The Renaissance Computing Institute (RENCI) was launched in 2004 as a collaborative institute involving the University of North Carolina at Chapel Hill, Duke University and North Carolina State University with a mission to develop collaborations that combined the expertise and resources of these three world-class universities and North Carolina’s Research Triangle Park area. RENCI has a 24,000+ sq foot facility at 100 Europa Drive (Chapel Hill) as well as multiple campus engagement sites including ones at Duke University in Durham, North Carolina State University (NCSU) in Raleigh, and UNC-Chapel Hill. The engagement sites at these universities engage and involve faculty, students and researchers from across the state. These sites are also interconnected by high performance networking (10 Gbs links) enabling the creation of large virtual organizations to meet the needs of research and education, as well as support economic development. RENCI builds, tests and deploys data technologies for 1) *Medicine and Genomics*: secure virtual workspaces for research using patient data; cyberinfrastructure to support whole genome sequencing; visual analytics on patient data to improve clinical care; 2) *Environmental Sciences*: HPC and visualization to model coastal storm surge; software and cyber tools for interoperability and sharing of hydrology data and models; and 3) *Data Management*: testing, packaging, and support for the iRODS code base to ensure a production-quality data management solution. Recently, RENCI was named by the National Science Foundation as a collaborating institution on a $3 million pilot project to create a model and strategic plan for a Cyberinfrastructure Center for Excellence.

***\*\*Optional language for genetics-related projects\*\****

In collaboration with faculty in the UNC Department of Genetics and Carolina Center for Genome Sciences, RENCI is developing the data infrastructure researchers at UNC Chapel Hill need to support advanced genetic sequencing research. This custom-built system will enable basic and clinical researchers in many fields to access, process and query genetic information from thousands of individuals. RENCI experts in data management, informatics and software development work directly with UNC researchers to incorporate full and partial genomes into the system, as well as variant information and annotations, and to develop an interface to allow researchers to use the database to address research questions. This project will benefit from the informatics tools developed from this collaboration.

*Updated: 3/13/2019*