

- 30) **Altes TA** (Principle Investigator). Hyperpolarized Helium-3 Lung MRI: Development of Ultra Fast Imaging Techniques for Young Children, Vertex Pharmaceuticals, Inc. 2011-2012
- 31) Miller GW (Principal Investigator). Co-investigator: **Altes TA**. 3D lung MRI using ultrashort-echo-time pulse sequences, 2013-2014

XVII. Personnel Currently Supervised

Joe Hylton, RT, Research MRI Operations Manager

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XIX. Papers Published

A. Peer Reviewed

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B. Books and/or Chapters

- 1) de Lange EE, **Altes TA**. Asthma: Assessing the lung ventilation with hyperpolarized helium-3 MR imaging. In: Functional Lung Imaging, Lipson DA, Van Beek EJR, Ed. Marcel Dekker, Inc., New York, NY, 2005.
- 2) **Altes TA**, Brody A. The role of imaging in asthma, In Childhood Asthma: Breaking Down Barriers, Szeffler SJ, Editor, 2006
- 3) Levin D, **Altes TA**, Functional MRI, New Techniques in Cardiovascular Imaging, Second Edition, Boiselle/White, 2008
- 4) Komlosi P, Benjamin J, **Altes TA**, Hyperpolarized Gas MRI in Pediatric Lung Disease, Pediatric Chest Imaging, 3rd edition, edited by Garcia-Peña P and Guillerman RP, 2014

E. Abstracts Presented (Selected)

- 1) **Altes TA**, Capetanakis J. Multiple access algorithms for survivable networks. *IEEE Eason*, June 1988

- 2) Huffman S, **Altes T**, Chahine K. Issues for proliferated survivable network design. IEEE, Milcom, October 1988.
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- 12) **Altes TA**, Rakes, G, Knight-Scott J, Powers P, Mugler JP, Christopher JM, Tustison N, de Lange EE, Mata JF, Alford BA, Brookeman JR. Hyperpolarized helium-3 MR lung ventilation imaging in asthmatics: Preliminary results. Hyperpolarized Gases in Magnetic Resonance: Biomedical Investigations and Clinical Applications – International Workshop, 1999.
- 13) **Altes TA**, Cloft HJ, Short JG, DeGast A, Do HM, Helm GA, Kallmes DF. Saccular aneurysm creation in the rabbit: A model suitable for testing endovascular devices. American Roentgen Ray Society, 1999. [**Received Executive Council Award II**]

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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.; Strieter, 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

Mugler J.P. III, Brookeman J.R., Mata J.F., **Altes T.A.** System and Method for Improved Detection and Assessment of Changes in Lung-Tissue Structure. Patent Pending, 2004.

XXII. Invited Lectures

1. “Hyperpolarized Helium-3 MR Imaging in Pediatric Lung Disease”, First International Workshop on Pulmonary Functional Imaging, Philadelphia, PA, June 2002.
2. “Introduction to Research”, Panel Discussion Member, Radiological Society of North America (RSNA), Chicago, IL Nov 2002.
3. “Pulmonary MR Imaging”, Section for Magnetic Resonance Technologists: Central Virginia Regional Educational Seminar, Charlottesville, VA, April 5, 2003.

4. “MR Imaging of the Lung and Lung Function”, ISMRM Short Course: Magnetic Resonance and Its Application in Drug Discovery & Development, Lehigh, PA, July 21-22, 2003.
5. “Radiation Safety in the Pediatric Population”, University of Virginia Pediatric Cardiology Conference, Charlottesville, VA, March 2004.
6. “Complimentary Role of MR in Lung Imaging”, University of Iowa, Iowa City, Iowa, March 23, 2004.
7. “Hyperpolarized noble gas MR Imaging for COPD and Airways Diseases”, Second International Workshop on Pulmonary Functional Imaging, Kobe, Japan, May 22, 2004.
8. “Hyperpolarized ³He Imaging of Asthma”, American Thoracic Society, Orlando, Florida, May 26, 2004.
9. “Hyperpolarized Helium-3 MR in Pediatric Lung Disease”, Workshop on Functional Pulmonary Imaging, Philadelphia, PA, Nov. 13, 2004.
10. “Hyperpolarized Gas MR Imaging of the Lung: Elucidation of Structure and Function”, American Thoracic Society, San Diego, California, May 25, 2005.
11. “Hyperpolarized Helium MR of Children: Feasibility and Safety”, Annual Sickle Cell Disease Clinical Research Meeting, NIH, Bethesda, MD, Sept. 2, 2005.
12. “Hyperpolarized Gas MRI”, Cystic Fibrosis Foundation Workshop: Imaging Endpoints for Cystic Fibrosis Clinical Trials, Washington, DC, Sept. 7, 2005.
13. “New Technologies for Pulmonary Imaging in Children”, Radiological Society of North America (RSNA) Refresher Course, Chicago, IL, Nov. 2005.
14. “Hyperpolarized Gas MRI: Emerging Clinical Applications”, Visiting Professor, St. Joseph’s Hospital, Hamilton, Ontario, Canada, April 11, 2006.
15. “Respiratory Imaging and Other Biomarkers”, National Respiratory Experts Forum, Sponsored by Merck, Chicago, IL, June 16, 2006.
16. “Functional MR Imaging”, Keynote Speaker, The 1st Annual London Imaging Discovery, A forum on Morphological, Functional and Molecular Imaging, London, Ontario, Canada, June 17, 2006.
17. “New Technologies for Pulmonary Imaging in Children”, Radiological Society of North America Refresher Course, Chicago, IL, Nov. 2006.
18. “New Technologies for Pulmonary Imaging”, Pediatric Pulmonary Research Conference, Children’s Hospital of Philadelphia, Philadelphia, PA, Dec 7, 2006
19. “The Results Are In: Radiologists Review Panel”, ISMRM Workshop on Non-Cartesian MRI: Sampling Outside the Box, Sedona, Arizona, Feb 27, 2007
20. “Dwarfs for Dummies”, “Intussusception”, and “Classic Differential Diagnoses in Pediatric Radiology” Visiting Professor, The Western Pennsylvania Hospital, Pittsburg PA, March 12, 2007

21. “New Techniques for Lung Imaging: Hyperpolarized Xenon”, Visiting Professor, California Institute of Technology, March 15, 2007
22. “The Emerging Role of MRI in Pediatric Lung Disease”, ISMRM Educational Course in Pediatric MR Imaging, Berlin, Germany, May 2007.
23. “Diffusion Hyperpolarized Helium-3 MRI in Pediatric Lung Disease”, ISMRM Hyperpolarized Gas Study Group, Berlin, Germany, May 2007.
24. “Hyperpolarized Imaging in Humans: Overview, Rationale & Clinical Directions”, Categorical Course, ISMRM, Toronto, Canada, May 2008.
25. “Emerging Clinical Applications of Hyperpolarized Gas MRI”, Invited lecture, Advanced Course of Magnetic Resonance Lung Imaging using Hyperpolarized Gases, Sponsored by Phelinet, Madrid, Spain, May 2008.
26. “Statistics for Dummies”, “Hyperpolarized Gas MRI of Pediatric Lung Diseases”, “Introduction to Endnote”, “Introduction to Excel”, “Fractures of the Pediatric Ankle and Elbow”, “Systemic Bone Diseases in Children” Visiting Professor, The Children’s Hospital of Philadelphia, Philadelphia, PA, August 27-29, 2008.
27. “Diseases of the Pediatric Airway”, “Differential Diagnoses in Pediatric Chest Radiology”, “Uncommon Diseases of the Pediatric Chest”, “Research in Pulmonary Imaging” Faculty, Austrian American Medical Institute Salzburg Medical Seminars, CHOP Seminar Pediatric Radiology/Clinical Correlation, September 14-20, 2008.
28. “MRI as a Potential Biomarker for CF lung Disease”, North American Cystic Fibrosis Foundation Annual Meeting, Orlando, Florida, October 24, 2008.
29. “Functional Lung Imaging: What Does it Offer?”, Radiological Society of North America Refresher Course, Chicago, IL, Dec. 2008.
30. Moderator: Body MRI Sunrise Course, International Society of Magnetic Resonance in Medicine (ISMRM), Tuesday-Friday, Honolulu, Hawaii, April 21-24, 2009.
31. “New Imaging Techniques in Pediatric Radiology”, Annual Birdsong Conference UVA Department of Pediatrics, Homestead Resort, Hot Springs, VA, April 26, 2009.
32. “Image Gently: Reducing Radiation Exposure in Pediatric Radiology”, Keats Society Home Coming Weekend, UVA, Charlottesville, VA, May 9, 2009.
33. “Emerging Clinical Applications of Hyperpolarized Gas MRI”, 40th Annual Meeting of the Division of Atomic, Molecular, and Optical Physics of the American Physical Society, Charlottesville, VA, May 19, 2009.
34. “Uncommon Diseases of the Pediatric Chest”, “Emerging Clinical Applications of Hyperpolarized Gas MRI”, “Cases in Pediatric Radiology”, Visiting Professor and Keynote Speaker for the Radiology Research Day, University of North Carolina, VA, May 21, 22, 2009.

35. “Imaging Gently – Limiting Radiation Exposure in Diagnostic Imaging of Children” Grand Rounds, Department of Radiology, University of Virginia, July 28, 2009.
36. “Imaging Gently – Limiting Radiation Exposure in Diagnostic Imaging of Children” Grand Rounds, Department of Pediatrics, University of Virginia, Oct 8, 2009.
37. “Hyperpolarized Gas MRI in Cystic Fibrosis: The UVA Experience”, Symposium on Hyperpolarized Gas MRI, Vertex Pharmaceuticals, Cambridge, MA, April 26, 2010.
38. Moderator: Body MRI Sunrise Course, International Society of Magnetic Resonance in Medicine (ISMRM), Friday, Stockholm, Sweden, May 7, 2010.
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
40. “Pediatric Uroradiology: What’s New” Urology Day at UVA, University of Virginia, Oct 28, 2011
41. “Pediatric Pulmonary MRI” Society of Pediatric Radiology (SPR), Post Graduate Course, San Francisco, CA, April 16, 2012.
42. “Developing Hyperpolarized Gas MRI Biomarkers for Drug Therapy Trials”, Hyperpolarized Gas MRI Breakout Meeting, International Society of Magnetic Resonance in Medicine (ISMRM), Sunday, Melbourne, Australia, May 6, 2012.
43. “Pediatric Lung MRI” Visiting Professor, Texas Children’s Hospital, June 18, 2012
44. “Imaging in Neurogenic Bladder” Urology Day at UVA, University of Virginia, Sept 14, 2012
45. “MRI to Monitor Early Intervention in Cystic Fibrosis: Non-Invasive Imaging of Lung Function in Neonates and Young Children”, The Hartwell Foundation Fifth Annual Meeting on Biomedical Research, Durham, NC, Oct 1, 2012
46. “Use of Hyperpolarized Gas MRI in Clinical Trials”, Novartis PoC Summit, Cambridge, MA, January 4, 2013
47. “Hyperpolarized Gas MRI of Ivacaftor Therapy in Persons with Cystic Fibrosis and the G551D-CFTR Mutation”, Vertex Pharmaceuticals 2013 Annual Kick-Off Meeting, San Diego, CA, January 23, 2013
48. “Renal Imaging: What is New”, with Luke Lancaster, UVa Pediatric Nephrology Group Meeting, March 19, 2013
49. “Navigating the UVa IRB”, with Susan Hoffman, UVa Department of Radiology Professional Development Lecture Series, March 27, 2013
50. “Emerging Clinical Applications of Lung MRI”, International Society of Magnetic Resonance in Medicine (ISMRM), Salt Lake City, April 24, 2013
51. “Use of Hyperpolarized Gas MRI in Clinical Trials of New Therapies for CF”, Rare Diseases Symposium, Washington, DC, April 30, 2013

52. “Imaging in Clinical Trials”, Clinical Research Coordinators (CRCs) UVa Cancer Center LunchNLearn Seminar, May 7, 2013
53. “Hyperpolarized Gas MRI in Clinical Trials”, 6th International Workshop for Pulmonary Functional Imaging (6th IWPMI) Madison, Wisconsin, July 18-20, 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
55. “Hyperpolarized Gas MR Lung Imaging”, Radiological Society of North America (RSNA) Refresher Course, Chicago, IL, Dec. 5, 2013
56. “MRI Contrast Agents in Pediatric Radiology”, Premier Group Purchasing Organization, Technology Breakthrough Application by Guerbet, Charlotte, NC, March 13, 2014
57. “Lung MRI: Promising New Techniques and Technical Challenges” NIH NIBIB Educational Seminar Series for Extramural Program Managers, Bethesda MD, March 26, 2014.
58. “Hyperpolarized Gas MRI”, Section for Magnetic Resonance Technologists (SMRT), International Society of Magnetic Resonance in Medicine (ISMRM), Milan, Italy, May 10, 2014
59. “Hyperpolarized-gas MRI of the Pediatric Lung”, International Society of Magnetic Resonance in Medicine (ISMRM), Milan, Italy, May, 2014
60. “Hyperpolarized Gas Lung MRI Provides New Information About Lung Disease”, Fleischner Society, June 16-18, 2014, Leuven, Belgium
61. Phillips Pediatric Ultrasound Course for Ultrasound Technologists: “Pediatric Hip US”, “Pediatric Spine US”, “Pediatric GI US”, Pediatric GU US”, “Pediatric Abdominal Masses”, “Head US”, “Case Based Review”, with Luke Lancaster, May 21, 2014, University of Virginia
62. Phillips Pediatric Ultrasound Course for Ultrasound Technologists: “Pediatric Hip US”, “Pediatric Spine US”, “Pediatric GI US”, Pediatric GU US”, “Pediatric GI Masses”, “Pediatric GU Masses”, “Head US”, “Case Based Review”, with Luke Lancaster, Nov 12, 2014, Philadelphia, PA
63. "Functional Lung MRI", Radiological Society of North America (RSNA) Refresher Course, Chicago, IL, Dec. 2, 2014
64. “Radiology from Head to Toe”, Intern Readiness Course for Rising Pediatric Interns, Department of Pediatrics, University of Virginia, March 26, 2015
65. Phillips Pediatric Ultrasound Course for Ultrasound Technologists: “Pediatric Hip US”, “Pediatric Spine US”, “Pediatric GI US”, Pediatric GU US”, “Pediatric GI Masses”, “Pediatric GU Masses”, “Head US”, “Case Based Review”, April 11, 2015, Freeman Health, Joplin MO