

# MEDICAL AUTONOMOUS CARE STATE OF THE SCIENCE

DAY 1: TUESDAY, SEPTEMBER 16<sup>TH</sup>, 2025

2025 TENTATIVE AGENDA

**Venue:** **University Club**  
**123 University Place, Pittsburgh, PA 15213**



**8:00-8:15** **Opening Remarks**

**Hernando Gomez, MD, MPH (*speaker confirmed*)**  
Associate Professor of Critical Care and Emergency Medicine  
University of Pittsburgh School of Medicine

**8:15-8:30** **Welcome Introduction: Nurturing an environment for academic-industrial government partnerships in innovation in medical autonomous care**

**Anantha Shekhar, MD, PhD (*speaker confirmed*)**  
Senior Vice Chancellor for the Health Sciences  
John and Gertrude Petersen Dean, School of Medicine  
University of Pittsburgh

**8:30-8:45** **Keynote Lecture: DHA Vision**

**Jonathan Woodson, MD, MSS, FACS (*speaker invited*)**  
President  
Uniformed Services University of the Health Sciences

**8:45-9:00** **Keynote Lecture: What are the DoD gaps that would benefit from medical autonomous care?**

**MG Paula Lodi (*speaker tentatively confirmed*)**  
Commanding General  
United States Army Medical Research and  
Development Command and Fort Detrick

**9:00-10:25** **Session 1: Military medicine meets autonomous care | Panel Discussion**

This panel discussion will provide an overview of the status of autonomous medical care in the Department of Defense (DoD), how this fits into the DHA overarching strategy, the current status and future vision for research, DoD policy, and the role of autonomous care in prolonged field care.

**Moderators:**

- ❖ **CAPT(R) Travis M. Polk, MD, FACS, TBD (*confirmed*)**
- ❖ **Glendon Diehl, PhD, MHA, Uniformed Services University (*tentatively confirmed*)**

**Panelists:**

- ❖ **Lt. Col. Adam Willis, MD, PhD, Biological Technologies Office (*tentatively confirmed*)**
- ❖ **Therese West, DNP, CPN, APN, Defense Health Agency (*speaker invited*)**
- ❖ **Ed Michaud, MD, MedCDID (*tentatively confirmed*)**

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**10:25-10:40 BREAK**

## **10:40-12:05 Session 2: The building blocks of an intelligent clinical decisions support system**

This session will provide a detailed discussion on the components that create intelligent clinical decision support systems, including input and output signals, determinants of decision making, the current state of civilian medical autonomous care and the participation of industry in the development of autonomous care systems.

### **Moderators:**

- ❖ **Maxime Cannesson, MD, PhD, UCLA** (*tentatively confirmed*)
- ❖ **Hooman Rashidi, MD, MS, FCAP, University of Pittsburgh** (*confirmed*)

### **Lecturers:**

- ❖ **'Real-time control and what is definition of closed loop / semi closed loop'** Julian Goldman, MD, FASA, (*speaker confirmed*)
- ❖ **'Input signals and big data informing the decision support system by sensing and anticipating the presence of disease'** David Salcido, PhD, MD, (*speaker confirmed*)
- ❖ **'Delivering titratable intelligent decisions to personalize care using autonomous systems: The CRUISE System'** Hernando Gomez, MD, MPH, (*speaker confirmed*)
- ❖ **'Big Data'** Leo Celi, MD, MPH, MSc, (*speaker confirmed*)
- ❖ **'Current state of civilian medical autonomous care – all applications, offloading individual tasks and systems of systems'** Frank Guyette, MD, MS, MPH, FACEP, FAEMS, (*speaker confirmed*)

**12:05-1:25 LUNCH**

## **1:25-2:50 Session 3: Autonomous Systems in Uncertain Environments**

This session will provide an overview of the state of the art of the use of military and civilian emergency transport systems as test beds for trialing autonomous systems, how autonomous vehicles can redefine delivery of care, establishing the challenges of monitoring, quality, communication capability and cybersecurity in austere environments and defining the goals and expectations of autonomous care systems.

### **Moderators:**

- ❖ **Jose Salinas, PhD, USAISR** (*tentatively confirmed*)
- ❖ **Matthew Quinn, MBA, Army's Telemedicine & Advanced Technology Research Center (TATRC)** (*confirmed*)

### **Lecturers:**

- ❖ **'Using emergency transport as the real- world laboratory: TRACIR/LITES'** Leonard Weiss, MD, FACEP, FAEMS, (*speaker confirmed*)
- ❖ **'The key role of autonomous vehicles in the delivery of medical autonomous care'** Larry Nulton, PhD, (*speaker confirmed*)
- ❖ **'Autonomous tactical combat casualty care needs: Lessons from Ukraine'** Lt. Col. Adam Willis, MD, PhD, (*speaker tentatively confirmed*)

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- ❖ **'The front lines of resource-limited healthcare is everywhere'** Shari Ling, MD, *(speaker invited)*
- ❖ **'Anticipating the challenges: monitoring quality, communication capability, and cybersecurity'** CAPT(R) Travis M. Polk, MD, FACS, *(speaker confirmed)*

2:50-3:05

**BREAK**

3:05-4:05

**Breakout Sessions 1-3**

**Breakout Session 1: Defining effectiveness and quality standards for clinical validation**

**Moderators:**

- ❖ **Frank Guyette, MD, MS, MPH, FACEP, FAEMS**, University of Pittsburgh *(confirmed)*
- ❖ **Lucy Savitz, PhD, MBA**, UPMC Health Plan, Center for High-Value Health Care *(tentatively confirmed)*

**Panelists:**

- ❖ **Azra Bihorac, MD, MS, FCCM, FASN**, *(panelist confirmed)* University of Florida
- ❖ **Heather Agler, PhD**, *(panelist tentatively confirmed)* FDA
- ❖ **Maxime Cannesson, MD, PhD**, *(panelist tentatively confirmed)* UCLA
- ❖ **Stephane Bibian, PhD**, *(panelist confirmed)* NeuroWave Systems Inc.

**Breakout Session 2: Ethical considerations in the application of AI in medical autonomous care**

**Moderators:**

- ❖ **Matthew Quinn, MBA**, Army's Telemedicine & Advanced Technology Research Center (TATRC) *(confirmed)*
- ❖ **Bahram Parvinian, PhD**, Lighthouse Regulatory Consulting Group *(confirmed)*

**Panelists:**

- ❖ **Leo Celi, MD, MPH, MSc**, *(panelist confirmed)* Massachusetts Institute of Technology
- ❖ **Ed Michaud, MD**, *(panelist tentatively confirmed)* MedCDID
- ❖ **Yanshan Wang, PhD, FAMIA**, *(panelist confirmed)* University of Pittsburgh

**Breakout Session 3: The future of research in autonomous care: The Collaborative Consortium**

**Moderators:**

- ❖ **Ron Poropatich, MD**, University of Pittsburgh *(confirmed)*
- ❖ **Hugh Connacher, MS**, Portfolio Manager, CCRCP, USAMRCD *(tentatively confirmed)*

**Panelists:**

- ❖ **Larry Nulton, PhD**, *(panelist confirmed)* Aerium Aviation
- ❖ **Debra Niemeyer, PhD** *(panelist tentatively confirmed)* 59<sup>th</sup> Medical Wing
- ❖ **Carrie Quinn, PhD**, *(panelist invited)* US Army Medical Research and Development Command
- ❖ **Annemarie Silver, PhD**, *(panelist confirmed)* Zoll Medical Corporation

5:30-7:00

**Day 1 Welcome Reception at Soldiers and Sailors Memorial Hall & Museum**

**Abstract Poster Walk-Round**

**Medical Autonomous Care Technology Demonstrations**

**End of Day 1**

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DAY 2: WEDNESDAY, SEPTEMBER 17<sup>TH</sup>, 2025

2025 DRAFT AGENDA

## 8:00-8:10 Opening Remarks

**Hernando Gomez, MD, MPH** (*speaker confirmed*)

Associate Professor of Critical Care and Emergency Medicine  
University of Pittsburgh School of Medicine

## 8:10-9:35 Session 4: Human and machine: a new paradigm

This session will provide an in-depth discussion on the ethical and legal frameworks that make autonomous care acceptable, the guideposts of effectiveness and clinical validation, and the role of end user feedback as a critical guide for development.

### Moderators:

- ❖ **Julian Goldman, MD, FASA**, Mass General Brigham health system (*confirmed*)

### Lecturers:

- ❖ **'International standards of medical autonomous care'** TBD
- ❖ **'Legal and ethical standards in the military and civilian world'** Heather Agler, PhD, (*speaker tentatively confirmed*)
- ❖ **'Legal frameworks to make autonomous care acceptable'** Ed Michaud, MD, (*speaker tentatively confirmed*)
- ❖ **'Defining quality standards for clinical validation'** Azra Bihorac, MD, MS, FCCM, FASN, (*speaker confirmed*)
- ❖ **'Defining guideposts of effectiveness'** Lucy Savitz, PhD, MBA, (*speaker tentatively confirmed*)

## 9:35-10:45 Session 5: Barriers and drivers for the development and use of autonomous systems

This session will discuss all the challenges of navigating the regulatory landscape, the intricacies of intellectual property protection and remuneration for services provided, and the current state and future of regulatory approval paths for semiautonomous and autonomous systems.

### Moderators:

- ❖ **Matthew Quinn, MBA**, Army's Telemedicine & Advanced Technology Research Center (TATRC) (*confirmed*)

### Lecturers:

- ❖ **'Software as a medical device in a medical autonomous system'** Julian Goldman, MD, FASA, (*speaker confirmed*)
- ❖ **'Getting user buy-in early and often and building trust from inception'** Robert Gerhardt, MD, MPH, FACEP, FAEMS, (*speaker confirmed*)
- ❖ **'Is the issue IP or market share and payer?'** Michael Pinsky, MD, CM, Dr hc, FCCP, MCCM, (*speaker confirmed*)
- ❖ **'Crossing the valley of death: how do we bring product to market?'** Feras Hatib, PhD, (*speaker confirmed*)
- ❖ **'Pathways to Approval: Mixed models of semiautonomous and autonomous care'** Heather Agler, PhD, (*speaker tentatively confirmed*)

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**10:45-11:00 BREAK**

## **11:00-12:25 Session 6: Real-world problems and solutions**

This session will cover the role of medical autonomous care in rural America and other resource-limited environments, the potential for the use of combined autonomous care systems for health care delivery, triage and transportation of patients, and anticipating and engineering failsafe mechanisms for potential system failures.

### **Moderators:**

- ❖ **Kajal Claypool, PhD**, MIT Lincoln Laboratory (*confirmed*)
- ❖ **Frank Guyette, MD, MS, MPH, FACEP, FAEMS**, University of Pittsburgh (*confirmed*)

### **Lecturers:**

- ❖ **'Role of medical autonomous care in rural America'** TBA
- ❖ **'Can autonomies be lumped? triage, CASEVAC and autonomous transport'** Larry Nulton, PhD, (*speaker confirmed*)
- ❖ **'Embracing uncertainty: using AI to define instability and predict response to care'** Artur Dubrawski, PhD, (*speaker confirmed*)
- ❖ **'Real-world semi-autonomous medical interventions'** Anthony Samir, MD, MBBCH, (*speaker confirmed*)
- ❖ **'Pushing the boundaries through AI: triage, health-care delivery and sustainment'** Brian Telfer, PhD, (*speaker confirmed*)

**12:25-1:40 LUNCH**

## **1:40-2:40 Breakout Sessions 4-6**

### **Breakout Session 4: The regulatory pathway of software as a medical device for autonomous care**

#### **Moderators:**

- ❖ **Bruce Doll, PhD, DDS**, Uniformed Services University (*tentatively confirmed*)

#### **Panelists:**

- ❖ **Heather Agler, PhD**, FDA (*panelist tentatively confirmed*)
- ❖ **Bahram Parvinian, PhD**, Lighthouse Regulatory Consulting Group (*panelist confirmed*)
- ❖ **Maxime Cannesson, MD, PhD**, UCLA (*panelist tentatively confirmed*)

### **Breakout Session 5: From inception to application: Real world success and not-so-successful stories**

#### **Moderators:**

- ❖ **Kajal Claypool, PhD**, MIT Lincoln Laboratory (*confirmed*)
- ❖ **Hernando Gomez, MD, MPH**, University of Pittsburgh (*confirmed*)

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## Panelists:

- ❖ **Julian Goldman, MD, FASA**, Mass General Brigham health system (*panelist confirmed*)
- ❖ **Michael Pinsky, MD, CM, Dr hc, FCCP, MCCM**, University of Pittsburgh (*panelist confirmed*)
- ❖ **Jose Salinas, PhD**, USAISR (*panelist tentatively confirmed*)

## Breakout Session 6: Crossing the valley of death: academia, industry, and government

### Moderators:

- ❖ **Derek C. Angus, MD, MPH, FRCP (UK)**, University of Pittsburgh (*confirmed*)
- ❖ **Kajal Claypool, PhD**, MIT Lincoln Laboratory (*confirmed*)

### Panelists:

- ❖ **Matthew Quinn, MBA**, Army's Telemedicine & Advanced Technology Research Center (TATRC) (*panelist confirmed*)
- ❖ **Frank Guyette, MD, MS, MPH, FACEP, FAEMS**, University of Pittsburgh (*panelist confirmed*)
- ❖ **TBA**
- ❖ **Stephane Bibian, PhD**, NeuroWave Systems Inc. (*panelist confirmed*)

2:40-4:05

## Session 7: Strategies to accelerate medical autonomy | Panel Discussion

This panel discussion will provide an in-depth discussion of defining the research, regulatory, and policy characteristics needed to accelerate the application of autonomous care systems in real world military and civilian environments.

### Moderators:

- ❖ **Ron Poropatich, MD**, University of Pittsburgh (*confirmed*)
- ❖ **Lt. Col. Adam Willis, MD, PhD**, Biological Technologies Office (*tentatively confirmed*)

### Panelists:

- ❖ **COL(R) Laura Brosch, PhD, RN** Uniformed Services University (*panelist confirmed*)
- ❖ **Heather Agler, PhD**, FDA (*panelist tentatively confirmed*)
- ❖ **Sean Biggerstaff, PhD**, Defense Health Agency (*panelist tentatively confirmed*)

4:05-4:30

## Day 2 Closing Remarks