube to create a radioactive standard.” Sobel, who is also the author of *Longitude*, *Galileo’s Daughter*, *The Planets*, *A More Perfect Heaven*, and *The Glass Universe*, admits she has only recently become sensitized to the issues confronting women in science. Her talk will introduce several of Mme. Curie’s talented proteges, place Mme. Curie herself among her peers in 20th-century science, and explore the influence the Polish-born Marie Skłodowska Curie continues to wield as a role model.

A book signing event will follow the talk, and a copy of *The Elements of Marie Curie* will be provided to members and guests who are registered to attend.

2:30–5:00 pm

Research Briefings by Members Elected in 2024

• Fred Kavli Auditorium

* **Live webcast at nasonline.org/NAS162_research**

Six new members present their research and answer questions from the audience.

Welcome

Nancy C. Andrews • Home Secretary, National Academy of Sciences; Professor in Residence in Pediatrics, Harvard Medical School, Executive Vice President & Chief Scientific Officer, Boston Children’s Hospital

What’s the Buzz About Malaria: Novel Solutions for Blocking Transmission of an Ancient Pathogen

Flaminia Catteruccia • Irene Heinz Given Professor of Immunology and Infectious Diseases, Harvard T.H. Chan School of Public Health

Improving Access and Completion: Elusive Goals in American Higher Education

Cecilia Elena Rouse • President, The Brookings Institution

What has Evolution Taught Us About Immunity to Infection?

K. Heran Darwin • Professor, Department of Microbiology, NYU Grossman School of Medicine

Getting in Sync: The Math and Science of Synchronization

Steven Strogatz • Winokur Distinguished Professor for the Public Understanding of Science and Mathematics, Cornell University

The Physics and Development of Beauty: Structural Colors in Butterflies

Nipam H. Patel • Director, Marine Biological Laboratory, The University of Chicago

Detecting Gravitational Waves with a Galaxy-Size Observatory

Maura McLaughlin • Eberly Distinguished Professor of Physics and Astronomy, West Virginia University

7:00–11:00 pm

President’s Dinner • National Portrait Gallery

The Smithsonian National Portrait Gallery tells the story of America through the individuals who have shaped U.S. culture. Its collections celebrate leaders such as George Washington and Martin Luther King, Jr., artists such as Mary Cassatt and George Gershwin, activists such as Rosa Parks, and icons of pop culture such as Babe Ruth.

This black-tie optional dinner–dance begins with a reception at 7:00 pm. Buses depart from the NAS Building at 6:30 pm and from the hotel (Fairmont Hotel Juniper Restaurant entrance) at 6:45 pm. Please contact registration staff in NAS 120 if parking is requested.

The Sunday morning program takes place at the Fairmont Washington Hotel.

7:00–10:00 am

Registration • Grand Ballroom Foyer, Ballroom Level

7:00–8:15 am

Breakfast • Ballroom 2, Ballroom Level

7:00–8:15 am

Breakfast—Home Secretary's Briefing for Class Officers and Section Chairs (by invitation) • Colonnade, Lobby Level

The entrance for the Colonnade is located near the lobby elevators.

7:00–8:15 am

International Secretary's Breakfast with International Members (by invitation) • Decatur, Ballroom Level

8:30–10:15 am

Class Meetings (members only) • Ballroom Level

These sessions are organized by each of the six NAS Classes and may include new member talks, Class-level discussions, or time to meet in Section groups, depending on how the Class Officers have arranged the agenda.

Class I: Physical and Mathematical Sciences	Ballroom 1
Class II: Biological Sciences	Kennedy
Class III: Engineering and Applied Sciences	Longworth
Class IV: Biomedical Sciences	Roosevelt
Class V: Behavioral and Social Sciences	Latrobe
Class VI: Applied Biological, Agricultural, and Environmental Sciences	Culpeper

10:30–11:00 am

Plenary Session on U.S. Policy Changes: Effects on the NAS and Science • Ballrooms I and II, Ballroom Level

NAS President Marcia McNutt, NRC Chief Program Officer and NAS Chief Operating Officer Greg Symmes, and NAS Chief Financial Officer Eburn Johnson will present a brief overview of the short- and long-term effects of Executive Orders and other government policies on the activities and finances of the NAS and NRC, followed by an opportunity for members to ask clarifying questions before participating in one of the three breakout sessions.

11:15 am–12:15 pm

Break-Out Sessions • Ballroom Level

Communicating through Crisis and Beyond • Ballroom 1

David May, Chief Communications Officer, and Bill Kearney, Executive Director of the Academies' Office of News and Public Information, will lead a discussion of how the NAS can work with members, volunteers, staff, and our broader communities to communicate the benefits of science and the role of the NAS during a time of challenge and change.

Funding Our Future: Identifying Opportunities Beyond the Horizon • Latrobe

Alison Purvis, Chief Development Officer, and Andrew Ho, NAS Director of Development, will lead a discussion on diversifying and increasing NAS support from individuals, foundations, and corporations.

Talking to Policymakers • Kennedy

Chris King, Executive Director of the Office of Congressional and Government Affairs, will lead a discussion on communicating with elected officials—whom to talk to, how to reach out, and what to address during meetings.

12:30–2:00 pm

Committee for Human Rights Lunch • Colonnade, Lobby Level

CHR Chair Martin Chalfie will provide a briefing on the Committee's work to support researchers under threat and its efforts to raise awareness of challenges at the intersection of science and human rights.

The entrance for the Colonnade is near the lobby elevators, one floor above the Ballroom Level.

12:30–2:00 pm

Lunch • Ballroom 2, Ballroom Level

The Sunday afternoon program returns to the NAS Building.

Noon–6:00 pm

Registration • NAS 120

12:30–2:00 pm

Awards Luncheon (by invitation) • Lecture Room

2:30–3:45 pm

Awards Ceremony • Fred Kavli Auditorium

* **Live webcast at nasonline.org/NAS162_awards**

Join members and guests for this celebration of science honoring the 2025 NAS award recipients.

Lewis E. Kay, Alexander Hollaender Award in Biophysics

Stuart D. Bale, Arctowski Medal

Adam K. Leroy, Henry Draper Medal

Jennifer A. Lewis, James Prize in Science and Technology Integration

Nima Anari, **Kuikui Liu**, **Shayan Oveis Gharan**, and **Cynthia Vinzant**, Michael and Sheila Held Prize

Michael E. Jung, NAS Award for Chemistry in Service to Society

Xiaodong Xu, NAS Award for Scientific Discovery

Peter G. Wolynes, NAS Award in Chemical Sciences

John D. Sutherland, NAS Award in Early Earth and Life Studies — Stanley Miller Medal

Eric Skaar, NAS Award in Molecular Biology

Liqun Luo, NAS Award in the Neurosciences

Hans Coetzee, NAS Prize in Food and Agriculture Sciences

Anne Churchland, Pradel Research Award

Michael M. Yartsev, Richard Lounsbery Award

Rotem Sorek, Selman A. Waksman Award in Microbiology

Evelina Fedorenko, Troland Research Award

Nicholas Turk-Browne, Troland Research Award

Mary-Claire King, NAS Public Welfare Medal

The 2024 PNAS Cozzarelli Prize recipients are featured online at pnas.org/about/cozzarelli-prize.

4:00–6:00 pm

Garden Party • West Terrace

Call For Nominations: 2026 NAS Awards

Nominations for the NAS awards to be presented in 2026 will open in May. For more information and a list of awards scheduled for presentation in 2026, visit nasonline.org/awards.

The following meetings will be held as virtual sessions.

Links to join these virtual sessions have been sent by email to those who have registered. The links are also posted on the Members' Center website. If you have any questions regarding these sessions, please contact annual@nas.edu.

11:00 am–1:00 pm Eastern |
8:00–10:00 am Pacific

Class Meetings (members only) • **virtual**

Six concurrent business meetings will be held, one for each Academy Class.

1:30–4:00 pm Eastern |
10:30 am–1:00 pm Pacific

Business Session (members only) • **virtual**

The annual business meeting agenda will include the election of members and international members, a report from President Marcia McNutt, reports from the Academy Classes, and consideration of proposed bylaw amendments.

**Policy on Discrimination, Harassment, and
Bullying for Participants in Academies Activities**

The NAS is committed to the principles of integrity, civility, and respect in all of our activities. We look to you to be a partner in this commitment by helping us to maintain a professional and cordial environment. All forms of discrimination, harassment, and bullying are prohibited in any National Academies activity. This policy applies to all participants in all settings and locations in which National Academies' work and activities are conducted, including committee meetings, workshops, conferences, and other work and social functions where employees, volunteers, sponsors, vendors, or guests are present.

Auditory Assistance

An auditory assistance system is available in the Fred Kavli Auditorium. NAS staff (identified by blue name badges) can provide assistance.

Badges

Admission to most events is by name badge and color-coded to indicate registration type:

White badges: NAS members

Green badges: Guests registered for the full meeting

Pink badges: Friday-only guests

Yellow badges: Sunday-only guests

Blue badges: NAS staff

Building Access

The Constitution Avenue entrance has a ramp for wheelchairs. Elevators and lifts are noted on the map on pages 14-15.

Bus Service

From Friday morning to Sunday afternoon, bus transportation is provided between annual meeting events and the hotel. The schedule is printed on page 16.

Charging Stations

Charging stations for computers, phones, and other electronic devices are located in the Members' Center, Registration (Room 120), and West Court.

Coat Room

A coat room is located near the Great Hall and will be attended during the following hours:

Friday, April 25	9:30 am to 9:30 pm
Saturday, April 26	7:30 am to 5:00 pm
Sunday, April 27	Noon to 6:00 pm

Computers

PC and Mac computers with most of the popular software packages and Internet access are provided in the Members' Center. Wireless Internet access is available throughout the building.

Lost and Found

Lost and Found is located in Room 120. Please ask registration staff for assistance. To contact annual meeting staff by phone, please call (202) 334-2150.

Medical Assistance

In a medical emergency, please dial 911 and notify an Academy staff member. Staff are located throughout the building and are wearing blue name badges.

Members' Center

The Members' Center provides computer access, and comfortable seating. IT staff can also assist with Wi-Fi connection issues.

Material related to PNAS and *PNAS Nexus* will be available. A collection of books published by the National Academies Press will also be on display. In addition, staff from the NAS Development Office will be available to answer questions.

Metro (Subway)

The Academy is located six blocks (a 15-minute walk) south of the Foggy Bottom/George Washington University Metro station, which is served by the Orange, Blue, and Silver lines.

Parking

Although parking is provided for the physically challenged, other parking at the Academy is very limited and may not be available.

Due to construction near the NAS Building, access to the parking lot via Constitution Avenue and 21st Street is closed. The visitor lot can be accessed via 21st Street and Virginia Avenue. The location for navigational purposes is 256 21st Street NW.

The Columbia Plaza parking garage, located at 2400 Virginia Avenue NW, is within walking distance of the Academy.

President's Dinner

Questions regarding the President's Dinner should be directed to staff in Room 120 during registration hours.

Rosettes

Members may obtain Academy rosettes in Room 120.

Smoking

Smoking is prohibited in all Academy facilities. Smoking is permitted outside, but not in the West Terrace tent.

Taxis

During business hours, taxis are usually available at the corner of 22nd and C Streets near the State Department entrance. If you need a taxi after business hours, the guard at the Constitution Avenue desk will call one for you.

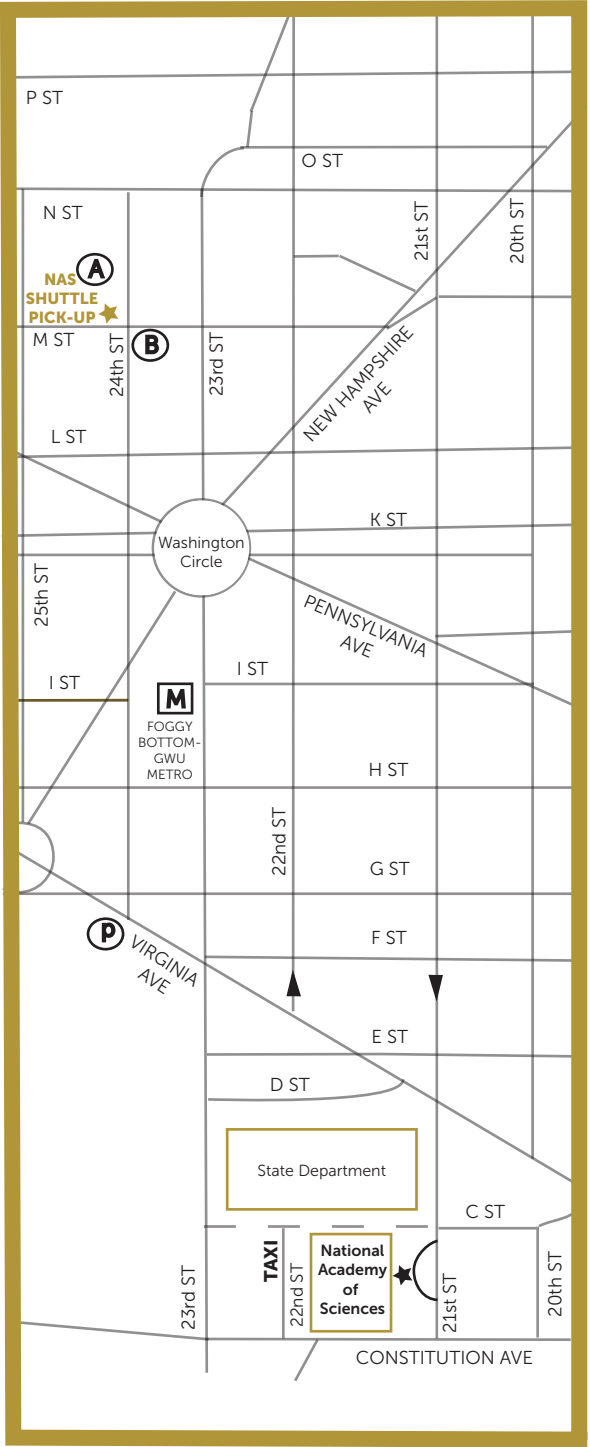
Members and guests who prefer to avoid the Constitution Avenue stairs to reach the NAS Building should direct taxis and Ubers to 22nd and C Street NW. The NAS Building has a ramp at the C Street entrance and an elevator at the Constitution Avenue entrance.

National Academy of Sciences (2101 Constitution Avenue NW)
Taxis and Ubers prefer to use 22nd and C Street NW near the State Department. The NAS Building has a ramp at the C Street entrance and an elevator at the Constitution Avenue entrance.

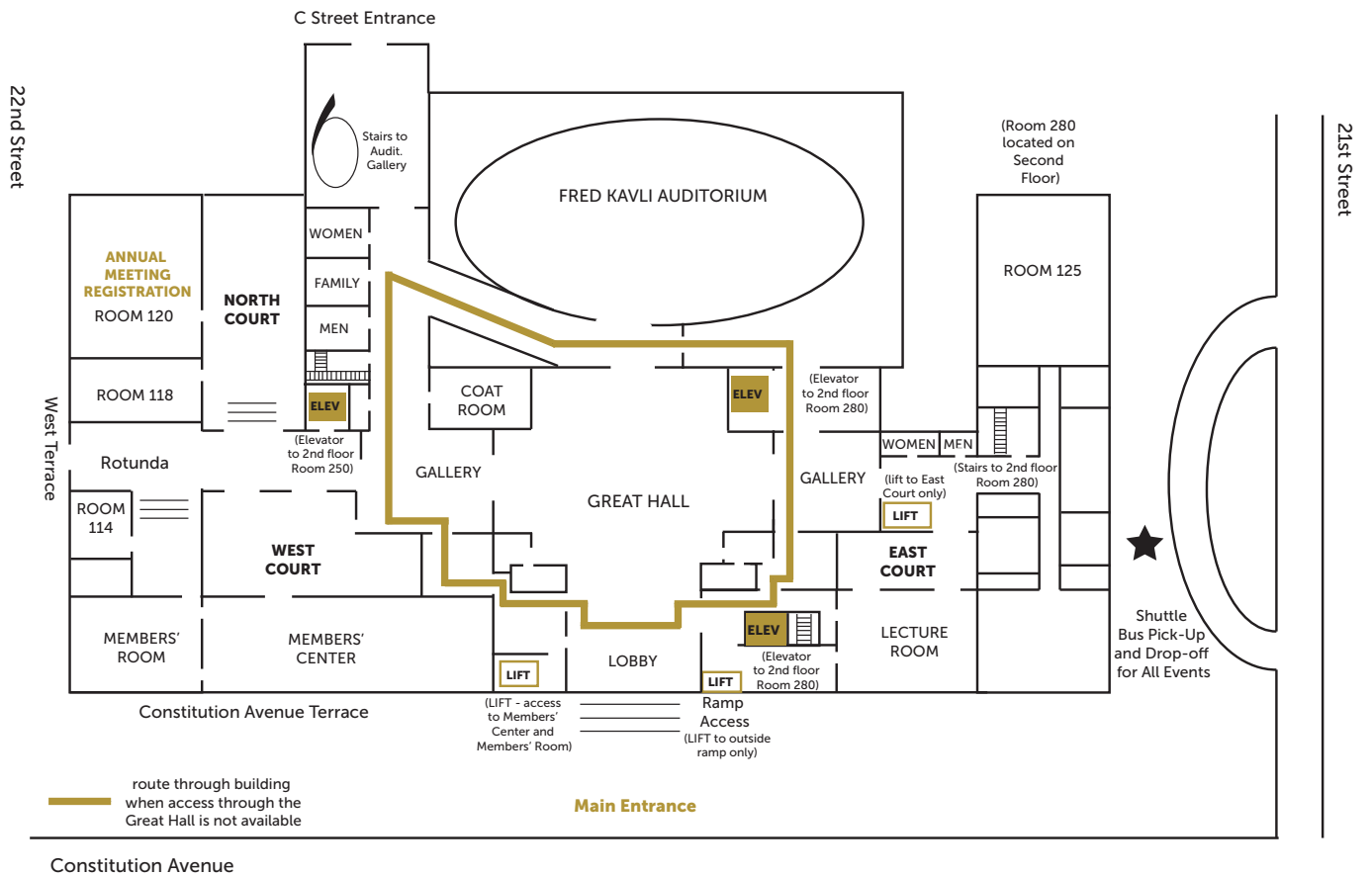
Smithsonian National Portrait Gallery (8th and F Streets, NW)
Please enter via F Street. Guests needing an accessible entrance should enter via G Street.

Legend

- A** Fairmont Washington Hotel (2401 M Street NW)
- B** Westin Georgetown Hotel (2350 M Street NW)
- M** Metro Station (subway station)
- P** Columbia Plaza Parking (2400 Virginia Avenue NW)
- ★ NAS/Hotel Shuttle Bus Location



NAS Building (First Floor)



Bus Schedule

The hotel shuttle bus stop is located at the northwest corner of 24th and M Streets, at the entrance of the Fairmont Hotel's Juniper Restaurant. Shuttle transportation is provided throughout the meeting between the NAS Building and the shuttle bus location.

An asterisk (*) indicates round-robin service.

Friday • April 25

Time	From	To
*9:15 am–1:15 pm	Hotel	NAS/Hotel
*3:45 pm–9:45 pm	Hotel	NAS/Hotel

Saturday • April 26

Time	From	To
*7:15 am–5:15 pm	Hotel	NAS/Hotel
6:45 pm (Bus departs NAS at 6:30 pm.)	Hotel	President's Dinner
*9:30–11:15 pm	President's Dinner	Hotel/NAS

Sunday • April 27

Time	From	To
*6:45 am–Noon	NAS	Hotel/NAS
*1:30–6:15 pm	Hotel	NAS/Hotel