

# Pathology and Laboratory Medicine

## Division Details

### RESEARCH AND TRAINING DETAILS

Faculty	21
Research Fellows and Post Docs	4
Total Annual Grant Award Dollars	\$1,187,121
Total Annual Industry Award Dollars	\$138,506
Total Publications	76

### CLINICAL ACTIVITIES AND TRAINING

Staff Physicians	1
Clinical Fellows	1



Row 1: P Tang, S Szabo, P Steele, R Sheridan, E Martinez

Row 2: M Azam, A Gupta, D Witte, J Stanek, G Huang, K Wikenheiser-Brokamp

Row 3: R Lorsbach, D Wang, M McCoy, K Setchell, D Leino, M Collins, C Fuller, L Romick-Rosendale

## Division Publications

- Adams DM, Trenor CC, 3rd, Hammill AM, Vinks AA, Patel MN, Chaudry G, Wentzel MS, Mobberley-Schuman PS, Campbell LM, Brookbank C, Gupta A, Chute C, Eile J, McKenna J, Merrow AC, Fei L, Hornung L, Seid M, Dasgupta AR, Dickie BH, et al. **Efficacy and Safety of Sirolimus in the Treatment of Complicated Vascular Anomalies.** *Pediatrics*. 2016; 137:e20153257.
- Asare E, Greenberg S, Szabo S, Sato T. **Giant Paratubal Cyst in Adolescence: Case Report, Modified Minimal Access Surgical Technique, and Literature Review.** *J Pediatr Adolesc Gynecol*. 2016; 28:e143e45.
- Bennett BL, Steele P, Dixon CA, Mahabee-Gittens EM, Peebles J, Hart KW, Lindsell CJ, Chua MS, Hirsh R. **Serum Cardiac Troponin I in the Evaluation of Nonaccidental Trauma.** *J Pediatr*. 2015; 167:669-73 e1.
- Calvo-Garcia MA, Kline-Fath BM, Adams DM, Gupta A, Koch BL, Lim FY, Laor T. **Imaging Evaluation of Fetal Vascular Anomalies.** *Pediatr Radiol*. 2015; 45:1218-29.

5. Chin DW, Sakurai M, Nah GS, Du L, Jacob B, Yokomizo T, Matsumura T, Suda T, Huang G, Fu XY, Ito Y, Nakajima H, Osato M. **Runx1 Haploinsufficiency Results in Granulocyte Colony-Stimulating Factor Hypersensitivity.** *Blood Cancer J.* 2016; 6:e379.
6. Chlon TM, Ruiz-Torres S, Maag L, Mayhew CN, Wikenheiser-Brokamp KA, Davies SM, Mehta P, Myers KC, Wells JM, Wells SI. **Overcoming Pluripotent Stem Cell Dependence on the Repair of Endogenous DNA Damage.** *Stem Cell Reports.* 2016; 6:44-54.
7. Coleman A, Kline-Fath B, Stanek J, Lim F-Y. **Pleuropulmonary Blastoma in a Neonate Diagnosed Prenatally as Congenital Pulmonary Airway Malformation.** *Fetal Diagn Ther.* 2016; 39:234-37.
8. Collins M, Martin L, Alexander E, Boyd J, Sheridan R, He H, Pentiu S, Putnam P, Abonia J, Mukkada V. **Newly Developed and Validated Eosinophilic Esophagitis Histology Scoring System and Evidence That It Outperforms Peak Eosinophil Count for Disease Diagnosis and Monitoring.** *Dis Esophagus.* 2016.
9. Colombo C, Crosignani A, Alicandro G, Zhang W, Biffi A, Motta V, Corti F, Setchell K. **Long-Term Ursodeoxycholic Acid Therapy Does Not Alter Lithocholic Acid Levels in Patients with Cystic Fibrosis with Associated Liver Disease.** *J Pediatr.* 2016.
10. d H, A, McCarthy J, Klimaski D, Stringer K. **Proximal Femoral Growth Modification: Effect of Screw, Plate, and Drill on Asymmetric Growth of the Hip.** *J Pediatr Orthop.* 2016.
11. Dahl NA, Michaels ST, McMasters RL, Chandra S, O'Brien MM. **Azacitidine and Sorafenib Therapy in a Pediatric Patient with Refractory Acute Myeloid Leukemia with Monosomy 7 and Somatic Ptpn11 Mutation.** *Pediatr Blood Cancer.* 2016; 63:551-3.
12. Dasgupta N, Xu YH, Li R, Peng Y, Pandey MK, Tinch SL, Liou B, Inskeep V, Zhang W, Setchell KD, Keddache M, Grabowski GA, Sun Y. **Neuronopathic Gaucher Disease: Dysregulated Mnas and Mirnas in Brain Pathogenesis and Effects of Pharmacologic Chaperone Treatment in a Mouse Model.** *Hum Mol Genet.* 2015; 24:7031-48.
13. Davis BP, Epstein T, Kottyan L, Amin P, Martin LJ, Maddox A, Collins MH, Sherrill JD, Abonia JP, Rothenberg ME. **Association of Eosinophilic Esophagitis and Hypertrophic Cardiomyopathy.** *J Allergy Clin Immunol.* 2016; 137:934-6 e5.
14. Dehner L, Messinger Y, Schultz K, Williams G, Wikenheiser-Brokamp K, Hill D. **Pleuropulmonary Blastoma: Evolution of an Entity as an Entry into a Familial Tumor Predisposition Syndrome.** *Pediatr Dev Pathol.* 2015; 18:504-11.
15. Dellon E, Collins M, Bonis P, Capocelli K, Dohil R, Falk G, Furuta G, Gupta S, Hirano I, Hiremath G. **Substantial Variability in Biopsy Practice Patterns among Gastroenterologists for Suspected Eosinophilic Gastrointestinal Disorders.** *Clin Gastroenterol Hepatol.* 2016.
16. Desai VS, Kakazu R, Crawford AH, Stanek JW. **An Unusual Presentation of Myositis Ossificans in a Pediatric Patient.** *J Pediatr Orthop.* 2015.
17. Feldon M, Sikora K, Huggins JL, Billings SD, McMasters R, Brunner HI. **Polyarticular Arthritis and Skin Nodulosis in a 14-Year-Old Female.** *Arthritis Care Res (Hoboken).* 2016; 68:700-5.
18. Feng G, Gale RP, Cui W, Cai W, Huang G, Xu Z, Qin T, Zhang Y, Li B, Fang L, Zhang H, Pan L, Hu N, Qu S, Wang J, Cui Y, Xiao Z. **A Systematic Classification of Megakaryocytic Dysplasia and Its Impact on Prognosis for Patients with Myelodysplastic Syndromes.** *Exp Hematol Oncol.* 2015; 5:12.
19. Goldschmidt ML, Mourya R, Connor J, Dexheimer P, Karns R, Miethke A, Sheridan R, Zhang K, Bezerra JA. **Increased Frequency of Double and Triple Heterozygous Gene Variants in Children with Intrahepatic Cholestasis.** *Hepatol Res.* 2016; 46:306-11.
20. Goyama S, Huang G, Kurokawa M, Mulloy J. **Posttranslational Modifications of Runx1 as Potential Anticancer Targets.** *Oncogene.* 2015; 34:3483-92.
21. Gray M, Palileo C, Sheridan R. **Cellular Neurothekeoma of the Eyelid in a 6-Year-Old Boy.** *J AAPOS.* 2015; 20:374-6.
22. Gupta A, Bischoff A. **Pathology of Cloaca Anomalies with Case Correlation.** *Semin Pediatr Surg.* 2016; 25:66-70.

23. Gupta A, Sheil A. **Imprint and Aspiration Cytology of Abdominal Lesions: Liver, Biliary Tree, Pancreas and Gi Tract.** In: P Chou, P Gattuso, V Reddy, M Reyes-Mugica, eds. *Diagnostic Pediatric Cytopathology and Histopathologic Correlation with Static Online Resource*. Cambridge UK: Cambridge University Press; 2016:241-78.
24. Gupta N, Vassallo R, Wikenheiser-Brokamp KA, McCormack FX. **Diffuse Cystic Lung Disease. Part II.** *Am J Respir Crit Care Med*. 2015; 192:17-29.
25. Gupta N, Wikenheiser-Brokamp K, Fischer A, McCormack F. **Diffuse Cystic Lung Disease as the Presenting Manifestation of Sjogren Syndrome.** *Ann Am Thorac Socy*. 2016; 13:371-75.
26. Harmon N, Mortensen JE, Robinette E, Powell EA. **Pediatric Bacteremia Caused by Chromobacterium Haemolyticum/Chromobacterium Aquaticum.** *Diagn Microbiol Infect Dis*. 2016; 86:108-11.
27. He D, Marie C, Zhao C, Kim B, Wang J, Deng Y, Clavairoly A, Frah M, Wang H, He X, Hmidan H, Jones BV, Witte D, Zalc B, Zhou X, Choo DI, Martin DM, Parras C, Lu QR. **Chd7 Cooperates with Sox10 and Regulates the Onset of Cns Myelination and Remyelination.** *Nat Neurosci*. 2016; 19:678-89.
28. Heinzerling NP, Koehler SM, Szabo S, Wagner AJ. **Pediatric Granular Cell Tumor of the Breast: A Case Report and Review of the Literature.** *Case Rep Surg*. 2015; 2015:568940.
29. Hoffman L, DeWire M, Ryall S, Buczkowicz P, Leach J, Miles L, Ramani A, Brudno M, Kumar S, Drissi R. **Spatial Genomic Heterogeneity in Diffuse Intrinsic Pontine and Midline High-Grade Glioma: Implications for Diagnostic Biopsy and Targeted Therapeutics.** pmc/PMC4700584. *Acta Neuropathologica Communications*. 2016; 4:1.
30. Kesarwani M, Huber E, Kincaid Z, Evelyn CR, Biesiada J, Rance M, Thapa MB, Shah NP, Meller J, Zheng Y, Azam M. **Targeting Substrate-Site in Jak2 Kinase Prevents Emergence of Genetic Resistance.** *Sci Rep*. 2015; 5:14538.
31. Kim JH, Baddoo MC, Park EY, Stone JK, Park H, Butler TW, Huang G, Yan X, Pauli-Behn F, Myers RM, Tan M, Flemington EK, Lim ST, Ahn EY. **Son and Its Alternatively Spliced Isoforms Control Mll Complex-Mediated H3k4me3 and Transcription of Leukemia-Associated Genes.** *Mol Cell*. 2016; 61:859-73.
32. Klein M, Hershey GK, Devarajan P, Muglia LJ, Wikenheiser-Brokamp KA, Loch J, Hostetter MK, Strauss AW, DeWitt TG. **Enhancing Pediatric Fellows' Research Training: Development of an Office of Pediatric Clinical Fellowships.** *J Pediatr*. 2015; 167:506-7 e1.
33. Knod JL, Crawford K, Dusing M, Collins MH, Chernoguz A, Frischer JS. **Angiogenesis and Vascular Endothelial Growth Factor- $\alpha$  Expression Associated with Inflammation in Pediatric Crohn's Disease.** *J Gastrointest Surg*. 2016; 20:624-30.
34. Kohli R, Setchell KD. **Let the Bile Flow!** *Hepatology*. 2015; 62:1870.
35. Krisl JC, Alloway RR, Shield AR, Govil A, Mogilishetty G, Cardi M, Diwan T, Abu Jawdeh BG, Girnita A, Witte D, Woodle ES. **Acute Rejection Clinically Defined Phenotypes Correlate with Long-Term Renal Allograft Survival.** *Transplantation*. 2015; 99:2167-73.
36. Laskin BL, Singh HK, Beier UH, Moatz T, Furth SL, Bunin N, Witte D, Goebel J, Davies SM, Dandoy C, Jodele S, Nickenleit V. **The Noninvasive Urinary Polyomavirus Haufen Test Predicts Bk Virus Nephropathy in Children after Hematopoietic Cell Transplantation: A Pilot Study.** *Transplantation*. 2016; 100:e81-7.
37. Leslie N, Wang XJ, Peng YY, Valencia CA, Khuchua Z, Hata J, Witte D, Huang TS, Bove KE. **Neonatal Multiorgan Failure Due to Acad9 Mutation and Complex I Deficiency with Mitochondrial Hyperplasia in Liver, Cardiac Myocytes, Skeletal Muscle, and Renal Tubules.** *Human Pathol*. 2016; 49:27-32.
38. Li H, Zhao X, Yan X, Jessen WJ, Kim MO, Dombi E, Liu PP, Huang G, Wu J. **Runx1 Contributes to Neurofibromatosis Type 1 Neurofibroma Formation.** *Oncogene*. 2016; 35:1468-74.
39. Man N, Sun XJ, Tan Y, Garcia-Cao M, Liu F, Cheng G, Hatlen M, Xu H, Shah R, Chastain N, Liu N, Huang G, Zhou Y, Sheng M, Song J, Yang FC, Benezra R, Nimer SD, Wang L. **Differential Role of Id1 in Mll-Af9-Driven Leukemia Based on Cell of Origin.**

*Blood*. 2016; 127:2322-6.

40. McDaniel C, Su S, Panmanee W, Lau G, Browne T, Cox K, Paul A, Ko S-H, Mortensen J, Lam J. **A Putative Abc Transporter Permease Is Necessary for Resistance to Acidified Nitrite and Edta in Pseudomonas Aeruginosa under Aerobic and Anaerobic Planktonic and Biofilm Conditions.** *Front Microbiol*. 2016; 7.
41. Mei Y, Zhao B, Yang J, Gao J, Wickrema A, Wang D, Chen Y, Ji P. **Ineffective Erythropoiesis Caused by Binucleated Late-Stage Erythroblasts in Mdia2 Hematopoietic Specific Knockout Mice.** *Haematologica*. 2016; 101:e1-5.
42. Miethke AG, Zhang W, Simmons J, Taylor AE, Shi T, Shanmukhappa SK, Karns R, White S, Jegga AG, Lages CS, Nkinin S, Keller BT, Setchell KD. **Pharmacological Inhibition of Apical Sodium-Dependent Bile Acid Transporter Changes Bile Composition and Blocks Progression of Sclerosing Cholangitis in Multidrug Resistance 2 Knockout Mice.** *Hepatology*. 2016; 63:512-23.
43. Mina R, Abulaban K, Klein-Gitelman MS, Eberhard BA, Ardoin SP, Singer N, Onel K, Tucker L, O'Neil K, Wright T, Brooks E, Rouster-Stevens K, Jung L, Imundo L, Rovin B, Witte D, Ying J, Brunner HI. **Validation of the Lupus Nephritis Clinical Indices in Childhood-Onset Systemic Lupus Erythematosus.** *Arthritis Care Res (Hoboken)*. 2016; 68:195-202.
44. Mortensen J, Powell E. **What Every Microbiology Laboratory Needs to Know About Susceptibility Testing of Beta-Lactams and Gram-Negative Bacilli.** *J Cont Educ Top Issues*. 2016; 18:4-12.
45. Park J, Schleder M, Schreiber M, Ice R, Merkel O, Bilban M, Hofbauer S, Kim S, Addison J, Zou J, Ji CY, Bunting ST, Wang ZQ, Shoham M, Huang G, Bago-Horvath Z, Gibson LF, Rojanasakul Y, Remick S, Ivanov A, et al. **Af1q Is a Novel Tcf7 Co-Factor Which Activates Cd44 and Promotes Breast Cancer Metastasis.** *Oncotarget*. 2015; 6:20697-710.
46. Rapovy SM, Zhao J, Bricker RL, Schmidt SM, Setchell KD, Qualls JE. **Differential Requirements for L-Citrulline and L-Arginine During Antimycobacterial Macrophage Activity.** *J Immunol*. 2015; 195:3293-300.
47. Rayes A, McMasters RL, O'Brien MM. **Lineage Switch in Mll-Rearranged Infant Leukemia Following Cd19-Directed Therapy.** *Pediatr Blood Cancer*. 2016; 63:1113-5.
48. Richard H, Harrison J, Fuller C. **Central Nervous System Tumors.** In: C Garrett, C Dumur, M Idowu, eds. *Molecular Oncology Testing for Solid Tumors a Pragmatic Approach*. New York: Springer; 2015:537-66.
49. Rochman M, Kartashov AV, Caldwell JM, Collins MH, Stucke EM, Sherrill JD, Herren J, Barski A, Rothenberg ME. **Neurotrophic Tyrosine Kinase Receptor 1 Is a Direct Transcriptional and Epigenetic Target of Il-13 Involved in Allergic Inflammation.** *Mucosal Immunol*. 2015; 8:785-98.
50. Romick-Rosendale LE, Hoskins EE, Vinnedge LMP, Foglesong GD, Brusadelli MG, Potter SS, Komurov K, Brugmann SA, Lambert PF, Kimple RJ, Virts EL, Hanenberg H, Gillison ML, Wells SI. **Defects in the Fanconi Anemia Pathway in Head and Neck Cancer Cells Stimulate Tumor Cell Invasion through DNA-Pk and Rac1 Signaling.** *Clin Cancer Res*. 2016; 22:2062-73.
51. Rosendale A, Romick-Rosendale L, Watanabe M, Dunlevy M, Benoit J. **Mechanistic Underpinnings of Dehydration Stress in the American Dog Tick Revealed through Rna-Seq and Metabolomics.** *J Exper Biol*. 2016; 219:1808-19.
52. Rothenberg M, Ziv Y, Collins M. **Eosinophilic Esophagitis.** In: D Podolsky, M Camilleri, J Fitzet al, eds. *Yamada's Atlas of Gastroenterology*. New York: John Wiley & Sons; 2016:82-84.
53. Rothenberg M, Ziv Y, Collins M. **Eosinophilic Esophagitis.** In: D Podolsky, M Camilleri, J Fitzet al, eds. *Yamada's Textbook of Gastroenterology, 2 Volume Set*. New York: John Wiley & Sons; 2015:929-36.
54. Sadaka B, Ejaz NS, Shields AR, Cardi MA, Wadih G, Witte D, Abu Jawdeh BG, Alloway RR, Woodle ES. **A Banff Component Scoring-Based Histologic Assessment of Bortezomib-Based Antibody-Mediated Rejection Therapy.** *Transplantation*. 2015; 99:1691-9.
55. Safroneeva E, Straumann A, Coslovsky M, Zwahlen M, Kuehni C, Panczak R, Haas N, Alexander J, Dellon E, Gonsalves N. **Symptoms Have Modest Accuracy in Detecting Endoscopic and Histologic Remission in Adults with Eosinophilic**

- Esophagitis.** *Gastroenterology*. 2016; 150:581-90.
56. Saito A, Nikolaidis NM, Amlal H, Uehara Y, Gardner JC, LaSance K, Pitstick LB, Bridges JP, Wikenheiser-Brokamp KA, McGraw DW, Woods JC, Sabbagh Y, Schiavi SC, Altinisik G, Jakopovic M, Inoue Y, McCormack FX. **Modeling Pulmonary Alveolar Microlithiasis by Epithelial Deletion of the Npt2b Sodium Phosphate Cotransporter Reveals Putative Biomarkers and Strategies for Treatment.** *Sci Transl Med*. 2015; 7:313ra181.
57. Salloum R, Fox CE, Alvarez-Allende CR, Hammill AM, Dasgupta R, Dickie BH, Mobberley-Schuman P, Wentzel MS, Chute C, Kaul A, Patel M, Merrow AC, Gupta A, Whitworth JR, Adams DM. **Response of Blue Rubber Bleb Nevus Syndrome to Sirolimus Treatment.** *Pediatr Blood Cancer*. 2016; 63:1911-4.
58. Schulert GS, Bove K, McMasters R, Campbell K, Leslie N, Grom AA. **11-Month-Old Infant with Periodic Fevers, Recurrent Liver Dysfunction, and Perforin Gene Polymorphism.** *Arthritis Care Res (Hoboken)*. 2015; 67:1173-9.
59. Stanek J. **Chorangiosis of Chorionic Villi What Does It Really Mean?** *Arch Pathol Lab med*. 2016; 140:588-93.
60. Stanek J. **Association of Coexisting Morphological Umbilical Cord Abnormality and Clinical Cord Compromise with Hypoxic and Thrombotic Placental Histology.** *Virchows Arch*. 2016; 468:723-32.
61. Stanek J, Biesiada J. **Clustering and Classical Analysis of Clinical and Placental Phenotypes in Fetal Growth Restriction and Constitutional Fetal Smallness.** *Placenta*. 2016; 42:93-105.
62. Stucke EM, Clarridge KE, Collins MH, Henderson CJ, Martin LJ, Rothenberg ME. **Value of an Additional Review for Eosinophil Quantification in Esophageal Biopsies.** *J Pediatr Gastroenterol Nutr*. 2015; 61:65-8.
63. Sun S, Chen S, Liu F, Wu H, McHugh J, Bergin I, Gupta A, Adams D, Guan J-L. **Constitutive Activation of Mtorc1 in Endothelial Cells Leads to the Development and Progression of Lymphangiosarcoma through Vegf Autocrine Signaling.** *Cancer Cell*. 2015; 28:758-72.
64. Uram-Tuculescu CG, Fuller CE. **Postmortem Cytology: Alive and Well in the Practice of Autopsy and Forensic Pathology.** *Cancer Cytopathol*. 2015; 123:447-8.
65. Visscher MO, Burkes SA, Adams DM, Gupta A, Wickett RR. **Biomechanical Properties of Infantile Hemangiomas: Clinical Stage and Effect of Age.** *Skin Res Technol*. 2016; 22:487-96.
66. Wang L, Man N, Sun XJ, Tan Y, Garcia-Cao M, Liu F, Hatlen M, Xu H, Huang G, Mattlin M, Mehta A, Rampersaud E, Benezra R, Nimer SD. **Regulation of Akt Signaling by Id1 Controls T(8;21) Leukemia Initiation and Progression.** *Blood*. 2015; 126:640-50.
67. Wang PY, Swain HM, Kunkler AL, Chen CY, Hutzen BJ, Arnold MA, Streby KA, Collins MH, Dipasquale B, Stanek JR, Conner J, van Kuppevelt TH, Glorioso JC, Grandi P, Cripe TP. **Neuroblastomas Vary Widely in Their Sensitivities to Herpes Simplex Virotherapy Unrelated to Virus Receptors and Susceptibility.** *Gene Ther*. 2016; 23:135-43.
68. Warren M, Kaul A, Bove K. **Calretinin-Immunoreactive Hypoinnervation in Down Syndrome (Ds): Report of an Infant with Very Short-Segment Hirschsprung Disease and Comparison to Biopsy Findings in 20 Normal Infants and 11 Infants with Ds and Chronic Constipation.** *Pediatr Dev Pathol*. 2016; 19:87-93.
69. Watanabe M, Roth TL, Bauer SJ, Lane A, Romick-Rosendale LE. **Feasibility Study of Nmr Based Serum Metabolomic Profiling to Animal Health Monitoring: A Case Study on Iron Storage Disease in Captive Sumatran Rhinoceros (Dicerorhinus Sumatrensis).** *PLoS One*. 2016; 11:e0156318.
70. Wert S, Wikenheiser-Brokamp K. **Congenital Malformations of the Lung.** In: A Jobe, J Whitsett, S Abman, eds. *Fetal & Neonatal Lung Development: Clinical Correlates and Technologies for the Future (Lung Growth, Development, and Disease)*. Cambridge UK: Cambridge University Press; 2016:94-125.
71. Wikenheiser-Brokamp K, Shannon J, Greenberg J. **Lung Growth and Development.** In: C Broaddus, R Mason, J Ernst et al, eds. *Murray & Nadel's Textbook of Respiratory Medicine*. New York: Elsevier Saunders; 2016:22-31.

72. Wu J, Huang G, Ratner N. **Runx1: A New Driver in Neurofibromagenesis.** *Oncoscience*. 2015; 2:904-5.
73. Wu J, Keng VW, Patmore DM, Kendall JJ, Patel AV, Jousma E, Jessen WJ, Choi K, Tschida BR, Silverstein KA, Fan D, Schwartz EB, Fuchs JR, Zou Y, Kim MO, Dombi E, Levy DE, Huang G, Cancelas JA, Stemmer-Rachamimov AO, et al. **Insertional Mutagenesis Identifies a Stat3/Arid1b/Beta-Catenin Pathway Driving Neurofibroma Initiation.** *Cell Rep*. 2016; 14:1979-90.
74. Zbojniewicz A, Stringer K, Laor T, Wall E. **Juvenile Osteochondritis Dissecans: Correlation between Histopathology and Mri.** *Am J Roentgenol*. 2015; 205:W114-W23.
75. Zhang W, Jha P, Wolfe B, Gioiello A, Pellicciari R, Wang J, Heubi J, Setchell K. **Tandem Mass Spectrometric Determination of Atypical 3 Beta-Hydroxy-Delta(5)-Bile Acids in Patients with 3 Beta-Hydroxy-Delta(5)-C-27-Steroid Oxidoreductase Deficiency: Application to Diagnosis and Monitoring of Bile Acid Therapeutic Response.** *Clin Chem*. 2015; 61:955-63.
76. Zhou J, Wang D, Nassiri M. **Clonal Cd8+ T Lymphocytic Proliferation and Karyotypical Abnormalities in an Ebv Associated Hemophagocytic Lymphohistiocytosis.** *Case Rep Pathol*. 2015; 2015:513968.

## Grants, Contracts, and Industry Agreements

### Annual Grant Award Dollars

Investigator	Title	Sponsor	ID	Dates	Amount
Allie K Adams, PHD	Training Program in Cancer Therapeutics	National Institutes of Health (University of Cincinnati)	T32 CA117846	9/14/2015 - 9/13/2016	\$42,840
Mohammad Azam, PHD	Improved Therapeutic Approaches for Hematological Disorder Treated with Tyrosine	National Institutes of Health	R01 CA155091	4/1/2016 - 3/31/2017	\$317,475
Gang Huang, PHD	Role of the Hypoxia-Inducible Factor-1alpha in Myelodysplastic Syndromes	National Institutes of Health	R01 DK105014	3/1/2015 - 2/29/2020	\$351,000
Gang Huang, PHD	A Novel Epigenetic Circuit in Acute Leukemia	National Institutes of Health	R21 CA187276	7/9/2014 - 6/30/2017	\$203,580
Purnima K Wagh, PHD	p130 and Pim-1 as Prognostic Biomarkers and Therapeutic	National Institutes of Health	F32 CA89685	9/1/2014 - 8/31/2016	\$57,613
Kathryn Ann Wikenheiser-Brokamp, MD-PHD	Mechanisms Underlying DICER1 Suppression of Pleuropulmonary Blastoma	St. Baldrick's Foundation	Award ID 209927	7/1/2011 - 6/30/2016	\$142,697
Kathryn Ann Wikenheiser-Brokamp, MD-PHD	Hypoxia Signaling and Spontaneous Pulmonary Fibrosis in a Novel Mouse Model	National Institutes of Health (University of South Florida)	R21 AG047473	1/15/2015 - 12/31/2016	\$71,916
<b>Total Annual Grant Award Dollars</b>					<b>\$1,187,121</b>

### Annual Industry Award Dollars

Investigator	Industry Sponsor	Amount
Joel E Mortensen, PHD	Becton Dickinson	\$138,506

Total Annual Industry Award Dollars

\$138,506