



The Icahn School of
**WORLD
CHANGERS**
at Mount Sinai

PhD in Biomedical Sciences – Training Area in Genetics and Data Science



Icahn School
of Medicine at
Mount
Sinai

*Graduate School of
Biomedical Sciences*

What Sets Us Apart?

The rapidly evolving fields of genetics and data science have the potential to transform medicine by providing a rigorous, quantitative framework for personalized and precise care. Achieving these goals requires multidisciplinary expertise in genetics, measurement technology, and data science; innovative thinking; and collaboration across basic science, engineering, and medicine. Our graduate training program in Genetics and Data Science (GDS) aims to educate the next generation of scientists who will revolutionize medicine.

Our GDS students work with internationally recognized researchers and educators in some of the nation's most innovative and impactful genetics and data science laboratories.

The GDS program leverages the close partnership between the Icahn School of Medicine at Mount Sinai and The Mount Sinai Hospital to provide extraordinary opportunities for basic, translation, and clinical research in a highly dynamic and collaborative environment. GDS students also have opportunities to collaborate with scientists and engineers at The Cooper Union, Rensselaer Polytechnic Institute, and Stony Brook University.

The GDS program provides students rigorous, multidisciplinary training. In their first year, students complete foundational coursework in biomedical science and explore multiple laboratories through short rotations before joining a lab. In their second year, students develop proposals for their theses. In years 3-5, students execute their thesis projects. Throughout the program, students also participate in journal clubs, seminars, retreats, and other activities. The average time to complete the program is 4.8 years.

Students are encouraged to customize their coursework through numerous elective classes. Through partnerships, students can also take courses in quantitative science and engineering at the CUNY Graduate Center and The Cooper Union.

FACTS AT A GLANCE

No. 3

Our Department of Genetics and Genomic Sciences ranks 3rd nationally in total NIH funding for genetics research.

154

154 basic science and clinical research faculty in the Department of Genetics and Genomic Sciences and the Icahn Institute for Data Science and Genomic Technology.

State-of-the-art genomics capabilities.

State-of-the-art data science technology Minerva, BioMe, and the Mount Sinai Data Warehouse.

Located on Manhattan's Upper East Side adjacent to Central Park.

All students receive a competitive support package that includes direct compensation, the full cost of tuition, a comprehensive medical health care package, and guaranteed access to highly affordable Mount Sinai housing.

icahn.mssm.edu/education/phd

Research Areas of Excellence

Our nationally and internationally recognized faculty are leaders in many research areas:

Genetics Focus

- Allergy
- Alzheimer's Disease
- Cancer Genomics
- Clinical Genetics
- Developmental Biology
- Genetic Metabolic Diseases
- Immunology
- Inflammatory Bowel Disease
- Microbiome
- Psychiatric Genetics

Data Science Focus

- Bioinformatics
- Biostatistics
- Clinical Epidemiology
- Computational Biology
- Data Science
- Genomics
- Image Analysis
- Machine Learning
- Network Modeling
- Systems Biology

Training Program Leadership

Marta Filizola, PhD

Dean, Graduate School of Biomedical Sciences
Professor, Pharmacological Sciences and Neuroscience
Sharon and Frederick Klingenstein/Nathan Kase, M.D.
Professor of Pharmacological Sciences

Inga Peter, PhD

Interim Chair and Professor, Genetics and Genomic Sciences

Eric Schadt, PhD

Dean, Personalized Medicine
Professor, Genetics and Genomic Sciences
Mount Sinai Professor in Predictive Health and Computational Biology

Jonathan Karr, PhD

Co-Director, Genetics and Data Science Training Program
Assistant Professor, Genetics and Genomic Sciences

Laura Huckins, PhD

Co-Director, Genetics and Data Science Training Program
Assistant Professor, Genetics and Genomic Sciences



Recent Alumni Careers

Our graduate students have gone on to become leaders in a wide variety of institutions and companies, including:

Faculty Appointments

Case Western Reserve University
Columbia University
Icahn School of Medicine at Mount Sinai
Seton Hall University

Federal Government

FBI

Industry

Amgen
Centogene
Contrafect Corp
Mapi Group
NanoString Technologies
Novartis
Oxford Nanopore Technologies
Pfizer
Thermo Fisher Scientific
Twist Bioscience

Science Writing and Consulting

BGB New York
Chameleon Communications International
TBWA\WORLDHEALTH

Some have started their own companies
Girihlet

How to Apply

Apply online at:
icahn.mssm.edu/apply
Applications open in mid-August.
Deadline: December 1

Contact Information

Questions about the admissions process:

Bradley Gano

Tel: 212-241-6696
admissions@mssm.edu

Questions about the training program:

Jonathan Karr, PhD

jonathan.karr@mssm.edu

Laura Huckins, PhD

laura.huckins@mssm.edu



For Academic Year 2020-2021

 twitter.com/GradSchoolSinai

 facebook.com/GradSchoolBiomedMountSinai

 <https://www.linkedin.com/showcase/gradschoolsina/>

 instagram.com/sinaigradschool/