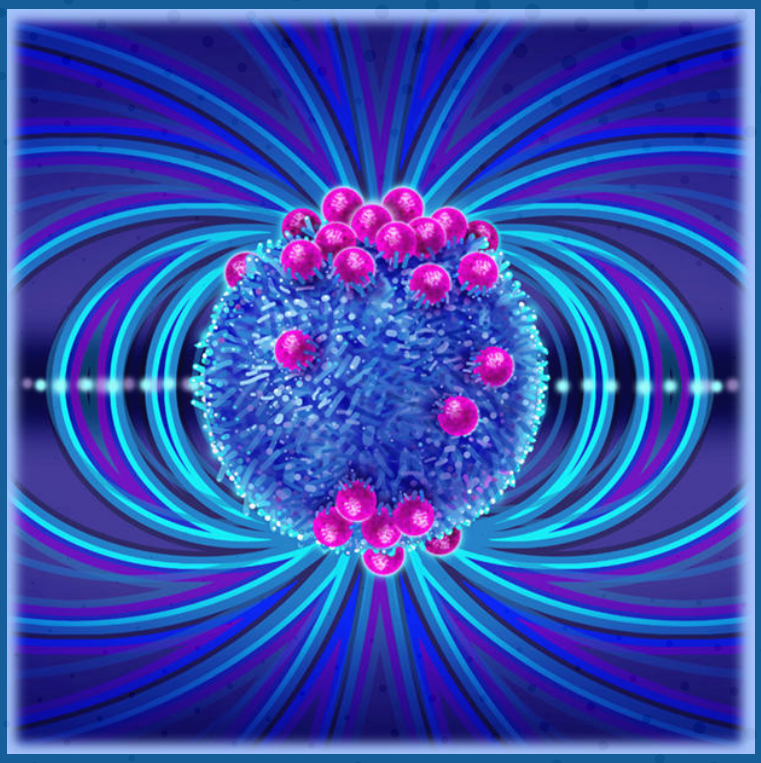
CONTINUING MEDICAL EDUCATION

Advances in Immunoengineering: Fundamentals and Cutting Edge Advances



Monday, Wednesday **and Thursday**
January 5, 7, 8,12 and 14, 2026

INTERNET LIVE CONFERENCE

Presented by
Johns Hopkins School of Medicine
The Johns Hopkins Translational ImmunoEngineering (JH-TIE) Center
An NIBIB National Center for Biomedical Imaging and Bioengineering
The Johns Hopkins Translational Tissue Engineering Center (TTEC)
The Johns Hopkins Institute for NanoBioTechnology (INBT)

This activity has been approved for AMA PRA Category 1 Credits™.

JOHNS HOPKINS
MEDICINE

DESCRIPTION

The field of immunoengineering combines the diverse and complex fields of engineering and immunology and is transforming patient treatment in cancer, autoimmunity, regeneration, and transplantation.

There is a significant need for training of engineers in immunology and for training immunologists in quantitative engineering techniques.

Moreover, there is need to bridge basic immunological discoveries with advances in clinical application. This course will review the fundamentals of the immune system and its components, engineering strategies to modulate the immune system, and clinical applications to improve patient care and outcomes in the development of neoadjuvant immunotherapies, highlighting particular considerations for immunological mechanisms, clinical development, and pathologic response assessments.

WHO SHOULD ATTEND

The course is designed for graduate students, medical students, residents, and fellows in engineering, immunology, and related fields. Engineering and clinical faculty and members of industry will benefit from the course as well.

OBJECTIVES

After attending this activity, the learner will demonstrate the ability to:

- Review the fundamentals and recent discoveries in the function of the immune system.
- Identify engineering strategies to manipulate the immune system.
- Describe the clinical applications of immunoengineering.

ACCREDITATION STATEMENT

The Johns Hopkins University School of Medicine is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.

ACCME ACCREDITED

CREDIT DESIGNATION STATEMENT

The Johns Hopkins University School of Medicine designates this live activity for a maximum of 7.5 *AMA PRA Category 1 Credits™*. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

POLICY ON PRESENTER AND PROVIDER DISCLOSURE

It is the policy of the Johns Hopkins School of Medicine that the presenter and provider globally disclose conflicts of interest. The Johns Hopkins School of Medicine OCME has established policies in place to identify and mitigate relevant conflicts of interest prior to this educational activity. Detailed disclosure will be made prior to presentation of the education.

OTHER CREDITS

American Academy of Nurse Practitioners National Certification Program accepts *AMA PRA Category 1 Credit™* from organizations accredited by the ACCME.

American Nurses Credentialing Center (ANCC) accepts *AMA PRA Category 1 Credit™* from organizations accredited by the ACCME.

National Commission on Certification of Physician Assistants (NCCPA) PAs may claim a maximum of 7 Category1 credits for completing this activity. NCCPA accepts *AMA PRA Category 1 Credit™* from organizations accredited by ACCME or a recognized state medical society.

The Johns Hopkins University has approved this activity for 7 contact hours for non-physicians.

JOHNS HOPKINS STATEMENT OF RESPONSIBILITY

The Johns Hopkins School of Medicine takes responsibility for the content, quality, and scientific integrity of this CME activity.

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INTERNET CME POLICY

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DISCLAIMER STATEMENT

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HARDWARE/SOFTWARE REQUIREMENTS

Internet connection.

GENERAL INFORMATION

FREE REGISTRATION

Register Online: hopkinscme.cloud-cme.com/default.aspx?P=5&EID=66973

On the day of, please log into the online platform by 3:45 p.m. ET to test your connection. Exclusive log-in details will be provided via email the week prior.

You will receive a confirmation by e-mail. If you have not received it by December 30, 2025, call (410) 502-9636 to confirm that you are registered. A transcript of attendance will be available upon attestation of your credit hours and submission of the post activity online evaluation.

The Johns Hopkins University reserves the right to cancel or postpone any activity due to unforeseen circumstances. Under such circumstances registrants will be notified as soon as possible.

Johns Hopkins Students may also choose to sign up for this workshop as a one-credit pass/fail course that will appear on their transcript.To do this, please register for the unique course number below on SIS and check Canvas regularly for course assignments.

Ugrads: EN.580.403 Independent Study: Advances in Immunoengineering
MSE/PhD: EN.580.703 Independent Study: Advances in Immunoengineering

SYLLABUS

The syllabus will be accessible online and via your mobile device in the CloudCME App prior to the activity.

HOW TO OBTAIN CREDIT

Post activity, an online evaluation will be available to attendees to evaluate the activity and individual presentations andto identify future educational needs. Upon completion of the evaluation, the learner must attest to the number of hoursin attendance. Credits earned will be added to the learner's transcript and immediately available for print. The last day to access the evaluation and attest to your CME credit is March 2, 2026.

An outcome survey will be sent to all physician attendees within two months post activity to assist us in determining what impact this activity had on the learner's practice.

AMERICANS WITH DISABILITIES ACT

The Johns Hopkins School of Medicine fully complies with the legal requirements of the ADA and the rules and regulations thereof. *Please notify us if you have any special needs.*

TO REGISTER OR FOR FURTHER INFORMATION

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Register by Phone .....(410) 502-9636
Register by Fax .....(866) 510-7088
Confirmation/Certificates/Transcripts..... (410) 502-9636
General Information ..... (410) 955-2959
E-mail the Office of CME..... cmenet@jhmi.edu

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https://hopkinscme.cloud-cme.com/about/help

For general information, please visit the activity webpage at:
https://hopkinscme.cloud-cme.com/aph.aspx?P=5&EID=66973

Visit our JH-TIE website:
https://jhtie.jhmi.edu/training/

PROGRAM

Dates: January 5, 7, 8, 12 and 14, 2026 * 4:00 - 5:30 p.m. ET

Week 1 – Targeted Immune Interventions and Immunotherapies

Monday, January 5, 2026

Systems Biology Approaches for Discovering Immunologic Mechanism of Differential Host Responses to Biomaterial Systems: Implant-induced Foreign Body Response vs. Microgel Composite-induced Tissue Remodeling
Joshua Doloff, PhD

Microplastics in Damaged Tissue Induce Autoimmune Tertiary Lymphoid Structure Formation Constrained by CD8 Regulatory T-Cells
Kaitlyn Sadtler, PhD

Wednesday, January 7, 2026

IL-2 and IL-15 in Immunotherapy
Mark Rubinstein, PhD

Reprogramming the Immune System through Biomolecular Engineering
Jamie Spangler, PhD

Thursday, January 8, 2026

Air-filled Protein Organelles: Assembly, Biophysics, and Biotechnological Applications
George Lu, PhD

Mining Immunotherapy Trials to Guide Next-gen Immunoengineering
Drew Pardoll, MD, PhD

Week 2 – Engineering Cells and Tissues as Living Drugs

Monday, January 12, 2026

Multiscale Engineering and Delivery of Tolerizing Immune Cues for Countering Autoimmunity
Robert "Smitty" Oakes, PhD

Immune Modulation to Delay or Reverse Type 1 Diabetes
Kevan Herold, MD

Wednesday, January 14, 2026

Engineering CAR-neutrophils for Targeted Cancer Immunotherapy
Xioping Bao, PhD

Targeting the Androgen Receptor in Dendritic Cells to Improve Anti-tumor Immunity
Megan Ruhland, PhD

Presentation titles and other details can be found on the JH-TIE website: https://jhtie.jhmi.edu/

The Johns Hopkins School of Medicine takes responsibility for the content, quality and scientific integrity of this CME activity. This schedule is subject to change.

ACKNOWLEDGEMENT

The Johns Hopkins School of Medicine did not solicit or receive commercial funding from any commercial entity, including pharmaceutical and medical device manufacturers, for this activity.

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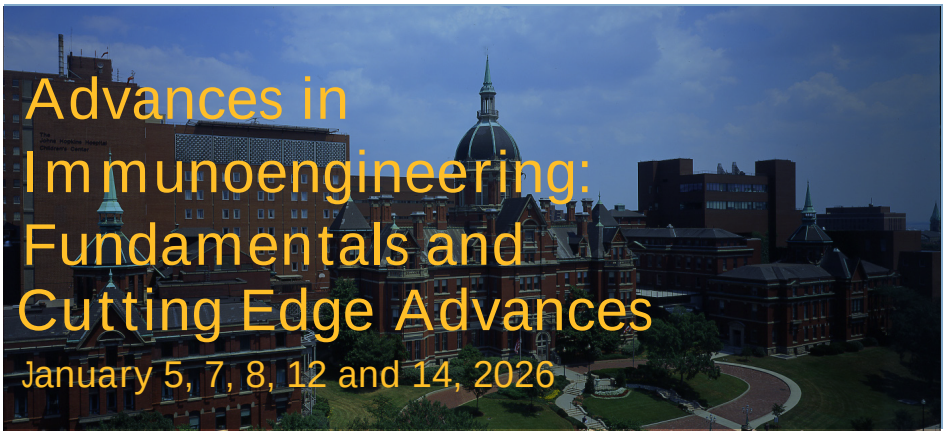

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