



ICCAI'22 PROGRAM



“Impactful AI in Critical Care”

SCAI @ 20 > COVID-19

All times are Eastern Daylight Time Zone (EDT)

Day 1	Wednesday, September 7, 2022
8:00-8:10	Introduction and Welcome (Gilles Clermont, SCAI President)
8:10-8:25	Brief Perspective Keynote (P0)- Celebrating 20 years of SCAI (E. Neugebauer -Founding President of SCAI)
8:30-9:45	<p>Thematic session I: Developing and Trialing AI in Critical Care Session Chair(s): I. Wong (Duke University)</p> <p>P1. A road traveled: In silico clinical trials (Leo A. Celi, MIT) P2. Testing Predictive AI (Gary Weissman, University of Pennsylvania) P3. Governing Predictive AI Implementation (at scale) (Nicoleta Economou-Zavlanos, Duke University)</p> <p>Panel Discussion</p>
9:45-10:00	Break
10:00-11:15	<p>Thematic session II: Impactful AI in Critical Care Session Chair(s): Vitaly Herasevich (Mayo Clinic)</p> <p>P1. Complex thinking for common ICU problem - utilization of AI for analysis of the electrolyte replacement decision-making process (Krzysztof “Kris” Laudanski, University of Pennsylvania) P2. Is computer vision a solution for AI-enabled automatization at bedside? (Vitaly Herasevich, Mayo Clinic) P3. Prospective evaluation of a deployed, machine learning-based early warning system for sepsis (Roy Adams, John Hopkins University)</p> <p>Panel Discussion</p>
11:15-11:30	Break
11:30-12:30	<p>Thematic Session III: Manuscript Production (SCAI @ 20-22) Session Chair(s): Beth Luszczek (University of Minnesota) /G. Clermont (University of Pittsburgh)</p> <p>Pre-structure discussion to the extent possible (S. Zenker/G. Clermont) Data-driven vs. Mechanistic Modeling in Acute Illness (Y. Vodovotz, University of Pittsburgh) Federated vs Centralized Learning (C. Hinske, University of Augsburg) Patient privacy vs. Public Interest (S. Zenker, University of Bonn)</p> <p>Panel Discussion</p>
12:30-13:00	SCAI Business Meeting

Day 2	Thursday, September 8, 2022
8:00-8:20	Keynote: Eric Elster (Dean, Uniformed Services University of the Health Sciences, Bethesda, MD) "SC2i: Applying AI to clinically relevant data for biomarker discovery and CDST development"
8:20-9:45	Thematic Session IV: From Development to Implementation: Learning across Environments Session Chair(s): C. Hinske (University of Augsburg) and S. Zenker (University of Bonn), Germany P1. Deidentification and Reidentification of Risk Quantification (Fabian Prasser, Berlin Institute of Health @ Charité) P2. Securing your Data - Privacy Preserving Analytics (Andreas Trügler, KNOW Center Graz, Austria) P3. Federated learning for healthcare (Zaineb Chelly, University of Versailles, France) Panel discussion
9:45-10:00	Break
10:00-11:15	Thematic session V: Implementing the AI workforce in Critical Care Session Chair(s): Parisa Rashidi (University of Florida) P1. The nephrologist and AI in Critical Care (Shina Menon, Seattle Children's Hospital) P2. The Digital Twin in Intensive Care (Robert Stevens, Johns Hopkins University) P3. AI for Healthcare is not Ready for Deployment (Leo A. Celi, MIT) Panel discussion
11:15-11:30	Break
11:30-13:00	Thematic session VI: Clinical Validation of AI Session Chair(s): Sean Manion (CSO, Equidium Health) P1. Clinical Validation of AI: Focus on the Data (Harsh W. Sharma, Chief Data & AI for Cloud Services at Microsoft) P2. Human Research Protections and Regulatory Considerations in the Clinical Validation of AI/ML Prediction Models (Tamiko Eto, Compliance, Technology Risk, Privacy, and IRB Manager, Kaiser Permanente, and CITI Program Training on AI & Clinical Research) P3. Crowdsourcing a Transparent and Accessible Process for Clinical AI Validation (Amicia Elliott, Colossal Biosciences) Panel discussion

Day 3	Friday, September 9, 2022
8:00-10:15	Future of SCAI: Presentations from submitted abstracts (10 min/talk) Session Chair(s): Soojin Park (Columbia University)
8:00-8:10	1. Francis Baffour-Awuah Junior, Henry M. Jackson Foundation (Insight into septic subpopulations from proteomic trajectory clusters)
8:10-8:20	2. Ashti Shah, University of Pittsburgh (Dynamic Hypergraphs: A novel analysis pipeline for defining spatiotemporal inflammation networks)

8:20-8:30	3. Sarah Samorodnitsky, University of Minnesota (Proteomic pathways associated with developing severe disease for patients with COVID-19: a biologic analysis of data from two multicenter randomized controlled trials encompassing 13 U.S. hospitals)
8:30-8:40	4. Mehran Fazli, Henry M. Jackson Foundation (Multi-layer Gene Bundling: A new approach to gene clustering)
8:40-8:50	5. Tanner Wilson, University of Pittsburgh (Towards Small Bowel Obstruction Surgical Decision Support)
8:50-9:00	6. Renhua Li, Henry M. Jackson Foundation (Re-building a machine learning model for IFI risk prediction)
9:00-9:15	Break
9:15-9:25	7. Brian McLaverty, University of Pittsburgh (Reinforcement Learning Algorithm to Improve Intermittent Hemodialysis)
9:25-9:35	8. Stefanos Papadopoulos, University of Pittsburgh (Modeling Sepsis-Induced Organ Failure)
9:35-9:45	9. Annabelle Lint, University of Pittsburgh (Modeling Blood Urea Nitrogen (BUN) Dynamics to Estimate Dialysis Adequacy)
9:45-9:55	10. Benjamin Ranard, Columbia University (Mathematical Model of SARS-CoV-2 Immunity Predicts Paxlovid Rebound)
9:55-10:05	11. Chirag Nagpal and Van Le, Carnegie Mellon University (Identification of patients with stable coronary artery disease who benefit from ACE inhibitors using Cox mixture model for heterogeneous treatment effects)
10:05-10:15	12. Joseph Maggiore, University of Pittsburgh (Clinical concordance of in vitro, animal and human toxicology studies in the setting of acute kidney injury)