



Science and Technology of Materials, Interfaces, and Processing

Topical Areas

2D Materials
Biomaterials
Environmental S&T
Magnetic Materials
Manufacturing S&T
Materials Characterization
Materials Processing
MEMS
Microelectronic Materials
Nanoscale S&T
Plasma S&T
Quantum Science
Spectroscopic Ellipsometry
Surface Engineering
Surface Science
Thin Films
Vacuum Technology

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2026 Fall Meeting Hudson Mohawk AVS Chapter

Tuesday, October 27, 2026

2:40 – 7:20 PM

University at Albany, SUNY
ETEC building, Room B010
1220 Washington Avenue, Albany, NY 12226

Abstract Deadline: **October 13, 2026**

Preliminary Agenda

- 2:40 - 3:10 Reception (*coffee and cookies served*)
3:10 - 3:20 Welcoming Remarks by Executive Committee
3:20 - 3:50 Keynote Presentation:
Prof. Brian Willis, Dept. of Chemical and Biomolecular Engineering, University of Connecticut
"Engineering New Physics with Nanojunctions – Chemical Sensors to Quantum Emitters"
3:50 - 4:00 Break
4:00 - 5:30 Oral Presentations (*six 15-minute slots*)
5:30 - 7:00 Poster Presentations (*pizza and refreshments served*)
7:00 - 7:20 Awards Ceremony for Student Presenters

Call for Papers

Abstracts are now being solicited for oral and poster presentations on topics of interest within AVS: surface engineering, thin films, material properties, interface characterization, vacuum techniques, electronic properties, photovoltaics, nanofabrication, energy storage, biophysics and bio-inspired systems, etc.

As an interdisciplinary professional society, AVS **supports networking** among **academic, industrial, government, and consulting professionals** involved in a variety of disciplines related to **materials, surfaces, interfaces, and processing**. Participation in the local chapter provides an excellent opportunity to interact in a smaller venue compared to the larger national conferences, affording the participants time to focus on presentations of scientific work that is happening in our immediate geographic proximity, and opportunity for professional networking.

These local chapter meetings are also an ideal setting for students and early career researchers and professionals to present their research. Therefore, student participation is strongly encouraged. At the end of the meeting, awards will be given for the best student oral and poster presentations. The student award winners will receive a cash award, be given an award certificate, and be publicized in the AVS Newsletter. Established professionals are also welcome to submit abstracts, which could include recent studies or provide overviews of topics of general scientific interest to the society and chapter members.

Registration is required, but the meeting is free and open to non-AVS members.

Pizza and refreshments will be provided around 5:30 PM.

Please email **steve_consiglio@avs.org** and **aleksandra_biedron@avs.org** to submit an abstract and/or register:

- For abstract submission: email by **October 13, 2026**, with subject line “**HMAVS Fall 2026 Abstract**,” abstract file attached (format described below), and in email body:
 - your name, organization/affiliation, and if you are an AVS member.
- For registration: email by **October 20, 2026**, with subject line “**HMAVS Fall 2026 Registration**.”
 - your name, organization/affiliation, and if you are an AVS member
- If you submitted an abstract you do not need to send a registration email. However, if your co-authors plan to attend the meeting, they will need to register separately.

Steven Consiglio and Aleksandra Biedron
Hudson Mohawk AVS Chapter

<https://avs.org/about-avs/chapters/avs-regional-chapters/hudson-mohawk/>
<https://www.linkedin.com/groups/17506003/>

Instructions for Submitting Abstracts:

Deadline: Tuesday, October 13, 2026. Include “HMAVS Fall 2026 Abstract” in email subject line.

Abstract format:

- One page abstract 8.5" x 11", with 1" margins all around.
- MS Word (12pt Arial, and/or symbols). Only .doc or .docx format, no pdf files.
 - Title is bold, all uppercase (except chemical symbols), centered on top.
 - Leave one blank line.
 - Type the names of the authors (mixed case), and underline presenting author's name.
 - Leave one blank line.
 - Type author affiliations/organization. (if multiple, use superscripts: 1, 2, 3, etc.)
 - Leave one blank line.
 - Type e-mail address of the presenting author.
 - Leave one blank line.
 - Type abstract text: single-spaced, with indentation for paragraphs.
- Graphs and images can be included, as long as the entire abstract fits on one page.
- On bottom/last line of page:
 - Indicate your **format** preference for oral or poster presentation (or either)
 - Indicate If you are a **student**, state if Undergraduate Student or Graduate Student
 - Past student award winners can present, but cannot compete for an award of the same type as their previous award. For instance, a student who previously won the best Graduate Student Poster Presentation can present a poster, but is not eligible for an award in this same category. However, the student could compete for the best Graduate Student Oral Presentation Award.
- Recommended maximum poster dimensions are 48 inches wide by 36 inches tall.

KEYNOTE PRESENTATION:

ENGINEERING NEW PHYSICS WITH NANOJUNCTIONS – CHEMICAL SENSORS TO QUANTUM EMITTERS

Prof. Brian Willis

University of Connecticut

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Nanolithography and atomic layer processing developed by the semiconductor industry may enable new types of nanodevices beyond the semiconductor roadmap. Plasmonic nanojunctions are especially interesting for their wealth of new physics that combines photonic, electronic, and molecular functions. Potential device applications include solar energy collection, nanoscale light detectors & light emitters, single molecule spectroscopy, chemical sensors, DNA sequencing, and plasmon-enhanced chemical reactions. In addition, plasmonic nanojunctions combined with quantum dots have applications in quantum computing and quantum communication. While the basic physics of these devices have been demonstrated in the laboratory, making them practical introduces numerous engineering challenges. Harnessing nanojunction phenomena requires high-quality materials, nanoscale geometry control, and sub-nm precision growth. Special process engineering challenges arise when device feature sizes become similar to length scales for thin film nucleation and growth. In this talk we will review nanojunction physics and discuss how atomic layer deposition may be useful to fabricate novel devices if challenges around area-selective nucleation and growth can be overcome.

Keynote speaker bio: Dr. Brian G. Willis is Professor in the Department of Chemical and Biomolecular Engineering at the University of Connecticut (UConn). He earned his B.S. degree in chemical engineering from Northwestern University, Evanston, IL, and the Ph.D. degree in chemical engineering from the Massachusetts Institute of Technology, Cambridge, MA. He started his career as a member of technical staff at Bell Laboratories, Lucent Technologies, followed by an academic position at the University of Delaware. He has been at UConn since 2009 where he is also a Graduate Faculty Member of the Department of Materials Science and Engineering and the Institute of Materials Science at UCONN. His research interests include chemical sensors, nanoscale plasmonic devices, atomic layer deposition, nanofabrication, and surface science.