Experimental Pathology

The Experimental Pathology Ph.D. Program emphasizes research on disease mechanisms, built upon a strong foundation of training in contemporary cell and molecular biology, pharmacology, and genetics. This Program has a broad goal of educating students on the mechanistic basis of human disease. Members of the Experimental Pathology faculty have strengths in the areas of cell, molecular and cancer biology, signal transduction, gene regulation/epigenetics, genome stability, mitochondrial function and disease, aging, cytoskeleton, virology, immunology, vascular and endothelial biology, bioinformatics, and the study of model genetic organisms (e.g. mice and yeast).

See: http://medicine.yale.edu/pathology/index.aspx for more information.

Faculty Research Interests http://medicine.yale.edu/pathology/people/index.aspx

Adebowale Adeniran, Oncologic Surgical Pathology; Cytopathology; Urologic Pathology; Biology of translocation Renal Cell Carcinoma (RCC)
Ranjit Bindra, cell-based screening for novel anti-cancer drugs, DNA repair
Marcus Bosenberg, melanoma cell biology and metastasis
Veerle Bossuyt, Breast and Gynecologic pathology; Cytopathology
Demetrios Braddock, molecular basis of sequence-specific single-stranded DNA recognition by KH domains of nuclear RNA
Richard Bucala, Mechanisms by which host immunity converts from a protective response to one producing disease and tissue pathology
Natalia Buza, Diagnostic and prognostic markers in endometrial, ovarian and breast cancer
Guoping Cai, Fine Needle Aspiration Biopsy; Cytopathology; Genitourinary Pathology; Pulmonary Pathology
Sandy Chang, Mouse models of cancer; DNA damage; Telomere biology
Keith Choate, Human Genetics; Genodermatoses; Gene Discovery; Genetic Mosaicism; Disorders of keratinization; Mosaic skin disorders
Young Choi, Immunopathology; Molecular Pathology; Cytopathology and Clinical Pathology; Breast Cancer; Immunopathology; Molecular Pathology
Paul Cohen, General surgical pathalogy; Thoracic surgical pathalogy; Gynecologic surgical pathalogy
Oscar Colegio, role of macrophages in progression of cutaneous squamous cell carcinomas
Jose Costa, molecular genetics of tumor progression
Shawn Cowper, Alopecia; Cutaneous lymphoma; Pathology informatics; Nephrogenic fibrosing dermopathy; Nephrogenic systemic fibrosis
Susan Fernandez, Cytology, Gynecologic Pathology Diagnostic Services
Carlos Fernandez-Hernando, cholesterol homeostasis; lipoprotein metabolism; post-transcriptional regulation; microRNAs; atherosclerosis; RNAi screening
Karin Finberg, Human Genetics; Genetic and Acquired Disorders of Systemic Iron Balance; Hepcidin Regulation; Hepatic BMP/SMAD Signaling
Anjela Galan, Malignant melanoma; Lyme disease; Bullous skin disorders
Patrick Gallagher, Neonatal hematology; Erythropoiesis; Inherited abnormalities of the erythrocyte including metabolic, membrane, and hemoglobin disorders; Sickle cell disease
Joanna Gibson, Gastrointestinal oncologic pathology; Liver oncologic pathology; Medical and transplant hematopathology; Medical gastrointestinal disease
James Gill, Forensic Pathology and Toxicology
Earl Glusac, Histologic mimickers of malignant melanoma
Bonnie Gould Rothberg, Molecular cancer epidemiology; Cancer prognosis; Melanoma; Skin cancer; Lung cancer; Pancreatic Neuroendocrine Tumors (PNETs); Tuberous Sclerosis Complex; Next generation sequencing
Liming Hao, Gastrointestinal pathology
Malini Harigopal, Cancer biomarkers; Breast; Thyroid; Immunohistochemistry; AQUA method of analysis in tissue microarrays and cytologic material
Shilpa Hattangadi, Histone modifications in chromatin condensation; hematopoietic; bone marrow failure disorders
Robert Homer, Lung pathology; Interstitial lung disease; immunopathology; Pathology of animal models of asthma; Pulmonary fibrosis; Acute lung injury
S. David Hudnall, Tumor immunology, chronic inflammation, tumor viruses
Pei Hui, Gynecological tumors including endometrial and ovarian cancers; Gestational trophoblastic disease
Peter Humphrey, precancerous conditions, urogenital neoplasms
Michael Hurwitz, cell migration; kinase signaling; phosphorylation; cytoskeleton; engulfment; apoptosis; C. elegans; cancer biology
Anita Huttner, neuropathology, tissue specific stem cells, musculoskeletal diseases
Dhanpat Jain, Inflammatory Bowel Disease (IBD); Liver tumors; Motility disorders of GI tract; Esophageal and gastric carcinoma
Ryan Jensen, BRCA2, DNA repair and DNA damage signaling, genetic instability, homologous recombination, breast and ovarian cancer
Samuel Katz, programmed cell death, hematopathology, stem cells
Steven Kleinstein, computational biology and informatics, cancer immunology, patient-specific modeling, autoimmune diseases
Yuval Kluger, Signal processing and dimensional reduction of genome-wide data; Local and non-local genomic pattern recognition
Christine Ko, Adnexal tumors; Benign and malignant epidermal tumors
Diane Kowalski, Head and Neck Pathology; Cytopathology; Fine Needle Aspiration (FNA) technique
Diane Krause, human stem cells and hematopoiesis, functional effects of bone marrow transplantation
Michael Krauthammer, bioinformatics of molecular interaction networks; text mining
Gary Kupfer, genomic instability and cancer; Fanconi Anemia
Themis Kyriakides, biomaterials engineering in wound healing and angiogenesis
Rossitza Lazova, Spitz nevi; Spitzoid melanocytic neoplasms; Malignant melanoma; Melanocytic nevi on special anatomic sites; Atypical Spitzoid neoplasms
Angelique Levi, cytopathology, prostate cancer, GYN pathology, thoracic pathology
Janina Longtine, molecular and genomic diagnostics, molecular pathology
Joseph Madri, endothelial cell biology, cell-matrix interaction, and angiogenesis
Vincent Marchesi, Pathogenesis of Alzheimer's disease; Neurodegeneration; Amyloid abeta metabolism; Auto-antibodies; Protein-folding
Jennifer McNiff, Histopathologic evaluation of inflammatory and neoplastic skin disease; Immunofluorescence studies
Wang Min, cytokine signaling and angiogenesis
Gilbert Moeckel, Progression of renal fibrosis; progression of chronic kidney disease; acute kidney injury; regenerative medicine; acute tubular injury repair
Ruth Montgomery, innate immunity, aging, West Nile virus, Lyme disease, CyTOF
Raffaella Morotti, pediatric pathology, inflammatory bowel disease
Jon Morrow, structure and function of the spectrin cytoskeleton
Peggy Myung, dermatopathology, skin and hair follicle regeneration
Don Nguyen, molecular determinants of lung cancer metastasis
Vinita Parkash, Surgical Pathology
Marguerite Pinto, Cytopathology/Surgical Pathology GYN
Jordan Pober, immunobiology of vascular endothelium; cytokine alterations of endothelium; signaling between T cells and endothelial cells
Katerina Politi, cancer biology, mouse models of cancer, lung cancer, epidermal growth factor receptor, tumor resistance to therapy
Manju Prasad, Endocrine, Head & Neck Pathology; Genotype-phenotype correlation in tumors; Protein expression and biomarkers in tumor tissues, and their diagnostic & prognostic relevance
Yibing Qyang, heart development and dysfunction, stem cells
David Rimm, role of cadherin in cancer and inflammatory diseases; quantitative biomarker analysis; translational pathology; molecular oncology; melanoma, breast cancer
Marie Robert, Gastrointestinal and liver pathology; Inflammatory bowel diseases; Barrett esophagus; Dysplasia associated with inflammatory bowel disease and Barrett esophagus
John Rose, virus replication and virus-based vaccine vectors
Kurt Schalper, translational immuno-oncology, lung cancer
Gerald Shadel, mitochondria in cell signaling, immune responses, disease and aging, genetics
Alexa Siddon, hematopathology
John Sinard, translational medical informatics, ophthalmic pathology, software development
Jeffrey Sklar, molecular characterization of chromosomal aberrations in cancer
David F. Stern, growth factor and growth factor receptor oncogenes including HER2, DNA checkpoint controls
Yajaira Suarez, regulation of macrophage and endothelial cell functions by non-coding RNAs
Antonio Subtil, Alopecia; Atypical melanocytic lesions; Cutaneous lymphoproliferative disorders
Alexander Vortmeyer, Neuropathology; Hereditary Tumorigenesis; Applied Proteomics
Narendra Wajapeyee, mechanisms of genetic and epigenetic regulation of cancer
Zenta Walther, Epithelial polarity and proliferation control; Intestinal epithelial homeostasis; Intestinal barrier function; Innate immune signaling; molecular diagnostics
Brian West, Anatomic pathology of the gastrointestinal tract; Liver; Biliary tract and pancreas; Special emphasis on non-neoplastic diseases
Serena Wong, GYN and breast pathology
Mina Xu, Peripheral T-cell lymphoma; Classical Hodgkin lymphoma; EBV-related lymphoproliferative disorders
Qin Yan, epigenetic regulation in cancer and stem cells
Wendell Yarbrough, head and neck cancer, mouse modeling of human cancer, human papillomavirus
Xuchen Zhang, Liver and gastrointestinal pathology; Neoplastic and non-neoplastic pulmonary pathology; Acute and chronic oxidant-induced lung injury