



Cleveland Clinic

**Robert J. Tomsich Pathology &
Laboratory Medicine Institute**

Fellowship Training Programs





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Blood Banking and Transfusion Medicine

Contact

Suzanne Bakdash, MD, MPH, *Fellowship Program Director*
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This fellowship will provide broad-based training in Blood Banking and Transfusion Medicine (BB/TM) to prepare the fellow for independent clinical practice of BB/TM at an academic medical center, community hospital blood bank or blood center, and participation in Transfusion Medicine-related research.

The Section of Transfusion Medicine at Cleveland Clinic is the principal training site and includes a transfusion service that issues about 54,000 units of RBCs annually and performs advanced manual and automated compatibility, immunohematology and molecular testing. The Section also includes a state-of-the-art progenitor cell processing laboratory, an active perioperative autotransfusion service and a therapeutic phlebotomy service.

The fellow will receive training in therapeutic apheresis in the Hematologic Oncology and Blood Disorders Department of the Cleveland Clinic Taussig Cancer Center, which performs more than 1,600 therapeutic apheresis procedures and more than 500 peripheral blood hematopoietic stem cell collections annually. Specialty training in coagulation testing and interpretation is provided through the Robert J. Tomsich Pathology and Laboratory Medicine Institute (RT-PLMI) Section of Hemostasis and Thrombosis, while specialty training in HLA and histocompatibility testing is provided through Allogen Laboratories, an ASHI-certified histocompatibility laboratory affiliated with Cleveland Clinic. Blood center and donor management experience is provided through the nearby American Red Cross, Northern Ohio Region, which is a major regional blood center that collects and processes about 220,000 whole blood and apheresis units each year. The local Red Cross also has an active onsite AABB-accredited immunohematology reference laboratory that will provide the fellow with further exposure to complex immunohematology testing.

Duration

One-year, ACGME-accredited fellowship.

Responsibilities

- Participating in clinical and laboratory aspects of Blood Banking and Transfusion Medicine; responsibilities vary by rotation but generally include participating in daily rounds, evaluating therapeutic phlebotomy and apheresis patients, investigating transfusion reactions, evaluating and following up on patients with special transfusion needs, triaging requests for blood products, and investigating, interpreting and reporting of immunohematology and other laboratory work-ups
- Providing consultations to clinical colleagues through daily work and while on call
- Presenting at conferences with attending supervision
- Providing an educational and operational resource for laboratory staff and rotating residents, clinical fellows and medical students through daily work and teaching
- Participating in quality assurance and management projects
- Participating in scholarly activity by initiating or participating in available research opportunities, publications and presentations

Requirements

ACGME-accredited combined Anatomic/Clinical Pathology or Clinical Pathology residency training, or other training that meets the American Board of Pathology's eligibility criteria for board certification in Blood Banking and Transfusion Medicine (example: ACGME-accredited Internal Medicine or Anesthesiology residency training)

Bone and Soft Tissue Pathology

Contact

Brian Rubin, MD, PhD, *Fellowship Program Director*
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The Bone and Soft Tissue fellowship offers advanced training in neoplastic and non-neoplastic diseases of bone and soft tissue, as well as mesenchymal neoplasms of the skin and viscera. The fellow participates in daily bone and soft tissue signout comprised of in-house cases and extensive consultation material. Histological differential diagnosis and the role of ancillary testing, including immunohistochemistry and molecular testing are emphasized.

The Bone and Soft Tissue Pathology fellowship provides fellows the opportunity to work with a world-class subspecialty faculty.

Duration

One, one-year fellowship

Responsibilities

- Initial review of consultation material
- Weekly multidisciplinary sarcoma conference presentation with attending supervision
- Resident teaching
- Participation in available research opportunities is recommended

Requirements

ACGME-accredited combined Anatomic/Clinical Pathology or Anatomic Pathology residency training program

Cardiovascular Pathology

Contact

E Rene Rodriguez, MD, *Fellowship Program Director*
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Cleveland Clinic has been ranked No. 1 in heart care by *US News & World Report* every year since 1994. The one- or two-year Cardiovascular Pathology fellowship, first offered in 2010, is built around Cleveland Clinic's strong clinical programs in adult and pediatric cardiovascular medicine, cardiothoracic surgery and heart transplantation. The successful applicant will have exposure to approximately 6,000 surgical cardiac and vascular specimens and 250 autopsies per year (60% of which are cardiac and vascular cases).

The environment is rich with opportunities for learning and engaging in clinical and basic research activities within PLMI and in collaboration with many departments outside the institute, including Cardiovascular Medicine, Cardiothoracic Surgery, Rheumatology, Transplant Center, Genetics and Biomedical Engineering. The fellow has the opportunity to participate in conferences held each year that focus on current thinking in adult and pediatric cardiac and vascular issues.

Responsibilities

- Participation in the daily gross cardiovascular surgical rounds
- Review of surgical, autopsy and consultation case material
- Participation and review of complex cardiovascular autopsy cases
- Participation in molecular cardiovascular diagnostic cases
- Interdepartmental conference presentation with attending supervision
- Resident teaching
- Participation in available research opportunities leading to publications and presentation at local/national meetings is expected

Requirements

ACGME-accredited combined Anatomic/Clinical Pathology or Anatomic Pathology residency training program

Eligible for licensure in Ohio

Clinical Biochemistry

Contact

Sihe Wang, PhD, DABCC, FACB, *Fellowship Program Director*
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The Clinical Biochemistry fellowship provides in-depth training in all aspects of clinical biochemistry, which includes general clinical chemistry and automation, toxicology, pediatric

chemistry, immunology, endocrinology, tumor marker, informatics, molecular diagnostics and inherited disease. Laboratory management and quality management are also an integral part of the training. Annual volume is ~ 4.5 million clinical tests/orderable panels.

Duration

Two years

Responsibilities

- Initial review of consultation material
- Conference presentation with attending supervision
- Resident teaching
- Participation in available research opportunities, publications and local and national presentations is expected

Requirements

PhD or MD degree or its equivalent with a minimum of 30 semester hours (or equivalent) in undergraduate and/or graduate level chemistry or biochemistry courses taken at institutions acceptable to the American Board of Clinical Chemistry.

Clinical Microbiology

Contact

Sandra Richter, MD, D(ABMM) *Fellowship Program Director*
216.444.6519 | richtes@ccf.org

The Clinical Microbiology fellowship provides training in bacteriology, mycobacteriology, virology, mycology and parasitology. Fellows learn direct detection, culture, serologic and molecular techniques used for the diagnosis of infectious diseases. Emphasis is placed on the practical aspects and clinical relevance of laboratory procedures. Rotations in clinical infectious diseases and infection prevention are also provided. Fellows participate in the education of residents, medical students and other trainees. The completion of research with presentation at a national meeting and publication is expected.

Duration

One, one-year ACGME-accredited fellowship

Responsibilities

- Clinical decision support in specimen processing area
- Consultation with clinicians taking care of patients
- Conference presentation with attending supervision
- Resident supervision and teaching
- Participation in available research

Requirements

Candidates must have completed training in an ACGME-accredited clinical pathology residency or infectious disease fellowship program.



Cytopathology

Contact

Christine Booth, MD, *Fellowship Program Director*
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The Cytopathology fellowship offers experience in diagnosis and research related to gynecologic and non-gynecologic pathology. The laboratory sees approximately 75,000 cases annually, with 58,000 Paps and nearly 16,000 non-gynecologic specimens, which include 4,000 fine needle aspirates. Our cytopathologist-performed FNA service offers fellows the opportunity to develop proficiency in performing and interpreting FNAs, including rapid assessment of specimen adequacy. Fellows are integrally involved in the rapid on-site evaluation of both endobronchial ultrasound-guided FNAs and endoscopic ultrasound-guided pancreatic FNAs with progressive responsibility in these areas. A cytology imaging system and diagnostic molecular cytology supplement training in diagnostic cytomorphology.

The faculty are all subspecialized in Cytopathology and are dedicated to sharing the depth and breadth of their experience with residents and fellows. In addition to expertise in gynecologic cytopathology, our group also has expertise in breast, thyroid, gastrointestinal/hepatobiliary, genitourinary, pulmonary and molecular cytopathology.

Duration

One, one-year ACGME-accredited fellowship

Responsibilities

- Initial review of consultation material
- Conference presentation with attending supervision

- Resident teaching
- Developing familiarity with management, administration and quality assurance in the Cytopathology laboratory
- Participation in available research opportunities is recommended

Requirements

ACGME-accredited combined Anatomic/Clinical Pathology or Anatomic Pathology residency training program

Dermatopathology

Contact

Wilma F. Bergfeld, MD, *Fellowship Program Director*
216.444.2168 | Bergfew@ccf.org

Dermatopathology fellows are exposed to a wide variety of dermatopathologic diseases with a major emphasis on inflammatory diseases, soft tissue tumors, lymphoma and pigmented lesions. The Dermatopathology service averages about 25,000 cases annually. All five dermatopathology faculty are board-certified dermatopathologists. Two are specialty trained dermatopathology faculty from Anatomic Pathology (one of which also specializes in soft tissue tumors), and three specialty trained dermatopathology faculty from Dermatology. Fellows gain experience in laboratory procedures, immunopathology and diagnostic techniques. The fellowship includes concurrent training in clinical dermatology or anatomic pathology and stresses the interaction between the two.

Duration

Three, one-year ACGME-accredited fellowships

Responsibilities

- Initial review of consultation material
- Conference presentation with attending supervision
- Resident teaching
- Developing familiarity with management, administration and quality assurance in the Dermatopathology laboratory
- Participation in available research opportunities, publications and local and national presentations is expected

Requirements

ACGME-accredited Dermatology or Anatomic/Clinical Pathology or Anatomic Pathology residency training program





Genitourinary Pathology

Contact

Jesse McKenney, MD, *Fellowship Program Director*
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The Genitourinary (GU) Pathology fellow is exposed to a wide variety of neoplastic and non-neoplastic urologic diseases. The laboratory has a high specimen volume, including more than 900 prostate biopsy, 300 bladder biopsy, 350 radical and 300 partial nephrectomy, 700 radical prostatectomy and 160 radical cystectomy, 80 adrenalectomy, and 60 orchiectomy specimens, annually. The fellow participates in daily GU signout comprised of in-house cases and consultation material. Histological differential diagnosis and the role of ancillary tests are emphasized.

The GU Pathology fellowship provides fellows the opportunity to work with world-class subspecialty faculty members with research interests in prostate, kidney, bladder and testis, and offers experience in research related to urologic surgical pathology.

Duration

One, one-year fellowship

Responsibilities

- Initial review of consultation material
- Conference presentation with attending supervision at monthly multidisciplinary GU Oncology conference
- Resident teaching
- Gross room supervision of residents and pathology assistants
- Participation in available research opportunities, publications and local and national presentations is expected

Requirements

ACGME-accredited combined Anatomic/Clinical Pathology or Anatomic Pathology residency training program

GI Pathology

Gastrointestinal, Hepatic and Pancreaticobiliary Pathology

Contact

Ana E. Bennett, MD, *Fellowship Program Co-Director*
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John Goldblum, MD, *Fellowship Program Co-Director*
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The GI Pathology fellowship provides in-depth exposure to the full spectrum of the subspecialty. Patient material includes 40,000 inside GI, liver and pancreaticobiliary biopsy and resection cases annually and more than 4,000 outside consultation cases. Fellows have the opportunity to learn about the range of diseases within this subspecialty, including Barrett's esophagus, IBD, cancer and precancerous conditions, mesenchymal and hemato-lymphoid lesions, motility disorders, hepatic and pancreatic medical, neoplastic and transplantation pathology and molecular diagnosis.

The program comprises nine subspecialized staff pathologists. Their interests are focused on research, diagnostic work and resident and fellow education, including intensive training in GI and hepatic molecular diagnosis.

Duration

Two, one-year fellowships

Responsibilities

- Diagnostic training, including histologic review and reporting of GI, liver, biliary and pancreatic biopsies and resection material
- Initial review of consultation material
- Gross room supervision of residents and pathology assistants
- Conference presentations with attending supervision
- A well-defined clinical, translational or basic research project is a requirement

Requirements

ACGME-accredited combined Anatomic/Clinical Pathology or Anatomic Pathology residency training program



Hematopathology

Contact

Eric Hsi, MD, *Fellowship Program Director*
216.444.5230 | hsie@ccf.org

The Hematopathology fellowship is designed to provide training in all aspects of hematopathology, including peripheral blood flow and bone marrow morphology, lymph node pathology, body fluid interpretation, molecular pathology, flow cytometry, immunohistochemistry, coagulation, automated hematology, bone marrow transplantation and red cell studies. Annual specimen volume includes more than 2,800 bone marrow biopsies and more than 1,200 lymph node biopsies. The program teaches the principles of laboratory management and is designed to prepare the fellow for community hospital or academic practice.

Duration

Two, one-year ACGME-accredited fellowships

Responsibilities

- Review and preparation of routine case material; initial review of consultation material
- Independent review of blood smear, body fluid and special red cell studies
- Interdepartmental conference presentation with attending supervision
- Resident teaching
- Participation in quality assurance and management projects in the Hematology laboratory
- Preparation of interpretive coagulation consultation reports
- Participation in available research opportunities, publications and local and national presentations is expected

Requirements

Completion of an ACGME-accredited Anatomic, Clinical or combined Anatomic/Clinical Pathology residency

Molecular Genetic Pathology

Contact

Felicitas Lacbawan, MD, *Fellowship Program Director*
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The Molecular Genetic Pathology fellowship is an overarching, well-rounded fellowship training that covers the fundamentals of human genetics (including clinical, molecular, biochemical, immunogenetics, pharmacogenomics and genetic counseling), cytogenetics, molecular hematopathology, molecular oncology as well as molecular microbiology. It emphasizes integrative and evidence-based molecular genetic pathology practice; hence a comprehensive patient care experience through laboratory test development, appropriate test utilization and molecular laboratory management is an integral part of the program.

The Molecular Pathology Department's faculty members are well-qualified and authorities in various subspecialties of pathology and genetics. Additionally, we partner with the Cleveland Clinic Genomic Medicine Institute, which has a staff of expert clinical geneticists.

Duration

One, one-year ACGME-accredited fellowship

Responsibilities

- Active participation in the integrative aspects of the molecular pathology practice
- Perform basic molecular techniques, test validation and implementation, molecular test utilization and triaging, translational research and scientific publication, clinical informatics and laboratory management
- Review test results, draft/review preliminary test interpretation, and sign-out with staff on service
- Generate integrative reports and provide interface among the different sections of the institute and other specialty practices
- Involvement in clinical diagnostic management using clinical bioinformatics, genetic test consent and interpretation, and genetic counseling of patients with genetic disorders
- Participate in educational activities within the department, the Institute and Cleveland Clinic

Requirements

Completion of an ACGME-accredited Clinical Pathology or combined Anatomic/Clinical Pathology or Clinical Genetics residency.





Cleveland Clinic

Cleveland Clinic, located in Cleveland, Ohio, is a not-for-profit multispecialty academic medical center that integrates clinical and hospital care with research and education. It was founded in 1921 by four renowned physicians with a vision of providing outstanding patient care based upon the principles of cooperation, compassion and innovation. *US News & World Report* consistently names Cleveland Clinic as one of the nation's best hospitals in its annual "America's Best Hospitals" survey. More than 2,850 full-time salaried physicians and researchers and 11,000 nurses represent 120 medical specialties and subspecialties. In addition to its main campus, Cleveland Clinic operates eight regional hospitals and 16 family health centers in Northeast Ohio, Cleveland Clinic Florida, the Lou Ruvo Center for Brain Health in Las Vegas, Cleveland Clinic Canada and Cleveland Clinic Abu Dhabi. On average, there are more than 4.6 million annual visits throughout Cleveland Clinic health system and 160,000 hospital admissions. Patients came for treatment from every state and from more than 100 countries. Learn more at clevelandclinic.org.

Graduate Medical Education
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www.clevelandclinic.org/gme



About Cleveland

Greater Cleveland is the picture of economic development and urban revitalization, featuring a host of cultural and recreational attractions. Cleveland is a culturally and ethnically diverse city with nearly 90 residential communities and many beautiful suburbs located just beyond the metropolitan area.

Cleveland Clinic is located near University Circle, home to Case Western Reserve University, the Cleveland Orchestra, the Natural History Museum, the Cleveland Museum of Art and other regional and specialized cultural attractions.

As the “Great Lakes City on America’s North Coast,” Cleveland offers abundant lakeshore to enjoy, the Rock and Roll Hall of Fame and the Great Lakes Science Center. The natural woodland Metroparks are an “Emerald Necklace” surrounding the city with picnic areas and miles of bicycling, hiking, jogging and horseback riding areas.

Cleveland sports have something for everyone, all year long. Enjoy a warm summer evening at Progressive Field with Major League Baseball’s Cleveland Indians, cheer on the NFL’s Cleveland Browns at FirstEnergy Stadium or watch the Cleveland Cavaliers play the NBA’s best at Quicken Loans Arena.

For more information about the vibrant Greater Cleveland area, visit www.clevelandplus.com.



Every life deserves world class care.

9500 Euclid Avenue, Cleveland, OH 44195

Cleveland Clinic is an integrated healthcare delivery system with a main campus, 18 family health centers, eight community hospitals and locations in Ohio, Florida, Nevada, Toronto and Abu Dhabi. It is a not-for-profit group practice where nearly 3,000 staff physicians and scientists in 120 medical specialties collaborate to give every patient the best outcome and experience. Cleveland Clinic is ranked among America’s top hospitals overall, and among the nation’s leaders in every major medical specialty (*U.S. News & World Report*).

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