

AGENDA
NLM Training Grant Conference, 2022

AT A GLANCE

DAY 1: JUNE 22, 2022	
4:00 – 6:00 PM	Welcome Reception (Second Floor Atrium)
DAY 2: JUNE 23, 2022	
7:00 – 8:00 AM	Breakfast (in Front of Active Learning Center)
8:00 – 10:00 AM	Opening Remarks and Plenary Session 1: Clinical Prediction (Active Learning Center)
10:00 – 10:40 AM	Patricia Brennan, RN, PhD, Director, National Library of Medicine (Active Learning Center)
10:40 – 11:00 AM	Photo Session and Break
11:00 – 12:25 PM	Parallel Focus Sessions: Biomedical Applications of Machine Learning
11:00 – 12:25 PM	Focus Session 1: Outcomes Prediction Models (Active Learning Center)
11:00 – 12:25 PM	Focus Session 2: Bioinformatic Models (Room 1225)
11:00 – 12:25 PM	Focus Session 3: Imaging (2213 AB)
12:30 – 1:30 PM	Lunch Break (Active Learning Center)
12:30 – 1:30 PM	Lunch and Meeting for Program Directors and NLM (Brain Museum, 1110)
1:30 – 2:30 PM	Panel Session: The Road Forward for Informatics: Future Directions for the Next Five Years in our Field (Active Learning Center)
2:30 – 3:30 PM	Poster Pitch (Active Learning Center)
3:30 – 4:25 PM	Parallel Rapid Research Ideas and Tech Talks (RRITT)
3:30 – 4:25 PM	RRITT Session 1: EHR Utility and Usability (Active Learning Center)
3:30 – 4:25 PM	RRITT Session 2: Finding Health Patterns (Room 1225)
3:30 – 4:25 PM	RRITT Session 3: Bioinformatics (Room 2213 AB)
3:30 – 4:25 PM	RRITT Session 4: Public Health and Risk Prediction (Room 2220)
4:30 – 6:00 PM	Poster Session (Second Floor Atrium)
6:30 – 9:30 PM	Conference Dinner at 500 Pearl Street
DAY 3: JUNE 24, 2022	
7:00 – 8:00 AM	Breakfast (in Front of Active Learning Center)
8:00 – 10:00 AM	Plenary Session 2: Biological and Terminological Analysis (Active Learning Center)
10:00 – 10:05 AM	Break
10:05 – 11:30 AM	Parallel Focus Sessions: Informatics in Healthcare
10:05 – 11:30 AM	Focus Session 4: Tools for EHR (Active Learning Center)
10:05 – 11:30 AM	Focus Session 5: Public Health and Biological Prediction (Room 1225)
10:05 – 11:30 AM	Focus Session 6: Vocabularies and NLP (Room 2120A, M&T)
11:30 – 12:30 PM	Lunch
11:30 – 12:30 PM	Lunch and NLM Talk on Grants for Trainees (Active Learning Center)
12:30 – 2:30 PM	Panel Session: Integrating Clinical, Imaging, and Biological Information (Active Learning Center)
2:30 – 3:00 PM	Awards/Closing (Active Learning Center)

Access Wi-Fi: UB Connect > Guest > Enter your email address

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DAY 1
JUNE 22, 2022

4:00 – 6:00 PM	Welcome Reception (Second Floor Atrium) Brief Remarks by Peter L. Elkin, MD, University at Buffalo
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DAY 2
JUNE 23, 2022

7:00 – 8:00 AM	Breakfast (in Front of Active Learning Center)
8:00 – 8:20 AM	Welcome/Introductions (Active Learning Center) Peter L. Elkin, MD, University at Buffalo Provost, Scott Weber, PhD
8:20 – 10:00 AM	Plenary Session 1: Clinical Outcome Prediction (Active Learning Center) Moderator: Peter L. Elkin, MD, University at Buffalo
8:20 – 8:32 AM	Machine Learning for Predicting the Reoperation Risk After Trabeculectomy Wei-Chun Lin, Oregon Health & Science University
8:32 – 8:44 AM	Quantifying the Perioperative Risks for Patients on Buprenorphine for Opioid Use Disorder Using a Large National Database James Hitt, University at Buffalo
8:44 – 8:56 AM	Using Embedding Models and Foundational NLP Methods To Predict Oral Cancer Risk Malvika Pillai, University of North Carolina, Chapel Hill
8:56 – 9:08 AM	A Clinical Decision Support Tool for Pediatric Inflammatory Diseases Jonathan Y Lam, University of California San Diego
9:08 – 9:20 AM	Modeling Association Between Clinician Interventions and Outcomes in Major Depressive Disorder with Observational EHR Data Barrett Jones, Vanderbilt University
9:20 – 9:32 AM	Distributed Meta-Analysis of Individualized Treatment Rules via Sign-Coherency Jay (Jojo) Cheng, University of Wisconsin-Madison
9:32 – 9:44 AM	Improving Data Assimilation for Estimation from Oral Glucose Tolerance Tests Benjamin I Albert, Columbia University
10:00 – 10:40 AM	Patricia Brennan, RN, PhD, Director, National Library of Medicine
10:40 – 11:00 AM	Photo Session and Break
11:00 – 12:25 PM	Parallel Focus Sessions: Biomedical Applications of Machine Learning
11:00 – 12:25 PM	Focus Session 1 (Active Learning Center) Outcomes Prediction Models Moderator: Peter Tarczy-Hornoch, MD, University of Washington
11:00 – 11:10 AM	Thick Analytics for Model Development Minh Nguyen, Stanford University
11:10 – 11:20 AM	Causal Inference of DNA Methylation Identifies a Subtype of COPD Patients with Increased Survivability Robert W Gregg, University of Pittsburgh

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11:20 – 11:30 AM	Real-time Vibrotactile Signal Tuning using Reinforcement Learning for Upper Arm Abeer Abdel Khaleq, University of Colorado
11:30 – 11:40 AM	An Intelligent Monitoring System for Intensive Care Units Edward Nguyen, Rice University
11:40 – 11:50 AM	Generalizability of COVID-19 Health Care Utilization Prediction Models Jason Mengjie Mao, Indiana University
11:50 – 12:00 PM	External Validation of a Suicide Attempt Risk Model in Transgender Patients Robert A Becker, Vanderbilt University
12:00 – 12:25 PM	Focus Session 1 Discussion
11:00 – 12:25 PM	Focus Session 2 (Room 1225) Bioinformatic Models Moderator: Peter L. Elkin, MD, University at Buffalo
11:00 – 11:10 AM	Large Scale Analysis of Protein Homology for Microbial Drug Discovery Chase Clark, University of Wisconsin-Madison
11:10 – 11:20 AM	Roulette: Biologically Informed Mutational Model Daniel Lee, Harvard University
11:20 – 11:30 AM	Predicting Molecular Players Driving Biological Processes of Rare Disorders Jennifer Sullivan, Oregon Health & Science University
11:30 – 11:40 AM	ProGSNN: Deep Multi-Scale Protein Representation Learning using Geometric Scattering Egbert Castro, Yale University
11:40 – 11:50 AM	Joint Trajectory Development of Islet Autoantibodies Using Temporal Machine Learning Sejal Mistry, University of Utah
11:50 – 12:00 PM	Including Personal Experience in Large Scale Health Research: An Introduction to QUICK Andrea Kalvesmaki, Veterans Affairs
12:00 – 12:25 PM	Focus Session 2 Discussion
11:00 – 12:25 PM	Focus Session 3 (Room 2213 AB) Imaging Moderator: Nils Gehlenborg, PhD, Harvard University
11:00 – 11:10 AM	Dataset Generation Framework for Benchmarking Megapixel Image Classifiers Gautam Machiraju, Stanford University
11:10 – 11:20 AM	Using Ultrasound and Deep Learning for Respiratory Flow Quantification Lin Qi, University of Wisconsin-Madison
11:20 – 11:30 AM	Proxy Methods for Improved Imaging Biomarkers using Retina Imaging and Deep Learning Ivan Coronado, University of Texas Health Science Center at Houston
11:30 – 11:40 AM	Prediction of Geographic Atrophy in Optical Coherence Tomography Scans Using 3D Convolutional Neural Networks Amr Elsayy, NIH
11:40 – 11:50 AM	Extracting Radiological Findings from Medical Imaging Reports Kevin Lybarger, University of Washington

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11:50 – 12:25 PM	Focus Session 3 Discussion
12:30 – 1:30 PM	Lunch Break (Active Learning Center)
12:30 – 1:30 PM	Brain Museum: Lunch and Meeting for Program Directors and NLM
1:30 – 2:30 PM	<p>Panel Session: The Road Forward for Informatics: Future Directions for the Next Five Years in our Field (Active Learning Center)</p> <p>Panel Description</p> <p>Informatics is constantly evolving, being a diverse and transdisciplinary field, by definition. Emerging informaticists have been an important voice in steering the field and defining its future course. Trainees will provide their outlook on the field as a whole, as well as specific opportunities for growth in the discipline, in order to set the agenda for informatics moving forward.</p> <p>Moderator: Les Lenert, MD, MPH, South Carolina</p> <p>Panelists, presented in alphabetical order:</p> <ul style="list-style-type: none">Clair A Kronk, Yale UniversityErika Da-Inn Lee, University of Wisconsin-MadisonAmanda Moy, Columbia UniversityHannah Slater, Vanderbilt UniversityYvette H Tran, Indiana University
2:30 – 3:30 PM	<p>Poster Pitch (Active Learning Center)</p> <p>Presented in alphabetical order:</p> <ul style="list-style-type: none">Matthew Aguirre, Stanford UniversityAshwag Alasmari, NIHKush Attal, NIHCristina Barboi, Indiana UniversityAaron Boussina, University of California San DiegoGregory Brunette, Harvard UniversityArjun Chakraborty, University of WashingtonJohn Chamberlin, University of UtahPooja Desai, Columbia UniversityBrian Douthit, Veterans AffairsSmitha Edakalavan, University of PittsburghTiffany Eulalio, Stanford UniversitySalma Ferdous, Baylor College of Medicine

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2:30 – 3:30 PM

Poster Pitch (continued)

Presented in alphabetical order:

Michelle Gomez, Vanderbilt University
 Lucia Guatney, University of Colorado
 Sarah Hall-Swan, Rice University
 Josephina Hendrix, University of Colorado
 Matt Hoffman, University of Utah
 Saniya Khullar, University of Wisconsin-Madison
 Christopher Klocke, Oregon Health & Science University
 Kevin Krause, Vanderbilt University
 Nick Lashinsky, Stanford University
 David Laub, University of California San Diego
 William Mangione, University at Buffalo
 Abigail Menschik, University of Washington
 Meenakshi Mishra, Oregon Health & Science University
 Mehdi Momen, University of Wisconsin-Madison
 Derek Pinnell, Veterans Affairs
 Melissa Resnick, University at Buffalo
 William Reynolds, University Pittsburgh
 Luke Sagers, Harvard University
 Vinay S Swamy, Columbia University
 Yvette H Tran, Indiana University
 Ashlyn Zebrowski, University North Carolina, Chapel Hill
 Siyang Zeng, University of Washington

3:30 – 4:25 PM

Parallel Rapid Research Ideas and Tech Talks (RRITT): Applications for Clinical and Public Health Usage

3:30 – 4:25 PM

RRITT 1 (Active Learning Center)
 EHR Utility and Usability
 Moderator: Harry Hochheiser, PhD, University of Pittsburgh

3:30 – 3:35 PM

Qualitative Analysis of EMR Usability Barriers in the Emergency Department
 Keiran Warner, Veterans Affairs

3:35 – 3:40 PM

Factors Contributing to Burnout: A Systems-Analysis Approach
 Elizabeth Kwong, University of North Carolina, Chapel Hill

3:40 – 3:45 PM

Clinician Friendly NLP Tools
 Mara Alexeev, Harvard University

3:45 – 3:50 PM

Enhancing Electronic Health Record Usability Through Training Optimization
 Sunil Samuel, Oregon Health & Science University

3:50 – 3:55 PM

Hierarchical Concept Relations Improves Detection of Off-Label Drug Use in EHR
 Kayla Schiffer, Columbia University

3:55 – 4:00 PM

Emergency Severity Index Scores Have Different Emergency Department Length of Stays
 Stephanie Frisch, University of Pittsburgh

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4:00 – 4:05 PM	Towards Immersive Telemedicine Experiences for Stroke Diagnosis with Holographic Avatars Vishwajith Ramesh, University of California San Diego
4:05 – 4:10 PM	A Regulatory Framework for Blockchain-based Applications using PHI Samuel Isaac, University of North Carolina, Chapel Hill
4:10 – 4:25 PM	RRITT 1 Discussion
3:30 – 4:25 PM	RRITT 2 (Room 1225) Finding Health Patterns Moderator: Werner Ceusters, University at Buffalo
3:30 – 3:35 PM	Pandemic Complexity: COVID-19 From an EHR Data Perspective Colin Malone, Veterans Affairs
3:35 – 3:40 PM	Evaluating the Information System Success of Police-Mental Health Collaborations Heidi Hosler, Indiana University
3:40 – 3:45 PM	Documenting Patients' Experiences of Racial Discrimination Yasemin Akdas, Vanderbilt University
3:45 – 3:50 PM	Sex Comparisons of Physiological Measurement Variance from Wearable Devices Lauryn Keeler Bruce, University of California San Diego
3:50 – 3:55 PM	Diffusion Tensor Imaging as a Biomarker for Pediatric Cardiac Arrest Outcome Joy Roy, University of Pittsburgh
3:55 – 4:00 PM	Radiomic Mediators: How Causal Mediation Analysis Can Explain the Relationship Between Genomic Data and Survival Outcomes Emily Mastej, University of Colorado
4:00 – 4:05 PM	Brain MRI Harmonization with ComBat: Fully Bayes versus Empirical Bayes Maxwell Reynolds, University of Pittsburgh
4:05 – 4:25 PM	RRITT 2 Discussion
3:30 – 4:25 PM	RRITT 3 (Room 2213 AB) Bioinformatics Moderator: Zackary Falls, PhD, University at Buffalo
3:30 – 3:35 PM	Analysis of Whole-Methylome in Alzheimer's Disease Cohort Using Statistics and Deep Learning Coleman Breen, University of Wisconsin-Madison
3:35 – 3:40 PM	Examining Plaque Toxicity to Synapses in an Alzheimer's Disease Mouse Model Morgan Sanchez, Harvard University
3:40 – 3:45 PM	PolyAMiner Reveals Dysregulated Alternative Polyadenylation in Alzheimer's Disease Venkata Jonnakuti, Baylor College of Medicine
3:45 – 3:50 PM	Building A Compendium of Publicly Available Microbial Isolate RNA-Seq Data Taylor E Reiter, University of Colorado
3:50 – 3:55 PM	Using Bayesian Networks to Understand Outcomes of E. coli Driven Sepsis Lourdes A Valdez, University of Utah

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3:55 – 4:00 PM	Predicting Ubiquitin Proteins Through Structure-Guided Features Justine Nguyen, Oregon Health & Science University
4:00 – 4:05 PM	Protein 3D Structure Representations to ID Drug-Target Interactions Ashmitha Rajendran, University of Washington
4:05 – 4:25 PM	RRITT 3 Discussion
3:30 – 4:25 PM	RRITT 4 (Room 2220) Public Health and Risk Prediction Moderator: Jessica Ancker, MPH, PhD, Vanderbilt University
3:30 – 3:35 PM	Quantifying Controversy to Characterize Resistance to COVID-19 Misinformation in Social Networks Oliver Li, University of Washington
3:35 – 3:40 PM	Modeling of Sexually Transmitted Infections with Graph Neural Networks Evan Yu, University of Texas Health Science Center at Houston
3:40 – 3:45 PM	Prior Knowledge for a Metabolomics Analysis of Maternal and Child Health Samson Mataraso, Stanford University
3:45 – 3:50 PM	Development of a Continuous Variable to Describe Sex Physiology in EHR Sergio Gonzales, Stanford University
3:50 – 3:55 PM	A Phenotype Risk Score for Opioid-Related Adverse Events Leigh Anne Tang, Vanderbilt University
3:55 – 4:00 PM	Prediction of Imaging Orders for Abdominal Pain Patients in the Emergency Department Vimig Socrates, Yale University
4:00 – 4:05 PM	Human and Technical Constraints for an RL-enabled Self-management Tool Adrienne Pichon, Columbia University
4:05 – 4:25 PM	RRITT 4 Discussion
4:30 – 6:00 PM	Poster Session (Second Floor Atrium)
6:30 – 9:30 PM	Conference Dinner at 500 Pearl

DAY 3
JUNE 24, 2022

7:00 – 8:00 AM	Breakfast (in Front of Active Learning Center)
8:00 – 9:50 AM	Plenary Session 2: Biological and Terminological Analysis (Active Learning Center) Moderator: Peter Elkin, MD, University at Buffalo
8:00 – 8:12 AM	Representation Learning on Protein Structure for Functional Site Annotation Alexander Derry, Stanford University
8:12 – 8:24 AM	Regulatory Network Reveals Repurposable Candidates for Multiple Sclerosis Astrid M Manuel, University of Texas Health Science Center at Houston
8:24 – 8:36 AM	Evaluating Risk of DOAC-Dexamethasone Induced Thrombosis in the N3C Enclave Olga Kravchenko, University of Pittsburgh
8:36 – 8:48 AM	Joint Clustering of Single-Cell Transcriptomics and Immune Profiling Data Edel Aron, Yale University

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8:48 – 9:00 AM	Geometric Deep Learning for Automated Pediatric Craniofacial Landmarking Connor Elkhill, University of Colorado
9:00 – 9:12 AM	Neural Distractor Generation for Cloze Tests of Reading Comprehension Brian Ondov, NIH
9:12 – 9:24 AM	"Backstage" Work in EHR Implementation: A Qualitative Study Peter Taber, University of Utah
9:24 – 9:36 AM	The Electronic Learning Record: A Systematic Review of Uses of the Electronic Health Record for Graduate Medical Education A Fischer Lees, University of Washington
9:36 – 9:48 AM	Tablet Distribution to U.S. Veterans: An Opportunity to Increase Portal Adoption and Use Ashley Griffin, Veterans Affairs
9:48 – 10:00 AM	A Proposed Synthesis for Surgeon Intuition and Machine Learning Jayson Marwaha, Harvard University
10:00 – 10:05 AM	Break
10:05 – 11:30 AM	Parallel Focus Sessions: Informatics in Healthcare
10:05 – 11:30 AM	Focus Session 4 (Active Learning Center) Tools for EHR Moderator: Alexander Diehl, PhD, University at Buffalo
10:05 – 10:15 AM	Electronic Health Record Tool for Thromboembolism Prophylaxis Adherence in Trauma Zongyang Mou University of California San Diego
10:15 – 10:25 AM	Usability Preferences of People Living with Cystic Fibrosis About a Lung Transplant Education Website Nick Reid, University of Washington
10:25 – 10:35 AM	Personalized Patient Education Aids Built from Patient Reported Outcomes Ellen Kim, Harvard University
10:35 – 10:45 AM	Quality of Care Metrics in Patients with Inborn Errors of Metabolism Michael Adams, University of North Carolina, Chapel Hill
10:45 – 10:55 AM	Combining Rule-based and Probabilistic Methods to Improve Phenotyping Tiffany J Callahan, Columbia University
10:55 – 11:05 AM	Data Preparation Decisions Affect the Results of Studies That Use EHR Data Lily A Cook, Oregon Health & Science University
11:05 – 11:30 AM	Focus Session 4 Discussion
10:05 – 11:30 AM	Focus Session 5 (Room 1225) Public Health and Biological Prediction Moderator: Diane Schwartz, University at Buffalo
10:05 – 10:15 AM	Supporting COVID-19 Disparity Investigations with Dynamically Adjusting Case Reporting Policies J Thomas Brown, Vanderbilt University
10:15 – 10:25 AM	Using VA COVID-19 Data to Define Long-COVID for Diagnostic Purposes Skyler Resendez, University at Buffalo
10:25 – 10:35 AM	Identifying Predictors of Response in Longitudinal Multiomic Studies Jennifer Fouquier, University of Colorado
10:35 – 10:45 AM	Predicting Sites of APOBEC3-Mediated RNA Editing with RNASeq

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	Melissa Van Norden, University at Buffalo
10:45 – 10:55 AM	Ensemble Methods Improve de novo Prediction of Protein Functional Association Networks Aidan Lakshman, University of Pittsburgh
10:55 – 11:05 AM	Regulatory Variants Active in Fetal-Like Pancreas Affect Disease Risk in Adults Jennifer P Nguyen, University of California San Diego
11:05 – 11:30 AM	Focus Session 5 Discussion
10:05 – 11:30 AM	Focus Session 6 (Room 2120 A, M&T) Vocabularies and NLP Moderator: Noëmie Elhadad, PhD, Columbia University
10:05 – 10:15 AM	Context-Enriched Learning Models for Aligning Biomedical Vocabularies at Scale in the UMLS Metathesaurus Vinh Nguyen, NIH
10:15 – 10:25 AM	Structured Extraction of Unstructured Data: Concordance and Lessons Learned Jonathan Qualls, Veterans Affairs
10:25 – 10:35 AM	Extracting Features of Colorectal Polyps from Pathology Reports Using NLP Ryzen Benson, University of Utah
10:35 – 10:45 AM	Mining the Health Disparities and Minority Health Bibliome Harry Reyes Nieva, Columbia University
10:45 – 10:55 AM	Assessing LGBTQIA+ Terminology Usage in Relationship to Mental Health Care Quality Clair A Kronk, Yale University
10:55 – 11:30 AM	Focus Session 6 Discussion
11:30 – 12:30 PM	Lunch Break
11:30 – 12:30 PM	Lunch and NLM Talk on Grants for Trainees (Active Learning Center) NIH Steps to Career Advancement Lyn Hardy, PhD, NIH

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12:30 – 2:30 PM

Panel Session: Integrating Clinical, Imaging, and Biological Information
(Active Learning Center)

Panel Description

Clinical informatics, computational biology, and medical imaging processing have grown as largely separate fields, although there is important overlap in areas like translational bioinformatics. Many projects assert the intention to use multi-modal data, but the use can be challenging because the data cross many physical scales, time scales, and abstraction levels. Furthermore, much is already known about human physiology, and it would be best to incorporate that knowledge, not just the relevant data. Success in integration could shift us from “discovering” treatments that happen to work to “designing” treatments purposely. The panel will discuss current challenges and progress in integrating data and how new methods on the horizon can help.

Workshop on the topic with audience participation in the second hour.

Moderator: John Gennari, University of Washington

Panelists, presented in alphabetical order:

Parth Khatri, University of Wisconsin-Madison

Leigh Anne Tang, Vanderbilt University

Nick Reid, University of Washington

Melissa Resnick, University at Buffalo

2:30 – 3:00 PM

Awards/Closing (Active Learning Center)

Dean Allison Brashear, MD, MBA

Thursday livestream link:

<https://ub.hosted.panopto.com/Panopto/Pages/Viewer.aspx?id=dadb05c-c78e-480d-b027-aeb60124b8f6>



Friday livestream link:

<https://ub.hosted.panopto.com/Panopto/Pages/Viewer.aspx?id=f30b298e-a0db-4bba-b8de-aeb70126c9b9>



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