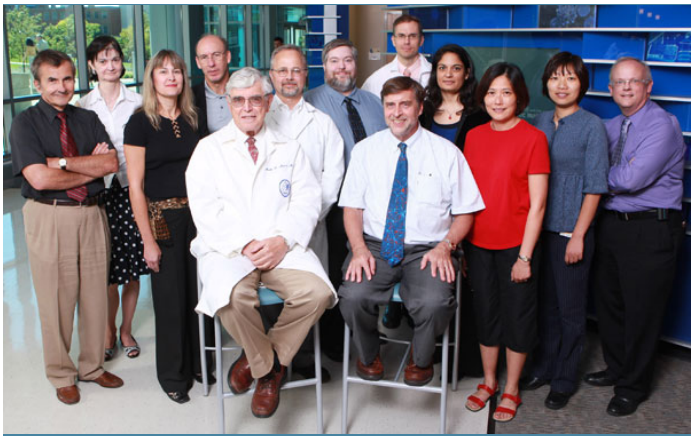
Pathology and Laboratory Medicine

Division Photo



Seated: K.E. Bove, D.P. Witte; Standing L-R: J.W. Stanek, M.H. Collins, K.A. Wikenhiser-Brokamp, K.D. Setchell, J.E. Mortensen, R.L. McMasters, K.F. Stringer, A. Gupta, L. Miles, H. Yin, P.E. Steele; Absent: M. Azam, G. Huang, M.V. Miles, J.Q. Mo, P. Tang,

Division Data Summary

Research and Training Details	
Number of Faculty	19
Direct Annual Grant Support	$488,836
Direct Annual Industry Support	$20,375
Peer Reviewed Publications	37

Clinical Activities and Training	
Number of Clinical Fellows	4
Inpatient Encounters	1.2M
Outpatient Encounters	1.0M

Division Collaboration

Collaboration with Gastroenetology, Hepatology and Nutrition

Collaborating Faculty: Mitchel Cohen MD; Jorge Bezerra MD; Xiaonan Han PhD; Noah Shroywer PhD

DIgestive Health Center. Integrated morphology core lab, provides technical and profession support to members of the DHC involved in basic translational research in gastrointestinal tract.

Collaboration with Gastroenterology, Hepatology and Nutriton

Collaborating Faculty: James Heubi MD; John Bucuvalas MD; Jorge Bezerra MD; Kathleen Campbell MD

Director of Pathology Core for multicenter BARC and CLIC studies on biliary atresia and other chronic liver disorders in children.

Collaboration with Division of Immunobiology

Collaborating Faculty: Marsha Wills-Karp PhD; Fred Finkelman PhD

Morphology core lab, provides technical and professional support for PPG focused on IL13

Collaboration with Division of Allergy and Immunology

Collaborating Faculty: Marc Rothenberg MD; Pablo Abonia MD

Providing professional support for the Cincinnati Center for Eosinophilic Disorders program and related research

Collaboration with DIvision of Hematology/Oncology

Collaborating Faculty: Maryam Fouladi MD; Richard Drissi PhD

Providing pathology professional and technical support for multicenter referral service for the High Grade Glioma program and basic research program.

Collaboration with Divison of Heme/Onc Research

Collaborating Faculty: Yi Zeng PhD; James Mulloy PhD; Jose Cancelas PhD

Joint development of Leukemia Biology program at CCHMC

Collaboration with Department of Surgery; Division of Hem/Onc

Collaborating Faculty: Denise Adams MD; Richard Azizkhan MD; Anusua Dasgupta MD

Hemangioma/Vascular malformation clinical program. Providing professional diagnostic and technical pathology support for multidisiplinary patient care program.

Collaboration with Division of Human Genetics

Collaborating Faculty: Greg Grabowski MD

Providing professional interpretation and technical support for research programs involving development of animal models of metabolic disease

Collaboration with Cardiovacular Institute

Collaborating Faculty: Jeffery Molkentin PhD

Providing technical support for cardiovascular research program.

Collaboration with Division of Rheumatology

Collaborating Faculty: Susan Thompson PhD; Sherri Thornton PhD

P30 grant, providing interpretation and technical support for research programs related for the "Integrative Cell Phenotyping and Morphology Core."

Faculty Members

David Witte, MD, Professor ; *Division Director*

Kevin E Bove, MD, Professor

J. Todd Boyd, DO, Assistant Professor

Margaret H Collins, MD, Professor

Anita Gupta, MD, Assistant Professor

Richard L McMasters, MD, Assistant Professor

Lili Miles, MD, Associate Professor

Michael Miles, PharmD, Professor Clinical

Jun Q Mo, MD, Assistant Professor

Joel E Mortensen, PhD, Associate Professor

Kenneth D Setchell, PhD, Professor

Jerzy W Stanek, MD, Professor

Paul E Steele, MD, Associate Professor

Keith F Stringer, MD, Assistant Professor

Peter Tang, PhD, Assistant Professor

Kathryn Wikenheiser-Brokamp, MD, Assistant Professor

Hong Yin, MD, Assistant Professor

Trainees

- **Rachel Sheridan, MD,** PGY-V, University of Cincinnati
- **Md Khalequzzaman, MD,** PGY-V, Howard University Hospital

Significant Accomplishments

Cancer Biology Research Program

As our reputation for diagnosing and treating children with malignancies of the hematopoietic system continues to gain national recognition, we are building an equally strong research program in cancer biology to support our clinical program.

The focus is to dissect hematopoietic and cancer cell signaling networks at the molecular level. We have joined with the research team of the Division of Hematology/Oncology, under the direction of Yi Zheng, PhD, to build a more comprehensive program of research in leukemia and stem cell biology.

To this end, we added two new research faculty this year. Gang Huang, PhD, will study genetic and epigenetic changes that progressively drive normal cells to become highly malignant. Muhammad Azam, PhD, will study the molecular mechanisms underlying chemotherapy resistance. With a grant from the V Foundation, Azam will also develop enhanced therapeutic strategies to treat BCR/ABL associated leukemia.

Pulmonary Tumor Research Program

Kathryn Wikenheiser-Brokamp, MD, PhD, studies pleuropulmonary blastoma (PPB), a rare pediatric lung tumor that arises during fetal development and is part of an inherited cancer syndrome. Wikenheiser-Brokamp and a colleague from the Children's National Medical Center in Washington, DC, have identified germline loss of function in DICER1 mutations in families with PPB. Their data shows that DICER1 protein is specifically lost in the PPB-associated epithelium but not in the malignant mesenchymal component. They are currently developing a conditional DICER1-deficient mouse model to identify the developmental stages when DICER1 function is required. These studies will identify the role of DICER1 in

lung development and result in a clinically relevant model for explaining molecular events underlying PPB pathogenesis. The research is supported by agencies including the NIH, American Cancer Society, St. Baldrick's Foundation and the Society for Pediatric Pathology.

Pathology Clinical Developments

Our division faced a number of challenges with the H1N1 swine flu this year. We designed and validated a PCR-based assay for the virus prior to clinicians seeing active cases in the community. Ours was the only local lab facility to offer this test in the community. During the peak of the season, we performed more than 1,500 assays and typically ran them twice a day, providing weekend coverage with 24-hour turnaround support for hospitals throughout our region.

Division Publications

1. :

Grants, Contracts, and Industry Agreements

Grant and Contract Awards — Annual Direct / Project Period Direct

Azam, M

Molecular and Therapeutic Analysis of Human Leukemia Using Human Induced Pluripitent Cells
The V Foundation
12/01/09 - 11/30/11 — $100,000 / $200,000

Simpson, D

Role of Rb/p16 Pathway in Pulmonary Progenitor Cell Regulation
National Institutes of Health
F30 HL 097609 — 08/11/09 - 08/10/13 — $32,621 / $153,370

Wikenheiser-Brokamp, K

Mouse Models to Elucidate Mechanisms of Pleuropulmonary Blastoma Initiation
St. Baldrick's Foundation
07/01/09 - 06/30/10 — $50,000 / $50,000

Role of RB Family in Lung Epithelial Response to Injury
National Institutes of Health
R01 HL 079193 — 04/01/10 - 03/31/14 — $250,000 / $1,000,000

Role of RB Family in Lung Epithelial Response to Injury
National Institutes of Health
R01 HL 079193 — 07/01/09 - 06/30/10 — $56,215 / $56,215

Current Year Direct **$488,836**

Industry Contracts

Mortensen, J
Microbiology Research — $ 19,913

Witte, D
Ception Therapeutics Inc — $ 462

Current Year Direct Receipts **$20,375**

Total $ 509,211