2024

AI IN HEALTH

CONFERENCE

HOSTED BY THE KEN KENNEDY INSTITUTE

September 9-12, 2024
Houston, Texas

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aihealthconference.com

RICE KEN KENNEDY INSTITUTE
AI, Data, and Computing for Global Impact

kenkennedy.rice.edu

MESSAGE FROM THE KEN KENNEDY INSTITUTE LEADERSHIP

THE KEN KENNEDY INSTITUTE AT RICE UNIVERSITY IS PLEASED TO OFFER THE 3RD ANNUAL AI IN HEALTH CONFERENCE (AIHC) THIS SEPTEMBER IN HOUSTON, TX. Each year we look forward to witnessing the growth of this event thanks to the dedicated community of researchers and innovators at Rice University, the Texas Medical Center, and beyond, of which this event would not be possible without. We hope that this conference will inspire you, broaden your understanding of AI in healthcare, facilitate meaningful connections with industry experts, and foster innovative ideas and partnerships. We look forward to the dynamic conversations that will occur in the next few days.

Our conference features a remarkable lineup of invited speakers, panel discussions, and technical talks, bringing expertise from leading institutions across academia, industry, and government. Participants will also be able to engage with fellow researchers and innovators through our sponsor exhibit hall, afternoon networking and poster receptions, and add-on workshops.

The 2024 conference program will address the current state of artificial intelligence in healthcare and public health and showcase a research-based outlook on the latest trends, challenges, and opportunities in this rapidly evolving field. Session topics include Foundation Models, AI in Neuroscience and Neurotechnology, AI in the Health Industry, and technical artificial intelligence applications in Imaging and Diagnostics, Patient Interaction and Behavioral Health, Bioinformatics and Genetic Analysis, Systems, and Ethical Considerations.

We encourage participants to take advantage of networking opportunities throughout the conference. Join us at Tuesday's Sponsor Networking Reception for specialty food and an evening of connecting with sponsors and fellow conference attendees. The following day will wrap up the conference with a Poster Presentation Reception to showcase exciting research happening in the health space by graduate students and postdocs. Breaks will be provided throughout the conference for refreshments and snacks, including a coffee bar available all-day Tuesday-Wednesday in the exhibit hall.

The Ken Kennedy Institute at Rice University is committed to addressing critical global challenges through foundational research, responsible innovations, and interdisciplinary collaborations in AI, data, and computing. We are thrilled to host this conference at the service of our regional and global artificial intelligence community.

We are grateful to our sponsors, partners, speakers, and attendees who share our enthusiasm for supporting and engaging with this community. Finally, thank you to our conference committee for their many contributions to this year's conference.

On behalf of the conference committee, Rice University, and the Ken Kennedy Institute team, thank you for being here.

Lydia E. Kavraki, PhD
Director, The Ken Kennedy Institute

Xia (Ben) Hu, PhD
Conference Program Committee Chair

2024 PROGRAM COMMITTEE

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XIA (BEN) HU, Program Committee Chair, Rice University

LYDIA KAVRAKI, The Ken Kennedy Institute, Rice University
KELLY PETERS, The Ken Kennedy Institute, Rice University

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AI, Data, and Computing for Global Impact

The Ken Kennedy Institute, established in 1986, is an interdisciplinary group committed to addressing critical global challenges through foundational research in AI, Data, and Computing. The Institute fosters collaborative efforts to drive AI-powered discoveries across diverse scientific disciplines and champions ethical and responsible AI innovation.

We cannot achieve our mission without meaningful connections and valuable insight. Please contact us with your questions and ideas at kenkennedy@rice.edu.

Rice Ken Kennedy Institute
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AI IN HEALTH CONFERENCE CODE OF CONDUCT

The organizers invite all attendees, sponsors/exhibitors, speakers, media, volunteers, and other participants to help us realize a safe and positive conference experience for everyone. The Ken Kennedy Institute works to increase tolerance, opportunity, and diversity in an effort to continually encourage the open exchange of ideas. For these reasons, the Institute is committed to providing a harassment-free experience at all the events it organizes. If you experience or witness harassment or discriminatory behavior at the conference, report this promptly to kenkennedy@rice.edu.

The conference venue is shared with members of the public that are not attendees of the conference; please be respectful to all patrons of these locations.

Please note that audio recording, videotaping, and/or photography of any portion of the conference material is strictly prohibited without prior consent of the staff.

2024 | AI IN HEALTH CONFERENCE
HOSTED BY THE KEN KENNEDY INSTITUTE

INVITED CONFERENCE SPEAKERS

BEHNAAM AAZHANG, PHD
Rice University

GIL ALTEROVITZ, PHD
U.S. Department of Veterans Affairs

ANTON BANTA, PHD
Houston Methodist

ALEXANDER HUTH, PHD
The University of Texas at Austin

XIAOQIAN JIANG, PHD
UTHealth Houston

ABRIA MAGEE, PHD
Cancer Prevention & Research Institute of Texas (CPRIT)

CHETHAN PANDARINATH, PHD
Emory University; Georgia Institute of Technology

LAILA RASMY, PHD
UTHealth Houston

GINNY TORNO, MBA
Houston Methodist

ANDREA VUTURO
Vuturo Group

2024 | AI IN HEALTH CONFERENCE
HOSTED BY THE KEN KENNEDY INSTITUTE

INVITED CONFERENCE SPEAKERS

**LYNDA
CHIN, MD**

Apricity Health Inc.

**JIM COLSON,
MSME, MSCS**

Texas A&M Health;
IBM—Emeritus

**JOSIAH
HESTER, PHD**

Georgia Institute
of Technology

**ANKIT
PATEL, PHD**

Baylor College
of Medicine;
Rice University

**ANDREA
RAMIERZ, MD, MS**

All of Us
Research Program

**RAFAEL
ROSENGARTEN, PHD**

Genialis

**AKANE
SANO, PHD**

Rice University

**HUA
XU, PHD**

Yale University

**VICKY
YAO, PHD**

Rice University

AI IN HEALTH 2024 | TUESDAY, SEPT. 10

Legend:

- AI in Neuroscience and Neurotechnology
- AI in the Health Industry
- Foundation Models
- Invited Speaker
- LLM Applications
- Networking
- Technical Talk: AI in Bioinformatics and Genetic Analysis
- Technical Talk: AI in Imaging and Diagnostics
- Technical Talk: AI in Patient Interaction and Behavioral Health
- Technical Talk: AI Systems and Ethical Considerations
- Workshop

Time	Session
8:00 a.m. – 8:30 a.m.	**Check-in + Breakfast** » Exhibit Hall
8:30 a.m. – 8:35 a.m.	**Day 1 Welcome** » Auditorium Speaker(s): **Xia (Ben) Hu**, PhD, Rice University; **Lydia Kavraki**, PhD, Ken Kennedy Institute, Rice University
8:35 a.m. – 9:20 a.m.	**The *All of Us* Research Program: A Platform to Transform Biomedical Research** » Auditorium Speaker(s): **Andrea Ramirez**, MD, MS, *All of Us* Research Program
9:20 a.m. – 10:05 a.m.	**AI Research and Development at VA** » Auditorium Speaker(s): **Gil Alterovitz**, PhD, U.S. Department of Veterans Affairs
10:05 a.m. – 10:30 a.m.	**Coffee Break** » Exhibit Hall
10:30 a.m. – 11:10 a.m.	**Large Language Models for Biomedical Applications** » Auditorium Speaker(s): **Hua Xu**, PhD, Yale University
11:10 a.m. – 11:50 a.m.	**Clinical Foundation Models for Real World Structured Data** » Auditorium Speaker(s): **Laila Rasmy**, PhD, UTHealth Houston
11:50 a.m. – 12:45 p.m.	**Lunch** » Exhibit Hall
12:45 p.m. – 2:00 p.m.	**Technical Talks: AI in Imaging and Diagnostics** » Room 280
12:45 p.m. – 1:25 p.m.	**AI-Powered Intracortical Brain-Computer Interfaces** » Auditorium Speaker(s): **Chethan Pandarinath**, PhD, Emory University; Georgia Institute of Technology
1:25 p.m. – 2:05 p.m.	**Mapping and Decoding Language Representations in Human Cortex** » Auditorium Speaker(s): **Alexander Huth**, PhD, The University of Texas at Austin
2:05 p.m. – 2:30 p.m.	**Afternoon Break** » Exhibit Hall
2:30 p.m. – 2:55 p.m.	**Autoregressive Model Predictability Predicts DBS Responders in Treatment Resistant OCD Patients** » Auditorium Speaker(s): **Ankit Patel**, PhD, Baylor College of Medicine; Rice University
2:30 p.m. – 3:30 p.m.	**Technical Talks: AI in Patient Interaction and Behavioral Health** » Room 280
2:55 p.m. – 3:20 p.m.	**Applications of Machine Learning for the Center of Neural Systems Restoration** » Auditorium Speaker(s): **Anton Banta**, PhD, Houston Methodist
3:20 p.m. – 3:45 p.m.	**Panel: AI in Neuroscience and Neurotechnology** » Auditorium Moderator(s): **Behnaam Aazhang**, PhD, Rice University Speaker(s): **Anton Banta**, PhD, **Alexander Huth**, PhD, **Chethan Pandarinath**, PhD, **Ankit Patel**, PhD
3:45 p.m. – 5:30 p.m.	**Sponsor Networking Reception** » Exhibit Hall

Technical Talks: AI in Imaging and Diagnostics)) Room 280

12:45-1:00 p.m.	**Predicting Immune Checkpoint Inhibitor Pneumonitis in Lung Cancer Patients Using Deep Learning and Baseline CT Scans** Speaker(s): **Eman Showkatian**, The University of Texas MD Anderson Cancer Center Authors: **Amgad Muneer**, **Eman Showkatian**, **Jia Wu**, The University of Texas MD Anderson Cancer Center
1:00-1:15 p.m.	**A Fully Automated Deep Learning-Based Post-Operative Brain Tumor Segmentation** Speaker(s): **Rajarajeswari Muthusivarajan**, The University of Texas MD Anderson Cancer Center Authors: **Rajarajeswari Muthusivarajan**, **Maguy Farhat**, **Wasif Talpur**, **Holly Langshaw**, **Victoria White**, **Andrew Elliot**, **Sara Thrower**, **Dawid Schellingerhout**, **David Fuentes**, **Caroline Chung**, The University of Texas MD Anderson Cancer Center; **Adrian Celaya**, Rice University
1:15-1:30 p.m.	**Learnable 3D Pooling for 3D-to-2D Transformation of Brain CT-Angiography** Speaker(s): **Uma M. Lal-Trehan Estrada**, University of Girona Authors: **Uma M. Lal-Trehan Estrada**, **Arnau Oliver**, **Xavier Lladó**, University of Girona; **Sunil A. Sheth**, **Luca Giancardo**, UTHealth Houston
1:30-1:45 p.m.	**Universal Echocardiography Interpretation with Multi-Task Deep Learning** Speaker(s): **Gregory Holste**, The University of Texas at Austin Authors: **Gregory Holste**, **Zhangyang Wang**, The University of Texas at Austin; **Evangelos Oikonomou**, **Rohan Khera**, Yale School of Medicine
1:45-2:00 p.m.	**3D Semantic Segmentation of Anatomic and Pathologic Features in Retinal OCT Volumes** Speaker(s): **Daniel Kermany**, Texas A&M Health Science Center Authors: **Daniel Kermany**, Texas A&M Health Science Center; **Raksha Raghunathan**, **Stephen Wong**, Houston Methodist Research Institute; **Wesley Poon**, **Glori Das**, **Orhun Davarci**, Texas A&M University

Technical Talks: AI in Patient Interaction and Behavioral Health)) Room 280

2:30-2:45 p.m.	**Who Communicates Better? A Study on Clinician and AI-Generated Responses to Frequently Asked Patient Questions** Speaker(s): **Yajie He**,Ufonia Limited Authors: **Ernest Lim**, Ufonia Limited; University of York; **Mohita Chowdhury**, **Yajie He**, **Madison Putman**, **Nikoletta Ventoura**, **James Godwin**, **Aisling Higham**, **Nick de Pennington**, Ufonia Limited; **Saif Aldeen Alryalat**, Houston Methodist Hospital; University of Colorado; **Sanjana Jaiswal**, Houston Methodist Hospital; **Andrew Lee**, Houston Methodist
2:45-3:00 p.m.	**A Pilot Study on Clinician-AI Collaboration in Diagnosing Depression from Speech** Speaker(s): **Kexin Feng**, Texas A&M University Authors: **Kexin Feng**, Texas A&M University; **Theodora Chaspari**, University of Colorado Boulder
3:00-3:15 p.m.	**Towards Objective, Temporally Resolved Neurobehavioral Predictors of Emotional State** Speaker(s): **Katherine Kabotyanski**, Baylor College of Medicine Authors: **Katherine Kabotyanski**, **Benjamin Hayden**, **Nicole Provenza**, **Sameer Sheth**, **Sanjay Mathew**, **Wayne Goodman**, Baylor College of Medicine; **Han Yi**, **Rahul Hingorani**, **Brian Robinson**, **Hannah Cowley**, **Matt Fifer**, **Brock Wester**, Johns Hopkins University; **Nader Pouratian**, University of Texas Southwestern Medical Center
3:15-3:30 p.m.	**Taking the Serious Illness Finding Tool SIFT Model to the Venice Family Clinic Community Health Center** Speaker(s): **Rohith Mohan**, UCLA Health Authors: **Rohith Mohan**, UCLA Health; **Andrew Hudson**, Cedars Sinai Medical Center

▊ AI in Neuroscience and Neurotechnology	
▊ AI in the Health Industry	
▊ Foundation Models	
▊ Invited Speaker	

▊ LLM Applications	
▊ Networking	
▊ Technical Talk: AI in Bioinformatics and Genetic Analysis	
▊ Technical Talk: AI in Imaging and Diagnostics	

▊ Technical Talk: AI in Patient Interaction and Behavioral Health	
▊ Technical Talk: AI Systems and Ethical Considerations	
▊ Workshop	

Time	Session
8:00 a.m. – 8:30 a.m.	**Check-in + Breakfast** ❱❱ **Exhibit Hall**
8:30 a.m. – 8:35 a.m.	**Day 2 Welcome + Announcements** ❱❱ **Auditorium**
8:35 a.m. – 9:20 a.m.	**Reimagining Personalized Health with Biosensors, Biologics, and Behavioral Sensing** ❱❱ **Auditorium** Speaker(s): **Josiah Hester**, PhD, Georgia Institute of Technology
9:20 a.m. – 9:50 a.m.	**Augmented Intelligence in Medicine: From Care to Drug Discovery** ❱❱ **Auditorium** Speaker(s): **Lynda Chin**, MD, Apricity Health, Inc.
9:50 a.m. – 10:35 a.m.	**Panel: Positioning High Tech Innovation as Commercial Products** ❱❱ **Auditorium** Moderator(s): **Rafael Rosengarten**, PhD, Genialis Speaker(s): **Jim Colson**, MSME, MSCS, Texas A&M Health; IBM - Emeritus; **Ginny Torno**, MBA, Houston Methodist; **Andrea Vuturo,** Vuturo Group
10:35 a.m. – 11:00 a.m.	**Coffee Break** ❱❱ **Exhibit Hall**
11:00 a.m. – 12:00 p.m.	**Technical Talks: AI in Bioinformatics and Genetic Analysis** ❱❱ **Room 280**
11:00 a.m. – 12:00 p.m.	**Technical Talks: AI Systems and Ethical Considerations** ❱❱ **Auditorium**
12:00 p.m. – 1:00 p.m.	**Lunch** ❱❱ **Exhibit Hall**
1:00 pm – 1:30 pm	**Cancer Prevention and Research Institute of Texas (CPRIT): Texas' Unique Funding** ❱❱ **Auditorium** Speaker(s): **Abria Magee**, PhD, Cancer Prevention & Research Institute of Texas (CPRIT)
1:30 p.m. – 2:00 p.m.	**Disentangling Cell Type Associations in Neurodegenerative Diseases** ❱❱ **Auditorium** Speaker(s): **Vicky Yao**, PhD, Rice University
2:00 p.m. – 2:30 p.m.	**Large Language Model and its Application in Healthcare** ❱❱ **Auditorium** Speaker(s): **Xiaoqian Jiang**, PhD, UTHealth Houston
2:30 p.m. – 3:00 p.m.	**Applications of Large Language Models in ECG Diagnosis and Sleep Health** ❱❱ **Auditorium** Speaker(s): **Akane Sano**, PhD, Rice University
3:00 p.m. – 5:00 p.m.	**Poster Presentation Reception** ❱❱ **Exhibit Hall**

Technical Talks: AI in Bioinformatics and Genetic Analysis 》》 Room 280

11:00-11:15 a.m.	**Weighted Diversified Sampling for Efficient Data-Driven Single-Cell Gene-Gen Interaction Discovery** Speaker(s): **Zhaozhuo Xu**, Stevens Institute of Technology Authors: **Yifan Wu**, **Zirui Liu**, **Khushbu Pahwa**, **Rongbin Li**, **Xia Hu**, Rice University; **Yuntao Yang**, **Zhao Li**, **Wenjin Zheng**, UTHealth Houston; **Zhaozhuo Xu**, Stevens Institute of Technology
11:15-11:30 a.m.	**Rapid CD4+ T Cell Quantification Using an AI-Enabled Microfluidic Platform** Speaker(s): **Desh Deepak Dixit**, Rice University Authors: **Desh Deepak Dixit**, **Tyler Graf**, **Kevin McHugh**, **Peter Lillehoj**, Rice University
11:30-11:45 a.m.	**Disparity in Prediction of Bacterial Vaginosis Using ML** Speaker(s): **Ivana Parker**, University of Florida Authors: **Ivana Parker**, **Diandra Ojo**, **Cameron Celeste**, **Ruogu Fang**, University of Florida
11:45 a.m.-12:00 p.m.	**An Encoder-Decoder CNN for 12-Lead ECG Reconstruction** Speaker(s): **Dorsa Esmaeilpourmoghaddam**, Rice University Authors: **Dorsa Esmaeilpourmoghaddam**, **Anton Banta**, **Behnaam Aazhang**, Rice University; **Allison Post**, **Mehdi Razavi**, Texas Heart Institute

Technical Talks: AI Systems and Ethical Considerations 》》 Auditorium

11:00-11:15 a.m.	**Automatic Diagnostic Error Event Detection with LLMs** Speaker(s): **Andrew Berger**, The University of Texas MD Anderson Cancer Center Authors: **Andrew Berger**, **Rodney Quindoy**, **Shawn Stapleton**, The University of Texas MD Anderson Cancer Center
11:15-11:30 a.m.	**DeepAphasia: Enhanced Stroke Patient Aphasia Screening Using Transformer Models with Contrastive Segment-Level Labels** Speaker(s): **Peiqi Sui**, Houston Methodist Hospital Authors: **Peiqi Sui**, **Kelvin Wong**, **Zhihao Wan**, **Xiaohui Yu**, **Stephen Wong**, Houston Methodist Hospital; **Rachel Leicht**, **John Volpi**, Houston Methodist Neurological Institute; Weill Cornell Medicine
11:30-11:45 a.m.	**When Accuracy Becomes Passé: AI Ethics for the Coming Era of Exceptional AI** Speaker(s): **Kristin Kostick-Quenet**, Baylor College of Medicine Authors: **Kristin Kostick-Quenet**, Baylor College of Medicine
11:45 a.m.-12:00 p.m.	**Mitigating Hallucinations in AI-Driven Medical Diagnosis: A Patient-Centric, Multimodal Framework with Domain-Specific Expertise** Speaker(s): **Rabimba Karanjai**, University of Houston Authors: **Rabimba Karanjai**, University of Houston; **Suravi Majumder**, UTHealth Houston

2024 PROGRAM | WORKSHOPS

1:00 p.m. – 5:00 p.m. **Unpacking Digital Twins in Oncology – Challenges and Perspectives ❯❯** Auditorium
Organizers: **Bissan Al-Lazikani**, PhD, MBCS FRSB, The University of Texas MD Anderson Cancer Center; **Heiko Enderling**, PhD, FSMB, The University of Texas MD Anderson Cancer Center; **Chengyue Wu**, PhD, The University of Texas MD Anderson Cancer Center

Speakers: **Kristy Brock**, PhD, The University of Texas MD Anderson Cancer Center; **Caroline Chung**, MD, MSc., FRCPC, CIP, The University of Texas MD Anderson Cancer Center; **Carolynn Conley**, PhD, Aegis Aerospace Inc.; **Clifton D. Fuller**, MD, PhD, The University of Texas MD Anderson Cancer Center; **David A. Jaffray**, BSc, PhD, The University of Texas MD Anderson Cancer Center; **Scott Kopetz**, MD, PhD, The University of Texas MD Anderson Cancer Center; **Gavin Lindberg**, The EVAN Foundation; **Amitabha Palmer**, PhD, HEC-C, The University of Texas MD Anderson Cancer Center; **Debu Tripathy**, MD, The University of Texas MD Anderson Cancer Center; **Aradhana Venkatesan**, MD, The University of Texas MD Anderson Cancer Center; **Tom Yankeelov**, PhD, The University of Texas at Austin

9:00 a.m. – 11:00 a.m. **NVIDIA Omniverse, Digital Twins, and Intro to LLMs ❯❯** Room 280
Speakers: **Michaela Buchanan**, Mark III Systems; **Robert Rios**, Mark III Systems; Mark III Innovation

9:00 a.m. – 11:30 a.m. **Patient Engagement and Equity in Health AI ❯❯** Auditorium
Speakers: **Fred Oswald**, PhD, Rice University; **Rodrigo Ferreira**, PhD, Rice University; **Kirsten Ostherr**, PhD, MPH, Rice University; **Grace Wickerson**, MS, Federation of American Scientists

* If you would like to add a workshop after you have already registered, please reach out to conference staff to update your registration.

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The Ken Kennedy Institute Corporate Partner Program is an opportunity for organizations to connect with top-tier graduate students pursuing AI, data, and computing research at Rice University.

Partners have the opportunity to sponsor graduate student fellowships, recruit top talent, and network with trainees at Rice University utilizing artificial intelligence, data science, high performance computing, and computational science to solve real-world problems.

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2025 ENERGY HPC CONFERENCE
FEBRUARY 25-27, 2025

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| KEYNOTE SPEAKERS | TECHNICAL PROGRAM | BIRDS OF A FEATHER SESSIONS | EXHIBIT HALL | NETWORKING RECEPTIONS | POSTER PRESENTATIONS | POST-CONFERENCE WORKSHOPS |

AI IN HEALTH

CONFERENCE

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RICE KEN KENNEDY INSTITUTE
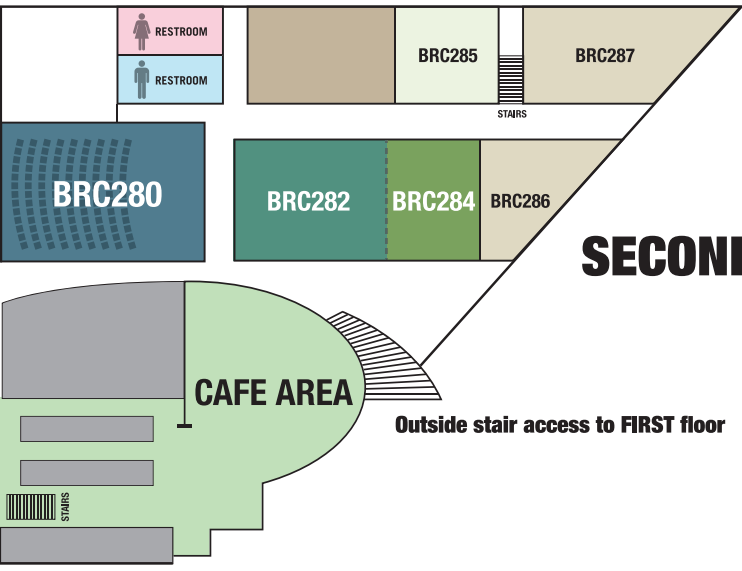*AI, Data, and Computing for Global Impact*

brc
BioScience Research Collaborative

UNDERGROUND
PARKING

DRYDEN STREET

FIRST FLOOR

SECOND FLOOR

RESTROOM
RESTROOM

BRC285
BRC287
STAIRS

BRC280

BRC282
BRC284
BRC286

CAFE AREA

STAIRS

Outside stair access to FIRST floor

TRAVIS STREET

RESTROOM
RESTROOM

BRC103

EMERGENCY
ASSEMBLY
POINT

UNIVERSITY BOULEVARD

LIVE BROADCAST
BRC106

ELEVATORS

NAME TAGS

**Outside stair access
to SECOND floor**

STAIRS

RESTROOM

PARKING GARAGE ELEVATORS

RESTROOM

MAIN ENTRANCE

EXHIBIT HALL
(SEE EXHIBIT HALL LEGEND)

MAIN STREET
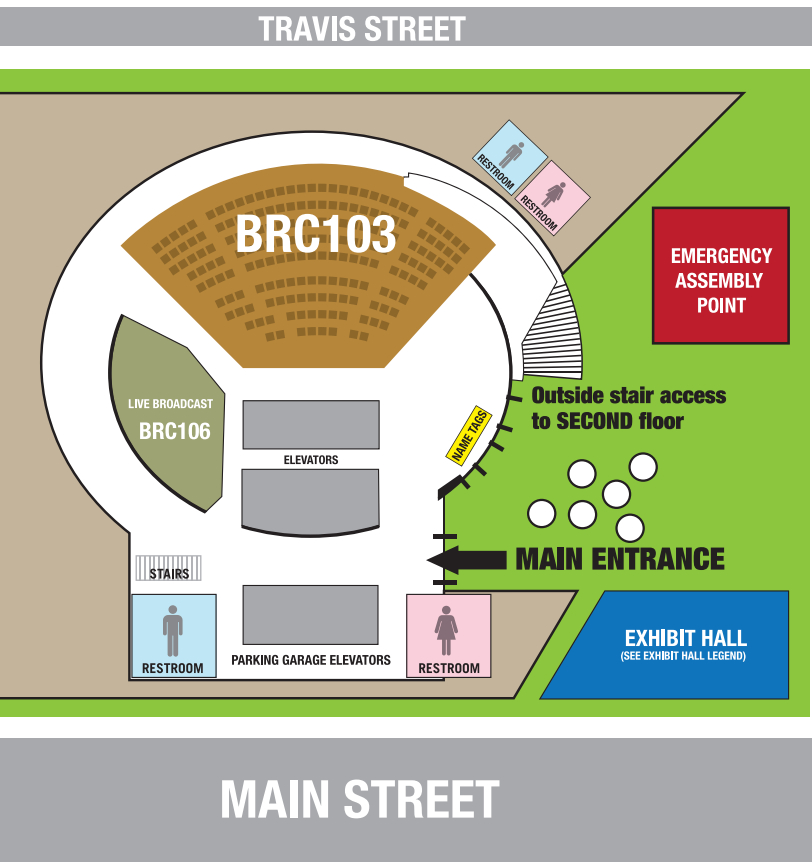
EXHIBIT HALL AND SPONSOR LAYOUT
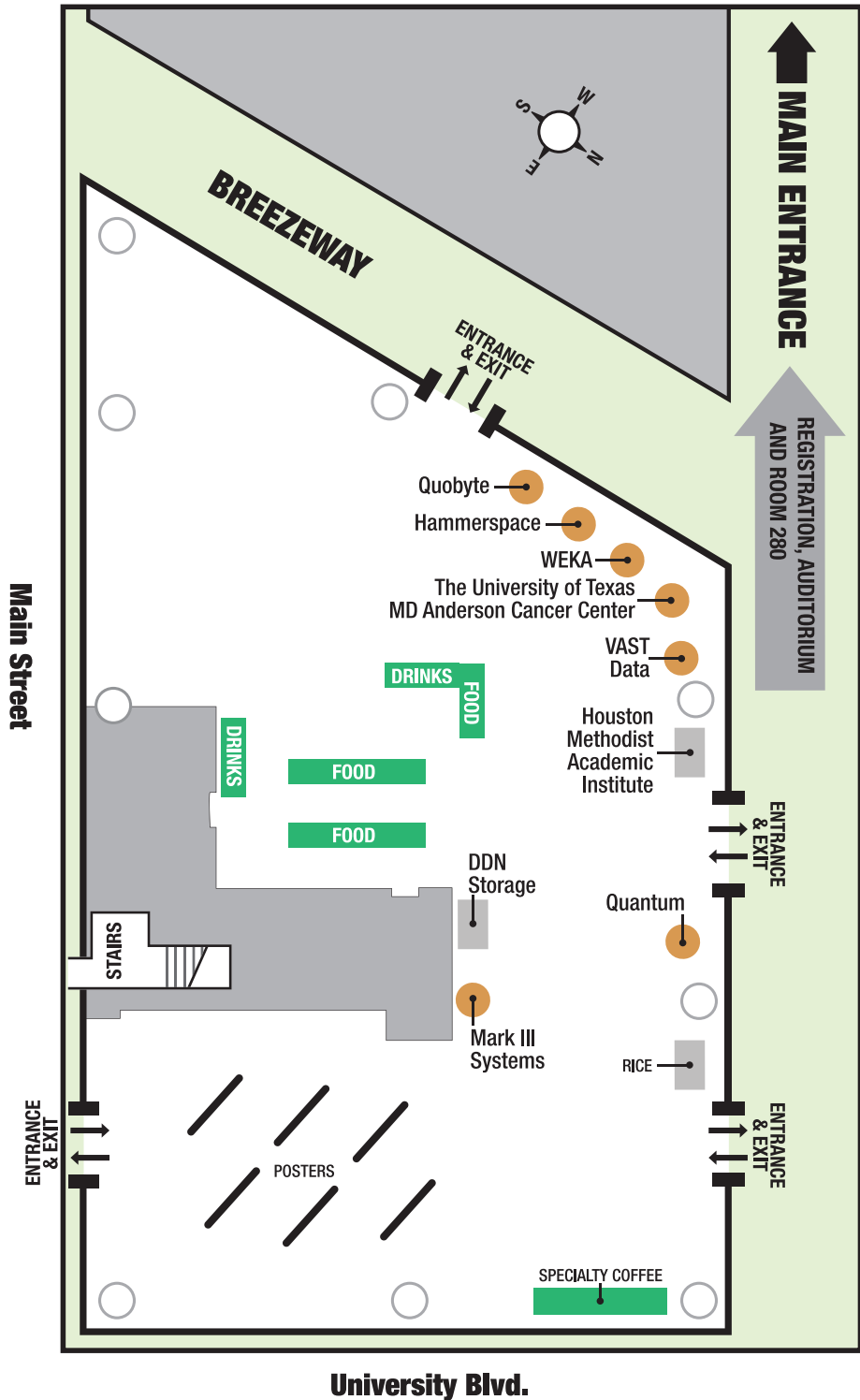
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Bronze Sponsors

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Rice Data to Knowledge Lab (D2K)

Gulf Coast Consortia (GCC)

The Ion

Rice Alliance for Technology and Entrepreneurship (Rice Alliance)

2023-2024 Ken Kennedy Institute Sponsored Fellowship Recipients

Rice Ken Kennedy Institute Graduate Fellowship Award Recipients (*top row, from left to right*): Sina Alemohammad, Anja Conev, Katherine Garcia, Jaewoo Kim, Nhi Li, Kashif Liaqat, Edward Duc Hien Nguyen, Tianyang Pan, Carlos Taveras
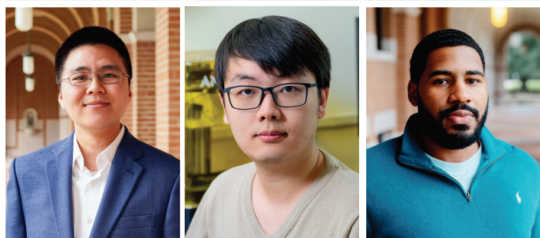
The Ken Kennedy Institute is pleased to recognize the achievements and research of Rice University's graduate students by awarding fellowships to students pursuing research related to high performance computing, computational science and engineering, and data science. Fellowship awards are made possible with support from our Corporate Partners bp and Shell, sponsor ExxonMobil, the Energy High Performance Computing Conference, and the Andrew Ladd, Ken Kennedy-HPE Cray, and Scott Morton endowments.

We aim to continue expanding our fellowship opportunities beyond the energy sector to include disciplines in healthcare and public health for upcoming award cycles. To learn more about sponsoring a graduate fellowship, please email **kenkennedy@rice.edu**.

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Ken Kennedy Institute Computational Science & Engineering Graduate Recruiting Fellowships

Funded by the proceeds from the Ken Kennedy Institute's Energy High Performance Computing Conference, the goal of this fellowship program is to attract exceptional graduate students to Rice University the fields of high performance computing, computational science and engineering, and data science, with special consideration given to students with research interests in areas of relevance to the energy industry.

2024-2028 Recipients

Saisrinivas (Sri) Gudivada
Applied Physics
Aleksandr Gulkanov
Mechanical Engineering
Nikki Hart
Computer Science

Daniel Illera
Statistics
Yangqianzi Jiang
Statistics
Zhang Lingxi
Computer Science

Siyuan Tao
Bioengineering
Xiaobei (Emma) Zhang
Applied Physics

2023-2027

Alexander Ahrens
Applied Physics
Cesar Cardenas
Statistics
Khushbu Pahwa
Computer Science
Xiaorong Zhang
Electrical & Computer Engineering

2022-2026

Brianna Barrow
Computer Science
Alyssa Cantu
Computer Science
Rose Graves
Statistics
Kevin McCoy
Statistics
John Steinman
Computational Applied Mathematics & Operations Research
Ria Stevens
Computer Science
Xiaoyu (Rosie) Zhu
Earth, Environmental, and Planetary Sciences

2021-2025

Kelsey Murphy
Earth, Environmental, and Planetary Sciences
Jose Palacio
Statistics
Xinyu (Xin) Yao
Computer Science

ENERGY HIGH PERFORMANCE COMPUTING CONFERENCE

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POSTERS

A Device for Early-Stage Diabetic Foot Ulcer Detection Using Thermal Imaging and Explainable AI with Vision Transformer Self-Attention

Picha Jetsadapattarakul (Assumption College Thonburi), Supaktra Jetsadapattarakul (Mahidol University), Nuttachai Keeratithon (Assumption College Thonburi), Thanaphumi Kunuthai (Assumption College Thonburi) and Phitchaphorn Prayoonanutep (Assumption College Thonburi)

A Fully Automated Deep Learning-Based Post-Operative Brain Tumor Segmentation

Rajarajeswari Muthusivarajan (The University of Texas MD Anderson Cancer Center), Adrian Celaya (Rice University), Maguy Farhat (The University of Texas MD Anderson Cancer Center), Wasif Talpur (The University of Texas MD Anderson Cancer Center), Holly Langshaw (The University of Texas MD Anderson Cancer Center), Victoria White (The University of Texas MD Anderson Cancer Center), Andrew Elliot (The University of Texas MD Anderson Cancer Center), Sara Thrower (The University of Texas MD Anderson Cancer Center), Dawid Schellingerhout (The University of Texas MD Anderson Cancer Center), David Fuentes (The University of Texas MD Anderson Cancer Center) and Caroline Chung (The University of Texas MD Anderson Cancer Center)

A Novel Machine-Learning Based Computational Pipeline for Alternative Splicing Analysis of Single-Cell RNA Sequencing Data

Catherine Zhou (Rice University)

A-CONECT: Designing AI-Based Conversational Chatbot for Early Dementia Intervention

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Accelerated Stroke MRI Reconstruction with Diffusion Probabilistic Models

Sidharth Kumar (University of Texas at Austin), Hamidreza Saber (University of Texas at Austin) and Jonathan I. Tamir (University of Texas at Austin)

Adaptive Self-Supervised Learning of Morphological Landscape for Leukocytes Classification in Peripheral Blood Smears

Zhuohe Liu (The University of Texas MD Anderson Cancer Center), Simon Castillo (The University of Texas MD Anderson Cancer Center), Xin Han (The University of Texas MD Anderson Cancer Center), Xiaoping Sun (The University of Texas MD Anderson Cancer Center), Zhihong Hu (The University of Texas MD Anderson Cancer Center) and Yinyin Yuan (The University of Texas MD Anderson Cancer Center)

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Julianna Hogan (Baylor College of Medicine), Katherine Bay (Center for Innovations in Quality, Effectiveness and Safety, Michael E. DeBakey VA Medical Center) and Jan Lindsay (Baylor College of Medicine)

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Srishti Agarwal (SMS Jaipur) and Aniruddha Mundhada (Dhruv Diagnostics)

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Haoqi Wang (The University of Texas at Austin), Xiomara T. Gonzalez (The University of Texas at Austin), Gabriela A. Renta Lopez (The University of Texas at Austin), Sara Hull (The University of Texas MD Anderson Cancer Center), Mary Catherine Bordes (The University of Texas MD Anderson Cancer Center), Michael C. Hout (New Mexico State University), Seung W. Choi (The University of Texas at Austin), Mia K. Markey (The University of Texas at Austin) and Gregory P. Reece (The University of Texas MD Anderson Cancer Center)

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Tom Pan (Rice University), Mitchell Miller (Rice University), Evan Dramko (Rice University), George Phillips (Rice University) and Anastasios Kyrillidis (Rice University)

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Xiaomin Liang (UTHealth Houston), Linda Alpuing Radilla (Baylor College of Medicine), Xiaoming Guan (Texas Children's Hospital Pavilion for Women), Kirk Roberts (UTHealth Houston), Sunil Sheth (UTHealth Houston), Varaha Tammisetti (UTHealth Houston) and Luca Giancardo (UTHealth Houston)

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Peter Whittaker (University of Oxford) and Mengyan Sun (Harris Manchester College, University of Oxford)

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Xiomara T. Gonzalez (The University of Texas at Austin), Margaret S. Roubaud (The University of Texas MD Anderson Cancer Center), Mark V. Schaverien (The University of Texas MD Anderson Cancer Center), Rene D. Largo (The University of Texas MD Anderson Cancer Center), Christopher S. Parham (The University of Texas MD Anderson Cancer Center), Ashleigh M. Francis (The University of Texas MD Anderson Cancer Center), Tzuan A. Chen (University of Houston), Aubri Hoffman (The University of Texas at Austin), Ryan M. Dickey (The University of Texas MD Anderson Cancer Center), Mia K. Markey (The University of Texas at Austin) and Gregory P. Reece (The University of Texas MD Anderson Cancer Center)

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Christopher Lawson (Albert Einstein College of Medicine), Nicole Zinger (Albert Einstein College of Medicine) and Tim Duong (Albert Einstein College of Medicine)

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Dorsa Esmaeilpourmoghaddam (Rice University), Anton Banta (Rice University), Allison Post (Texas Heart Institute), Mehdi Razavi (Texas Heart Institute) and Behnaam Aazhang (Rice University)

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Peiqi Sui (Houston Methodist Hospital), Kelvin Wong (Houston Methodist Hospital), Zhihao Wan (Houston Methodist Hospital), Xiaohui Yu (Houston Methodist Hospital), Rachel Leicht (Houston Methodist Neurological Institute; Weill Cornell Medicine), John Volpi (Houston Methodist Neurological Institute; Weill Cornell Medicine) and Stephen Wong (Houston Methodist Hospital)

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Matt Cheung (Rice University), Tucker Netherton (The University of Texas MD Anderson Cancer Center), Laurence Court (The University of Texas MD Anderson Cancer Center, The University of Texas Graduate School of Biomedical Sciences), Ashok Veeraraghavan (Rice University) and Guha Balakrishnan (Rice University)

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Amgad Muneer (The University of Texas MD Anderson Cancer Center), Eman Showkatian (The University of Texas MD Anderson Cancer Center) and Jia Wu (The University of Texas MD Anderson Cancer Center)

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Sarah Alnemrat (University of Texas Medical Branch), Mohammad Almomani (University of Texas Medical branch), Kostiantyn Botnar (University of Texas Medical Branch), Vivian Tat (University of Texas Medical Branch), Justin Nguyen (University of Texas Medical Branch), Madison Farnsworth (University of Texas Medical Branch), George Golovko (University of Texas Medical Branch) and Kamil Khanipov (University of Texas Medical Branch)

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Rafal Obuchowicz (Jagiellonian University Medical College), Piotr Reichert (Raygenic Technologies), Robert Ratajczak (Raygenic Techonologies), Grzegorz Materna (Raygenic Technologies), Michal Trojanowski (Raygenic Technologies) and Michal Strzelecki (Lodz University of Technology)

Towards Objective, Temporally Resolved Neurobehavioral Predictors of Emotional State

Katherine Kabotyanski (Baylor College of Medicine), Han Yi (Johns Hopkins University), Rahul Hingorani (Johns Hopkins University), Brian Robinson (Johns Hopkins University), Hannah Cowley (Johns Hopkins University), Matt Fifer (Johns Hopkins University), Brock Wester (Johns Hopkins University), Sanjay Mathew (Baylor College of Medicine), Wayne Goodman (Baylor College of Medicine), Nader Pouratian (University of Texas Southwestern Medical Center), Benjamin Hayden (Baylor College of Medicine), Nicole Provenza (Baylor College of Medicine) and Sameer Sheth (Baylor College of Medicine)

Using Artificial Intelligence to Improve Cardiometabolic Health: Developing a Kidney Transplant Derailers Index to Predict Transplant Dropout Risk for African American and Hispanic Patients

Solaf Al Awadhi (Houston Methodist), Thomas Potter (Houston Methodist), Catherine Pulicken (Houston Methodist), Andrea Meinders (Houston Methodist), Faith Parsons (Houston Methodist), Stephen Johns (Houston Methodist), Ioannis Kakadiaris (University of Houston), David Axelrod (University of Iowa) and Amy Waterman (Houston Methodist)

Using Computational Analysis to Examine the Potential Role of Microbiota in Head and Neck Squamous Cell Carcinoma Pathogenesis

Koyal Ansingkar (Texas A&M University), Shameer Khader (Imperial College London) and Kamlesh Yadav (Texas A&M University)

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Arash Maghsoudi (Baylor College of Medicine), Amin Ramezani (Baylor College of Medicine), Javad Razjouyan (Baylor College of Medicine), Richard Stoneburner (Central Texas VA Healthcare System), Antonio Martinez (VA Sierra Health Care System) and Kathleen Kendle (El Paso VA Healthcare System)

Weighted Diversified Sampling for Efficient Data-Driven Single-Cell Gene-Gene Interaction Discovery

Yifan Wu (Rice University), Yuntao Yang (UTHealth Houston), Zirui Liu (Rice University), Zhao Li (UTHealth Houston), Khushbu Pahwa (Rice University), Rongbin Li (Rice University), Wenjin Zheng (UTHealth Houston), Xia Hu (Rice University) and Zhaozhuo Xu (Stevens Institute of Technology)

Who Communicates Better? A Study on Clinician and AI-Generated Responses to Frequently Asked Patient Questions

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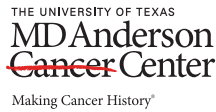## THANK YOU TO THIS YEAR'S PARTICIPANTS AND SPONSORS!

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