



CCBGM: AI and Healthcare - Taking Research to Translation

November 11-12, 2021

University of Illinois Campus (with an on-line component)

Thursday, November 11, 2021 - [Join Zoom Meeting](#)

On-site location:	Coordinated Science Laboratory, Room B02
Meeting URL:	https://illinois.zoom.us/j/83164539896?pwd=NS9QMkdFc1NOYUNTUpQVzNYTkwwQT09
Meeting ID:	831 6453 9896
Password:	372961
10:00 am – 10:15 am	Welcome and introduction – Dr. Konstantinos Lazaridis, Mayo and Dean Rashid Bashir, UIUC
10:15 am – 10:30 am	What is an NSF IUCRC? – Dr. Leila Jones, Mayo
10:30 am – 10:55 am	CCBGM: Then, Now, and In the Future – Prof. Ravi Iyer, UIUC and Dr. Liewei Wang, Mayo
10:55 am – 11:10 am	Introduction to UI Health and Discovery Partners Institute – Dr. Karl Kochendorfer, UI Health and Prof. Venkat Venkatakrishnan, DPI
11:10 am – 12:00 pm	Keynote: Artificial Intelligence Methods and the understanding of Multiomics Response in Radiation Oncology – Dr. John Kalapurakal, Vice Chair, Department of Radiation Oncology, Northwestern Medicine, Northwestern University
12:00 pm – 1:00 pm	Lunch Break: Box lunches for on-site registrants in room 301
1:00 pm – 2:15 pm	<i>Industry Leader Panel</i> moderated by Dr. Corey Hudson, Sandia National Lab, to address driving issues in big data analytics and AI/ML, how the landscape is changing and how AI can help. Panel includes, Siemens (Sina Tafti, PhD), Roche (Sowmi Utiramerur, PhD), Prenosis (Bobby Reddy, PhD), Infosys (Vadiraj Guttal), Microsoft (Geraldyn Miller), Intel (Marissa Powers, PhD)
2:15 pm – 3:45 pm	Research focus: Lighting presentations moderated by Dr. Dick Weinshilboum, Mayo Dr. Dick Weinshilboum (Mayo) <i>Deep Mutational Scanning, its application to COVID, and future directions.</i> Dr. Arjun Athreya, PhD (Mayo) <i>Analytics, Systems and Genomic Medicine: Translational Success Stories from CCBGM</i> Dr. Jacob Krive (UIC) <i>Clinical analytics and AI to support cardio-oncology practice</i> Prof. Zhi-Pei Liang (UIUC) <i>Spin physics meets machine learning to unravel the molecular fingerprints of brain function and diseases</i> Prof. Natalie Parde (UIC) <i>NLP to identify race, ethnicity and housing stability within the EHR</i> Dr. Robin Patel (Mayo) <i>Next generation sequencing-based bacterial theranostics – the next frontier?</i> Prof. Pengfei Song (UIUC) <i>Super-resolution ultrasound: the next frontier of microvascular imaging.</i> Prof. Zbigniew Kalbarczyk (UIUC) <i>Smart Ransomware Honeypot: Learning Attack Tactics Aiming at EMR Data</i> Dr. Mark Frye (Mayo) <i>AI/ML Opportunities to Investigate Thyroid Function & Thyroid Pharmacogenomic Testing in Mood Disorders</i>
3:45 pm – 4:00 pm	Day One wrap-up/Laying the groundwork for interactive sessions Friday morning – Ravi Iyer, Liewei Wang, Karl Kochendorfer
4:00 pm – 4:15 pm	Student Poster Presenters – A Moment at the Podium. A complete list of posters is listed on page 3.
4:15 pm – 5:15 pm	Poster Reception – CSL Foyer



Friday, November 12, 2021 - [Join Zoom Meeting](#)

Meeting URL	https://illinois.zoom.us/j/86579729806?pwd=Z3ZISDZ6MmtEWWtkd3JPaE1SalhBUT09
Meeting ID:	865 7972 9806
Password:	656675
9:00 am	Meet in CSL B02 (or Zoom meeting) for breakout room explanation – Normand Paquin, UIUC
9:10 am	Breakout Room 1) Imaging in CSL Room 469A or https://illinois.zoom.us/j/86481421546?pwd=VVdSVjdoNmITWEcxaHA5ektTMFBzd09 Breakout Room 2) Pharmaco-omics in CSL Room 221 https://illinois.zoom.us/j/84562910396?pwd=V2x6NnpIdEhYWGIDSFZ5SDBtMzRUQT09 Breakout Room 3) Diseases impacting minorities – diabetes, heart disease, neurological in CSL Room 239 or https://illinois.zoom.us/j/87499145604?pwd=RU92SENZb3NuN2dNenF1cnZlcVZ1Zz09 Breakout Room 4) Trust in AI, security, robustness in CSL Room 301 or https://illinois.zoom.us/j/86067011724?pwd=bU4wd3gzTVhtSEg2a2xubUZzUldGdz09 Breakout Room 5) Computational support in CSL Room 368 or https://illinois.zoom.us/j/88329933005?pwd=MzlhUW5EUGxzR1hDOGFEbmkxTXJIQT09
10:45 am – 11:25 am	Groups rejoin in CSL B02 for breakout room reporting
11:25 am – 11:30 am	Next steps – Ravi Iyer and Liewei Wang



Student Poster Presentations

Poster Reception in CSL Foyer – Thursday, November 11th 4:15 p.m.

1. Generation of SARS-CoV2 sequences using Deep Learning; Anand Ramachandran (advisors: Steven S Lumetta, Deming Chen)
2. Text Mining for Biomedicine and Healthcare; Xuan Wang (advisor: Jiawei Han)
3. Intelligent Service-level Objective (SLO) Management for Cloud Health Care Applications; Haoran Qiu (advisors: Ravi Iyer, Zbigniew Kalbarczyk)
4. Matching Profiles of Identical Cells from Different Modalities; Tianyu Liu (advisor: Ilan Shomorony)
5. Azure Modern Analytics Architecture for Synthetic Syndromic Surveillance; Arash Jalali and Sean Huang (advisor: Karl Kochendorfer)
6. AI-based early diagnosis of Alzheimer's disease; Krishnakant Saboo (advisor: Ravi Iyer)
7. COVID-19 Disease Progression Inference using Factor Graph Models; Yurui Cao (advisor: Ravi Iyer)
8. Secure Federated Learning for Collaborative Diagnostics; Rittika Adhikari (advisor: Sanmi Koyejo)
9. User Behavior Pattern Analysis for Dynamic Data Access Control; Chenyang Huang (advisor: Zbigniew Kalbarczyk)
10. SPINE – Secure EMR Data Access Platform Demonstration; Chenyang Huang (advisor: Zbigniew Kalbarczyk)

NOTE: Virtual attendees can find short video presentations from each poster presenter (as well as a PDF of each poster) in the Meeting Box Folder - <https://uofi.box.com/s/7oktv9uwjot095i04ez1tzx7xd795w8n>

