

IMES 2025

Draft agenda (Updated November 4, 2025)

Day 1: Tuesday, December 9, 2025

8am Breakfast

8:45 am Opening Remarks

Chris Rodell, PhD, Chair of the Immune Modulation and Engineering Collaborative at Drexel University

9am Session 1: Modulating immune tolerance

Moderator: Hao Cheng

- [Ying Mei, PhD](#) – Hypoimmunogenic hPSC-derived cardiac organoids evade host immune rejection and promote cardiac functional recovery. (Professor of Bioengineering, Clemson University)
- [Gabe Kwong, PhD](#) – Building Synthetic Immunity: Designing T Cells to Measure, Detect, and Treat Cancer. (Professor, GA Tech)
- **Kate MacNary** – HTLV-infection derived exosome-mediated transcriptional reprogramming in Monocytes of HAM/TSP patients
- [Robert Oakes, PhD](#) – Microneedle array delivery of tolerizing nanotherapeutics for countering autoimmunity

10:30am Break

11:00am Session 2: Targeted therapeutics for anti-cancer therapy (DUCOM sponsored)

Moderator: Gabe Romano

- [Dmitry Gabrilovich, MD, PhD](#) – Immune suppressive myeloid cells: from biology to therapeutic targeting. (Chief Scientist, Cancer Immunology, AstraZeneca)
- [Honggang Cui, PhD](#) – Self-assembling peptide nanofibers for cancer immunotherapy (Professor of Chemical & Biomolecular Engineering, Johns Hopkins).
- [Suzanne Topalian, MD](#) – PD-1 pathway blockade: using “precision immunology” to unleash the immune system against cancer. (Professor of Surgery, Johns Hopkins)
- **Brendan Knittle** – A Lipo-Polymeric Nanoparticle Drug and Gene Delivery Platform for Enhanced Immune Responses Against Melanoma

12:30pm Lunch Break

Optional “Meet the Mentors” session for trainees to interact with leaders in the field from 1:15 to 2:20pm

2:30pm Session 3: Cell-based therapeutics for cancer immunotherapy (SKCCC sponsored)

Moderator: Xiao Huang

- [Ben Youngblood, PhD](#) – Reverse translation of patient-identified epigenetic regulators limiting durable tumor immunotherapy. (Faculty, St. Jude’s Children’s Research Hospital).
- [Yvonne Chen, PhD](#) – Engineering Multi-pronged CAR-T Cells for Cancer Therapy. (Professor of Microbiology, Immunology, and Molecular Genetics, University of California, Los Angeles)
- [Babar Bashir, MD, PhD](#) – Immunological and Preliminary Clinical Responses to Ad5.F35-hGUCY2C-PADRE Vaccine in GI Cancers. (Associate Professor of Medical Oncology, Thomas Jefferson University)

4:30pm Opening reception: Unique Perspectives in Immune Engineering | Location: Behrakis Grand Hall

Moderator: Kara Spiller

- [LatinX BME](#): **Brian Aguado, PhD** and **Ana Maria Porras, PhD** – title TBA.
- Discussion

5:15pm-7:30pm Poster Session and Cocktail Reception | Location: Behrakis Grand Hall

Day 2: Wednesday, December 10, 2025

8am Breakfast

9am Session 4: Novel tools and techniques in immunoengineering

Moderator: Ken Barbee

- [Tram T. Dang, PhD](#) – Proteases as immuno-modulators for biomaterials and drug delivery systems. (Associate Professor, Nanyang Technical University Singapore)
- [Ana Maria Porras, PhD](#) – Genomic and Functional Profiling of Microbiome Enzymes that Remodel Intestinal Extracellular Matrix. (Assistant Professor, University of Florida)
- [Kaytlyn Sadtler, PhD](#) – Prevention of autoimmunity after traumatic injury requires coordination of cDC1 and CD8 regulatory T cells
- **Zehra Demir** – ‘Goldilocks’ Thermal Window as Defined by Theranostic PET for Optimal Focused Ultrasound Thermal Ablation and CD47 Antagonist Delivery

10:30am Break

11:00am Session 5: Molecular Design of Immunotherapeutics

Moderator: Peter Deak

- [Aaron Esser-Kahn, PhD](#) – Discovery of New Trained Immunity Molecules and Pathways. (Professor of Molecular Engineering, University of Chicago).
- [John Wilson, PhD](#) – Engineering Nanotechnologies for Immuno-Oncology. (Associate Professor of Chemical & Biomolecular Engineering, Vanderbilt University)
- [Christopher Garriss, PhD](#) – JAK Inhibition Hyperactivates Dendritic Cells in Bladder Cancer Therapy
- [Yaoying Wu, PhD](#) – Dendritic Cell Membrane-Coated Nanoparticles for Antigen-Specific T-Cell Targeted Delivery

12:30pm Lunch Break

2pm Session 6: Infectious disease and vaccines

Moderator: Michele Kutzler

- [Bali Pulendran, PhD](#) – Systems Vaccinology. (Professor of Pathology, Stanford University)
- [Laura Vella, MD, PhD](#) – Decoding the HIV Reservoir. (Assistant Professor of Pediatrics, Children’s Hospital of Philadelphia)
- **Asheley Chapman, PhD** – CD45-targeted HIV Env trimers produce robust immunity with a single shot
- [Laurel Hind, PhD](#) – M-MDSCs and Neutrophil Dysfunction: Unveiling a Mechanism of Post-Sepsis Immunosuppression

3:30pm Break

4:00pm Session 7: Pediatric immune development and engineering

Moderator: Alison Carey

- [Danielle Soranno, MD](#) – Local and Sustained Delivery of Therapeutics to Treat Kidney Disease. (Associate Professor of Pediatrics, Indiana University & Purdue).
- [Krithika Lingappan, MD/PhD](#) – Harnessing macrophages for therapy in the developing lung. (Associate Professor of Pediatrics, Children’s Hospital of Philadelphia)
- **Akari Seiner** – In Vitro Assessment of Hydrogel-Coated Cardiovascular Shunt Hemocompatibility for Pediatric Applications

Day 3: Thursday, December 11, 2025

8am Breakfast

9am Session 8: Immune modulation for regenerative medicine

Moderator: Ben Binder-Markey

- [Laura Suggs, PhD](#) – Apoptotic Cell-Inspired Immunoengineering. (Professor of Biomedical Engineering, UT Austin).
- [Brendan Harley, PhD](#) – Composite biomaterials to shape regenerative trajectories. (Professor of Chemical & Biomolecular Engineering, University of Illinois Urbana-Champaign)
- [Kyle Vining, DDS, PhD](#) – Mechanical regulation of immune cells in myelofibrotic niches
- **Lauren Mottel** – IL-33-releasing hydrogels for treating ischemic muscle injuries

10:35am Break

10:55am Session 9: Cardiovascular immune engineering

Moderator: Amy Throckmorton

- [Katey Rayner, PhD](#) – Exploring novel inflammatory mediators, and vascular disease. (Chief Scientific Officer and VP of Research, Ottawa Heart Institute).
- [Ronald Vagnozzi, PhD](#) – Optimizing Macrophage Fate and Function for Cardiac Repair. (Assistant Professor of Medicine, University of Colorado Anschutz).
- [Brian Aguado, PhD](#) – Understanding sex chromosome and sex hormone regulation of cardiovascular disease and inflammation using biomaterials. (Assistant Professor, UCSD)

12:30 pm Closing Remarks

Gabe Romano, PhD, Vice Chair of the Immune Modulation and Engineering Collaborative at Drexel University