

2025 Fall Meeting of the
Committee on Atomic, Molecular, and Optical Sciences (CAMOS)

October 16-17, 2025

Hybrid Meeting

In Person at the Academies Beckman Center Board Room, Irvine, CA

Online via Zoom and Livestream

(Note: All times listed are Pacific Time.)

THURSDAY, OCTOBER 16, 2025 – BOARD ROOM

OPEN SESSION

Livestream available at [CAMOS meeting page](#)

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9:15 AM **Welcome and Meeting Objectives** **(5 mins)** **Mette Gaarde and Prem Kumar**
CAMOS Co-Chairs

9:20 **Session 1: Ultracold atomic gases**
Quantum Information Science with Ultracold Atomic Gases and Neutral Atom Arrays **Vladan Vuletic (in-person)***
Co-Founder, QuEra
(25 min talk, 15 min Q&A)

10:00 **Many Body Physics with Cold Atomic Gases** **Ben Lev (virtual)***
(25 min talk, 15 min Q&A) Professor, Stanford University

10:40 **Break (20 mins)**

11:00 **Particle Physics with Cold Gases/CP-Violating Particle Electric Dipole Moments** **Dave DeMille (in-person)***
Bloomberg Distinguished Professor,
Johns Hopkins University
(25 min talk, 15 min Q&A)

11:40 **Panel Discussion (40 minutes)**

12:20 pm **Break and Working Lunch (60 minutes)**

Session 2: Industry/Government Session

1:20 **Industry Perspective** **Pedram Roushan (in-person)***
Staff Research Scientist, Google
(25 min talk, 15 min Q&A)

2:00 **Extreme Ultraviolet Light Sources** **Jayson Stewart (in-person)***
Head of Research, ASML Holding N.V.
(25 min talk, 15 min Q&A)

2:40 **Break (20 mins)**

3:00 **Defense Sciences Office Perspective** **Mukund Vengalattore (in-person or virtual)***
Program Manager, DARPA
(25 min talk, 15 min Q&A)

3:40 **Panel Discussion (40 minutes)**

4:20 **Break (10 mins); adjourn open session for the day**

5:00 **Adjourn for day**

(more Day 1 schedule information on page 2) *: confirmed

FRIDAY, OCTOBER 17, 2025 – BOARD ROOM

OPEN SESSION

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9:00 AM PT	Welcome Back (5 mins)	Mette Gaarde and Prem Kumar CAMOS Co-Chairs
9:05	<u>Session 3: Theory</u> Cross Over Quantum Optics and Extreme Nonlinear Optics (25 min talk, 15 min Q&A)	Ido Kaminer (in-person)* Professor, Technion
9:45	Quantum Many Body Systems, Using Atoms as Test Beds Ana Maria Rey Ayala (virtual)* (25 min talk, 15 min Q&A)	Professor, University of Colorado Boulder
10:25	Break (15 mins)	
10:40	Quantum Chemistry and related applications (25 min talk, 15 min Q&A)	Martin Head-Gordon (in-person)* Kenneth S. Pitzer Distinguished Professor of Chemistry, University of California Berkeley
11:20	Panel Discussion (40 minutes)	
12:00	Break and Working Lunch (60 minutes)	
1:00	<u>Session 4: Molecules</u> Photochemistry, Entanglement in Ultrafast Measurements (25 min talk, 15 min Q&A)	Mark Vrakking (virtual)* Professor, Max Born Berlin
1:40	Molecules for quantum applications (25 min talk, 15 min Q&A)	Danna Freedman (virtual)* Frederick George Keyes Professor of Chemistry, Massachusetts Institute of Technology
2:20	Break (20 mins)	
2:40	State of Development in Molecular Polaritonics (25 min talk, 15 min Q&A)	Joel Yuen-Zhou (in-person or virtual)* Professor of Chemistry and Biochemistry, University of California Santa Barbara
3:20	Panel discussion (40 minutes)	
4:00	Break, adjourn open session (15 mins)	
8:00	Adjourn	

(more important information on page 3) *: confirmed

IMPORTANT NOTES

Presenters:

- Please do not include ITAR-controlled or sensitive information in your presentation.
- A National Academies Board staff member will ask you to sign a form before the meeting allowing us permission to use your likeness and presentation for our livestream video, which will be posted on our Board website after the meeting. Please get in touch with us before the meeting if you have any concerns about this usage.

Committee & Board Members and Presenters:

- Remote access will be provided through Zoom. This will allow you to participate in the meeting even if you can't be physically present.
- Please note that Zoom allows audio and any materials exchanged or viewed during the session to be recorded and shared.
- By participating in this activity, you agree to let your voice, likeness, and any materials you provide be recorded for use and dissemination. This includes any language, format, or media now known or later devised.
- You release the National Academies of Sciences, Engineering, and Medicine from any and all claims, liability, or damages arising from any such use. If you disagree, please do not join the session.

THANK YOU ALL FOR YOUR COOPERATION, AND WE LOOK FORWARD TO A SUCCESSFUL MEETING.