



Memorial Sloan Kettering
Cancer Center

Molecular Genetic Pathology Fellowship

Memorial Sloan Kettering Cancer Center

The Department of Pathology at Memorial Sloan Kettering Cancer Center offers a 1-year ACGME accredited Molecular Genetic Pathology (MGP) Fellowship with 4 positions available annually. All fellows should have completed residency training in anatomic pathology and be certified or eligible for certification by the American Board of Pathology or the Royal College of Physicians and Surgeons of Canada.

The fellowship entails application of molecular diagnostic techniques to the diagnosis of inherited disorders, infectious diseases, and cancer. Fellows will gain exceptional training in cancer-related somatic and germline genetic testing. The volume (over 25,000 cases/year) and variety of molecular testing for somatic and inherited genetic alterations, including non-cancer germline testing and infectious diseases provide ample material for training fellows to become competent in all types of MGP testing. A very active clinical load in molecular monitoring of bone marrow transplant engraftment provides exposure to key aspects of identity testing. In addition, fellows will gain excellent training in Next Generation Sequencing (NGS) platforms for somatic (solid tumor and hematopathology) and germline testing for patient care. At the present time, the Next Generation sequencing platform (MSK-IMPACT) for somatic cancer contains 410 genes with complete bioinformatics support with an average volume of 500 cases/month. Although this MGP fellowship has Pathology as its Core Program, it also maintains a close relationship with the MSKCC-NYPH Medical Genetics program.

The main goal of the MSKCC Program in Molecular Genetic Pathology is to produce physicians with special expertise in molecular diagnostics, defined as the application of DNA/RNA testing in a variety of clinical settings. At the end of the fellowship, the trainees are ready to direct molecular diagnostics laboratories by applying their knowledge and skills gained in molecular diagnostics, in applied molecular pathology research, and in laboratory administration.

For more information visit:

<https://www.mskcc.org/departments/pathology>



Number of Positions

Four

Length of Program

One year (start date July 1st)

How to Apply

Online only (apply at least 21 months prior to planned start date)

<https://www.mskcc.org/departments/pathology/fellowships>

Contact

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Goals and Objectives

- To train pathology fellows to become proficient in the interpretation of molecular diagnostic assays.
- To master the concepts and practice of new molecular assay development and laboratory administration in the context of an active molecular diagnostic laboratory.
- To be capable of directing a molecular diagnostic laboratory.
- To contribute to academic activity within the Laboratory of Diagnostic Molecular Pathology by scholarly publication.
- To help coordinate molecular diagnostic testing with other Services in Pathology and other Clinical Departments.

Responsibilities

The trainee is expected to become proficient in understanding the principles of different techniques and types of equipment used in the diagnostic molecular pathology laboratory. For a brief period, the fellow will be working closely with the technologists to become proficient in laboratory assays for the various tests performed in the laboratory. The fellows rotate through five (5) laboratories including three (3) in the Molecular Diagnostics Service of the Department of Pathology (Diagnostic Molecular Pathology, Diagnostic Molecular Genetics, and Clinical Cytogenetics) and one in the Microbiology Service (Clinical Microbiology) of the Department of Laboratory Medicine and the Molecular Pathology Laboratory at New York-Presbyterian Hospital, where fellows gain exposure to non-cancer germline genetics. The

fellows will also rotate with the clinical genetics service at MSKCC and NYPH. In each rotation, the fellow will be responsible for preparation of the cases for sign out which include checking technical quality, controls, participate in and discuss trouble-shooting with Laboratory Supervisor or Attending, interpret results including comparison with previous results and sign-out with attending Pathologist. The fellows are also responsible for adequate preparation of cases before analysis (previous results, clinical history, correlation with surgical pathology, cytogenetics, tumor content assessment under attending supervision). They are encouraged to develop research projects in applied molecular diagnostics and help in the set up and validation of new assays, both of which provide opportunities for subsequent publication.

Program Director

Meera Hameed, MD, FACMG

Associate Program Director

Liying Zhang, MD, Ph.D