Cincinnati Children's
change the outcome

Radiology

Division Photo

First Row: H. Kim, R. Fleck, A. Towbin, B. Koch, C. Guimaraes; Second Row: T. Laor, J. Egelhoff, S. O'Hara, K. Cecil, M. Calvo, S. Sharp; Third Row: D. Podberesky, D. Larson, M. Gelfand, S. Seraj, A. Brody, D. Babcock, N. Johnson, L. Donnelly; Fourth Row: C. Dumoulin

Division Data Summary

Research and Training Details	
Number of Faculty	46
Number of Research Students	9
Number of Support Personnel	232
Direct Annual Grant Support	$2,102,311
Peer Reviewed Publications	85

Clinical Activities and Training	
Number of Clinical Staff	38
Number of Clinical Fellows	9
Number of Other Students	67
Inpatient Encounters	54064
Outpatient Encounters	163791

Division Collaboration

Collaboration with PNRC; Biostatistics and Epidemiology; Neurology; Biomedical Informatics; Imaging Research Center

Collaborating Faculty: Scott Holland, PhD; Vince Schmithorst, PhD; Jennifer Vannest, PhD; Jerzy Szaflarski, MD, PhD; Akila Rajagopal, MS; Sara Robertson, BS; Amanda Huber, MA; Meghan O'Connell, BA; Mekibib Altaye, PhD; Anna Byars, PhD, Milena Korostenskaja, PhD; Michael Wagner, PhD; Andrew Rupert; Nicholas Felicelli; Christopher Hearn, BS/BA

Pediatric Functional Neuroimaigng Research Network

Collaboration with PNRC; Otolaryngology; Audiology; Radiology; Biostatistic & Epidemiology;

Neuropsychologist

Collaborating Faculty: Scott Holland, PhD; Vince Schmithorst, PhD; Akila Rajagopal, Sara Robertson; Dan Choo, MD; John Grienwald, MD; David Brown, PhD; Marguerite Care, MD; Mekibib Altaye, PhD; Anna Byars, PhD
fMRI, Genes and Outcomes of Cochlear Implants in Infants
Collaboration with PNRC; Radiology; Neurology; Biostatistics and Epidemiology

Collaborating Faculty: Scott Holland, PhD; Jennifer Vannest, PhD; Amanda Huber; James Leach, MD; Anna Byars PhD; Mark Schapiro, MD; Mekibib Altaye, PhD
fMRI of Normal Language Development on children
Collaboration with PNRC; Pediatric Neurosurgery

Collaborating Faculty: Scott Holland, PhD; Weihong Yuan, PhD; David Henkel; Francesco Mangano, DO
The McLaurin Faculty Development Scholarship in Pediatric Brain Imaging and Functional Neurosurgery
Collaboration with PNRC; Otolaryngology

Collaborating Faculty: Vince Schmithorst, PhD; Sara Robertson; Edith Eads, MA
Cortical Reorganization in Children with Unilateral Sensorineural Hearing Loss
Collaboration with PNRC; Neurosurgery; Biostatistics and Epidemiology

Collaborating Faculty: Weihong Yuan, PhD; Scott Holland, PhD; David Henkel; Francesco Mangano, DO; Mekibib Altaye, PhD
Longitudinal DT Study in Children Tested for congenital Hydrocephalus
Collaboration with PNRC; Child Psychiatry; Neurology

Collaborating Faculty: Mark Difrancesco, PhD; Elana Harris, MD, PhD; Donald Gilbert, MD, MS
Enhancing Treatment of Obsessive Compulsive Disorder with Repetitive Transcranial Magnetic Stimulation
Collaboration with PNRC; Child Psychiatry

Collaborating Faculty: Scott Holland, PhD; Mark Difrancesco, PhD; Robert Kowatch, MD; Elana Harris, MD, PhD; Jennifer Combs, Judy Depew
Longitudinal Assessment of manic symptoms Competing Renewal
Collaboration with PNRC; Neurology

Collaborating Faculty: Scott Holland PhD; Jing Xiang, MD, PhD; Ton deGrauw, MD, PhD; Mark Schapiro, MD
High-Frequency Neuromagnetic Signals: A New Window for Analysis of Brain Function
Collaboration with PNRC; Behavioral Medicine and Clinical Psychology; Neurology

Collaborating Faculty: Mark Difrancesco, PhD; Scott Holland, PhD; Dean Beebe, PhD; Jeffrey Epstein, PhD; Douglas Rose, MD
Effect of Adolescent Sleep Restriction on Neural & Neurobehavioral Functioning

Collaboration with PNRC; Rheumatology; Behavior Medicine & Clinical Psychology

Collaborating Faculty: Mark Difrancesco, PhD; David Glass, MD; Hermine Brunner, MD, MSc; Jamie Meyers-Eaton, BS; Shannen Nelson, RN, BSN; Dean Beebe, PhD
Improved Diagnostics and advanced magnetic Resonance Imaging for pediatric NPSLE
Collaboration with PNRC; Pulmonary Medicine

Collaborating Faculty: Mark Difrancesco, PhD; Raouf Amin, Md
Blood Pressure Control and the Brain
Collaboration with PNRC; Hematology/Oncology; Radiology; Imaging Research Center; Planning & Business Development; Behavioral medicine & Clinical Psychology; Adolescent Medicine; Center for Chronic Disease

Collaborating Faculty: Mark Difrancesco, PhD; Scott Holland, PhD; Tom Ford; Maryam Fouladi, MD, MSc; Alan Brody, MD; Michael Gelfand, MD; Charles Dumoulin, PhD; Dee Ellingwood, MA; Lori Stark, PhD; Maria Britto, MD, MPH; Marsha Cunningham
Proton therapy Task Forch
Collaboration with Imaging Research Center; Environmental Health

Collaborating Faculty: Kim Cecil, PhD; Kim Dietrich, PhD
Early lead Exposure, ADAH and Persistent Ciminality: Role of Genes and Environment
Collaboration with Imaging Research Center; Psychiatry and Behavior Neuroscience

Collaborating Faculty: Kim Cecil, PhD; Stephen Strakowski, MD
Bipolar Disorder Imaging & Treatment Research Center
Collaboration with Imaging Research Center; Psychiatry & Behavior Neuroscience;

Collaborating Faculty: Diana Lindquist, PhD; richard Komoroski, PhD
Estimating intracellular Lithium in Brain in Vivo by 7Li
Collaboration with Radiology; Gastroenterology, Hepatology, & Nutrition

Collaborating Faculty: Charles Dumoulin; James Heubi, MD
Clinical Translational and Science Award (CTSA) from the NIH for the University of Cincinnati and Cincinnati Children's Hospital Medical Center
Collaboration with Radiology; General & Community Pediatrics

Collaborating Faculty: Tal Laor MD; Heidi Kalkwarf PhD
Bone Mineral Density in Childhood Study Clinical Center

Collaboration with Imaging Reseach Center; Pediatric Neurosurgery

Collaborating Faculty: Kim Cecil, PhD; Todd Maugans, MD

Pediatric Cerebral Concussion: A MRI Analysis

Collaboration with Radiology; Behavioral Medicine & Clinical Psychology

Collaborating Faculty: Alan Brody, MD; Scott powers, PhD, ABPP

HRCT & Growth in Preschoolers Receiving Behavioral TX

Collaboration with Imaging Research Center; Perinatal Institute

Collaborating Faculty: Charles Dumoulin, PhD; Jeffrey Whitsett, MD; James Greenburg, MD

This collaboration seeks to develop a; new generation of MR scanners that will be cited in Neonatal Intensive Care units. The first of these scanners is planned for CCHMC RCNIC.

Collaboration with Imaging Research Center; Pulmonary Medicine

Collaborating Faculty: Charles Dumoulin, PhD; Raouf Amin, MD; Ravy Elliru, MD

This collaboration is to further MR imaging of lung anatomy and physiology.

Collaboration with Imaging Research Center; The Heart Institute

Collaborating Faculty: Charles Dumoulin, PhD; Jeffrey Towbin, MD; Michael Taylor, MD

This collaboration will develop new techniques for diagnosis and therapy of the heart.

Collaboration with Imaging Research Center; Nephrology

Collaborating Faculty: Charles Dumoulin PhD; Yu Li, PhD; Janaka Wansapura, PhD; John Bissler, MD

This collaboration is developing noval ways to treat myoangiolipomas associated with tuberous sclerosis.

Collaboration with Imaging Research Center; Endocrinology

Collaborating Faculty: Charles Dumoulin, PhD; Janaka Wanspura, PhD; Larry Dolan, MD

The result of this joint effort between Endo and IRC was a grant proposal to NIH to develop high intensity ultrasound ablation of visceral fat for the treatment of metabolic syndrome associated with type 2 diabetes.

Collaboration with Imaging Research Center; The Cancer Institute

Collaborating Faculty: Charles Dumoulin, PhD; Mark DiFrancesco, PhD; John Prentesis

This collaboration is to explore technical, clinical and market potential for a proton therapy center for CCHMC and the greater Cincinnati area.

Collaboration with Imaging Research Center; General Pediatrics

Collaborating Faculty: Kim Cecil, PhD; Kim Yolton, MD

Lead Exposure

Collaboration with Imaging Research Center; Developmental Biology

Collaborating Faculty: Diana Lindquist, PhD; Alex Kuan, PhD

RAC GTPasese in the mammalian brain development.

Collaboration with Imaging Research Center; Developmental Biology

Collaborating Faculty: Diana Lindquist, PhD; Alex Kuan, PhD

Therapy for perinatal cerebral hypoxia-ischemia.

Collaboration with Imaging Research Center; Neurology

Collaborating Faculty: Diana Linquist, PhD; Kim Cecil, PhD; Michael Williams, MD

Effect of lead, manganese and stress during development.

Collaboration with Imaging Research Center; Cardiology

Collaborating Faculty: Janaka Wansapura, PhD; William Gottliebson, MD

Advanced cardiac MR imaging.

Collaboration with Imaging Research Center; Heart Institute

Collaborating Faculty: Janaka Wansapura, PhD; Jeffrey Towbin, MD; Woody Benson, MD

Cardiac structure and function in early familial cardiomyopathy.

Collaboration with Image Research Center; Experimental Hematology

Collaborating Faculty: Diana Lindquist, PhD; Nancy Ratner, MD

Neurofibromatosis.

Faculty Members

Lane F. Donnelly, MD, Professor ; *Director and Radiologist-in-Chief*

Todd A. Abruzzo, MD, Assistant Professor

Christopher G. Anton, MD, Assistant Professor ; *Division Co-Chief CT; Associate Director, Radiology Residency Program*

Diane S. Babcock, MD, Professor Emeritus

Williams S. Ball, MD, Professor

Alan S. Brody, MD, Professor ; *Associate Director, Radiology Research*

Maria A. Calvo, MD, Assistant Professor

Marquerite M. Care, MD, Assistant Professor

Kim M. Cecil, PhD, Research Professor

Eric J. Crotty, MD, Assistant Professor ; *Director, Pediatric Radiology Fellowship Program*

Mark DiFrancesco, PhD, Research Assistant Professor ; *Assistant Director, Pediatric Neuroimaging Research Consortium*

Charles L. Dumoulin, PhD, Research Professor ; *IRC Scientific Director, Imaging Research Center*

John C. Egelhoff, DO, Professor ; *Division Co-Chief, CT*

Kathleen H. Emery, MD, Professor ; *Division Co-Chief, MRI; Division Co-Chief. Musculoskeletal Imaging*

Robert J. Fleck, MD, Assistant Professor ; *Division Chief, Cardiac MRI*

Michael J. Gelfand, MD, Professor ; *Division Chief, Nuclear Medicine*

Marilyn J. Goske, MD, Professor ; *Chair, Educational Council*

Carolina Guimaraes, MD, Instructor

Kathy J. Helton-Skally, MD, Assistant Professor

Scott Holland, PhD, Research Professor ; *Director, Pediatric Neuroimaging Research Consortium*

Neil D. Johnson, MD, Professor

Blaise V. Jones, MD, Associate Professor ; *Director of Clinical Services; Division Chief, Neuroradiology; Division Co-Chief, MRI*

Beth M. Kline-Fath, MD, Associate Professor ; *Division Chief, Fetal Imaging*

Bernadette L. Koch, MD, Associate Professor ; *Associate Director, Physician Services and Education*

Steven J. Kraus, MD, Associate Professor ; *Division Chief, Radiolography and Fluoroscopy*

Kamlesh U. Kukreja, MD, Instructor

David Larson, MD, Assistant Professor ; *Chief, Quality Improvement*

Tal Laor, MD, Professor ; *Division Co-Chief Musculoskeletal Imaging*

James L. Leach, MD, Associate Professor

Diana Lindquist, PhD, Research Assistant Professor

Yu Li, PhD, Research Assistant Professor

Michael P. Nasser, MD, Assistant Professor

Alan E. Oestreich, MD, Professor

Sara M. O'Hara, MD, Associate Professor ; *Division Chief, Ultrasound*

Manish N. Patel, MD, Assistant Professor

Daniel J. Podberesky, MD, Assistant Professor ; *Division Chief, Thoraco-Abodminal Imaging*

John M. Racadio, MD, Associate Professor ; *Division Chief, Interventional Radiology*

Eva I. Rubio, MD, Assistant Professor

Susan E. Sharp, MD, Assistant Professor

Janet L. Strife, MD, Professor Emeritus

Vincent J. Schmithorst, PhD, Assistant Professor

Alexander J. Towbin, MD, Assistant Professor ; *Director, Radiology Informatics*

Jennifer Vannest, PhD, Assistant Professor

Janaka Wansapura, PhD, Assistant Professor

Weihong Yuan, PhD, Assistant Professor

Andrew M. Zbojniewicz, MD, Assistant Professor

Clinical Staff Members

- **Hee Kyung Kim, MD**
- **Marcia Komlos, MD**

Trainees

- **Kevin M. Garrett, MD,** PL6, University of Tennessee/Methodist Healthcare

- **Gary V. Halversen, MD,** PL6, Madigan Army Medical Center, Tacoma, WA
- **Joshua Q. Knowlton, MD,** PL6, University of Wisconsin
- **Mariana L. Meyers, MD,** PL6, University Hospitals of Cleveland/Case Western Reserve University
- **Jennifer L. Nicholas, MD,** PL6, Northwestern-McGaw Medical Center, Chicago IL
- **Mantosh S. Rattan, MD,** PL6, Jackson Memorial Hospital, Miami, FL
- **Brenton D. Reading, MD,** PL6, University of Alabama Birmingham
- **Steven A. Ross, MD,** PL6, University of Texas Health Science Center at San Antonio
- **Sukhjinder P. Singh, MD,** PL6, Atlantic Health, Morristown Memorial Hospital, Morristown, NJ

Significant Accomplishments

Imaging research

Our faculty authored or co-authored 94 peer reviewed publications, the largest number ever and a 65 percent increase over last year. Our researchers also received significant funding. Primary investigators in imaging received $9.1 million in new direct and indirect grant funding this year, adding to the $11.6 million in imaging grants and $4.9 million in imaging support of other research projects. Additionally, we have been notified of $9.4 million in grant funding likely to be awarded in the coming fiscal year.

Honors and awards

Our faculty and staff received several honors in the past fiscal year:

2010 Caffey Award for Best Clinical Paper Presentation at Society for Pediatric Radiology Meeting. Tal Laor MD, Eric Wall MD; Andrew M Zbojniewicz MD. Juvenile Osteochondritis Dissecans (JOCD): Is It a Growth Disturbance of the Secondary Physis of the Epiphysis?

2010 Society for Pediatric Radiology Gold Medal - Janet L. Strife MD

2010 Society for Pediatric Radiology President - Neil D. Johnson MD

2010 Magna Cum Laude Award for Electronic Scientifc Exhibit - American Society of Neuroradiology. Leach JL, Guimaraes C, Jones BV. Trainee Misinterpretations on Pediatric Neuroimaging Studies: Classification, Imaging Analysis, and Outcome Assessment.

2010 Magna Cum LaudeAwardfor Scientific Poster- American Society of Neuroradiology.Leach JL, Vagal AV, Mangano F, McPherson C, Lee K, Gelfand M, Rose D, Crone K, Warnick R, Tew JM. Operative Integration of Multimodality Neuroimaging: Practical Applications.

Cum Laude Award, Education Exhibit, Radiological Society of North America. Jimenez M, Shabshin N, Laor T, Jaramillo D. Taking the stress out of evaluating stress fractures in children

2009 Best Scientific Paper Award, Institute for Healthcare Improvement (IHI). Muething SE, Donnelly LF, Goodfriend MA, Anderson JM, Kotagal UR. “A Program to Reduce Serious Safety Events Throughout an Academic Hospital.”

2010 CHCA (Children's Hospital Corporation of America) Race for Results Competition Co-Winner. Muething SE, Donnelly LF, Goodfriend MA, Anderson JM, Kotagal UR."A Program to Reduce Serious Safety Events at an Academic Hospital."

2009 Invited Publication in RadioGraphics, Quality Improvement Storyboard Poster, Radiologic Society of North America. Donnelly LF, Gessner KE, Dickerson JM, Lehkamp TW, Moskovitz JA, Koch BL. Driving Imaging Delivery Performance via a Department Scorecard: Review of a 7-year Experience

Division Publications

1. :

Grants, Contracts, and Industry Agreements

Grant and Contract Awards	Annual Direct / Project Period Direct

Brody, A

Efficacy and Safety of PTC124 as an Oral Treatment for Nonsense-Mutation-Mediated Cystic Fibrosis
PTC Therapeutics, Inc.
PTC124-GD-009-CF | 12/01/09 - 11/30/11 | $8,085 / $34,790

Therapeutic Development Center - TDN Imaging Core
Cystic Fibrosis Foundation
TRAPNE03Y2 | 11/03/03 - 12/31/10 | $66,420 / $389.480

Cecil, K

Bipolar Disorder Imaging & Treatment Research Center
University of Cincinnati (National Institutes of Health)
P50 MH 077138 | 07/01/07 - 06/30/12 | $95,654 / $425,878

Early Lead Exposure, ADHD and Persistent Criminality: Role of Genes and Environment
University of Cincinnati (National Institutes of Health)
R01 ES 015559 | 06/01/07 - 03/31/12 | $123,892 / $736,260

Dumoulin, C.

MR Image Guided Focused Ultrasound for Treatment of Liver and Renal Cancer
Stanford University (National Institutes of Health)
R01 CA 121163 | 04/01/09 - 03/31/11 | $66,667 / $100,000

Cincinnati Center for Clinical Translational Sciences and Training - Imaging Research
University of Cincinnati (National Institutes of Health)
UL1 RR 026314 | 04/03/09 - 03/31/14 | $25,502 / $49,740

Goske, M

Developing a 'Safe Practice' Registry for CT Scans in Children
RSNA Research & Education Foundation
07/01/09 - 06/30/11 | $75,000 / $150,000

CT Radiation Safety in Children: A Model for a National Web-Based Continuous quality Improvement Program
Society for Pediatric Radiology
08/01/08 - 07/31/10 | $40,000 / $40,000

Holland, S

fMRI of Normal Language Development in Children
National Institutes of Health
R01 HD 038578 | 08/01/06 - 06/30/11 | $142,737 / $722,434

fMRI of Language Recovery Following Stroke in Adults
University of Cincinnati (National Institutes of Health)
R01 NS 048281 | 09/30/08 - 07/31/13 | $33,542 / $146,204

Pediatric Functional Neuroimaging Research Network
National Institutes of Health
HHSN275200900018C | 09/28/09 - 09/27/14 | $803,542 / $4,991,807

Kim, H

T2 Relaxation Time Mapping
Society of Pediatric Radiology
01/01/10 - 12/31/10 | $10,000 / $10,000

Laor, T

Use of Thermal and 3D Surface Imaging to Quantify Arthritis
Children's Hospital of Pittsburgh (National Institutes of Health)
R21 AR 056690 | 01/01/10 - 03/31/11 | $3,145 / $3,145

Lindquist, D.

Estimating Intracellular Lithium in Brain in Vivo by 7Li MRS
University of Cincinnati (National Institutes of Health)
R21 MH 08100 | 02/01/09 - 11/30/10 | $49,535 / $104,770

Schmithorst, V

Cortical Reorganization in Children with Unilateral Sensorineural Hearing Loss
National Institutes of Health
K25 DC 008110 | 05/01/06 - 04/30/11 | $129,495 / $618,842

Wansapura, J

Cardiac Structure and Function in Early Familial Cardiomyopathy
National Institutes of Health
K25 HL102244 | 04/15/10 - 03/31/15 | $129,917 / $656,535

Yuan, W

Longitudinal DT Study in Children Tested for Congenital Hydrocephalus
National Institutes of Neurological Disorders & Stroke
R01 NS 066932 | 09/30/09 - 06/30/13 | $299,178 / $1,168,627

Current Year Direct	**$2,102,311**
Total	**$2,102,311**