### Division Details

#### Division Data Summary

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<th>Research and Training Details</th>
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<tr>
<td>Number of Faculty</td>
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<td>Direct Annual Grant Support</td>
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<td>Peer Reviewed Publications</td>
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<tr>
<th>Clinical Activities and Training</th>
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<tr>
<td>Number of Clinical Staff</td>
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<td>Number of Clinical Fellows</td>
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<tr>
<td>Inpatient Encounters</td>
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<td>Outpatient Encounters</td>
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### Significant Accomplishments

#### Cancer Biology Program

Cincinnati Children’s is a nationally recognized center for diagnostic evaluation and management of children with malignancies of the hematopoietic system, committed to developing a world class research program in cancer. This is the result of a joint program and commitment that includes the divisions of Hematology/Oncology Research, Immunobiology, Hematology and Pathology under the leadership of Yi Zheng, PhD, and Lee Grimes, PhD. This effort has brought together a team of collaborative and nationally recognized leaders in cancer cell research and has provided an infrastructure of core laboratories and technologies supported by these divisions to provide the latest technology and support to the growing research program. Faculty members of the Division of Pathology, including Gang Huang, PhD, and Mohammad Azam, PhD, have funded research programs supporting this effort. The success of this joint effort to establish a strong program in cancer biology was evident at the Ninth International Workshop on Molecular Aspects of Myeloid Stem Cell Development in Leukemia jointly sponsored by the Cancer and Blood Diseases Institute of Cincinnati, and division of Pathology and organized by Lee Grimes, PhD, Division of Immunobiology. This high profile and successful meeting brought investigators and leaders in the field of cancer biology from all across the United States, Europe, Canada, Australia and Japan.

#### Molecular Basis for Lung Disease

Kathryn Wikenheiser-Brokamp, PhD, studies the genetic and developmental basis of lung disease with specific interest in identifying the molecular basis of lung cancer and pediatric cystic lung disease. She has identified
critical functions for the RB/P16 and P53 tumor suppressant pathway in pulmonary epithelial cell growth in the context of lung development, injury repair and carcinogenesis. Her studies are supported by a National Institutes of Health RO1 grant and funding from the American Cancer Society. Wikenheiser-Brokamp is part of a multi-institutional, interdisciplinary team of physicians and researchers that recently discovered DICER1 mutations in a familial tumor predisposition syndrome that develop pleural pulmonary blastoma. She now leads a consortium towards elucidating how DICER1 and the micro RNAs it generates, controls organogenesis and oncogenesis. In addition, Wikenheiser-Brokamp has recently continued her research funding through the Saint Baldrick’s Research Consortium grant support for basic science studies and development of the international pleural pulmonary blastoma treatment in biology registry.

**Neuro-Oncology Program**

Recently under the direction of Maryam Fouladi, MD, Cincinnati Children’s has been selected to become a full member institution in the NCI Pediatric Brain Tumor Consortium. This consortium is the National Cancer Institute’s primary mechanism for developing new drugs for children with brain tumors. The collaboration will involve Neurosurgery, Neuroimaging, Pathology, Neuropsychology, Neurology, Endocrinology, Physical Medical and Rehabilitation and the University of Cincinnati Department of Radiation Oncology to allow Cincinnati Children’s to become a national center for the treatment and management of pediatric brain tumors. Lili Miles, MD, will head up the pathology diagnostic service and review of children referred for pediatric brain tumors. She will also work with the division to establish and provide core laboratory support to develop pathology-based markers to support this effort.

**Division Publications**


Faculty, Staff, and Trainees

**Faculty Members**

**David Witte, MD**, Professor
- Leadership Division Director
- **Research Interests** Renal pathology, molecular pathology

**Mohammad Azam, PhD**, Assistant Professor
- **Research Interests** Cancer Biology and Neural Tumors Program

**Kevin E Bove, MD**, Professor
- **Research Interests** Pediatric liver disease, biliary atresia

**J. Todd Boyd, DO**, Assistant Professor
- **Research Interests** Pulmonary pathology, graduate medical education

**Margaret H Collins, MD**, Professor
- **Research Interests** Pediatric gastrointestinal pathology, especially pediatric eosinophilic gastrointestinal disorders, pediatric inflammatory bowel disease, pediatric bowel motility disorders

**Anita Gupta, MD**, Assistant Professor
Research Interests  Liver tumor pathology, vascular anomalies

Gang Huang, PhD, Assistant Professor
Research Interests  Cancer pathology

Richard L McMasters, MD, Assistant Professor
Research Interests  Hematopathology

Lili Miles, MD, Associate Professor
Leadership  Director, Training Program
Research Interests  Brain tumor, epilepsy research, neuromuscular diseases and NASH liver

Michael Miles, PharmD, Professor
Research Interests  Neuropathology of mitochondrial disease

Jun Q Mo, MD, Associate Professor
Research Interests  Hematopathology

Joel E Mortensen, PhD, Associate Professor
Leadership  Director, Diagnostic Infectious Disease Lab
Research Interests  Microbiology

Mandy F O’Leary, MD, Assistant Professor
Research Interests  Transfusion medicine

Kenneth D Setchell, PhD, Professor
Leadership  Director, Mass Spec Lab
Research Interests  Biochemistry, Bile acids, Sterol and cholesterol metabolism, Steroids, Liver disease, Liver transplantation, Gastroenterology, Nutrition/Diet, Phytochemicals, Isoflavones/Lignans, Breast cancer, Colon cancer, Mass spectrometry – biomedical mass spectrometry, Chromatography, Analytical Biochemistry, Assay development, Therapeutic drug monitoring, Pharmacokinetics and metabolism, Genetics

Rachel Sheridan, MD, Assistant Professor
Research Interests  Liver pathology, biliary atresia

Jerzy W Stanek, MD, PhD, Professor
Research Interests  Pathology and pathomechanisms of in-utero hypoxia, particularly in the placenta; Pathology of perinatal mortality and morbidity

Paul E Steele, MD, Associate Professor
Leadership  Medical Director, Clinical Lab
Research Interests  Clinical lab medicine

Keith F Stringer, MD, Assistant Professor
Research Interests  Microscopic techniques for assessing mRNA expression, protein production and cellular identity in eukaryotic tissues

Peter Tang, PhD, Assistant Professor
Research Interests  Special chemistry

Kathryn Wikenheiser-Brokamp, MD, PhD, Associate Professor
Research Interests  Genetic and developmental basis of lung disease, lung cancer and pediatric cystic lung disease

Hong Yin, MD, Assistant Professor
Research Interests
Renal pathology, tumor pathology

Trainees
- Michael Baker, MD, PGY-V, Dartmouth-Hitchcock Medical Center, NH
- Amanda Baker, MD, PGY-IV, Indiana University - Ball Memorial Hospital

Division Collaboration

Human Genetics » Gregory Grabowski MD
  Providing technical and professional support for NIH study to characterize a metabolic disease animal model.

Gastroenterology, Hepatology and Nutrition » Mitch Cohen MD, Jorge Bezerra MD, Xiaonan Han PhD, and Noah Shroyer PhD
  Digestive Health Center: Integrated morphology core lab, provides technical and professional support to members of the DHC involved in basic and translational research in gastrointestinal tract.

Gastroenterology, Hepatology and Nutrition » James Heubi MD, John Bucuvalas MD, Jorge Bezerra MD, and Kathleen Campbell MD
  Director of Pathology Core for multicenter BARC and CLIC studies on biliary atresia and other chronic liver disorders in children.

Endocrinology » Stuart Handwerger MD
  Providing technical and professional support for NIH placental studies.

Rheumatology » John Harley MD, Sue Thompson PhD, and Hermine Brunner MD
  Providing pathology professional and technical support for establishment of Biorepository service and support for Rheumatology core lab for Cincinnati Rheumatic Diseases Center and multicenter study for lupus nephritis.

Allergy and Immunology » Marc Rothenberg MD and Pablo Abonia MD
  Providing professional support for the Cincinnati Center for Eosinophilic Disorders program and related research.

Hematology/Oncology » Maryam Fouladi MD and Richard Dressi PhD
  Providing pathology professional and technical support for multicenter referral service for the High Grade Glioma program and basic research program.

Hematology/Oncology Research » Yi Zheng PhD, James Mulloy PhD, and Jose Cancelas MD, PhD
  Joint development of Leukemia Biology program at CCHMC

Division of Hematology/Oncology; Department of Pediatric Surgery » Denise Adams MD, Richard Azizkhan MD, and Anusa Dasgupta MD
  Hemangioma/vascular malformation clinical program. Providing professional diagnostic and technical pathology support for multidisciplinary patient care program.

Grants, Contracts, and Industry Agreements

Grant and Contract Awards

BOVE, K
Clinical Center for Cholestatic Liver Disease in Children
National Institutes of Health
<table>
<thead>
<tr>
<th>Project Title</th>
<th>Principal Investigator</th>
<th>Granting Body</th>
<th>Award Amount</th>
<th>Start Date</th>
<th>End Date</th>
</tr>
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<tbody>
<tr>
<td>Role of Rb/p16 Pathway in Pulmonary Progenitor Cell Regulation</td>
<td>SIMPSON, D</td>
<td>NIH</td>
<td>$34,200</td>
<td>09/10/09</td>
<td>05/31/14</td>
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<td>Mechanisms of Dicer1 Function in Lung Organogenesis and Cystic Lung Disease</td>
<td>WIKENHEISER-BROKAMP, K</td>
<td>NIH</td>
<td>$32,621</td>
<td>08/11/09</td>
<td>08/10/13</td>
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<td>Mechanisms Underlying DICER1 Suppression of Pleuropulmonary Blastoma Initiation</td>
<td>WIKENHEISER-BROKAMP, K</td>
<td>NIH</td>
<td>$258,699</td>
<td>06/15/11</td>
<td>05/31/15</td>
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<td>Rb-p16 Regulatory Pathway in Lung Carcinogenesis</td>
<td>WIKENHEISER-BROKAMP, K</td>
<td>St Baldrick's Foundation</td>
<td>$184,204</td>
<td>07/01/11</td>
<td>06/30/12</td>
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<td>Role of Rb Family in Lung Epithelial Response to Injury</td>
<td>WITTE, D</td>
<td>NIH</td>
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<td>03/31/14</td>
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<td>Digestive Health Center - Integrative Morphology Core</td>
<td>WITTE, D</td>
<td>NIH</td>
<td>$107,435</td>
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<td>05/31/17</td>
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**Current Year Direct** $1,014,659

**Total** $1,014,659