

Disruptive Technology Empowering Precision Medicine (D-TECH) Task Force- 2024 Updates

Annual Research Retreat Summary

Mission: The overarching goal of the Disruptive Technology Empowering Precision Medicine (D-TECH) strategic area is to transform research and healthcare at UAB by defining new ways to integrate cutting-edge technologies into biomedical research and precision healthcare. The D-TECH strategic area encompasses an expansive mission, effectively covering any research at UAB that relies on the rapidly advancing infrastructure in informatics, artificial intelligence, Electronic Health Record (EHR), and high dimensional multimodal data management on one hand, and the expanding experimental, technical informatics, and computing infrastructure on the other hand.

Task Force: The D-TECH Task Force is transitioning leadership from Amy Weinmann to Co-leads Ralph Zottola and Javier Neyra. Membership in the Task Force was already transitioning. The scope is broad. We believe that it will be more productive to work within domain-specific task-focused subgroups: Big data, AI and Digital Health; Electronic Health Records; Imaging/Biomarkers; and Precision Medicine and Omics.

Priorities for 2024

- Complete assembly of an interdisciplinary and complementary team.
- Projects:
 - A. **“Data Service” Discovery:** In large complex organizations like UAB, data is stored in many places. Access to quality data is critical for novel research. Consumers of the data (researchers) require ways to locate, process and analyze the information they need without concern for the specific location of that data. We essentially need web services for data so our time can be spent innovating rather than gathering and managing/cleaning the data. This effort is intended to inform our team about the art of implementing and sustaining effective “Data Services”.
 - B. **Pilot 1:** Develop scalable and reproducible data pipelines for utilization in research and quality assurance (e.g., research Picture Archiving and Communication Systems (PACS) integration and multi-modal device data with patient-level data from other research and clinical repositories from Data Warehouse and real-time EHR clinical data)
*Regulatory, governance, analytics, security, management, inventory procedures will be developed and evaluated with key stakeholder feedback
 - C. **Pilot 2:** Create virtual IT computing infrastructure and human analytic resources to support data pipeline coding, storage, and utilization in research and quality assurance.
*Regulatory, governance, analytics, security, management, inventory procedures will be developed and evaluated with key stakeholder feedback

Current D-TECH Membership

- Carlos Cardenas
- James Cimino
- Suzanne E Lapi
- Alexander Mackinnon
- Merry Lynn McDonald
- Matthew Might
- Javier Neyra
- Andrew D Smith
- Ralph Zottola
- Amy Weinmann