

# Division of Radiology

DIVISION PROFILE	
Number of Faculty	37
Number of Joint Appointment Faculty	1
Number of Fellows	
Clinical Fellows	7
Research Fellows	2
Number of Graduate Students	5
Number of Other Students (full and part-time)	224
Number of Support Personnel	185
Annual Total Grant Support (direct)	\$1,108,632
Annual Total Industry Contracts (direct)	\$16,147
Number of Peer Reviewed Publications	54
Patient Encounters	
Outpatient	140,315
Inpatient	45,486

## FACULTY LISTING

Lane F. Donnelly, MD, Professor of Clinical Radiology and Pediatrics, Director and Radiologist-in-Chief  
Christopher G. Anton, MD, Assistant Professor of Clinical Radiology  
Diane Babcock, MD, Professor of Clinical Radiology and Pediatrics  
Jeffrey B. Betts, MD, Assistant Professor of Clinical Radiology and Pediatrics  
Alan S. Brody, MD, Professor of Clinical Radiology and Pediatrics, Associate Director, Radiology Research, IRC; Division Lead, Thoracic Imaging  
Maria A. Calvo-Garcia, MD, Instructor  
Marquerite M. Care, MD, Assistant Professor of Clinical Radiology  
Kim M. Cecil, PhD, Research Associate Professor  
Eric J. Crotty, MD, Assistant Professor of Clinical Radiology, Director, Pediatric Radiology Fellowship Program  
Bernard Dardzinski, PhD, Research Associate Professor, Division Chief, IRC and Research Radiology  
John C. Egelhoff, DO, Professor of Clinical Radiology and Pediatrics, Division Co-Chief, CT  
Kathleen H. Emery, MD, Associate Professor of Clinical Radiology and Pediatrics, Division Co-Chief, MRI  
Robert J. Fleck, MD, Assistant Professor of Clinical Radiology, Division Chief, Cardiac MRI  
Michael J. Gelfand, MD, Professor of Radiology and Pediatrics (Tenure), Division Chief, Nuclear Medicine  
Victoria M. Gyls-Morin, MD, Adjunct Associate Professor of Clinical Radiology and Pediatrics  
Mark J. Halsted, MD, Assistant Professor of Clinical Radiology, Division Chief, Informatics Research Core  
Kathy J. Helton, MD, Assistant Professor of Radiology  
Karin L. Hoeg, MD, Assistant Professor of Clinical Radiology  
Scott Holland, PhD, Professor of Radiology  
Neil D. Johnson, MD, Professor of Clinical Radiology and Pediatrics  
Blaise V. Jones, MD, Associate Professor of Clinical Radiology and Pediatrics, Division Co-Chief MRI  
Beth M. Kline-Fath, MD, Assistant Professor of Clinical Radiology, Division Chief, Fetal Imaging  
Bernadette L. Koch, MD, Associate Professor of Clinical Radiology and Pediatrics, Associate Director, Physician Services and Education  
Steven J. Kraus, MD, Associate Professor of Clinical Radiology and Pediatrics, Division Chief, Radiography and Fluoroscopy  
Tal Laor, MD, Associate Professor of Clinical Radiology and Pediatrics, Division Lead, Musculoskeletal Imaging  
Diana Lindquist, PhD, Research Assistant Professor  
David B. Nielsen, MD, Assistant Professor of Clinical Radiology, Division Lead, Abdominal Imaging; Division Co-Chief, CT

Alan E. Oestreich, MD, Professor of Radiology and Pediatrics (Tenure)  
 Sara M. O'Hara, MD, Associate Professor of Clinical Radiology and Pediatrics, Division Chief, Ultrasound  
 Manish N. Patel, MD, Assistant Professor of Radiology  
 John M. Racadio, MD, Associate Professor of Clinical Radiology and Pediatrics, Division Chief,  
 Interventional Radiology  
 John W. Rampton, MD, Assistant Professor of Radiology  
 Janet L. Strife, MD, Professor of Radiology and Pediatrics (Tenure), Assistant Director, Pediatric  
 Radiology Fellowship Program; Frederic N. Silverman Endowed Chair  
 Vincent J. Schmithorst, PhD, Research Assistant Professor  
 Janaka Wansapura, PhD, Research Assistant Professor  
 Weihong Yuan, PhD, Research Assistant Professor  
 Junmel Zhong, PhD, Research Assistant Professor

## FACULTY JOINT APPOINTMENT LISTING

William S. Ball, MD, Professor of Radiology, Pediatrics and Biomedical Engineering (Tenure), Director of  
 Biomedical Engineering; Consultant, Imaging Research Center

## OVERVIEW



*Left to Right: (1<sup>st</sup> row) M. Gelfand, C. Anton, B. Jones, J. Racadio. L. Donnelly, M. Patel, K. Hoeg, H. Baskin, K. Helton (2<sup>nd</sup> row) T. Laor, C. Guimaraes, J. Betts, N. Johnson, D. Nielsen, C. Merrow, S. O'Hara, R. Fleck, M. Calvo, B. Kline-Fath, H. Kyung Kim (3<sup>rd</sup> row) A. Brody, M. Halsted, M. Nasser, S. Sharp, J. Rampton*

The over-riding goal of the Department of Radiology at Cincinnati Children's Hospital Medical Center is to be a national leader in pediatric imaging as it pertains to clinical services, research, and education. Last year, the Department of Radiology performed and interpreted over 185,000 clinical imaging examinations making it one of the largest pediatric imaging departments in North America. The department has thirty-two clinical radiologists and 7 research PhD scientists, again making it one of the largest pediatric imaging departments. It is one of the few departments nationally that provides highly subspecialized expertise within the different imaging modalities and organ systems within pediatric imaging. The department had a large number of publications over the past year. Concerning education, last year the Department of Radiology trained 8 fellows in pediatric radiology (There were approximately 30 nationally). The department has also been recognized nationally as a leader in improving work-flow by utilizing in-house created programs such as RadStream and MedTracer.

## HIGHLIGHTS

The department was ranked 5th of Top Departments of Radiology by Medical Imaging Magazine and was the only pediatric radiology department within the Top 10 rankings. In addition, 5 individuals in the department were recognized in various categories. Researchers, Drs. Scott Holland and Vince Schmithorst, received the Editors Choice Award from Neuroimage for the most significant publication of the year.

## TRAINING

Jane C. Cook, DO	PL6	Michigan State University
Cesar P. Cube, MD	PL6	Howard University School of Medicine
Mark DiFrancesco, PhD		University of Pittsburgh
Mahmoud M. Elkaissi, MD	PL6	Kaunas Medical University, Lithuania
Prasanna Karunanayaka, PhD		University of Cincinnati
Leann E. Linam, MD	PL6	University of Tennessee College of Medicine
Michael Nasser, MD	PL6	Medical College of Virginia
Linda E. Thomas, MD	PL6	University of Cincinnati College of Medicine
Arabinda Kumar Choudhary, MD	PL7	Calcutta Medical College, India
Anil G. Rao, MD	PL7	Government Medical College, India

## GRANTS, CONTRACTS AND INDUSTRY AGREEMENTS

Grant and Contract Awards	Annual Direct/Project Period	Direct
<b>Ball, W</b>		
Pediatric Study Centers for a MRI Study of Normal Brain Development		
National Institutes of Health		
N01 NS 092316	09/30/99 – 08/31/07	\$110,938/\$704,723
Training Grant in Pediatric Neuroimaging		
National Institutes of Health		
T32 EB 001656	09/20/03 – 06/30/08	\$101,732/\$330,392
Silent Cerebral Infarct Multi-Center Clinical Trial		
National Institutes of Health (Washington University subcontract)		
U01 NS 042804	09/30/03 – 06/30/10	\$ 20,800/\$145,600
<b>Brody, A</b>		
Therapeutics Development Center - TDN Imaging Core		
Cystic Fibrosis Foundation Therapeutics, Inc.		
	11/01/03 – 10/31/06	\$68,686/\$219,749
<b>Cecil, K</b>		
Study of Prevalent Neurotoxicants in Children – Project 5		
National Institutes of Health/Environmental Protection Agency		
P01 ES 11261	11/01/01 – 10/31/06	\$103,996/\$496,806
Neurobehavioral Effect of Low Level Manganese Exposure		
National Institutes of Health (University of Cincinnati subcontract)		
R21 ES 013524	01/01/05 – 12/31/06	\$75,549/\$148,192
<b>Dardzinski, B</b>		
NIAMS Multidisciplinary Clinical Research Center – Project 3		
National Institutes of Health		
P60 AR 47784	09/01/01 – 06/30/06	\$123,558/\$646,008

Holland, S		
fMRI, Genes and Outcome for Cochlear Implants in Infants		
National Institutes of Health		
R01 DC 007186	12/01/04-11/30/09	\$356,136/\$1,698,642
fMRI, Genes and Outcome for Cochlear Implants in Infants - supplement		
National Institutes of Health		
R01 DC 007186	05/01/06-09/01/07	\$5,800/\$1,698,642
Schmithorst, V		
fMRI of Neural Development in Speech Recognition		
National Institutes of Health (University of Cincinnati subcontract)		
R03 DC 006771	09/01/05-08/31/08	\$21,382/\$66,635
Cortical Reorganization in Children with Unilateral Sensorineural Hearing Loss		
National Institutes of Health		
K25 DC 008110	05/01/06-04/30/11	\$120,055/\$618,842
Current Year Direct		\$1,108,632
Industry Contracts		
Gelfand, M		
BristolMyersSquibb		\$16,147
Current Year Direct Receipts		\$16,147
<b>TOTAL</b>		<b>\$1,124,779</b>

## PUBLICATIONS

1. Babcock DS. Thyroid disease in the pediatric patient: emphasizing imaging with sonography. *Pediatr Radiol* 2006;1-10.
2. Ball WS, Egelhoff JC, Cecil KM, Jones BV. Toxic and metabolic disorders. In: Edelman RR, editor. *Clinical magnetic resonance imaging 3rd ed*. Philadelphia: Saunders Elsevier; 2006. p. 1656-1704.
3. Madden C, Wiley S, Schleiss M, Benton C, Meitzen-Derr J, Greinwald J, Choo D. Audiometric, clinical and educational outcomes in a pediatric symptomatic congenital cytomegalovirus (CMV) population with sensorineural hearing loss. *Int J Pediatr Otorhinolaryngol* 2005;69(9):1191-8.
4. Brody AS, Kosorok MR, Li Z, Broderick LS, Foster JL, Laxova A, Bandla H, Farrell PM. Reproducibility of a scoring system for computed tomography scanning in cystic fibrosis. *J Thorac Imaging* 2006;21(1):14-21.
5. Brody AS, Tiddens HA, Castile RG, Coxson HO, de Jong PA, Goldin J, Huda W, Long FR, McNitt-Gray M, Rock M, Robinson TE, Sagel SD. Computed tomography in the evaluation of cystic fibrosis lung disease. *Am J Respir Crit Care Med* 2005;172(10):1246-52.
6. Brody AS, Sucharew H, Campbell JD, Millard SP, Molina PL, Klein JS, Quan J. Computed tomography correlates with pulmonary exacerbations in children with cystic fibrosis. *Am J Respir Crit Care Med* 2005;172(9):1128-32.
7. Franz DN, Leonard J, Tudor C, Chuck G, Care M, Sethuraman G, Dinopoulos A, Thomas G, Crone KR. Rapamycin causes regression of astrocytomas in tuberous sclerosis complex. *Ann Neurol* 2006;59(3):490-8.
8. Zimmerman S, Makoroff K, Care M, Thomas A, Shapiro R. Utility of follow-up skeletal surveys in suspected child physical abuse evaluations. *Child Abuse Negl* 2005;29(10):1075-83.
9. DeBello MP, Cecil KM, Adler CM, Daniels JP, Strakowski SM. Neurochemical effects of olanzapine in first-hospitalization manic adolescents: a proton magnetic resonance spectroscopy study. *Neuropsychopharmacology* 2006;31(6):1264-73.

10. Cecil KM. MR spectroscopy of metabolic disorders. *Neuroimaging Clin N Am* 2006;16(1):87-116, viii.
11. Newmeyer A, Cecil KM, Schapiro M, Clark JF, Degrauw TJ. Incidence of brain creatine transporter deficiency in males with developmental delay referred for brain magnetic resonance imaging. *J Dev Behav Pediatr* 2005;26(4):276-82.
12. Dinopoulos A, Cecil KM, Schapiro MB, Papadimitriou A, Hadjigeorgiou GM, Wong B, deGrauw T, Egelhoff JC. Brain MRI and proton MRS findings in infants and children with respiratory chain defects. *Neuropediatrics* 2005;36(5):290-301.
13. Makoroff KL, Cecil KM, Care M, Ball WS, Jr. Elevated lactate as an early marker of brain injury in inflicted traumatic brain injury. *Pediatr Radiol* 2005;35(7):668-76.
14. Hirsch R, Gottliebson W, Crotty E, Fleck R, Strife J. Computed tomography angiography with three-dimensional reconstruction for pulmonary venous definition in high-risk infants with congenital heart disease. *Congenit Heart Dis* 2006;1:104-110.
15. Peterfy CG, Gold G, Eckstein F, Cicuttini F, Dardzinski B, Stevens R. MRI protocols for whole-organ assessment of the knee in osteoarthritis. *Osteoarthritis Cartilage* 2006;14 Suppl 1:95-111.
16. Gold GE, Burstein D, Dardzinski B, Lang P, Boada F, Mosher T. MRI of articular cartilage in OA: novel pulse sequences and compositional/functional markers. *Osteoarthritis Cartilage* 2006;14 Suppl 1:76-86.
17. Workie DW, Dardzinski BJ. Quantifying dynamic contrast-enhanced MRI of the knee in children with juvenile rheumatoid arthritis using an arterial input function (AIF) extracted from popliteal artery enhancement, and the effect of the choice of the AIF on the kinetic parameters. *Magn Reson Med* 2005;54(3):560-8.
18. Donnelly LF. Obstructive sleep apnea in pediatric patients: evaluation with cine MR sleep studies. *Radiology* 2005;236(3):768-78.
19. Donnelly LF. Imaging evaluation of chest trauma. In: Society for Pediatric Radiology and European Society of Paediatric Radiology postgraduate course syllabus. Reston, VA: Society for Pediatric Radiology; 2006. p. 45-48.
20. Fricke BL, Donnelly LF, Shott SR, Kalra M, Poe SA, Chini BA, Amin RS. Comparison of lingual tonsil size as depicted on MR imaging between children with obstructive sleep apnea despite previous tonsillectomy and adenoidectomy and normal controls. *Pediatr Radiol* 2006;36(6):518-523.
21. Donnelly LF, Strife JL. Establishing a program to promote professionalism and effective communication in radiology. *Radiology* 2006;238(3):773-9.
22. Donnelly LF, Jones BV, O'Hara SM, Anton CG, Benton C, Westra S, Kraus SJ, Strife JL, Koch BL, Hoeg KL, Crotty EJ, Fortuna RB. Diagnostic imaging: pediatrics. Salt Lake City: Amirsys; 2005.
23. Gelfand MJ. Q&A: perspective on pediatric nuclear medicine. *J Nucl Med* 2006;47(4):22N-23N.
24. Gelfand MJ, O'Hara S M, Curtwright LA, MacLean JR. Pre-medication to block [(18)F]FDG uptake in the brown adipose tissue of pediatric and adolescent patients. *Pediatr Radiol* 2005;35(10):984-90.
25. Halsted MJ. Healthcare providers as IT developers - fixing workflow and patient safety problem. *Int Hosp Equip Solut* [online]. 2006;Feb-March. Available: <http://www.ihe-online.com/article.asp?artner=1137136>.
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28. Szaflarski JP, Holland SK, Schmithorst VJ, Byars AW. fMRI study of language lateralization in children and adults. *Hum Brain Mapp* 2006;27(3):202-12.
29. Adler CM, Adams J, DeBello MP, Holland SK, Schmithorst V, Levine A, Jarvis K, Strakowski SM. Evidence of white matter pathology in bipolar disorder adolescents experiencing their first episode of mania: a diffusion tensor imaging study. *Am J Psychiatry* 2006;163(2):322-4.

30. Strakowski SM, Adler CM, Holland SK, Mills NP, DelBello MP, Eliassen JC. Abnormal fMRI brain activation in euthymic bipolar disorder patients during a counting Stroop interference task. *Am J Psychiatry* 2005;162(9):1697-705.
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32. Dent CL, Spaeth JP, Jones BV, Schwartz SM, Glauser TA, Hallinan B, Pearl JM, Khoury PR, Kurth CD. Brain magnetic resonance imaging abnormalities after the Norwood procedure using regional cerebral perfusion. *J Thorac Cardiovasc Surg* 2005;130(6):1523-30.
33. Dent CL, Spaeth JP, Jones BV, Schwartz SM, Glauser TA, Hallinan B, Pearl JM, Khoury PR, Kurth CD. Brain magnetic resonance imaging abnormalities after the Norwood procedure using regional cerebral perfusion. *J Thorac Cardiovasc Surg* 2006;131(1):190-7.
34. Koch BL. The child with a neck mass. *Appl Radiol* 2005;34(8):8-22.
35. Laor T, Wall EJ, Vu LP. Physeal widening in the knee due to stress injury in child athletes. *AJR Am J Roentgenol* 2006;186(5):1260-4.
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38. Kahn JA, Degen SJ, Mansour ME, Goodman E, Zeller MH, Laor T, Lanphear NE, Boat TF. Pediatric faculty members' attitudes about part-time faculty positions and policies to support part-time faculty: a study at one medical center. *Acad Med* 2005;80(10):931-9.
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40. Oestreich AE. Pediatric radiology. *Year Book Diagn Radiol* 2005:133-201.
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42. Williams JM, Racadio JM, Johnson ND, Donnelly LF, Bissler JJ. Embolization of renal angiomyolipomata in patients with tuberous sclerosis complex. *Am J Kidney Dis* 2006;47(1):95-102.
43. Racadio JM, Fricke BL, Jones BV, Donnelly LF. Three-dimensional rotational angiography of neurovascular lesions in pediatric patients. *AJR Am J Roentgenol* 2006;186(1):75-84.
44. Vo NJ, Racadio JM, Inge TH. Sharp recanalization of an esophageal occlusion after repair of esophageal atresia and tracheoesophageal stricture. *J Vasc Interv Radiol* 2005;16(10):1401-5.
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46. Plante E, Schmithorst VJ, Holland SK, Byars AW. Sex differences in the activation of language cortex during childhood. *Neuropsychologia* 2006;44(7):1210-21.
47. Chiu CY, Schmithorst VJ, Brown RD, Holland SK, Dunn S. Making memories: a cross-sectional investigation of episodic memory encoding in childhood using fMRI. *Dev Neuropsychol* 2006;29(2):321-40.
48. Yuan W, Szaflarski JP, Schmithorst VJ, Schapiro M, Byars AW, Strawsburg RH, Holland SK. fMRI shows atypical language lateralization in pediatric epilepsy patients. *Epilepsia* 2006;47(3):593-600.
49. Schmithorst VJ, Holland SK, Plante E. Cognitive modules utilized for narrative comprehension in children: a functional magnetic resonance imaging study. *Neuroimage* 2006;29(1):254-66.

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51. Jacola LM, Schapiro MB, Schmithorst VJ, Byars AW, Strawsburg RH, Szaflarski JP, Plante E, Holland SK. Functional magnetic resonance imaging reveals atypical language organization in children following perinatal left middle cerebral artery stroke. *Neuropediatrics* 2006;37(1):46-52.
52. Schmithorst VJ, Wilke M, Dardzinski BJ, Holland SK. Cognitive functions correlate with white matter architecture in a normal pediatric population: a diffusion tensor MRI study. *Hum Brain Mapp* 2005;26(2):139-47.
53. Strife JL, Decanio RE, Donnelly LF, Johnson ND. The frequency of radiology reporting of childhood obesity. *AJR Am J Roentgenol* 2006;186(3):833-6.
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