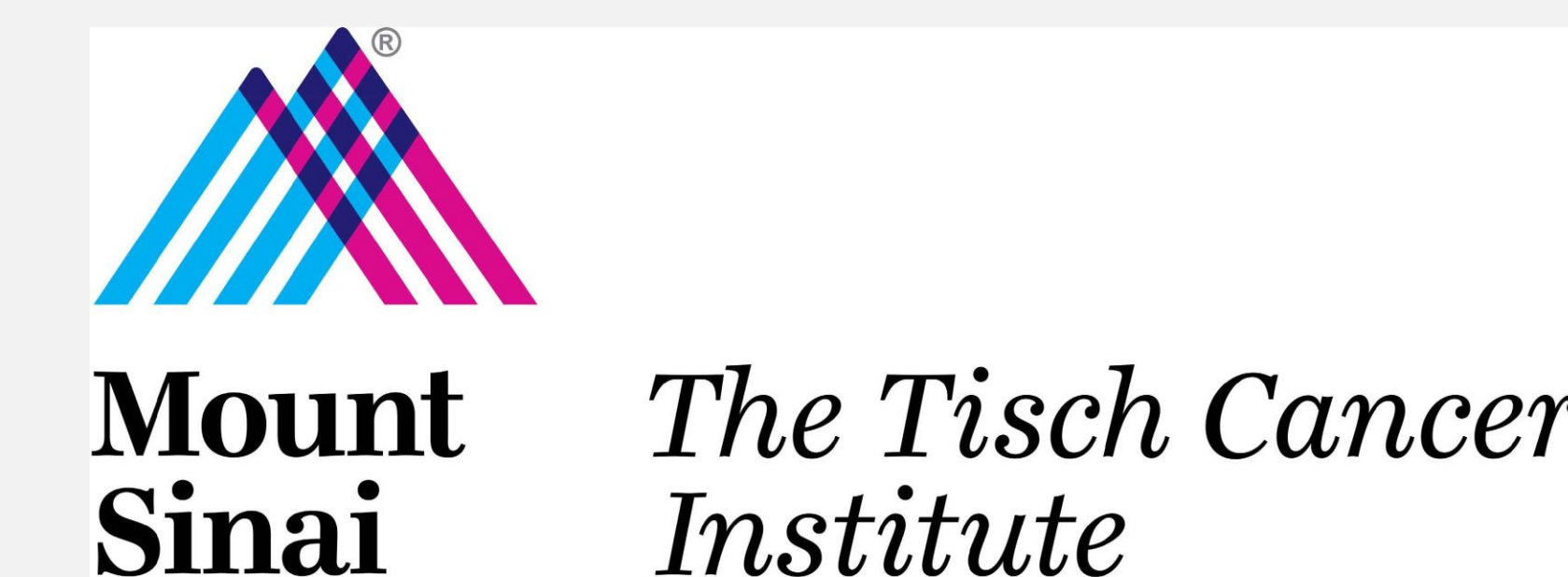


Biostatistics and Clinical Informatics Shared Resource Facility: Clinical Informatics



“Providing state-of-the art pragmatic design for informatics research studies, machine learning algorithms for data analysis, and training in informatics tools and methods”

BACKGROUND

The multiple domains of data in the cancer control continuum frequently raise complex challenges in data management, integration, and analysis. Data scientists and informaticians of many backgrounds play a key role in these efforts. Successful internal and external collaboration is often required for high-impact publications, grantsmanship, and advances in clinical care.

The TCI Clinical Informatics core supports clinical, translational, and basic science TCI investigators in:

- Clarifying the data needs for each investigator
- Serving as 'user-elected leader' for an alliance group to:
 - Manage access to applications and de-provisioning
 - Assess ongoing access needs
 - Oversee cost allocation, payment processing, and research progress reporting
 - Serve as the point of contact for the data owner(s) and for operational compliance and support
- Helping design pragmatic trials for evaluation of digital tools developed locally or nationally
- Assisting with development and validation of predictive tools
- Empowering all shared resources with making open-source algorithms work for their users
- Providing consult for grantsmanship starting from idea generation to submission of grant applications

SERVICES

Disease / Treatment-Specific Registry Conceptualization	Pragmatic Trial Design Development and Implementation
Administrative, -Omics, and Imaging Database Access and Analysis (serve as user-elected leader)	Clinical Decision Support (CDS) Development using Machine Learning and Evaluation
Hands-On Training for Scientific Programming	Emerging Statistical and Computational Methodologies

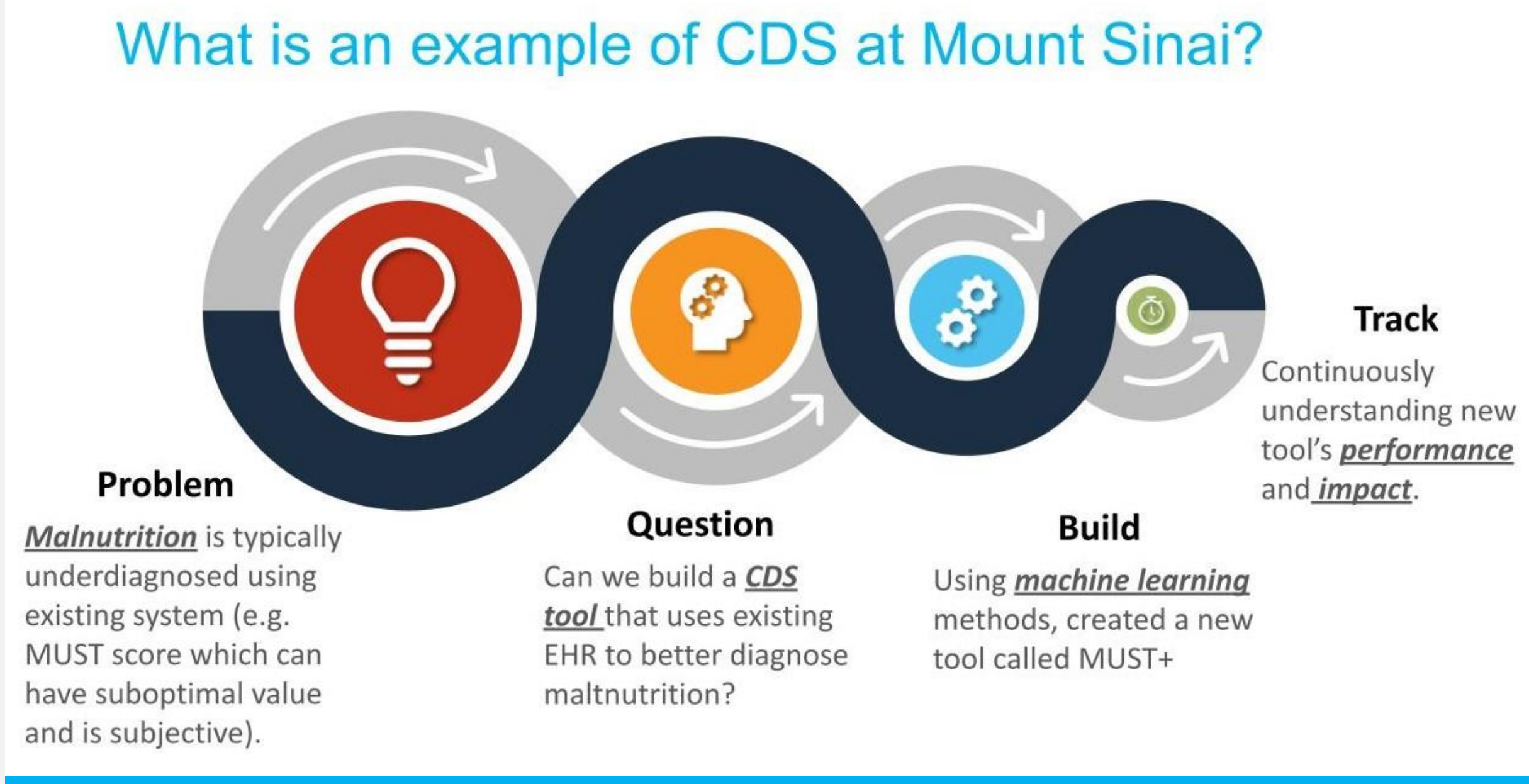
CORE MEMBERS/EXPERTISE

 Madhu Mazumdar, PhD <i>Co-Director</i> Pragmatic clinical trial design, Machine learning, Meta-analysis	 Bart Ferket, MD, PhD <i>Co-Director</i> Decision science and computer simulation
 Parul Agarwal, PhD <i>Associate Professor</i> Administrative data (MarketScan)	 Melanie Besculides, DrPH <i>Assistant Professor</i> Evaluation of digital tools using survey and qualitative research
 Lihua Li, PhD <i>Associate Professor</i> Casual inference in observational studies	 Seungjun Ahn, PhD <i>Assistant Professor</i> Administrative data (NCDB)
 Theresa Chen, MS <i>Biostatistician II</i> ML algorithm development	 Karni Bedirian, MS <i>Biostatistician I</i> ML algorithm refinement
 Simon Sheng, MS <i>Biostatistician I</i> Quality improvement using EMR data	 Nicklas Klepser, MPH <i>Project Coordinator</i> Data visualization, extraction, analysis
Affiliate Members Teja Ganta, MD <i>Assistant Professor</i> Division of Hem-Onc	 Kavita Dharamrajan, MD <i>Associate Professor</i> Radiation Oncology Clinical research focused journal club development

GUIDING COMMITTEES

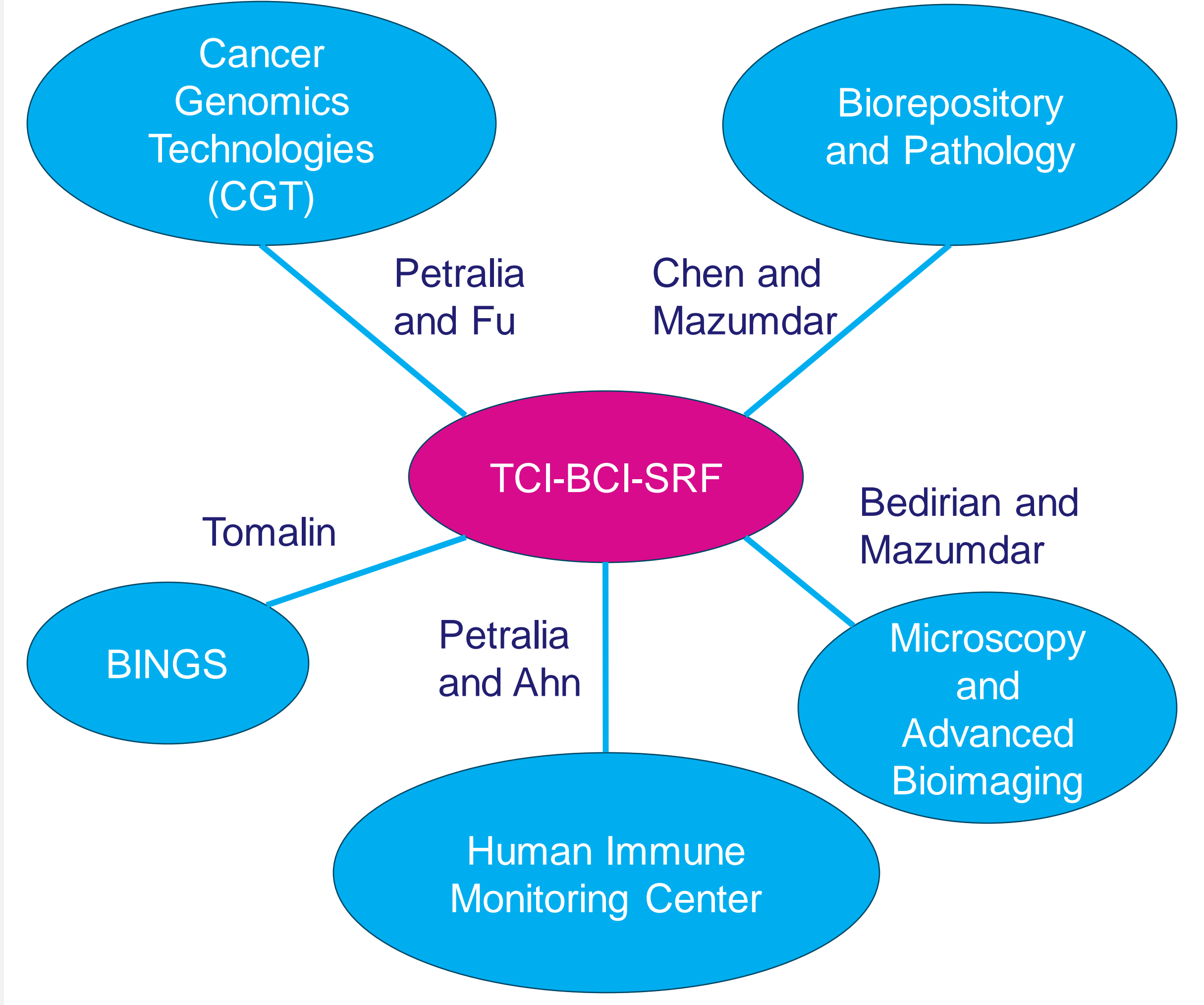
Internal Advisory Board Dean Patricia Kovatch Janice Gabilove Cardinale Smith Emanuela Taioli Juan Wisnivesky Raj Veluswamy Bruce Darrow Matthew Galsky	User Committee Santiago Thibaud Kavita Dharmarajan Diego Chowell Robert Samstein Vladimir Roudko
Please express interest in joining either of these committees by emailing Dr. Madhu Mazumdar: Madhu.Mazumdar@mountsinai.org	

EXAMPLE PROJECTS



CONNECTION WITH OTHER SRF

- Example project with CGT:**
 Collaborators: Petralia (BCI) and Sebra (CGT)
 Develop a flexible Bayesian algorithm for the deconvolution of Bulk Tumor Data
- Example project with Microscopy and Advanced Bioimaging:**
 Collaborators: Bedirian/Mazumdar (BCI) and Kumar/Tzavaras/Benson (Microscopy and Advanced Bioimaging)
 Making ClearMap2, an open-source, python-based program user friendly
- Example projects with BINGS:**
 Collaborators: Tomalin (BCI) and Hasson (BINGS)
 Development of a reproducible analysis pipeline for Spatial Omics



ACTIVITIES

Journal Club
Aim: Discuss new methodologies or novel applications of existing methods in the field
Format: A clinician or methodologist discusses current research from a clinical or methodological perspective
Topics Recently Discussed:
 • 'Riding the AI Wave: Taking Stock, Learning Methodologies, Promoting Applications'
Meeting Information: Zoom meeting

Clinical Informatics Virtual Office Hour
Aims:
 • Identify grant opportunities
 • Provide and discuss successful 'Big Data' grant applications
 • Make suggestions on usable datasets to explore
 • Discuss appropriateness of quantitative and computational approaches to data analysis

Format: A free clinical informatics consultation service
Topics Recently Discussed:
 • Frailty Tool from Wake Forest (PI: Dr. Kate Callahan)
Meeting Information: 45-minute Zoom meeting via Calendly

VISIT OUR WEBSITE (UNDER DEVELOPMENT)

Scan the above QR code to visit our new website and access a PDF of this poster