AI4HEALTH: IMPROVING HEALTH THROUGH ARTIFICIAL INTELLIGENCE



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April 20–22, 2023 | Disney's Yacht Club | Orlando, FL AI.CME.UFL.EDU



Welcome

Dear Colleagues,

We are excited to welcome you to our first continuing medical education conference focused exclusively on artificial intelligence and medicine, AI4Health: Improving Health through Artificial Intelligence. Thank you for joining us! Over the next few days, we have a fascinating group of speakers from the University of Florida and beyond, including national experts who utilize AI tools in their practice and research. Please take a few minutes to read through the agenda.

Al is increasingly a part of our lives at work as well as at home. The continued integration Al into clinical care environments means that all clinicians and healthcare decision-makers need to be conversant in it. Most importantly, we need to learn how to use the best aspects of human and machine intelligence to optimize health outcomes for all our patients.

Over the past several years, UF has become the nation's foremost public university focused on AI. We built one of the nation's largest supercomputers in partnership with NVIDIA and hired over 100 new, AI-focused faculty across all disciplines, including more than 30 within UF's six health science colleges. We are truly at the forefront of AI and medicine!

Please take the next few days to immerse yourself in these fascinating sessions. We hope you can take advantage of our intimate setting to get to know new colleagues, build collaborations and envision the future of medicine, which will help us enhance care for our patients.

We sincerely thank you for taking time from your busy schedule to join us for this conference and hope to see you again next year!

Sincerely,

true Phorae

Azra Bihorac, MD, MS, FCCM, FASN AI4Health Conference Committee Chair



Organizing Committee

Chair:



Azra Bihorac, MD, MS, FCCM, FASN

UF College of Medicine Senior Associate Dean for Research, Professor in Medicine, Surgery, and Anesthesiology, Director, Intelligent Critical Care Center

Committee:



Jiang Bian, PhD

UF Health, Chief Data Scientist, UF College of Medicine Professor in Health Outcomes and Biomedical Informatics



Tyler Loftus, MD UF College of Medicine, Assistant Professor in Surgery, Associate Director for Research, Intelligent Critical Care Center



Jessica Ray, PhD UF College of Medicine, Assistant Professor in Health Outcomes and Biomedical Informatics



Thomas George, MD, FACP

UF College of Medicine, Professor in Medicine, Division of Hematology and Oncology. Director, Experimental Therapeutics and Associate Director for Clinical Research, UF Health Cancer Center



François Modave, PhD UF College of Medicine, Professor of Artificial Intelligence, Anesthesiology



Patrick Tighe, MD, MS UF College of Medicine, Associate Dean for AI Application & Implementation, Associate Professor in Anesthesiology, Co-Director, Perioperative Cognitive Anesthesia Network



Chris Giordano, MD UF College of Medicine, Professor in Anesthesiology, Division Chief, Liver Transplantation



Jason Pethő, MBA UF Health Shands, Manager DSS Academic Initiatives



Katie Blackburn, MSPH UF College of Medicine, Senior Project Manager, Office of Research Affairs



Bill Hogan, MD, MS

UF College of Medicine, Director of Biomedical Informatics and Data Science, Professor in Health Outcomes and Biomedical Informatics



Parisa Rashidi, PhD UF College of Engineering, Associate Professor in Biomedical Engineering, Co-Director, Intelligent Critical Care Center



Jodian Blake, MPH UF College of Medicine, Senior Project Manager, Office of the Dean





Continuing Medical Education Information

Physician Credit

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

Credit: The University of Florida College of Medicine designates this live activity for a maximum of <u>11.75</u> AMA PRA Category 1 Credits[™]. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Nurse Practitioners and Physician Assistants

Nurse practitioners may participate in this educational activity and earn a certificate of completion, as AANP accepts AMA PRA Category 1 Credits[™] through its reciprocity agreements.

The National Commission on Certification of Physician Assistants accepts AMA PRA Category 1 Credits[™] from organizations accredited by the ACCME.

Nurses and Pharmacists

Suwannee River Area Health Education Center, Inc. is a Florida Board of Nursing and Pharmacy approved provider of continuing education. CE Broker Provider ID #50-1922. This program meets the requirements for up to <u>14.25</u> contact hours.

At the end of the conference, attendees will receive an email with a link to the online evaluation. Complete an evaluation for the sessions attended in full, certificates will be emailed for your records and credit will be posted to CE Broker 2-3 weeks after the conference.

For questions about continuing education, contact the UF CME Office: **Phone: (352) 733-0064 Email: cme-mail@ufl.edu**





Conference Map Disney's Yacht Club





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AGENDA

Thursday, April 20, 2023

3:00 - 4:00 PM	Registration and Exhibitor Setup		
	Location: Asbury Lobby & Asbury CD		

4:00 – 4:40 PM Welcome: Introduction to Artificial Intelligence at UF Location: Asbury AB

Welcome to the inaugural AI4Health CME conference! In this session, Dean Koch and Dr. Bihorac will share UF's vision for the future of healthcare that Artificial Intelligence will bring. Dr. Rashidi's talk will introduce "AI for non-dummies" —a high level description of what "AI" means.

UF College of Medicine Dean's Address

Colleen G. Koch, MD, MS, MBA Dean, College of Medicine, University of Florida

What is ahead of us?

Azra Bihorac, MD, MS, FASN, FCCM Senior Associate Dean for Research Affairs College of Medicine, University of Florida

Introduction to AI

Parisa Rashidi, PhD

Associate Professor and J. Crayton Pruitt Term Fellow College of Engineering, University of Florida

4:40 - 5:30 PM How Artificial Intelligence Will Change the Future of Medicine

Al can do amazing things with data. It can write music, win video games, and even dream. How do we direct these creative energies into healthcare solutions? In this session, we'll hear from teams that linked AI experts with physicians to bring the unimaginable into the routine. Learn about how they worked together, learned to speak each other's language, and developed a veritable foundry of tools for important healthcare challenges.

Shinjini Kundu, MD, PhD

Resident Physician and Research Scientist Johns Hopkins Hospital

Moderator: Parisa Rashidi, PhD

Learning Objectives:

- 1. Define Artificial Intelligence.
- 2. Discuss the relevance of AI to healthcare in general.
- 3. Explain the ways in which AI is changing medicine.

Learning Objectives:

- 1. Understand how AI can shape the future of medicine.
- 2. Recognize the current barriers to AI in medicine.
- 3. Recognize the potential risks in medical AI and risk management.
- 4. Understand the evolving role of physicians in AI-assisted medicine.



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Thursday, April 20, 2023

5:30 - 6:00 PM Panel Discussion Location: Asbury AB Colleen G. Koch, MD, MS, MBA Azra Bihorac, MD, MS, FASN, FCCM Shinjini Kundu, MD, PhD

Moderator: Parisa Rashidi, PhD

6:00 - 7:30 PM Welcome Reception Location: <u>Disney's Yacht Club Bayside Marina</u>

Welcome reception for all registered in-person attendees, including appetizers and beverages. Families are welcome.

Friday, April 21, 2023

7:00 AM Exhibits Open Location: Asbury CD

7:00 - 8:00 AM

Breakfast with the Experts Location: Asbury CD

This session allows participants to meet and interact with Health AI data science experts. This is a great opportunity to network, ask questions, and get advice about your own projects.

Robert Donnell, MD

UF Health Chief Medical Informatics Officer College of Medicine, University of Florida

Jiang Bian, PhD

UF Health Chief Data Scientist College of Medicine, University of Florida

Patrick Tighe, MD, MS

Associate Dean for AI Application and Implementation College of Medicine, University of Florida

Jessica Ray, PhD

Assistant Professor, Health Outcomes and Biomedical Informatics College of Medicine, University of Florida

Moderator: Katie Blackburn, MSPH

Learning Objectives:

- 1. Discuss the factors related to implementation of Al in healthcare systems.
- 2. Consider they ways in which AI could be implemented in the learner's home environment.
- 3. Connect participants with faculty members that have similar research interests to discuss the latest in AI research.



Friday, April 21, 2023

8:00 - 8:15 AM	Welcome Location: Asbury AB				
	Azra Bihorac, MD, MS, FASN, FCCM				
	Senior Associate Dean for Research Affairs				
	College of Medicine, University of Florida				
8:15 - 9:15 AM	Keynote Address				
	e Eye Can See				
	Imagine that high-resolution medical	Lea	rning Objectives:		
	images may contain hidden information	1.	Describe the breakthrough techniques		
	which are imperceptible to humans.		used to make this discovery.		
		2.	Understand hidden disease biomarkers		
	Shinjini Kundu, MD, PhD		ranging from orthopedics to mild		
	Resident Physician and Research Scientist	2	traumatic brain injury.		
	Johns Hopkins Hospital	5.	technology on future research and		
	Moderator: Jiang Bian, PhD		medical care.		
9:15 - 10:00 AM	Special Joint Session with CHoRUS Bridge2AI: How to Build AI-Enabled Healthcare, Part 1				
	This session will delve into the infrastructure				
	and resources needed to build an AI-enabled		Learning Objectives:		
	healthcare environment. Crossing the Bridge to Coma Recovery Eric Rosenthal, MD Assistant Professor, Neurology		1. List the infrastructural elements		
			Enabled Healthcare Environment		
			2. Explain the foundational data needed to enable AI in healthcare.		
	Massachusetts General Hospital and ICU Director				
	MGH Clinical Data Animation Center				
	Harvard Medical School				
	The Future of AI and Medical Decision Making: Current Interests and Emerging Trends Rishi Kamaleswaran, PhD				
	Associate Professor, Biomedical Informatics				
Emory University					
	20 Years of Predictive Analytics Monitoring at the Bedside				

J. Randall Moorman, MD Professor, Medicine, Biomedical Engineering, Molecular Physiology and Biological Physics University of Virginia

Moderator: Jiang Bian, PhD

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Friday, Apri	21, 2023	
10:00 - 10:15 AM	BREAK Exhibitors and Refreshments in Asbury CD	
10:15 - 11:00 AM	Special Joint Session with CHoRUS Bridge2AI: How to Build AI-Enabled Healthcare, Part 2 Location: Asbury AB	
	Holistic Patient Sensing through the Eyes of Nurses Xiao Hu, PhD Professor, Nell Hodgson Woodruff School of Nursing Emory University	
	Predicting Cardiorespiratory Insufficiency in the Acutely III Gilles Clermont, MD, MSc Professor of Critical Care Medicine, Mathematics, Clinical and Translatic and Industrial Engineering University of Pittsburgh	onal Science,
	Al for QI Patrick Tighe, MD, MS Associate Dean for AI Application and Implementation College of Medicine, University of Florida	
	Moderator: Ramzi Salloum, PhD	
11:00 AM - 12:00 PM	Special Joint Session with CHoRUS Bridge2AI:How to Build AI-Enabled Healthcare, Panel DiscussionAlina Zare, PhDProfessor, Electrical and Computer EngineeringUniversity of Florida	
	Robert Donnell, MD UF Health Chief Medical Informatics Officer University of Florida	
	Gigi Lipori, MBA, MT Senior Vice President and Chief Information Officer, UF Health Chief Information Office, UF Health Science Center Chief Data Officer, UF Health Shands	
	Erik Deumens, PhD Director of Research Computing, UF Information Technology University of Florida	
	In addition to the Special Joint Session Speakers	AI4HEALTH
	Moderators: Jiang Bian, PhD and Ramzi Salloum, PhD	CONFERENCE

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Friday, April 21, 2023

12:00 - 12:15 PM LUNCH PICKUP

Location: Asbury CD

12:15 - 1:15 PM AI: Federal Policy and Reimbursement Considerations (Lunch Session) Location: Asbury AB

Panelists will discuss current topics and latebreaking updates related to AI and federal policy, including physician perspectives.

The Continuum of Human and Artificial Intelligence Eric Rosenthal. MD

Assistant Professor, Neurology Medical Director. Neurosciences Intensive Care Unit. Massachusetts General Hospital and ICU Director, MGH Clinical Data Animation Center Harvard Medical School

Federal Policies on Safety and Privacy

Barbara Evans, JD, LLM Stephen O'Connell Chair, Levin College of Law, Professor of Engineering, University of Florida

The Role of Regulation in Operationalizing your AI Project

Yindalon Aphinyanaphongs, MD, PhD Assistant Professor, Population Health and Medicine NYU Langone Health

Reimbursement Coding and Federal Policy Richard Frank, MD, PhD Principal, Frank Healthcare Advisors, Gainesville, FL

Moderators: Patrick Tighe, MD, MS and Azra Bihorac, MD, MS

Where is My Data? Who is My Team? Are We Speaking the Same Language? 1:15 - 2:45 PM Developing a Clinical Informatics Unit for Clinical Operations and Ouality Improvement

In this session, participants will review data and personnel needs to build a working clinical informatics unit. The discussion will explore curation process from EHR to billing, learn to differentiate databases, warehouses, lakes, cloud, and other types of storage, review reporting and dashboard development processes, and describe case studies of clinical use cases of dashboard.



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Learning Objectives:

- 1. Consider the way that federal guidelines are responding to and shaping AI innovations.
- 2. Describe the way in which regulation might play a role in AI projects in your practice environment.

Friday, April 21, 2023

1:15 - 2:45 PM cont'd In addition, participants will be introduced to the interdisciplinary nature of medical AI projects and the need for diverse skillsets on the team. They will be also introduced to different types of skillsets needed for projects of different scale and how to form a great medical AI team.

Learning Objectives:

- 1. Understand different use cases for healthcare data, and the evolution from descriptive to prescriptive analytics.
- 2. Discuss the challenges in balancing clinical workflow and data collection/research needs
- 3. Review differences in stakeholder perspectives for researchers and clinician on the "successful use" of healthcare data.
- 4. Discuss elements of sustainable infrastructure supporting healthcare data and its use in healthcare decisions.

Clinical Data Collection and EHR Governance: Laying the Foundation

for AI Learning and Clinical Decision Support Implementation

Danielle Nelson, MD, MPH

Associate Chief Medical Informatics Officer Clinical Associate Professor, Community Health and Family Medicine College of Medicine, University of Florida

Clinical and Research Data Warehousing and UF's Integrated Data Repository Jiang Bian, PhD

UF Health Chief Data Scientist College of Medicine, University of Florida

Enabling Deep Phenotyping and Translational Research Applications of AI on EHR Data with OMOP2OBO

Andrew Williams, PhD Co-Leader, Tufts CTSI Informatics Core Assistant Professor Tufts University School of Medicine

Clinical vs Research Perspectives on Data Use

Patrick Tighe, MD, MS Associate Dean for AI Application and Implementation College of Medicine, University of Florida

Moderator: François Modave, PhD

BREAK

2:45 - 3:00 PM

Exhibitors and Refreshments in Asbury CD



Friday, April 21, 2023

3:00 - 4:00 PM

Pros and Cons of AI: Why/When AI Can't Replace Human Judgement

Location: Asbury AB

In this session, participants will gain an understanding of the importance of human intuition, recognize the potential dangers of cognitive shortcuts in decisionmaking, and discuss reducing potential harm from heuristics.

Elsie Ross, MD, MSc

Assistant Professor of Surgery and Medicine Stanford University

Alina Zare, PhD Professor, Electrical and Computer Engineering University of Florida

Moderator: Jessica Ray, PhD

Learning Objectives:

- 1. Understand the importance of human intuition and its associations with experience.
- 2. Recognize the potential dangers of heuristics (cognitive shortcuts) in decision making under time constraints.
- 3. Discuss mitigating potential harm from heuristics by augmenting human judgement with AI.

Saturday, April 22, 2023

7:00 AM

Exhibits Open Location: Asbury CD

7:00 - 8:00 AM

Breakfast with the Experts

Location: Asbury CD

This breakfast session allows participants to meet and interact with leaders in health Al research. This is a great opportunity to network, ask questions, and get advice about your own projects.

Elizabeth Shenkman, PhD

Department Chair and Professor, Health Outcomes and Biomedical Informatics Co-Director UF Clinical and Translational Science Institute College of Medicine, University of Florida

Learning Objectives:

- 1. Discuss the factors related to Al research on healthcare systems.
- 2. Connect participants with faculty members that have similar research interests to discuss the latest in AI research.



7:00 - 8:00 AM cont'd

Bill Hogan, MD, MS

Director of Biomedical Informatics and Data Science Professor, Health Outcomes and Biomedical Informatics College of Medicine, University of Florida

Wei Shao, PhD Assistant Professor, Medicine College of Medicine, University of Florida

Jie Xu, PhD Assistant Professor, Health Outcomes and Biomedical Informatics College of Medicine, University of Florida

Joshua Wong, MD Assistant Professor, Neurology College of Medicine, University of Florida

Moderator: Katie Blackburn, MSPH

8:00 - 9:30 AM CONCURRENT SESSION 1

<u>Track 1:</u> Intelligent Clinical Care - Using AI to Improve Outcomes in Perioperative Medicine

Location: Asbury A

This session will highlight representative examples of AI and machine learning in improving perioperative outcomes.

'Help the Doctor' - Opportunities and Pitfalls to Developing AI for Surgical Decision Making Elsie Ross, MD, MSc

Assistant Professor of Surgery and Medicine Stanford University

Learning Objectives:

- 1. Identify the ways in which AI tools and processes are impacting the perioperative environment.
- 2. Compare perioperative settings with and without AI tools.
- 3. Consider the ways AI tools could be added to the learner's environment.

Barriers to Real-Time, Multidisciplinary Clinical Implementation of AI Applications

Tyler Loftus, MD

Assistant Professor, Department of Surgery College of Medicine, University of Florida



8:00 - 9:30 AM cont'd

Al in Perioperative and Critical Care Azra Bihorac, MD, MS, FASN, FCCM

Senior Associate Dean for Research Affairs College of Medicine, University of Florida

Perioperative Cognitive Considerations

Catherine Price, PhD, ABPP

Associate Professor of Clinical and Health Psychology College of Public Health and Health Professions, University of Florida

Moderator: Chris Giordano, MD

Track 2: Merging Human and Artificial Intelligence - Opportunities and Challenges

Location: Asbury B

Where do the algorithms inside machines come from? What did the machine learn in order to make recommendations?

Implementing AI in Radiology

Reza Forghani, MD, PhD

Professor of Radiology and Vice Chair of AI College of Medicine, University of Florida

Machine/Human Conflict and Burnout

Jessica Ray, PhD

Assistant Professor, Health Outcomes and Biomedical Informatics College of Medicine, University of Florida

Al as a Member of the Cancer Care Team

Thomas George, MD, FACP

Professor, Division of Hematology/Oncology, Department of Medicine Associate Director for Clinical Research at the UF Health Cancer Center College of Medicine, University of Florida

AI and Otolaryngology

Yael Bensoussan, MD, MSc, FRCSC Assistant Professor, College of Medicine, Department of Otolaryngology, University of South Florida

Moderator: Bill Hogan, MD

Learning Objectives:

- 1. Understand how to blend human and machine intelligence.
- 2. Review how AI models are trained with human inputs.
- 3. Review applications on how machine intelligence can facilitate human decision making.



AI4HEALTH Conference

9:30 - 10:00 AM BREAK and Hotel Checkout Exhibitors and Refreshments in Asbury CD

10:00 - 11:30 AM CONCURRENT SESSION 2

<u>Track 1</u>: Intelligent Clinical Care - Helping the Human Brain with Artificial Intelligence

Location: Asbury A

This session will highlight representative examples of AI and machine learning in improving neurological outcomes.

Deep Brain Stimulation on Demand

Aysegul Gunduz, PhD Associate Professor, J. Crayton Pruitt Family Department of Biomedical Engineering, Fixel Brain Mapping Professor, Herbert Wertheim College of Engineering, University of Florida

Learning Objectives:

- 1. Understand the ways in which Alenabled technology is changing neurological medicine.
- 2. Identify innovative, AI-based methods of caring for patients at both ends of the lifespan.
- 3. Consider the ways AI tools could be added to the learner's environment.

Combining AI Methods and MRI-derived Models for Precision Neuromodulation

Aprinda Indahlastari, PhD

Research Assistant Professor, Clinical and Health Psychology College of Public Health and Health Professions, University of Florida

Aging and Mobility

Todd Manini, PhD Professor, Health Outcomes and Biomedical Informatics College of Medicine, University of Florida

AI-assisted Framework for Neurodevelopmental Outcomes

Brandon Zielinkski, MD, PhD Associate Professor, Neurology College of Medicine, University of Florida

Moderator: Patrick Tighe, MD

Track 2: Merging Human and Artificial Intelligence - Ethical and Legal Frontiers

Location: Asbury B

This session will discuss ethical and legal questions that arise in Al-rich healthcare systems.





10:00 - 11:30 AM cont'd

Working with Indigenous Communities:

Understanding Indigenous Data Politics of Al Ashley Cordes, PhD Assistant Professor, Indigenous Studies in ENVS and ENG, Digital Humanities,

English Department, Environmental Studies College of Arts and Sciences, University of Oregon

Sound and the Public Sphere

Jasmine McNealy, PhD Associate Professor, Media Production, Management and Technology College of Journalism and Communications, University of Florida

Ethical AI without Complete Transparency

Amber Ross, PhD Assistant Professor, Philosophy College of Liberal Arts and Sciences, University of Florida

Algorithmic Fairness in Health Care

David Grant, PhD Assistant Professor, Philosophy College of Liberal Arts and Sciences, University of Florida

Moderator: Elizabeth Shenkman, PhD

11:30 - 11:45 AM Convene for Lunch Location: Asbury CD

11:45 AM - 12:45 PM Lunch and Closing Remarks Location: Asbury CD

12:45 PM Adjourn

Learning Objectives:

- 1. Understand the current health outcomes environment through the lens of health disparities.
- 2. Appraise the impact that AI tools are having, and could increasingly have, on health outcomes across the population.
- 3. Examine the application of AI tools at the learner's home institution in order to minimize inequitable outcomes.

AI4HEALTH CONFERENCE

Thank You to Our Exhibitors

















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Thank You for attending the inaugural AI4Health Conference hosted by the University of Florida College of Medicine!

We look forward to seeing you next year. Details to come soon.



