



## OUR MISSION

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The New York Genome Center (NYGC) is an independent, nonprofit academic research institution at the forefront of transforming biomedical research with the mission of advancing clinical care. A collaboration of premier academic, medical and industry leaders in New York and other partners across the globe, the NYGC has as its goal translating genomic research into the development of new treatments, therapies and therapeutics against human disease. Its member organizations and partners are united in this unprecedented collaboration of technology, science and medicine, designed to harness the power of innovation and discoveries to advance genomic services. Their shared objective is the acceleration of medical genomics and precision medicine to benefit patients around the world.

## NYGC OVERVIEW

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### Faculty

Since its inception, the NYGC has attracted leading scientists whose wide-ranging expertise — including single cell genomics, gene engineering, population and evolutionary genomics, technology and methods development, statistics, computational biology and bioengineering – brings a multidisciplinary and in-depth approach to the field of genomics. Our esteemed faculty members include a Nobel Laureate and five members of the National Academy of Sciences. NYGC faculty hold joint academic appointments at our member institutions and lead clinically focused genomic studies in a comprehensive array of disease areas.

### Genomic and Bioinformatics Services

Among our services are best-in-class whole genome, whole exome, RNA and lane sequencing services, bioinformatics analysis and data storage, and sample library preparation. Our project management team ensures extensive data quality control. Last year, the NYGC sequenced over 20,000 whole genome samples and completed 1,000 research projects with more than 260 investigators at 89 institutions worldwide. Our scientists collaborate on a broad range of research studies, including pediatric and adult cancer, asthma, autism, Alzheimer's disease, ALS and other serious neurodegenerative diseases.

### Research

The NYGC is committed to developing the systems and infrastructure to enable researchers to carry out large-scale, collaborative genomics research. For example, we partnered with IBM on the Cancer Genomics Alliance study, a multi-institutional project recognized at the February 2016 White House Precision Medicine Initiative Summit. We are in the second year of our \$40 million grant awarded by the National Institutes of Health supporting a Center for Common Disease Genomics at the NYGC. This high-quality and scalable genomics infrastructure is seeking to identify all DNA variants associated with common diseases such as autism, Alzheimer's disease and asthma. The NYGC was also jointly awarded, with Weill Cornell Medicine, a prestigious National Cancer Institute grant to establish a specialized genomic data center.

The NYGC's Technology Innovation Lab focuses on protocol development, informatics tool development and integration and advancing technology for sequencing and analysis. Our Center for Genomics of Neurodegenerative Disease (CGND) focuses on neurodegenerative diseases such as ALS and Alzheimer's. The CGND has formed an international, multidisciplinary ALS Consortium applying state-of-the-art clinical and functional genomics and bioinformatics to discover the genetic mutations underlying ALS and understand how they cause disease.

### Clinical Laboratory

All diagnostic services offered by our Clinical Lab are available to physicians for their patients. Certified by the New York State Department of Health, we provide constitutional exome sequencing for undiagnosed diseases, reference sequencing and Sanger validations. The Lab also has conditional approval from the State to offer clinical constitutional whole genome sequencing testing for undiagnosed diseases and presymptomatic individuals.

## MEMBER INSTITUTIONS

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Our Institutional Founding Members are the Albert Einstein College of Medicine, Cold Spring Harbor Laboratory, Columbia University in the City of New York, Icahn School of Medicine at Mount Sinai, The Jackson Laboratory, Memorial Sloan Kettering Cancer Center, NewYork-Presbyterian, Northwell Health, NYU School of Medicine, The Rockefeller University, Stony Brook University and Weill Cornell Medicine. IBM is our Founding Technology Member. The NYGC's Institutional Associate Members are the American Museum of Natural History, Hospital for Special Surgery, The New York Stem Cell Foundation, Princeton University and Roswell Park Cancer Institute.

## LEADERSHIP

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Tom Maniatis, PhD, Scientific Director and Chief Executive Officer

Cheryl A. Moore, President and Chief Operating Officer

## EDUCATION AND OUTREACH

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The NYGC hosts scientific lectures and meetings for both the scholarly community and the public. Our *Evening Talks* lecture series, sponsored by the New York Community Trust-Pyewacket Fund, is designed for lay audiences; our *Five Points* lecture series, featuring leading researchers from around the world, is geared to the scientific community. We also hold educational workshops on single cell genomics, epigenomics and sequencing informatics.

## FUNDING

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The NYGC is a 501(c)(3) nonprofit institution and support from committed individuals and organizations has been integral to our success and rapid growth. The NYGC has raised over \$300 million from a number of sources, including federal and private grants, and corporate and philanthropic support. We also have received support from our member institutions, as well as New York State, the Empire State Development Corporation, the Partnership Fund for New York City, and the New York City Economic Development Corporation.

The NYGC received a challenge grant of \$100 million from the Simons Foundation and The Carson Family Charitable Trust. They are matching every philanthropic dollar raised up to \$100 million; at the end of this successful challenge, \$200 million will have been raised in total.

In 2017, a partnership with Johnson & Johnson Innovation, New York State and the NYGC was established to launch JLABS @ NYC, a life science innovation incubator to be housed at the NYGC. It will host up to 30 life science startup companies focused on biotechnology, pharmaceuticals, medical devices and consumer health. The NYGC will receive funding for capital investments from New York State for this important initiative.

## FOR MORE INFORMATION

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