
XVII. Personnel Currently Supervised
Joe Hylton, RT, Research MRI Operations Manager
Joanne Gersbach, RN, Study Coordinator
Linda Belcher, RT, MRI Research Technologist and Study Coordinator
Catherine Thompson, Grants and Contracts Administrator
Harrison Brookeman, Laboratory Assistant

XIX. Papers Published
A. Peer Reviewed


73. Qing K*, Mugler JP, Altes TA, Jiang Y, Mata JF, Miller GW, Ruset IC, Hersman FW, Ruppert K, Assessment of Lung Function in Asthma and COPD using Hyperpolarized 129Xe Chemical Shift
Saturation Recovery Spectroscopy and Dissolved-Phase MR Imaging, NMR Biomed. 2014 Dec;27(12):1490-501


B. Books and/or Chapters

2) Altes TA, Brody A. The role of imaging in asthma, In Childhood Asthma: Breaking Down Barriers, Szefler SJ, Editor, 2006


E. Abstracts Presented (Selected)
1) Altes TA, Capetanakis J. Multiple access algorithms for survivable networks. IEEE Eason, June 1988


20) **Altes TA**, Rehm P, Brookeman JR, Truwit JD, de Lange EE. Ventilation imaging of the lung: Comparison of hyperpolarized Helium-3 MR and Xenon-133 scintigraphy. Radiological Society of North America, Chicago, IL, 2001, **Received RSNA Trainee Research Award**.


51) Fain S, Peterson E, Altes TA, Kulman J, Mugler III JP, de Lange EE, A Comparison Study of Sites of Ventilation Defect on Hyperpolarized Helium-3 MRI and Regional Airway Measures on Multi-detector CT, RSNA 2006


61) Chang Y; Mata J; Cai J; **Altes T**; Brookeman J; Hagspiel K; Mugler, JP., III; Ruppert K. Detection of a New Pulmonary Gas-Exchange Component for Hyperpolarized Xenon-129. ISMRM, Toronto Canada, 2008.


66) Stortz K, Goode A, Williams M, Lippert A, Raytay D, McIlhenny J, **Altes TA**. CT Utilization in Pediatric Trauma Alert Patients, SPR 2010

67) Stay R, **Altes TA**, Mugler III JP, de Lange EE. The Use of a Magnetization Prepared Gradient Echo (MPGRE) Sequence in the Diagnosis of Acute Pancreatitis, SGR 2010
Talissa Altes, MD

68) Mugler III, JP.; Altes, TA.; Ruset, IC.; Dregely, IM.; Mata, JF.; Miller, GW; Ketel, S; Ketel, J; 
Hersman, FW; Ruppert, K. Simultaneous Imaging of Ventilation Distribution and Gas Exchange in the 
Human Lung Using Hyperpolarized Xe129 MRI, ISMRM 2010

69) Bunch PM*, Gaskin CM, Patrie J, McIlhenny J, Altes TA. Performance and experience of seasoned 
readers when interpreting and reporting bone age studies with software versus manual method of 

70) Bunch PM*, Gaskin CM, Patrie J, McIlhenny J, Altes TA. Performance and experience of seasoned 
readers when interpreting and reporting bone age studies with software versus manual method of 
Greulich and Pyle, Oral presentation at the 115th Annual Meeting of the ARRS, to be held April 19-24, 
2015 at the Metro Toronto Convention Centre, Toronto, Canada.

F. Abstracts Posters (Selected)

Mugler J.P. III, Brookeman J.R. Hyperpolarized He³ MR lung ventilation imaging in asthmatics. 

lung ventilation in Cystic Fibrosis with Hyperpolarized Helium ³ Magnetic Resonance (MR), American 

Hyperpolarized Helium ³ MR imaging of lung ventilation changes following airway mucus clearance 
treatment in cystic fibrosis. ISMRM, 2002.

Automated scoring of Hyperpolarized Helium ³ MR lung ventilation images: Initial development and 
validation. ISMRM, 2002.


retention of Tc-99M macroaggregated albumin (MAA), unfiltered Tc-99m sulfur colloid (Sc) and Tc- 
99m pertechnetate (TCO4) in lung after transthoracic injection. Society of Nuclear Medicine, 2003.

related lung disease with diffusion weighted Hyperpolarized Helium³ MR lung imaging. National COPD 


generating oxygen maps with He³ MRI. ISMRM, 2004.

Wang J., Cates G., Mugler J.P. III. ¹²⁹Xe lung imaging with a single-shot circular RARE sequence. 


22. Shanbhag DD, Miller GW, Altes TA, Mata JF, Knight-Scott J, Q-space Analysis of Lung Morphometry in vivo with Hyperpolarized 3He spectroscopy, ISMRM 2006


47. Chang Y; Mata J; Bozlar U, Altes T; Brookeman J; Hagspiel K; Mugler JP.; III; Ruppert K. Detecting Simulated Pulmonary Embolism in a Rabbit Model with Hyperpolarized Xenon-129 Uptake Spectroscopy. ISMRM, Toronto, Canada, 2008.


59. Mata, JF.; Altes, TA.; Springmeyer, S; Truwit, J; de Lange, EE.; Sylvester, P; Mugler III, JP. Detection and Characterization of Physiologic Lung Changes After Placement of Bronchial Valves: A Case Study. ISMRM 2010

60. Chang, Y; Mata, JF.; Altes, TA.; Mugler III, JP.; Ruppert, K. Evaluation of Global Surface-To-Volume Ratio of Rabbit Lung Using Hyperpolarized \(^{129}\)Xe Uptake Spectroscopy at 1.5T, ISMRM 2010

61. First Results from Clinical Sittings of a High Production Prototype Xenon Polarizer. Hersman, FW; Ketel, J; Ruset, IC.; Ketel, S; Dregely, IM.; Porter, W; Watt, DW.; Mugler III, JP.; Altes, TA.; Ruppert, K; Mata, JF.; Patz, S; Hatabu, H; Hrovat, ML.; Muradyan, I; Dabaghyan, M; Miller, GW; Wang, C; Butler, JP.; Distelbrink, JH. ISMRM 2010

62. Tustison, NJ; Altes, TA.; Song, G; de Lange, EE.; Mugler III, JP.; Gee, JC. Hyperpolarized \(^3\)He Image Feature Analysis in Asthmatics. ISMRM 2010

63. Ruppert, K; Mata, JF.; Dregely, IM.; Altes, TA.; Miller, GW; Ketel, S; Ketel, Jeff; R, Iulian C.; Hersman, FW; Mugler III, JP. Hyperpolarized Xenon-129 Dissolved-Phase Signal Dependence on Flip Angle and TR. ISMRM 2010

64. Ruppert, K; Mata, JF.; Dregely, IM.; Altes, TA.; Miller, GW; Ketel, S; Ketel, J; Ruset, IC.; Hersman, FW; Mugler III, JP. Hyperpolarized Xenon-129 Dissolved-Phase Signal Dependence on the Echo Time, ISMRM 2010

65. Altes, TA.; Mugler III, JP.; Dregely, IM.; Ketel, S; Ruset, IC.; de Lange, EE.; Hersman, FW; Ruppert, K. Hyperpolarized Xenon-129 Ventilation MRI: Preliminary Results in Normal Subjects and Patients with Lung Disease, ISMRM 2010
66. Wang, C; Altes, TA.; Mugler III, JP.; de Lange, EE.; Ruppert, K; Hersman, FW; Dregely, IM.; Ruset, IC.; Ketel, S; Verbanck, S. Long-Time-Scale Hyperpolarized 3He and 129Xe Diffusion in Human Lungs: Experimental Measurements and Computer Simulation, ISMRM 2010

67. Dregely, IM.; Ruppert, K; Mata, JF.; Altes, TA.; Ketel, J; Ruset, IC.; Ketel, S; Miller, GW; Mugler III, JP.; Hersman, FW. Lung Microstructure Changes in a Rabbit After Elastase Instillation as Detected with Multiple Exchange Time XTC (MXTC), ISMRM 2010

68. Wang, C; Mugler III, JP.; de Lange, EE.; Ruppert, K; Hersman, FW; Dregely, IM.; Ruset, IC.; Ketel, S; Altes, TA. Measurement of the Diffusion of Hyperpolarized 129Xe in Human Lungs Over Short and Long Time Scales During One Breath Hold, ISMRM 2010

69. Miller, GW; Mugler III, JP.; Altes, TA.; Dregely, IM.; Ruset, IC.; Ketel, S; Ketel, J; Hersman, FW; Ruppert, K. Motion-Corrected PO2 Mapping in Human Lungs Using Hyperpolarized Xe-129 MRI, ISMRM 2010

70. Mata, JF.; Ruppert, K; Dregely, IM.; Altes, TA.; Miller, GW; Sylvester, P; Ketel, S; Ketel, J; Ruset, IC.; Hersman, FW; Hagspiel, KD.; Brookeman, J; Mugler III, J P. Quantification and Temporal Study of Physiologic Lung Changes in Animal Models of Lung Disease Using 2D and 3D-CSI with Xe-129. ISMRM 2010

71. Wang, C; Altes, TA.; Mugler III, JP.; de Lange, EE.; Sterriger, RM.; Shim, YM. Relationship Between Lung Function and Lung Structure in Smokers as Measured by Hyperpolarized Helium-3 MRI, ISMRM 2010

72. Tustison, NJ; Altes, TA.; Miller, GW; de Lange, EE.; Mugler III, JP.; Gee, JC. Retrospective Bias Correction of Hyperpolarized 3He MRI of the Lung, ISMRM 2010

73. Dregely, IM.; Ruset, IC.; Ketel, J; Ketel, S; Mata, JF.; Altes, TA.; Miller, GW; Mugler III, JP.; Hersman, FW; Ruppert, K. The Structural Response of the Compliant Lung to Different Ventilation Volumes Assessed by Multiple Exchange Time Xenon Transfer Contrast, ISMRM 2010

XXI. Intellectual Property

XXII. Invited Lectures


39. “Radiographic Considerations in the Management of the Pediatric Trauma Patient” in conjunction with McGahren E, Adams J, Grand Rounds, Department of Surgery, University of Virginia, June 2, 2010.


41. “Pediatric Pulmonary MRI” Society of Pediatric Radiology (SPR), Post Graduate Course, San Francisco, CA, April 16, 2012.


43. “Pediatric Lung MRI” Visiting Professor, Texas Children’s Hospital, June 18, 2012.


49. “Navigating the UVa IRB”, with Susan Hoffman, UVa Department of Radiology Professional Development Lecture Series, March 27, 2013.


52. “Imaging in Clinical Trials”, Clinical Research Coordinators (CRCs) UVa Cancer Center LunchNLearn Seminar, May 7, 2013


54. “MRI: What We See and How it is used in Clinical Research”, Clinical Research Coordinators (CRCs) UVa Cancer Center LunchNLearn Seminar, July 23, 2013


64. “Radiology from Head to Toe”, Intern Readiness Course for Rising Pediatric Interns, Department of Pediatrics, University of Virginia, March 26, 2015