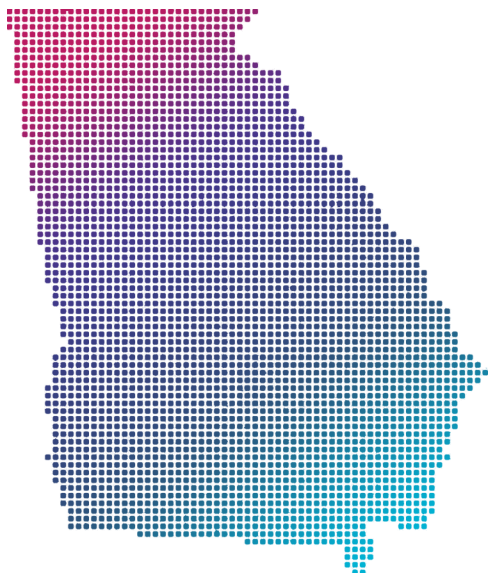


Advanced Molecular Detection

National investment to advance genomic sequencing capacity

AMD Training Lead for the Southeast Region



Georgia

Total Investment¹: \$46,523,705

State and Local Investment: \$36,222,680

Research Awards: \$6,901,025

Center of Excellence (Year 1): \$3,400,000

CDC's Advanced Molecular Detection (AMD) program builds and integrates laboratory, bioinformatics, and epidemiology technologies across CDC and nationwide. Since 2014, AMD has received support from Congress through a \$30 million per year appropriation to implement these technologies in public health programs. Through investments in AMD technologies, CDC is improving both public health outcomes and preparedness in dozens of areas including foodborne disease, influenza, antibiotic resistance, hepatitis, pneumonia, and meningitis.

With funding from the American Rescue Plan Act of 2021, the AMD program has developed a multi-year plan to expand its support to state, local, and territorial public health laboratories with more staff and resources to collect specimens for COVID-19 testing, sequence them to identify and track SARS-CoV-2 variants, and share data, now and future years. The investment above includes supplemental funding for facility construction and renovation needs.

Workforce Development

Georgia is part of the Southeast region. In 2018, the AMD program established seven workforce development regions across the country. Each region has an AMD training lead and a bioinformatics lead. This provides a network of customized AMD support which helps develop skills and provides training assistance to public health labs across the country.

Georgia's **AMD Training Lead** provides support to labs in the region on pathogen-specific training and cross-cutting AMD training to help staff develop the critical skills necessary to extract, analyze, and interpret sequencing data. From the Southeast region's training resources, Georgia receives lab support on data analysis and how to interface with IT departments.

¹ Funding to public health departments includes support from the American Rescue Plan of 2021 and AMD annual appropriations. Awards to university and research partners were funded through appropriations supporting the COVID-19 response.



www.cdc.gov/amd



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US Pathogen Genomics Centers of Excellence (PGCoE) network

The US Pathogen Genomics Centers of Excellence (PGCoE) network will foster and improve innovation and technical capacity in the use of pathogen genomics, molecular epidemiology, and bioinformatics in the field of public health. The **Georgia Pathogen Genomics Center of Excellence** is led by the Georgia Department of Public Health in partnership with six academic institutions: University of Georgia, Georgia Tech Research Institute, Emory University, Auburn University, Georgia State University, and the University of Texas Health Science Center at Houston.

University and Research Partners in Georgia

These awards are intended to fill knowledge gaps and promote innovation in the U.S. response to the COVID-19 pandemic. Funding awards are determined through a competitive selection process based on scientific needs and available funds.

Emory University

Genomic, clinical, and phenotypic characterization of SARS-CoV-2 across a clinically and demographically diverse population in the Southeastern United States (2020—\$622,109)

This study will characterize the diversity and evolution of SARS-CoV-2 strains circulating in Georgia, for the purpose of understanding, if possible, population-level changes in the rates of viral spread and whether there are associations between viral genotype, the viral phenotype in vitro, and clinical phenotype/outcome.

J Michael Consulting

Improving open source bioinformatic tools to provide better genomic data for pathogens of public health concern (2022—\$2,913,355)

J Michael Consulting, utilizing CDC-driven standards, intends to connect public health laboratories (PHLs) to a secure national data sharing network so the PHLs can share sequencing and other data freely, confidentially, and securely.

Implementation of cloud-hosted bioinformatics infrastructure to facilitate standardization, quality and submission of SARS-CoV-2 and other pathogen sequence data to public repositories (2021—\$1,299,124)

J Michael Consulting, LLC will provide a proof-of-concept bioinformatics platform for use by state and local public health partners. This project will pilot a solution to automate the submission of quality, curated sequenced data directly to the National Center for Biotechnology Information (NCBI) and CDC databases for SARS-CoV-2. These systems will establish the technological foundations of a national network to fully combine next-generation sequencing data into public health surveillance, monitoring, and research efforts.

University of Georgia

Community scaled viral sequence analysis and phylodynamics for SARS-CoV-2 using wastewater-based informatics (2021—\$949,898)

The University of Georgia will build and validate a viral sequencing platform to detect SARS-CoV-2 transmission at a community level from wastewater. The project will build, validate, and evaluate a platform that can analyze the characteristics and relationship between viral sequences at the community-level using water-based testing and information science. The University of Georgia will critically compare methods for genomic data extraction, collection, and analysis in order to provide validated methods that can support national surveillance efforts.

Molecular epidemiology and transmission dynamics of SARS-CoV-2 in Houston, TX (2020—\$1,116,539)

This project will develop a genome sequencing and molecular epidemiology pipeline for SARS-CoV-2 samples collected in Houston, TX, the fourth largest city in the US. The project will develop computational approaches for integrating community-based surveillance and contact tracing with phylogenetic and epidemic network analysis to identify transmission clusters.

