

MaineHealth

MaineHealth Knowledge Connection

Costas T. Lambrew Research Retreat 2022

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4-25-2022

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Recommended Citation

Carlson, Robert; Remick, Scot; Gower, Lindsey; LaPierre, Sue; Breggia, Anne; and Carlson, Bob, "Center for Applied Science and Technology" (2022). *Costas T. Lambrew Research Retreat 2022*. 30.
<https://knowledgeconnection.mainehealth.org/lambrew-retreat-2022/30>

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Center for Applied Science and Technology

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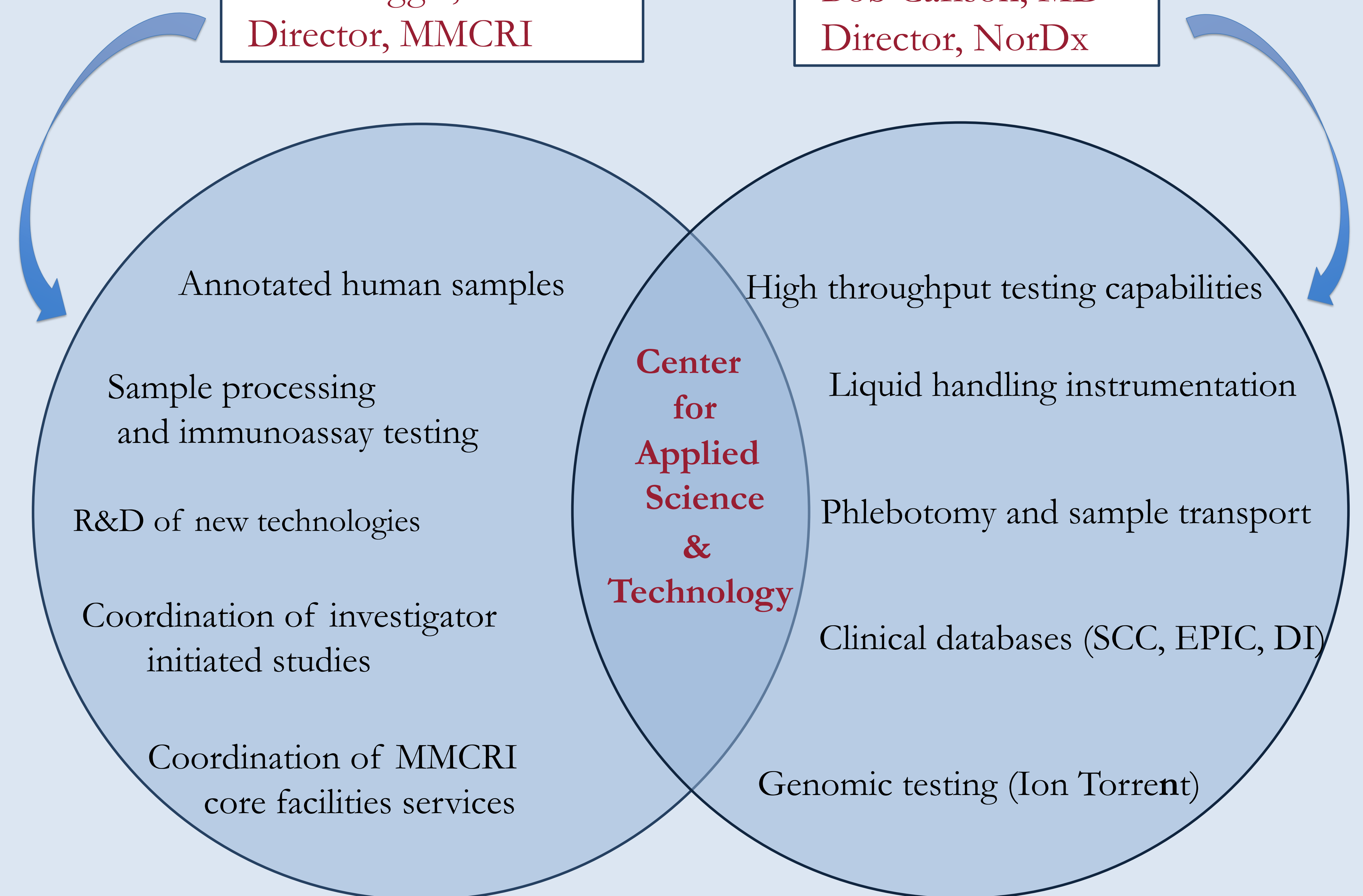
The new MMCRI Center for Applied Science and Technology integrates clinical and research resources for the advancement of research and development of new technologies that improve patient care and outcomes

Abstract

The journey from basic research to its application in clinical medicine is long and often fragmented. MaineHealth, as the largest healthcare system in Maine, is uniquely situated to create synergies between research and clinical medicine. The new MMCRI Center for Applied Science and Technology is a collaborative effort between the MMC Research Institute (MMCRI) and NorDx, the MaineHealth Diagnostic Laboratory, that provides the infrastructure needed for coordinated integration of MMCRI research core facility instrumentation and data resources with NorDx clinical instrumentation, data resources and support services. The new infrastructure provided by the Center will facilitate and broaden participation in the vital research needed to develop new diagnostic tools and therapies that will ultimately improve the health of Maine people. Approved by MaineHealth and MMCRI leadership in August 2021, the Center is co-directed by Anne Breggia, PhD, Director, MMC BioBank and MMCRI Research Laboratory Services, and by Robert Carlson, MD, NorDx Laboratory Medical Director. Through resource sharing, Dr. Breggia and Dr. Carlson have facilitated numerous investigator initiated studies, expanded human sample collection and distribution to support the research of MMC/MMCRI physicians and scientists, validated a novel SARS-Co-v2 assay based on CRISPR-Cas9 technology in collaboration with the Broad Institute and successfully executed a variety of Precision Medicine focused projects that have improved the care of MaineHealth patients. The Center for Applied Science and Technology moves this successful, collegial collaboration, established in 2019, to a coordinated collaboration enabled by new and existing infrastructure within the clinical and research domains. By supporting the broad range of research being conducted throughout the MMCRI research enterprise including the Center for Molecular Medicine, the Center for Outcomes Research and Evaluation, the Center for Psychiatric Research, the Center for Clinical and Translational Research, the Clinical Trials Office and the Northern New England Clinical and Translational Research Network (NNE-CTR), the Center will help move MaineHealth forward as an academic medical center by creating new opportunities for extramural funding for research and by facilitating and accelerating scientific discoveries through access to clinical operations. The Center enables NorDx to develop and validate new testing modalities within a research regulatory framework that meet evolving Precision Medicine guidelines and allows the incorporation of emerging technologies into clinical diagnostics for improved patient care and outcomes. NorDx resources and services available to investigators through the Center include a research service unit for efficient startup of sponsored and non-sponsored research studies, phlebotomy services, sample transport services, collection of samples of research value in real time, biomarker testing on high throughput instrumentation in a CLIA/CAP accredited laboratory and genomic testing capabilities.

Anne Breggia, PhD
Director, MMCRI

Bob Carlson, MD
Director, NorDx



Year 1 Goals (August 2021-August 2022)

- Budget development
- Pursuit of grant funding (PAR-22-088 submitted)
- Expansion of the remnant sample program
- Phlebotomy and sample transport services for research
- MMCRI Website page design
- Communication plan for access to services

Long Term Goals

- ISO certification for laboratory testing
- Clinical testing for sponsored clinical trials (NorDx)
- CAP accreditation for research laboratory services
- Digital pathology initiative
- Expansion of ROUX collaborations

Current investigator initiated research studies supported by the Center (phlebotomy, sample processing, storage and transport)

- A Period Seroprevalence (SARS-CoV-2) Survey in MHCCN Cancer Healthcare Workers (HCWs) Providing Patient Care During the Height of the Outbreak: A Registry Study; Scot Remick, MD, PI
- Cardio-surveillance of MHCCN Cancer Patients Undergoing Immune Checkpoint Blockade; Sanjeev Francis, MD, PI
- NIH RECOVER: A Multi-site Observational Study of Post-Acute Sequelae of SARS-CoV-2 Infection in Adults; Cliff Rosen, MD, PI
- NIH national COVID Cohort Collaborative (N3C); Susan Santangelo, ScD, PI
- Non-Invasive Antibody Test for COVID-19 (NIT-COVID); Doug Sawyer, MD, PhD, PI