



SAIL

Symposium on Artificial Intelligence for Learning Health Systems

INTEGRATING AI INTO CLINICAL MEDICINE



sail.health

MAY 7-10 • 2024

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WELCOME

Dear SAIL Attendees:

The Symposium on Artificial Intelligence for Learning Health Systems (SAIL) is returning for its third in-person voyage. The excitement about Large Language Models (LLMs) that dominated last year's symposium is giving way to the realization that dozens of healthcare systems have already adopted LLMs for clinical and back office clinical operations. Concurrently, parents, patients and others who feel underserved by their healthcare system have availed themselves of AI tools while medical professional organizations or regulatory authorities have only begun to wrestle with safety, efficacy and liability. SAIL 2024 addresses this shift head on with leading practitioners bringing AI to clinical care and patients doing the same. How AI is funded in healthcare will also shape its deployment and we therefore have invited leaders on multiple sides of the financing of AI in healthcare to join us. Finally, as in previous years, there is only one track so that you can be part of all the conversations.

We are grateful to our sponsors below for helping to make another year of SAIL possible, and we look forward to joining you in engaging dialogues, charting the ways for safe and effective applications of AI to healthcare.



—SAIL Program Committee

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SAIL

Program Updates



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program
also online

WEDNESDAY DAY 2

Page 5

PANEL 1 9:10–10:25am *Moved from 2:15pm (page 7)*

From Concept to Clinic: How Large Language Models Can Reshape Healthcare

Page 7

PANEL 2 2:15–3:00pm *Moved from 9:10am (page 5)*

The Last Mile: Working with AI in the Surgical Environment

Panelist addition: Alan Karthikesalingam (Senior Staff Clinician Scientist and Research Lead, Google)

THURSDAY DAY 3

Page 9

FIRESIDE CHAT 1 1:30–2:30pm *Moved from Day 4, 10:15am (page 11)*

Should Healthcare Funders Be Lining Up to Invest in AI?

Title formerly "FIRESIDE CHAT 2: Business Investment in Healthcare AI"

Panelist replacement: Graham Brooks (Partner, 406 Ventures) replaces Anarghya Vardhana

FRIDAY DAY 4

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PANEL 5 9:00–10:15am

The Science Behind Monitoring and Updating AI Models

Panelist replacement: Lauren Erdman (Assistant Professor, Cincinnati Children's Hospital Medical Center and University of Cincinnati College of Medicine) replaces Anna Goldenberg

SPOTLIGHT TALK 3 10:15–10:35am *Moved from Day 3, 1:50pm (page 9)*

Monitoring Dataset Shift in Clinical AI/ML Models During the Post-Deployment Phase *(Formerly SPOTLIGHT TALK 4)*

SPOTLIGHT TALK 4 10:35–10:55am *Moved from Day 3, 1:30pm (page 9)*

Identifying Reasons for Contraceptive Switching from Real-World Data Using Large Language Models *(Formerly SPOTLIGHT TALK 3)*

SPOTLIGHT TALK 5 10:55–11:15am *Moved from Day 3, 2:10pm (page 9)*

Artificial Intelligence Characterizes Neonatal Sedation and EEG Abnormalities from Video Data

Schedule at a Glance

DAY 1 • TUESDAY MAY 7

3:30–4:00pm	REGISTRATION & BADGE PICKUP
4:00–5:00pm	DEEP DIVE — Red Teaming to Test Limitations of LLMs <ul style="list-style-type: none">» Tristan Naumann, Microsoft Research» Stephen Pfohl, Google
5:00–7:30pm	WELCOME RECEPTION & REGISTRATION <ul style="list-style-type: none">» Dereck Paul, Glass Health
7:30–8:30pm	OPTIONAL: SURGICAL AI ROUNDTABLE

DAY 2 • WEDNESDAY MAY 8

8:00–9:00am	BREAKFAST & LATE REGISTRATION (OPTIONAL: INOVALON ROUNDTABLE)
9:00–9:10am	OPENING REMARKS <ul style="list-style-type: none">» Isaac Kohane, Harvard Medical School; <i>NEJM AI</i>
9:10–10:25am	PANEL 1 — The Last Mile: Working with AI in the Surgical Environment <ul style="list-style-type: none">» Gabriel Brat (Moderator), Harvard Medical School» Ewen Harrison, University of Edinburgh» Anthony Jarc, Intuitive» Panelist TBD
10:25–10:55am	BREAK
10:55–11:35am	INVITED TALK 1 — <i>In Silico to in Vivo: AI, Augmented Intelligence, at Health System Scale</i> <ul style="list-style-type: none">» Vincent Liu, The Permanente Medical Group/KP Northern California; KP Division of Research
11:35–11:55am	SPOTLIGHT TALK 1 — When the Model Trains You: A Case Study in Induced Belief Revision from a Machine Learning Model's Development
11:55am–12:15pm	SPOTLIGHT TALK 2 — From Alert to Mortality Reduction: Evaluating Clinician Actions Following Implementation of a Deterioration Prediction Model
12:15–1:30pm	LUNCH
1:30–2:15pm	OPENING KEYNOTE — Transforming Healthcare at Home: AI-Powered Touchless Physiological Monitoring <ul style="list-style-type: none">» Dina Katabi, MIT
2:15–3:30pm	PANEL 2 — From Concept to Clinic: How Large Language Models Can Reshape Healthcare <ul style="list-style-type: none">» Alan Karthikesalingam, Google» Isaac Kohane (Moderator), Harvard Medical School; <i>NEJM AI</i>» Katie Link, NVIDIA» Marlene Millen, UC San Diego Health» Bo Wang, University Health Network; University of Toronto
3:30–5:30pm	POSTER SESSION <ul style="list-style-type: none">» Group 1 3:30–4:30pm Odd numbered posters» Group 2 4:30–5:30pm Even numbered posters
5:30–6:00pm	BREAK
6:00–8:00pm	DINNER BANQUET

(☺) LIVE STREAMED



Schedule at a Glance

DAY 3 • THURSDAY MAY 9

8:00–9:00am	BREAKFAST (OPTIONAL: LEERINK PARTNERS & TRINETX ROUNDTABLES)
9:00–10:15am	PANEL 3 — Health AI Policy and Regulation <ul style="list-style-type: none"> » Laura Adams, National Academy of Medicine (NAM) » Alastair Denniston (Moderator), University of Birmingham and NHS, UK » Johan Ordish, Roche; University of Birmingham » Anindita Saha, Food and Drug Administration (FDA)
10:15–10:45am	BREAK
10:45am – 12:00pm	PANEL 4 — AI Governance in High- and Low-Resource Areas <ul style="list-style-type: none"> » Randi Foraker, Center for Population Health Informatics; Washington University in St. Louis » Bilal Mateen, Digital Square » Marylyn Ritchie (Moderator), University of Pennsylvania School of Medicine » Karandeep Singh, UC San Diego Health » Robert Vandersluis, GSK
12:00–1:30pm	LUNCH
1:30–1:50pm	SPOTLIGHT TALK 3 — Identifying Reasons for Contraceptive Switching from Real-World Data Using Large Language Models
1:50–2:10pm	SPOTLIGHT TALK 4 — Monitoring Dataset Shift in Clinical AI/ML Models During the Post-Deployment Phase
2:10–2:30pm	SPOTLIGHT TALK 5 — Artificial Intelligence Characterizes Neonatal Sedation and EEG Abnormalities From Video Data
2:30–3:15pm	INVITED TALK 2 — Case Study: Superpowers for Patients and Parents <ul style="list-style-type: none"> » Holly Gilmer, Michigan Head & Spine Institute » Courtney Morales Hofmann, Mother of Patient » Alex Hofmann, Patient
3:15–4:15pm	FIRESIDE CHAT 1 — AI and Patient Voice: Not an Afterthought. How to Empower Diverse Communities in Responsible AI Policy and Healthcare System AI implementation <ul style="list-style-type: none"> » Andrea Downing, The Light Collective » Tina Hernandez-Boussard, Stanford University » Maia Hightower (Moderator), Equality AI
4:15–6:00pm	NETWORKING/ACTIVITIES BREAK
6:00–8:00pm	DINNER BANQUET

DAY 4 • FRIDAY MAY 10

8:00–9:00am	BREAKFAST (OPTIONAL: GOOGLE ROUNDTABLE)
9:00–10:15am	PANEL 5 — The Science Behind Monitoring and Updating AI Models <ul style="list-style-type: none"> » Sharon Davis, Vanderbilt University Medical Center » Jean Feng (Moderator), UCSF; UCSF–Stanford Center of Excellence in Regulatory Science and Innovation (CERSI) » Anna Goldenberg, University of Toronto » Andrew Vickers, Memorial Sloan Kettering Cancer Center
10:15–11:15am	FIRESIDE CHAT 2 — Business Investment in Healthcare AI <ul style="list-style-type: none"> » Morgan Cheatham, Bessemer Venture Partners; Brown University » Christina Farr (Moderator), Scrub Capital and Author of Second Opinion Media » Anarghya Vardhana, Maveron
11:15am – 12:00pm	CLOSING KEYNOTE — Harnessing Generative AI and Predictive Analytics for Global Impact in Healthcare and Beyond <ul style="list-style-type: none"> » Kira Radinsky, Diagnostic Robotics
12:00–1:00pm	CLOSING REMARKS & LUNCH
5:30–7:30pm	OPTIONAL: HISTORIC WALKING TOUR OF OLD SAN JUAN
7:30pm	OPTIONAL: SOCIAL MEET-UP IN SAN JUAN, “DESPACITO” BAR

(LIVE STREAMED)

REGISTRATION &

BADGE PICKUP 3:30–4:00pm | EL YUNQUE BALLROOM

(Continues at 5pm Reception.)

DEEP DIVE 4:00–5:00pm | EL YUNQUE BALLROOM

Red Teaming to Test Limitations of LLMs

Large Language Models (LLMs) have impressive capabilities in various applications, but their vulnerabilities remain significant concerns. In this session, led by Tristan Naumann and Stephen Pfohl, we will explore the concept of “red teaming” as a proactive approach to identifying and testing the limitations of LLMs to uncover potential harms. Red teaming involves simulating adversarial scenarios to evaluate robustness, and to examine how it may extend to health settings.



Tristan Naumann

Principal Researcher, Real World Evidence (RWE) group,
Health Futures, Microsoft Research



Stephen Pfohl

Research Scientist, Google Research

WELCOME RECEPTION & REGISTRATION

5:00–7:30pm | DOME LAWN

Come pick up your badge and enjoy cocktails, hors d’oeuvres and dinner to the music of local band Jibaro Pop Trio, along with remarks from Dereck Paul, CEO of Glass Health. (Happy Hour from 5-5:30pm, Dinner from 5:30-7:30pm)



GLASS HEALTH



Dereck Paul

Co-founder & CEO, Glass Health

OPTIONAL: SURGICAL AI ROUNDTABLE

7:30–8:30pm | EL YUNQUE BALLROOM

This roundtable discussion will inform a perspective piece on surgical AI interfaces. Led by Gabriel Brat.

BREAKFAST & LATE REGISTRATION 8:00–9:00am | EL YUNQUE FOUNTAIN & TERRACE

Optional: Inovalon Roundtable

Drop by the Inovalon Roundtable, led by Scott Sbihli.

OPENING REMARKS 9:00–9:10am | EL YUNQUE BALLROOM



Isaac Kohane

Professor and Chair, Department of Biomedical Informatics, Harvard Medical School;
Editor-in-Chief, *NEJM AI*

PANEL 1 9:10–10:25am | EL YUNQUE BALLROOM

The Last Mile: Working with AI in the Surgical Environment

This panel will explore novel tools for improving surgical care. What are the unique surgical data challenges to bring together unstructured operative reports and structured peri-operative data? How do we build platforms that can be used in the operating room? How do we design global metrics of performance for surgeons and procedures? How do we integrate and analyze operative video data in the era of multi-modal foundation models?



Gabriel Brat (Moderator)

Trauma Surgeon, Beth Israel Deaconess Medical Center;
Assistant Professor of Surgery, Harvard Medical School



Ewen Harrison

Professor of Surgery and Data Science, University of Edinburgh



Anthony Jarc

Senior Director, Digital Solutions & Machine Learning, Intuitive

BREAK 10:25–10:55am

INVITED TALK 1 10:55–11:35am | EL YUNQUE BALLROOM

In Silico to In Vivo: AI, Augmented Intelligence, at Health System Scale

While there is tremendous enthusiasm about AI in healthcare, many uncertainties remain about implementation and use at the bedside. This talk will review examples of diverse health AI use cases from KP that inform health system-scale approaches of AI as augmented intelligence.



Vincent Liu

Chief Data Officer, The Permanente Medical Group/KP Northern California;
Senior Research Scientist, KP Division of Research

SPOTLIGHT TALK 1 11:35–11:55am | EL YUNQUE BALLROOM

When the Model Trains You: A Case Study in Induced Belief Revision From a Machine Learning Model’s Development



Lauren Erdman

Assistant Professor, Cincinnati Children’s Hospital Medical Center and University of Cincinnati College of Medicine

SPOTLIGHT TALK 2 11:55am–12:15pm | EL YUNQUE BALLROOM

From Alert To Mortality Reduction: Evaluating Clinician Actions Following Implementation of a Deterioration Prediction Model



Michael Colacci

General Internist, PhD candidate, University of Toronto

LUNCH 12:15–1:30pm | EL YUNQUE FOUNTAIN & TERRACE

OPENING KEYNOTE 1:30–2:15pm | EL YUNQUE BALLROOM

Transforming Healthcare at Home: AI-Powered Touchless Physiological Monitoring

LIVE STREAMED



Dina Katabi

Thuan and Nicole Pham Professor of Electrical Engineering and Computer Science, MIT

Efficient remote monitoring of individuals’ vital signs, sleep patterns, medication responses, and overall health from the comfort of their homes is pivotal for the future of healthcare. This necessity arises from burgeoning healthcare expenses, limited accessibility to healthcare in rural and disadvantaged regions, and a growing elderly population frequently living alone, while managing chronic ailments. This presentation introduces an innovative technology for unobtrusive, continuous monitoring of physiological signals within home environments, seamlessly integrated into patients’ daily routines. Our solution, akin to a passive wireless device resembling a household WiFi router, utilizes advanced machine learning algorithms to interpret radio signals reflecting off individuals’ bodies. This enables the inference of crucial metrics such as respiration rate, heart rate, sleep stages, sleep apnea occurrences, oxygen saturation levels, mobility patterns, gait analysis, and behavioral symptoms—all achieved without necessitating patients to wear cumbersome sensors or shoulder additional burdens. Rigorous validation against gold standards confirms the accuracy of our models. Moreover, our technology facilitates remote, quantifiable, and objective assessment of treatment effectiveness, identifies novel biomarkers, and paves the way for data-driven expansion of healthcare delivery directly to patients’ homes.

PANEL 2 2:15–3:30pm | EL YUNQUE BALLROOM

From Concept to Clinic: How Large Language Models Can Reshape Healthcare

Last year at SAIL, the panel on LLMs previewed the very early uses of this technology in healthcare. This year the goal of the panel is to examine how LLMs are being deployed at leading academic medical centers, compare the increasing number of models from industry and the growing open source community, and discuss how LLM-based tools will impact healthcare and medical education.



Alan Karthikesalingam

Senior Staff Clinician Scientist and Research Lead, Google



Isaac Kohane (Moderator)

Professor and Chair, Department of Biomedical Informatics, Harvard Medical School; Editor-in-Chief, *NEJM AI*



Katie Link

Product Manager, Healthcare Solutions, NVIDIA



Marlene Millen

Chief Medical Information Officer, Professor of Medicine, UC San Diego Health



Bo Wang

Chief AI Scientist, University Health Network; Inaugural Temerty Professor in AI Research and Education in Medicine, University of Toronto

POSTER SESSION 3:30–5:30pm | EL YUNQUE BALLROOM

(See pages 14–15 for poster details.)

- Group 1 | 3:30–4:30pm | Odd numbered posters
- Group 2 | 4:30–5:30pm | Even numbered posters

BREAK 5:30–6:00pm

DINNER BANQUET 6:00–8:00pm | MIRADOR LAWN

Join us for a beachside dinner with live music from local guitarist Luis Olivero.



BREAKFAST 8:00–9:00am | EL YUNQUE FOUNTAIN & TERRACE

Optional: Leerink Partners & TriNetX Roundtables

Drop by the Leerink Partners Roundtable to discuss how healthcare investors are looking at the promise (and pitfalls) of AI in biopharma, led by Mani Foroohar. Or join the TriNetX Roundtable for a discussion around the major challenges and opportunities in drug development, an overview of the health data ecosystem, what the promise of AI holds in tackling these problems, and some frameworks and perspectives for how the industry should consider governance in a rapidly evolving space; led by Arnaub Chatterjee.

PANEL 3 9:00–10:15am | EL YUNQUE BALLROOM

Health AI Policy and Regulation

AI regulation and policy needs to keep pace with technological advancement and new safety challenges they pose. How can we make sure AI ‘first does no harm’, whilst enabling the most promising technologies to reach patients and improve healthcare as rapidly as possible? This panel will explore how regulation and policy supports a healthy AI ecosystem, and whether policy needs to evolve along with AI.



Laura Adams

Senior Advisor, National Academy of Medicine (NAM)



Alastair Denniston (Moderator)

NIHR Senior Investigator, Consultant Ophthalmologist and Honorary Professor, University of Birmingham and NHS, UK



Johan Ordish

Global Head of Digital Health and Innovation Policy, Roche; Honorary Associate Professor, College of Medical and Dental Sciences, University of Birmingham



Anindita Saha

Associate Director for Strategic Initiatives, Digital Health Center of Excellence (DHCoE), Food and Drug Administration (FDA)

BREAK 10:15–10:45am

PANEL 4 10:45am–12:00pm | EL YUNQUE BALLROOM

AI Governance in High- and Low-Resource Areas

Who owns and regulates AI in healthcare, and what does this look like for large academic medical centers versus smaller providers? Similarly, how can we translate equitable and fair health AI to developing regions worldwide, especially when computing and data resources are limited? Join us as this panel tackles these and similar questions from a diverse range of viewpoints, including academia, industry, non-profit, and policymaking.



Randi Foraker

Director, Center for Population Health Informatics; Professor of Medicine, Washington University in St. Louis



Bilal Mateen
Executive Director, Digital Square



Marylyn Ritchie (Moderator)
Professor of Genetics, Director of the Institute for Biomedical Informatics,
University of Pennsylvania School of Medicine



Karandeep Singh
Chief Health AI Officer, UC San Diego Health;
Incoming Joan and Irwin Jacobs Chancellor's Endowed Chair in Digital Health Innovation,
UC San Diego



Robert Vandersluis
VP of Artificial Intelligence (AI), GSK

LUNCH 12:00–1:30pm | EL YUNQUE FOUNTAIN & TERRACE

SPOTLIGHT TALK 3 1:30–1:50pm | EL YUNQUE BALLROOM
**Identifying Reasons for Contraceptive Switching from
Real-World Data Using Large Language Models**



Brenda Miao
PhD Student, Biomedical Informatics, University of California San Francisco

SPOTLIGHT TALK 4 1:50–2:10pm | EL YUNQUE BALLROOM
**Monitoring Dataset Shift in Clinical AI/ML Models During
the Post-Deployment Phase**



Sardar Ansari
Research Assistant Professor, Department of Emergency Medicine, University of Michigan

SPOTLIGHT TALK 5 2:10–2:30pm | EL YUNQUE BALLROOM
**Artificial Intelligence Characterizes Neonatal Sedation and
EEG Abnormalities from Video Data**



Alec Gleason
MD Student, Albert Einstein College of Medicine



INVITED TALK 2 2:30–3:15pm | EL YUNQUE BALLROOM

Case Study: Superpowers for Patients and Parents

A parent’s perspective on caring for a medically complex child through a fragmented medical system. This session focuses on a parent and patient’s three year journey through multiple practitioners on a quest to solve what ailed her son. Ultimately, utilizing his full medical file, the power of AI and other parent support groups, relief was found for Alex. Join us to hear how AI aided in this journey from the parent, patient, and surgeon’s perspective.



Holly Gilmer
Pediatric Neurosurgeon, Michigan Head & Spine Institute



Alex Hoffman and Courtney Morales Hofmann
Patient and Mother of Patient

FIRESIDE CHAT 1 3:15–4:15pm | EL YUNQUE BALLROOM

**AI and Patient Voice: Not an Afterthought.
How to Empower Diverse Communities in Responsible AI
Policy and Healthcare System AI implementation**

This session will explore the challenges and opportunities of empowering diverse and marginalized communities in responsible AI policy and healthcare system AI implementation. The panelists, who are recognized trailblazers in this field, will share their experiences and insights on how to form and leverage community advisory panels in the AI healthcare, and how to ensure patient-centered and responsible AI implementation.



Andrea Downing
Co-founder and Board President, The Light Collective



Tina Hernandez-Boussard
Associate Dean of Research and Professor, Stanford University



Maia Hightower (Moderator)
CEO and Co-founder, Equality AI

NETWORKING/ACTIVITIES BREAK 4:15–6:00pm

Feel free to use this time to network with other SAIL attendees, enjoy the hotel property or catch up on emails. We’ll reconvene at dinner.

DINNER BANQUET 6:00–8:00pm | MIRADOR LAWN

Join us for a beachside dinner with live music from local pianist Edgardo Ojeda.

BREAKFAST 8:00–9:00am | EL YUNQUE FOUNTAIN & TERRACE

Optional: Google Roundtable

Drop by the Google Roundtable to have a conversation with researchers and engineers working on healthcare AI. Led by Yun Liu and Kenneth Philbrik.

PANEL 5 9:00–10:15am | EL YUNQUE BALLROOM

The Science Behind Monitoring and Updating AI Models

The idea that AI models need to be monitored and updated after they have been implemented is generally considered a best practice. However, the very act of implementing a model into a clinical workflow may influence the relationship between predictors and outcomes in a model, making it tough to determine when a model update is truly required, and what methods should be used in the updating process. This session addresses the science behind how we should monitor AI models, and when we should (and should not) update them.



Sharon Davis

Research Assistant Professor, Department of Biomedical Informatics, Vanderbilt University Medical Center



Jean Feng (Moderator)

Assistant Professor in the Department of Epidemiology and Biostatistics, UCSF; Principal Investigator, UCSF-Stanford Center of Excellence in Regulatory Science and Innovation (CERSI)



Anna Goldenberg

Senior Scientist and Chair in Biomedical Informatics and AI, The Hospital for Sick Children; Professor, Computer Science and Laboratory Medicine & Pathobiology, University of Toronto



Andrew Vickers

Attending Research Methodologist, Memorial Sloan Kettering Cancer Center

FIRESIDE CHAT 2 10:15–11:15am | EL YUNQUE BALLROOM

Business Investment in Healthcare AI

Funders, including venture capital, have seen a tsunami of proposals and business plans. Where is there near-term value going to be created in healthcare by AI, and what is missing?



Morgan Cheatham

Vice President, Bessemer Venture Partners; MD Student, Brown University



Christina Farr (Moderator)

Investor, Scrub Capital and Author of Second Opinion Media



Anarghya Vardhana

General Partner, Maveron



CLOSING KEYNOTE 11:15am–12:00pm | EL YUNQUE BALLROOM
**Harnessing Generative AI and Predictive Analytics
 for Global Impact in Healthcare and Beyond** LIVE STREAMED



Kira Radinsky
 CEO and CTO, Diagnostic Robotics

In recent years, my endeavors have been dedicated to refining predictive methodologies, spanning from discerning patterns such as Cholera outbreaks in land-locked regions to anticipating the onset of genocide events. Through the amalgamation of extensive digital archives, real-time media streams, and insights derived from online sources, I've facilitated real-time projections of forthcoming events.

The intersection of Generative AI and predictive analytics marks a paradigm shift, not solely confined to healthcare but extending to the resolution of intricate global issues. Within this discourse, I will delineate the practical applications stemming from harnessing vast datasets and state-of-the-art AI solutions, aimed at streamlining patient intake procedures, refining population health management, and enriching individualized care pathways.

CLOSING REMARKS & LUNCH

12:00–1:00pm | EL YUNQUE BALLROOM & EL YUNQUE FOUNTAIN



Emily Alsentzer
 Postdoctoral Fellow, Brigham and Women's Hospital and Harvard Medical School

OPTIONAL: HISTORIC WALKING TOUR OF OLD SAN JUAN

5:30–7:30pm | STARTS AT PLAZA COLÓN

On this 2-hour sunset experience you will explore Old San Juan at the best time of the day. You will see the the Governor's Mansion La Fortaleza, San Cristobal and El Morro Castles (from the outside), San Juan City Hall and Cathedral. The tour starts at Plaza Colón and ends at Plaza San José near restaurants and bars. The tour is guided by locals with vast knowledge about the history, culture and nature of Puerto Rico. Guides are certified by the Puerto Rico Tourism Company and are fluent in both English and Spanish.

This tour is not recommended for people with limited mobility or problems walking long distances. Strollers and electric scooters are welcomed but may need to go over a few curbs and steps. Please note that you will need to arrange your own transportation to San Juan from the hotel. Shuttles are not provided to San Juan. Email info@sail.health to purchase tickets. Adults (Ages 16+): \$36.79, Youth (Ages 5-15): \$27.36

OPTIONAL: SOCIAL MEET-UP IN SAN JUAN

7:30pm | LA FACTORIA "DESPACITO BAR," 148 Calle de San Sebastian

Voted one of the World's 50 Best Bars for five years in a row, La Factoria in Old San Juan is a true gem that not only sets the stage for the filming of the iconic song "Despacito" but also creates an atmosphere that is a captivating blend of historic charm and contemporary vibes. Its unmarked location is full of secret passages that lead to six unique bars, each curated with a different ambiance and drink menu. Come join your colleagues for a craft cocktail and some live music! Please note that you will need to arrange your own transportation to San Juan from the hotel. Shuttles are not provided to San Juan.

Notes



	TOPIC	#	POSTER TITLE
Group 1 ▪ 3:30-4:30pm	LLMs in Action	1	Large language models are autonomous practitioners of evidence based medicine
		3	Rubrics to prompts: Deploying automatic, expert-level grading of medical student encounter notes with zero-shot large language models
		5	Guidelines for rigorous evaluation of clinical LLMs for conversational reasoning
		7	Using a large language model prompt engineering platform to automate clinician in-basket responses to patient portal messages
		9	Prompt engineering GPT-4 to answer patient inquiries: A real-time implementation in the electronic health record across provider clinics
	Impact of AI on Human Decision Making	11	A deep learning sepsis prediction model improves survival and quality of care
		13	AI-powered dermatology tools: What is the impact on layperson decision making?
		15	From alert to mortality reduction: Evaluating clinician actions following implementation of a deterioration prediction model in the Kaiser Permanente Advanced Alert Monitor Program
		17	When the model trains you: A case study in induced belief revision from a machine learning model's development
		19	Impact of EHR-integrated generative AI draft replies on InBasket work by physicians
	Governance, Compliance, and RCTs	21	From governance to trust: The influence of health law, policy and governance on trust in emerging healthcare AI innovation
		23	Embedding algorithmic auditing into the UK national health service: A multistakeholder, collaborative monitoring framework for assuring regulatory compliance, fairness, and safety
		25	Artificial intelligence integration in healthcare: A survey of perspectives and trends among U.S. health system leaders
		27	Enhancing renal transplant management with AI: International multicenter RCT interim results
		29	Evaluating generalizability of landmark randomized controlled trials in common metastatic cancers using machine learning-based emulated trials
	Bias and Fairness	31	Safety assessment, risks, and recalls of FDA-cleared artificial intelligence devices: A scoping review
		33	Evaluating sociodemographic bias in an AI algorithm to detect cognitive impairment in electronic health records (EHR)
		35	Coding inequity: Assessing GPT-4 potential for perpetuating racial and gender biases in healthcare
		37	Attention-guided fair AI modelling for skin cancer diagnosis
		39	Validating gaussian mixture models for accurate health interval determination: A multi-ethnic analysis of laboratory parameters from electronic health records
Distribution Shift	41	Segmentation-guided attention for medical out-of-distribution image classification	
	43	Characterizing performance drift and dataset shift in a national population health risk prediction model	
	45	FedWeight – Mitigate covariate shift of federated learning of EHR data through patients re-weighting	
	47	External validation and comparison of a general ward deterioration index between diversely different health systems	
Group 2 ▪ 4:30-5:30pm	LLMs for Clinical Data Informatics	2	A two-stage predictive model using a large language model: LLaMA for real-world detection of medication side effects
		4	CORAL: Expert-curated medical oncology reports to advance language model inference
		6	Identifying reasons for contraceptive switching from real-world data using large language models
		8	Automating clinical coding of HPO for rare and undiagnosed diseases with large language models via ontological descent
		10	PHI-free clinical note de-identification
	Designing Human-Centered AI	12	Artificial intelligence characterizes neonatal sedation and EEG abnormalities from video data
		14	Vision transformer-based decision support for neurosurgical intervention in acute traumatic brain injury: Automated Surgical Intervention Support Tool (ASIST-TBI)
		16	A collaborative approach to catalyzing the adoption of human-centered AI in healthcare
		18	Artificial intelligence for paediatric bone age assessment: Proof of concept for embedded model facts into clinical user interface
		20	AI-assisted precision communication for simplifying cardiovascular disease information
		22	Pre-implementation medical algorithmic audit of artificial intelligence as a medical device to inform user training design
	Early Detection and Opportunistic screening	24	SBG-LUNG: Integrating raw spirogram, blood markers, and genetic data in a hybrid learning model for lung cancer prediction
		26	Opportunistic screening to assess risk of osteoporotic fracture from routine chest radiographs
		28	Deep learning on chest radiographs: A window for predicting future COPD risk
		30	Early detection of pancreatic cancer: A knowledge graph-based approach using EHR data
	Trust and Explainability	32	Fairness-Aware Interpretable Modeling (FAIM) for trustworthy machine learning in healthcare
		34	Building causally explainable fair learning health system
		36	Leveraging Explainable Artificial Intelligence (XAI) to optimize clinical decision support
		38	Towards trustworthy AI: Measuring reliability of machine learning predictions on multiple sclerosis patients
	Deployment and Evaluation	40	Strategies for deploying artificial intelligence to complement physician diagnoses: An application to acute respiratory distress syndrome diagnosis
42		Deploying artificial intelligence models over the web for real-time analysis of intraoperative videos	
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Poster Session

Day 2

We invite you to provide anonymous feedback to the poster presenters by scanning this QR code or typing the link.

bit.ly/SAIL2024_posters



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LAURA ADAMS

Senior Advisor, National Academy of Medicine (NAM)

Panelist

Laura Adams, Senior Advisor at the National Academy of Medicine (NAM) leads the NAM's Artificial Intelligence Code of Conduct (AICC) national initiative. Her expertise is in digital health, the science of improvement, and human-centered care. Laura serves on the boards of Boston-based T2 Biosystems and TMA Precision Health; and the Coalition for Health AI (CHAI) Steering Committee. She is a strategic advisor for Inflammatrix, a Burlingame, CA-based biotech company specializing in transcriptomics/host immune response diagnostics. Laura was founding President and CEO of the Rhode Island Quality Institute (RIQI), one of the nation's first statewide health information exchanges/health data repositories in the U.S. Under her leadership, RIQI won the National Council for Community Behavioral Health Excellence Award for Impact in serving those with behavioral health and substance abuse challenges and was the recipient of the national 2018 Healthcare Informatics Innovation Award for impact on the opioid crisis.



EMILY ALSENTZER

Postdoctoral Fellow, Brigham and Women's Hospital and Harvard Medical School

Closing Remarks

Emily Alsentzer is a postdoctoral fellow at Brigham and Women's Hospital. Her research develops trustworthy machine learning and natural language processing methods for healthcare, with a focus on settings with limited annotated data. She earned her PhD from the Health Sciences and Technology program at MIT and Harvard Medical School and holds degrees in computer science (BS) and biomedical informatics (MS) from Stanford University. She has served as General Chair for the Machine Learning for Health Symposium and founding organizer for SAIL and the Conference on Health, Inference, and Learning (CHIL).



GABRIEL BRAT

**Trauma Surgeon, Beth Israel Deaconess Medical Center;
Assistant Professor of Surgery, Harvard Medical School**

Panel Moderator

Gabriel Brat is a trauma surgeon and critical care physician at Beth Israel Deaconess Medical Center and a faculty in biomedical informatics at Harvard Medical School. As the director of the Surgical Informatics Lab, Dr. Brat has a broad research focus on informatics tools to improve surgical outcomes. Notable recent works include clinical decision support tools to optimize surgical opioid prescribing and machine learning methods to better understand intra-operative events through video analytics and collaborative prediction algorithms. His multiple NIH grants aim to expand use of AI in healthcare and integrate large scale data into practice. As the co-founder of an acquired computer vision company, he teaches a health IT innovation course at Harvard Medical School and mentors several digital health startups. Gabriel has an undergraduate degree in bioengineering and a graduate degree in public health and biostatistics. He completed his medical training at Stanford University and his surgical residency at Johns Hopkins Hospital.



MORGAN CHEATHAM

Vice President, Bessemer Venture Partners; MD Student, Brown University

Fireside Chat Speaker

Morgan Cheatham is a Vice President with Bessemer Venture Partners where he leads healthcare and life sciences investments from seed to growth stages. He focuses across the value chain spanning software, therapeutics, services, and diagnostics and specializes in applications of computation in biomedicine.

Select investments in his portfolio include Abridge, Hinge Health, Headspace Health, Subtle Medical, Turquoise Health, Productboard, Plenful, Groups, Ansible Health, and FOLX Health. He was awarded Forbes 30U30 for Venture Capital and the National Venture Capital Association Rising Star Award in 2023.

Morgan is pursuing medical training at Brown University with a research focus in bioinformatics. His work investigates questions pertaining to clinical validation, phenotyping, and therapeutic response prediction via large multi-modal model approaches in collaboration with the Shah Lab at Stanford and the Zitnik Lab at Harvard. Morgan is also a member of the *NEJM AI* editorial team.



SHARON DAVIS

**Research Assistant Professor, Department of Biomedical Informatics,
Vanderbilt University Medical Center**

Panelist

Sharon E. Davis, PhD, is a Research Assistant Professor of Biomedical Informatics. She is a biomedical informatician with a background in public health and statistics, whose current research emphasizes clinical predictive analytics, post-marketing surveillance, algorithmovigilance, and responsible stewardship of artificial intelligence in healthcare. She is particularly interested in addressing the practical challenges of applied learning prediction systems, focusing on methods supporting the implementation of reliable, impactful, and sustainable clinical AI models. She has developed a suite of methods for data-driven model monitoring and updating, laying the groundwork for algorithmovigilance systems promoting utility of models underlying tools for decision support and population management. The arc of Dr. Davis' career and her current focus on methods promoting practical clinical prediction are guided by a commitment to leveraging health and data sciences to advance tools that empower individuals, promote healthy communities, and reduce health inequities.



ALASTAIR DENNISTON

**NIHR Senior Investigator, Consultant Ophthalmologist and Honorary Professor,
University of Birmingham and NHS, UK**

Panel Moderator

Alastair Denniston is an NIHR Senior Investigator, Consultant Ophthalmologist and Hon Professor in the evaluation and regulation of AI health technologies, in University of Birmingham and NHS, UK. With Dr Xiao Liu, he leads a Research and Policy Group exploring how we can ensure that AI health technologies are effective, safe and equitable, and improve patient care in the 'real world'. They have a particular focus on responsible AI innovation, including ensuring that the data foundations of AI are inclusive and representative, such as through the STANDING Together initiative, and that clinical trials of AI interventions are well-designed and transparently reported (SPIRIT-AI and CONSORT-AI). Alastair was co-founder of INSIGHT, the UK's Health Data Research Hub for Eye Health, and is a Member of the UK Government's Regulatory Horizons Council.



ANDREA DOWNING

Co-founder and Board President, The Light Collective

Fireside Chat Speaker

Andrea Downing is a security researcher, deeply immersed in the intersection of health technology and patient advocacy. Her research contributions on surveillance have been pivotal in shaping the discourse around health privacy rights and policies at a national level. As the co-founder and Board President of The Light Collective, Downing is working to advance the rights, interests, and voices of patient communities in health technology. Andrea currently serves on the Steering Committee of CancerX, a public-private partnership announced by The White House as a national accelerator to boost innovation in the fight against cancer as part of the reignited Cancer Moonshot. She has also recently joined as project lead for the National Academy of Medicine AI Code of Conduct.



CHRISTINA FARR

Investor, Scrub Capital and Author of Second Opinion Media

Fireside Chat Moderator

Christina Farr is the author of Second Opinion, a newsletter read by 20,000 health professionals. She's also an investor. Prior to that, she was a venture investor with OMERS Ventures and a journalist with CNBC, Fast Company and Reuters.



JEAN FENG

Assistant Professor in the Department of Epidemiology and Biostatistics, UCSF; Principal Investigator, UCSF-Stanford Center of Excellence in Regulatory Science and Innovation (CERSI)

Panel Moderator

Jean Feng, PhD, is an Assistant Professor in the Department of Epidemiology and Biostatistics at the University of California, San Francisco, and the UCSF-UC Berkeley Joint Program in Computational Precision Health. She is a principal investigator in the UCSF-Stanford Center of Excellence in Regulatory Science and Innovation (CERSI), where she leads a team of biostatisticians, machine learning researchers, and regulatory experts from the US Food and Drug Administration to develop tools for auditing, monitoring, and updating clinical machine learning algorithms. Dr. Feng is also the data science lead on the predictive analytics team for the Zuckerberg San Francisco General Hospital to support hospital quality improvement efforts and improve patient outcomes.



RANDI FORAKER

**Director, Center for Population Health Informatics;
Professor of Medicine, Washington University in St. Louis**

Panelist

Randi Foraker is the Director of the Center for Population Health Informatics at the Institute for Informatics, Data Science & Biostatistics (I2DB), and a Professor of Medicine at Washington University in St. Louis.

Dr. Foraker specializes in the design of population-based studies and the integration of electronic health record (EHR) data with socioeconomic indicators as well as the use of synthetic data for research. Her recent research has focused on the application of clinical decision support—embedded in the EHR—to complement risk scoring in primary care, cardiology, and oncology.



HOLLY GILMER

Pediatric Neurosurgeon, Michigan Head & Spine Institute

Invited Speaker

Holly Gilmer graduated cum laude from Harvard University, and received her medical degree from the University of Michigan. She completed residency in neurosurgery at the University of California, Davis Medical Center, followed by fellowships in peripheral nerve surgery at Louisiana State University Medical Center and pediatric neurosurgery at Children's Hospital of Michigan/Detroit Medical Center. She is board-certified by the American Board of Neurological Surgery and the American Board of Pediatric Neurological Surgery. Dr. Gilmer's research and clinical specialties include Chiari malformations, dysraphism, hydrocephalus, neuro-oncology, peripheral nerve surgery, and craniofacial reconstruction. Dr. Gilmer is a past Director of the Board of the American Association of Neurological Surgeons and past President of Women in Neurosurgery. She has served on the Executive Committees of the Congress of Neurological Surgeons, AANS/CNS Joint Section on Spine and Peripheral Nerve, and the Council of State Neurosurgical Societies, the Board of Directors of the Wayne County Medical Society. She was appointed by Governor Gretchen Whitmer to the Michigan State Board of Medicine in 2019 and was elected Chair of the Board in 2023. She was formerly Chief of Pediatric Neurosurgery at Beaumont, Royal Oak, and is currently Professor of Neurosurgery at Wayne State University School of Medicine.



ANNA GOLDENBERG

**Professor in the departments of Computer Science and Laboratory Medicine & Pathobiology,
University of Toronto**

Panelist

Anna Goldenberg, PhD, is a professor in the departments of Computer Science and Laboratory Medicine & Pathobiology at the University of Toronto. She is a Varma Family Chair in Biomedical Informatics and Artificial Intelligence at SickKids Research Institute as well as a CIFAR AI chair at the Vector Institute. She co-chairs AI in Medicine initiatives at both UofT and SickKids. Dr. Goldenberg trained in machine learning at Carnegie Mellon University, with a postdoctoral focus in Computational Biology and Medicine. The current focus of her lab is on developing and deploying machine learning models to healthcare. Dr. Goldenberg's lab is strongly committed to creating responsible AI to benefit patients across a variety of conditions.



EWEN HARRISON

Professor of Surgery and Data Science, University of Edinburgh

Panelist

Ewen Harrison is Professor of Surgery and Data Science at the University of Edinburgh and a Consultant HPB Surgeon at the Royal Infirmary of Edinburgh.

He is Director of the Centre for Medical Informatics in the Usher Institute, University of Edinburgh. He leads the Surgical and Critical Care Informatics group, performing data-driven research focused on improving patient outcomes after surgery. His interests include AI/machine learning, mobile data collection platforms and wearables, decision modelling, and global collaborative research.

He leads the NIHR Unit on Global Surgery at the University of Edinburgh, a collaboration with the University of Birmingham. This provides a platform for the GlobalSurg/COVIDSurg Collaborative, recognised by Guinness World Records as largest scientific consortium worldwide (15,000 individuals across 116 countries).

His work in COVID-19 was recognised with an OBE in the King's New Year's Honours, and he has been appointed a Fellow of both the Academic of Medical Sciences and the Royal Society of Edinburgh.



TINA HERNANDEZ-BOUSSARD

Associate Dean of Research and Professor, Stanford University

Fireside Chat Speaker

Tina Hernandez-Boussard, PhD, MPH, is an Associate Dean of Research and Professor at Stanford University in Medicine (Biomedical Informatics), Biomedical Data Sciences, Surgery and Epidemiology & Population Health (by courtesy). Her background and expertise are in the field of biomedical informatics, health services research, and epidemiology. In her current work, Dr. Hernandez-Boussard develops and evaluates AI technology to improve health and healthcare outcomes. She is a dedicated advocate of ethical AI practices.



MAIA HIGHTOWER

CEO and Co-Founder, Equality AI

Fireside Chat Moderator

Maia Hightower, MD, MPH, MBA is the CEO and Founder of Equality AI, and former EVP, Chief Digital Transformation Officer at University of Chicago Medicine. Dr. Hightower is a leading voice in the intersection of healthcare, digital transformation, and health equity. She is a champion for responsible AI, ensuring that the digital future of healthcare is equitable and just.

At Equality AI, we detect and bust AI bias in healthcare. We align AI strategy with outcomes and health equity through a technology platform for AI lifecycle management. Thus, enabling healthcare systems to realize the total value of their AI investments.

She is a 4-time C-suite physician executive with fifteen years of executive leadership spanning healthcare IT, medical affairs, and population health across four academic medical centers, clinically integrated networks, and healthcare tech companies. She is an internationally sought after speaker on responsible AI and digital health equity for academic, government, consumer, and industry audiences.

Dr. Hightower received her BA at Cornell University, MD, and MPH, from the University of Rochester School of Medicine, followed by residencies in Internal Medicine and Pediatrics at the University of California, San Diego. She also holds an MBA from the University of Pennsylvania's Wharton School.



ALEX HOFMANN

Patient

Invited Speaker

Alex Hofmann is a 7 3/4 year old boy, lover of Legos, math and science. He is always ready for a party and has a few questions for you at all times. After a 3-year journey for the solution to his pain, Alex's mother Courtney turned to AI in June 2023. It led to a Today.com article that trended #1 on Apple News, Flipboard, and the TODAY Show. Alex was successfully detethered in August 2023.



COURTNEY MORALES HOFMANN

Mother of Patient

Invited Speaker

Courtney Morales Hofmann is a married mother of two intelligent, active, and medically complex children. With her husband, they manage 3 rare diseases and multiple chronic diseases. Unwilling to wait any longer for answers, Courtney turned to AI in June 2023 to solve for her son's pain. It led to a Today.com article that trended #1 on Apple News, Flipboard, and Today Show for several days.

In her professional life, Courtney is the CEO of MCM Staffing and ROBAL Tech, LLC in Michigan. Courtney has a BS and an MBA from the University of Michigan.



ANTHONY JARC

Senior Director Digital Solutions & Machine Learning, Intuitive

Panelist

Anthony (Tony) Jarc is Senior Director Digital Solutions & Machine Learning at Intuitive, where he leads a diverse team building digital tools that leverage surgical computing and AI to improve surgeon performance and patient outcomes. He has also helped establish the emerging field of surgical data science by empowering and collaborating with surgeon scientists to leverage objective metrics from the da Vinci surgical platform. Anthony joined Intuitive Surgical in 2011 as a Surgical Data Scientist. He received a BS in Mechanical Engineering from Cornell University and a PhD in Biomedical Engineering from Northwestern University in 2011.



ALAN KARTHIKESALINGAM

Senior Staff Clinician Scientist and Research Lead, Google

Panelist

Alan is a clinician and Research Scientist working on Foundation Models for health, most recently including Med-PaLM, Med-PaLM-2, Med-PaLM-Multimodal and AMIE. Prior to this his work at DeepMind and Google explored applications of AI in radiology, ophthalmology, dermatology and electronic health records, resulting in papers published in Nature and Nature Medicine. He is an honorary Lecturer in Vascular Surgery at Imperial College in London. He completed his MA in Neuroscience and Medical Degree (MBBChir) at the University of Cambridge before specialist training in surgery in the London Deanery, where he completed his Membership of the Royal College of Surgeons (MRCS), PhD in Vascular Surgery and was appointed as a NIHR Clinical Lecturer. In 2017 he joined DeepMind's health research team and in 2019 joined Google Health. Prior to joining Google he had published over 150 peer-reviewed articles including first-author studies in the New England Journal of Medicine and The Lancet.



DINA KATABI

Thuan and Nicole Pham Professor of Electrical Engineering and Computer Science, MIT

Keynote Speaker

Dina Katabi is the Thuan and Nicole Pham Professor of Electrical Engineering and Computer Science at MIT. She is also the director of the MIT's Center for Wireless Networks and Mobile Computing, a member of the National Academy of Engineering, and a recipient of the MacArthur Genius Award. Professor Katabi received her PhD and MS from MIT in 2003 and 1999, and her Bachelor of Science from Damascus University in 1995. Katabi's research focuses on innovations in digital health, applied machine learning and wireless sensors and networks. Her research has been recognized with ACM Prize in Computing, the ACM Grace Murray Hopper Award, two SIGCOMM Test-of-Time Awards, the Faculty Research Innovation Fellowship, a Sloan Fellowship, the NBX Career Development chair, and the NSF CAREER award. Her students received the ACM Best Doctoral Dissertation Award in Computer Science and Engineering twice. Further, her work was recognized by the IEEE William R. Bennett prize, three ACM SIGCOMM Best Paper awards, an NSDI Best Paper award and a TR10 award. Several start-ups have been spun out of Katabi's lab such as PiCharging and Emerald.



ISAAC KOHANE

**Professor and Chair, Department of Biomedical Informatics, Harvard Medical School;
Editor-in-Chief, *NEJM AI***

Opening Remarks; Panel Moderator

Isaac "Zak" Kohane, MD, PhD, is the inaugural chair of Harvard Medical School's Department of Biomedical Informatics, whose mission is to develop the methods, tools, and infrastructure required for a new generation of scientists and care providers to move biomedicine rapidly forward by taking advantage of the insight and precision offered by big data. Kohane develops and applies computational techniques to address disease at multiple scales, from whole health care systems to the functional genomics of neurodevelopment. He also has worked on AI applications in medicine since the 1990's, including automated ventilator control, pediatric growth monitoring, detection of domestic abuse, diagnosing autism from multimodal data and most recently assisting clinicians using whole genome sequence and clinical histories to diagnose rare or unknown disease patients. He is the inaugural Editor-in-Chief of *NEJM AI* and co-author of a recent book "The AI Revolution in Medicine." He is a member of the National Academy of Medicine, the American Society for Clinical Investigation and the American College of Medical Informatics.



KATIE LINK

Product Manager, Healthcare Solutions, NVIDIA

Panelist

Katie Link is the Healthcare Solutions Product Manager at NVIDIA, where she helps enable healthcare companies and researchers to solve real-world healthcare challenges with large language models (LLMs) and other advanced technologies. Prior to NVIDIA, she led healthcare and life sciences applications of artificial intelligence as a Machine Learning Engineer at Hugging Face, an open source AI startup. She is currently based in New York City and is on leave as a medical student at the Icahn School of Medicine at Mount Sinai. While in medical school, she led artificial intelligence research at NYU Langone Hospital, creating the largest open dataset of magnetic resonance imaging (MRI) for brain metastases and developing novel deep learning algorithms for tracking cancer progression. In her spare time, she also works on AI education initiatives for medical trainees and physicians. Prior to medical school, she was an AI Resident at Google X. She holds a bachelor's degree in Neuroscience with a minor in Computer Science from Johns Hopkins University.



VINCENT LIU

Chief Data Officer, The Permanente Medical Group/KP Northern California

Senior Research Scientist, KP Division of Research

Invited Speaker

Vincent Liu, MD, MS is a pulmonary critical care physician, a Senior Research Scientist, and the Chief Data Office for The Permanente Medical Group/Kaiser Permanente. He is an expert in the use of EHR data, machine learning/predictive analytics, and health system implementation to inform the care of 4.5 million members of Kaiser Permanente in Northern California. He has published 200 scholarly articles, including those in NEJM, JAMA, and BMJ and has served on expert panels for NIH, NQF, NCQA, and NAM on diverse topics related to sepsis, healthcare delivery, and artificial intelligence. In addition to his 4 board certifications he holds two Masters' degrees from Stanford University in Health Services Research and in Biomedical Informatics.



BILAL MATEEN

Executive Director, Digital Square

Panelist

Bilal Mateen is the Executive Director for Digital Square, a global initiative that supports digital health transformation in low- and middle-income countries. In this role, he supports ministries of health across Africa and Asia with effective planning, procurement, and implementation of technology to help address the global health equity gap. Bilal is a physician by training with an academic background in health-related applications of data science and machine learning. Previously, he served as the Clinical Technology Lead and Senior Manager for Digital Technology at the Wellcome Trust, where his team provided funding for digital public goods to address mental health, the impacts of climate change on health and escalating infectious diseases. Bilal is passionate about the role of research in advancing ethical and inclusive applications of AI to improve human lives. He holds an honorary appointment at University College London and a fellowship at the Alan Turing Institute.



MARLENE MILLEN

Chief Medical Information Officer, Professor of Medicine, UC San Diego Health

Panelist

Marlene Millen is the Chief Medical Information Officer for University of California, San Diego, and a practicing ambulatory Internal Medicine physician. In her CMIO role, Marlene has helped lead projects in Generative AI such as MyChart messaging and Chart Summary as well as using LLM to study sentiment in patient messages. She was part of the team that opened the PETCO vaccination supersite which was one of the first mass covid vaccination sites in the country. Previously, she served as the interim Medical director for UCSD managed care and as the UCSD Clinical Services Chief of Internal Medicine. This background helps now to look at innovative ways to best utilize an electronic health record and AI to support a high functioning health system.



TRISTAN NAUMANN

Principal Researcher, Real World Evidence (RWE) group, Health Futures, Microsoft Research

Deep Dive Speaker

Tristan Naumann is a Principal Researcher in the Real World Evidence (RWE) group at Microsoft Research's Health Futures. His research focuses on problems at the intersection of machine learning (ML) and health, specifically exploring relationships in complex, unstructured health data using techniques from natural language processing (NLP) and unsupervised learning. He values supporting the broader ML community through academic service and has served as a General Chair, and a variety of other roles, for NeurIPS, AHLI Conference on Health, Inference, and Learning (CHIL), and Machine Learning for Health (ML4H).



JOHAN ORDISH

Global Head of Digital Health and Innovation Policy, Roche; Honorary Associate Professor, College of Medical and Dental Sciences, University of Birmingham

Panelist

Johan Ordish is the Global Head of Digital Health and Innovation Policy at Roche. He also co-chairs the International Medical Device Regulators Forum's Generative AI Sub Group and was a co-author of Good Machine Learning Practice for Medical Device Development. Previous to Roche, Johan was Head of Software and AI at the Medicines and Healthcare products Regulatory Agency (MHRA), leading work on the regulation of software as a medical device for the UK. Johan is also an Honorary Associate Professor at the College of Medical and Dental Sciences, University of Birmingham and a By-Fellow with Hughes Hall, University of Cambridge.



STEPHEN PFOHL

Research Scientist, Google Research

Deep Dive Speaker

Stephen Pfohl is a research scientist at Google Research. His research focuses on methodology for evaluating and mitigating bias, fairness, and equity concerns related to the use of machine learning in healthcare and public health. He completed his PhD in Biomedical Informatics at Stanford University.



KIRA RADINSKY

CEO and CTO, Diagnostic Robotics

Keynote Speaker

Kira Radinsky is the CEO and CTO of Diagnostic Robotics, where the most advanced technologies in the field of artificial intelligence are harnessed to make healthcare better, cheaper, and more widely available. In the past, she co-founded SalesPredict, acquired by eBay in 2016, and served as eBay director of data science and IL chief scientist. One of the up-and-coming voices in the data science community, she is pioneering the field of medical data mining.

Dr. Radinsky gained international recognition for her work at Microsoft Research, where she developed predictive algorithms that recognized the early warning signs of globally impactful events, including political riots and disease epidemics. In 2013, she was named to the MIT Technology Review's 35 Young Innovators Under 35, in 2015 as Forbes 30 under 30 rising stars in enterprise technology, and in 2016 selected as "woman of the year" by Globes. She is a frequent presenter at global tech events, including TEDx, Wired, Strata Data Science, Techcrunch and academic conferences, and she publishes in the Harvard Business Review.

Radinsky serves as a board member in: Israel Securities Authority, Maccabi Research Institute, and technology board of HSBC bank. Dr. Radinsky also serves as visiting professor at the Technion, Israel's leading science and technology institute, where she focuses on the application of predictive data.



MARYLYN RITCHIE

Professor of Genetics, Director of the Institute for Biomedical Informatics, University of Pennsylvania School of Medicine

Panel Moderator

Marylyn D. Ritchie is the Edward Rose, MD and Elizabeth Kirk Rose, MD Professor of Genetics and Director of the Institute for Biomedical Informatics at the University of Pennsylvania School of Medicine. She is also Director of the Division of Informatics in the Department of Epidemiology, Biostatistics, and Informatics, Co-Director of the Penn Medicine BioBank, and Vice President of Research Informatics in the University of Pennsylvania Health System. Dr. Ritchie is an expert in translational bioinformatics, with a focus on developing, applying, and disseminating algorithms, methods, and tools integrating electronic health records (EHR) with genomics. Dr. Ritchie has over 20 years of experience in translational bioinformatics and has authored over 400 publications. Dr. Ritchie was appointed as a Fellow of the American College of Medical Informatics (ACMI) in 2020. Dr. Ritchie was elected as a member of the National Academy of Medicine in 2021; she was recognized "for paradigm-changing research demonstrating the utility of electronic health records for identifying clinical diseases or phenotypes that can be integrated with genomic data from biobanks for genomic medicine discovery and implementation science."



ANINDITA SAHA

Associate Director for Strategic Initiatives, Digital Health Center of Excellence (DHCoE), Food and Drug Administration (FDA)

Panelist

Anindita (Annie) Saha is the Associate Director for Strategic Initiatives for the Digital Health Center of Excellence (DHCoE) at the Food and Drug Administration (FDA). She is leading strategic initiatives in moving care into the home, AI, and international collaborations for the DHCoE to advance healthcare and equity. This includes the use of patient-generated data and managing bias in DHTs and improve transparency. Additionally, Annie helped incubate and continues to support to advance the science and adoption of patient input as evidence, including patient preference information (PPI), clinical outcome assessments (COAs). Previously, Annie was the Director of Partnerships team where she oversaw a broad program portfolio, supporting several strategic partnership and regulatory science programs. Ms. Saha started as a researcher in the Office of Science and Engineering Laboratories in imaging display technologies. Ms. Saha has a Bachelor of Science in Bioengineering and Minor in History from the University of Pittsburgh.



KARANDEEP SINGH

Chief Health AI Officer, UC San Diego Health; Incoming Joan and Irwin Jacobs Chancellor's Endowed Chair in Digital Health Innovation, UC San Diego

Panelist

Karandeep Singh, MD, MMSc is the Chief Health AI Officer for UC San Diego Health and incoming Joan and Irwin Jacobs Chancellor's Endowed Chair in Digital Health Innovation at UC San Diego. He completed his internal medicine residency at UCLA Medical Center, where he served as chief resident, and a nephrology fellowship in the combined Brigham and Women's Hospital/ Massachusetts General Hospital program in Boston, MA. He completed his medical education at the University of Michigan Medical School and holds a master's degree in medical sciences in Biomedical Informatics from Harvard Medical School. He is board certified in internal medicine, nephrology, and clinical informatics.



ROBERT VANDERSLUIS

VP of Artificial Intelligence (AI), GSK

Panelist

Robert Vandersluis is VP of Artificial Intelligence (AI) at GSK, where he explores the ethical and public policy implications of using AI systems in drug discovery and clinical applications. As part of these efforts, Robert leads academic collaborations with Stanford University and the University of Adelaide, which undertake independent research aimed at promoting AI-based interventions that are inclusive, empowering, and safe. Prior to his work in AI, Robert managed a £20 billion investment portfolio, and he served as a non-executive director for various investment funds with £40 billion of assets under management.

Robert was educated at Oxford, Cambridge, Harvard, Michigan, and the LSE—where he explored several different fields, including economics, politics, public policy, philosophy, ethics, and artificial intelligence. Robert's other interests include swimming, sailing, and Vespa riding. He lives in London with his wife, Sarah.



ANARGHYA VARDHANA

General Partner, Maveron

Fireside Chat Speaker

Anarghya Vardhana is a General Partner at the venture capital firm, Maveron. Anarghya spends her time understanding consumer and cultural behavioral shifts, identifying the billion-dollar businesses that will emerge, and partnering with the right founders to help grow those startups into household names. She is particularly interested in companies improving the health and wellness of large populations and has invested across sectors such as mental health (Two Chairs, Bend Health), women's health (Alife), healthcare platforms (Goodbill), and connection and community for wellness (RecRoom, Co-Star).

Prior to joining Maveron, Anarghya was a seed investor and a product manager at several startups, notably Medable in the healthcare space. She started her career at Google and has been in the Bay Area tech scene since her undergraduate years at Stanford, where she studied Science, Technology, and Society, graduating with honors with a focus in Human Biology, and Mathematics.



ANDREW VICKERS

Attending Research Methodologist, Memorial Sloan Kettering Cancer Center

Panelist

Andrew Vickers, PhD, is an Attending Research Methodologist at Memorial Sloan Kettering Cancer Center. Dr. Vickers has conducted extensive methodologic and empirical research in clinical trials, patient-reported outcomes, prediction modelling and molecular markers. He developed novel, streamlined, trial methodologies that have allowed large randomized trials to be conducted at very low cost; spearheaded methods for adapting patient-reported outcomes instruments into clinical care; created decision curve analysis, now a routine statistical method for the evaluation of prediction models; was the statistician behind the 4Kscore, the first laboratory test to give a predicted probability of disease, and which is in wide use in urologic practice to inform decisions about prostate biopsy. Dr. Vickers has a strong interest in teaching statistics and is author of the introductory textbook "What is a p-value anyway?". Dr. Vickers spearheads a number of innovative informatics initiatives throughout MSK, including patient-reported outcomes, part of his work as Co-Director of the PRO-CEL Core Facility, and the Amplio surgical quality assurance system.



BO WANG

Chief AI Scientist, University Health Network; Inaugural Temerty Professor in AI Research and Education in Medicine, University of Toronto

Panelist

Bo Wang, PhD, is a tenure-track Assistant Professor in the Departments of Computer Science and Laboratory Medicine & Pathobiology at the University of Toronto. He is the inaugural Temerty Professor in AI Research and Education in Medicine. Dr. Wang is the Chief AI scientist at the University Health Network, the largest research hospital in Canada. He also holds a CIFAR AI Chair at Vector Institute. Dr. Wang obtained his PhD from the Department of Computer Science at Stanford University in 2017. Dr. Wang's research focuses on machine learning, computational biology, and computer vision, with a particular emphasis on their applications in biomedicine. His significant contributions to these fields have led to his recognition through numerous esteemed awards, including the Gairdner Early Career Researcher Award and the Canada Research Chair Award.

Your Island Stay



SAIL Program Committee members



Old San Juan, the oldest city in the United States

The SAIL Experience

Dress code is “island casual.” Think jeans or shorts with a shirt, blazer/tie optional. We want everyone to be relaxed and comfortable.

If you have any guest(s) accompanying you and they would like to join the dinners, they need to register for SAIL 2024 via Eventbrite. Nanny On Call PR is the third-party childcare service recommended by the hotel.

Extra-curricular Activities

We are organizing an optional historic walking tour of Old San Juan after the program concludes on May 10. On this 2-hour sunset experience you will explore Old San Juan at the best time of the day. You will see the the Governor’s Mansion La Fortaleza, San Cristobal and El Morro Castles (from the outside), San Juan City Hall and Cathedral.

The tour starts at Plaza Colón and ends at Plaza San José near restaurants and bars, with an optional meet-up afterward at La Factoria, 148 Calle de San Sebastian. The tour is guided by locals with vast knowledge about the history, culture and nature of Puerto Rico. Guides are certified by the Puerto Rico Tourism Company and are fluent in both English and Spanish.

This tour is not recommended for people with limited mobility or problems walking long distances. Strollers and electric scooters are welcomed but may need to go over a few curbs and steps.

Please note that you will need to arrange your own transportation to San Juan from the hotel. Shuttles are not provided. Email info@sail.health to purchase tickets. Adults (Ages 16+): \$36.79, Youth (Ages 5-15): \$27.36

To plan other aspects of your trip to Puerto Rico, or if you will be extending your stay to visit the island, [DiscoverPuertoRico.com](https://www.discoverpuertorico.com) is a helpful website.



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