**Diego Hernando, PhD**

## Personal Data

**Work Address Home Address**

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**Education**

**Undergraduate**

2001 *B.E.,* Telecommunications Engineering

Universidad de Valladolid, Spain

2004 M.Sc, Computer Engineering

Dartmouth College, Hanover, NH

Advisor: Prof. George Cybenko

2010 Ph.D., Electrical and Computer Engineering

University of Illinois at Urbana-Champaign,

Urbana, IL

Advisor: Prof. Zhi-Pei Liang

2011 – 2012 Radiology Society of North America (RSNA) Advanced

Grant Writing Course

Oak Brook, IL

2015 Radiology Society of North America (RSNA) Clinical Trials

Methodology Workshop

Scottsdale, AZ

## Present Appointment/Position

2018 – Present **Assistant Professor of Electrical and Computer**

**Engineering and Biomedical Engineering**

University of Wisconsin – Madison

2016 – Present **Assistant Professor of Radiology and Medical Physics**

University of Wisconsin – Madison

## Past Appointments/Positions

2010 – 2016  **Assistant Scientist, Radiology**

University of Wisconsin - Madison

## Professional Society Memberships

## 2004 – Present International Society for Magnetic Resonance in Medicine

## 2010 – Present ISMRM Junior Fellow

## 2017 – Present American Urological Association

## Honors and Awards

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# ISMRM Educational Stipend (2005, 2007, 2008).

# University of Illinois Conference Travel Grant (2009).

Geographic Finalist (North America Region), Student Paper Competition, IEEE EMBC 2008.

Isidor I. Rabi Young Investigator Award for basic research in magnetic resonance, International Society for Magnetic Resonance in Medicine, 2009.

ISMRM Junior Fellow, International Society for Magnetic Resonance in Medicine, 2010.

M.E. Van Valkenburg Research Award for research in the areas of circuits, systems, or computers, ECE Department, University of Illinois, 2010.

Cum Laude Award, Society for Computed Body Tomography and Magnetic Resonance, 2011.

M+Vision Fellowship, Madrid-MIT M+Vision Consortium, 2011 (declined).

Outstanding Teacher Award, ISMRM 2014, Milan, Italy.

Madison Teaching and Learning Excellence (MTLE) Early-career Faculty Development Program, 2017.

ISMRM-RSNA High Value MRI Workshop, Best Value Abstract “A Rapid, Non-Contrast MRI Protocol for Detection and Quantification of Hepatic Steatosis and Iron Overload”, February 18th, 2018.

**Grant Support**

**Current**

1. Title: Quantitative Magnetic Resonance Imaging Phantoms

Role: Co-PI

Source/Funding: National Institute of Biomedical Imaging and Bioengineering (NIBIB), 2R44EB025729-02, $1,494,863

Major Goals: Develop advanced quantitative MRI phantoms that mimic the simultaneous presence of fat, iron and fibrosis.

Dates: 8/1/19-5/31/21

1. Title: MRI-based Quantitative Susceptibility Mapping of Hepatic Iron Overload

Role: PI

Source/Funding: National Institutes of Diabetes and Digestive and Kidney Diseases (NIDDKD), R01DK117354, $629,148

Dates: 4/1/18-3/31/22

1. Title: Technical Validation of MR Biomarkers of Obesity-Associated NAFLD

Role: Co-Investigator

Source/Funding: NIH/NIDDK 2 R01-DK088925, $2,490,000 (budgeted)

Major Goals: Cross-sectional and longitudinal validation of advanced MR elastography of the liver in patients with obesity-related fatty liver disease.

Dates: 9/25/17-9/24/22

1. Title: Developing a MRI-guided Disease-Modifying Therapy for Post Infarction Chronic Heart Failure

Role: Co-Investigator 10% Effort Source/Funding: NHLBI $907,563 total in year 1; Year 1 direct costs = $526,882 and

indirect costs = $380,681

Dates: 7/1/17-6/30/21

**Past Awards**

1. Title: Advanced MRI for Uteroplacental Flow, Perfusion, Oxygenation and Inflammation

Role: Co-Investigator (years 1-2: 15%, years 3-4: 10%), PI: Dinesh Shah, Oliver Wieben

Source/Funding: NIH/NICHD/NIBIB U01 (grant proposal submitted, May 2015)

Dates: 09/17/15 – 08/31/19

1. Title: Quantitative Magnetic Resonance Imaging Phantoms

Role: PI

Source/Funding: National Institute of Biomedical Imaging and Bioengineering (NIBIB), 1R41EB02572-01A1, $222,758

Major Goals: Developed advanced quantitative MRI phantoms that mimic the simultaneous presence of fat, iron and fibrosis.

Dates: 4/1/18-3/31/19

1. Title: Motion-robust quantitative MRI of the abdomen

Role: Co-PI with Kevin Johnson

Source/Funding: UW Institute for Clinical and Translational Research (ICTR)

Dates: 9/1/17-8/31/18

1. Title: Confounder-Corrected Quantitative MRI Biomarkers of Hepatic Iron Overload

Role: Co-Investigator (80%), PI: Scott Reeder, MD, PhD (UW-Madison)

Source/Funding: NIH/NIDDK RO1-DK100651, $2,000,000

Dates: 7/01/14 – 3/31/18

Major Goals: Multi-center study to validate and calibrate confounder-corrected R2\* as a biomarker of hepatic iron overload.

1. Title: Non-invasive assessment of inflammation and fibrosis of the prostate in benign prostatic hyperplasia

Role: K12 Scholar

Source/Funding: OBrien Center: National Institutes of Health, NIDDK Wisconsin Multidisciplinary K12 Urologic Research Career Development Program K12DK100022

Dates: 4/1/17-3/31/18

1. Title: MRI-based Susceptibility Mapping As an Imaging Biomarker of Liver Iron Overload

Role: PI

Source/Funding: Institute for Clinical and Translational Research (ICTR) Basis & Clinical Translational Research Pilot Awards Program, $50,000

Dates: 07/01/14– 06/30/15

1. Title: Non-Invasive Quantification of Liver Iron Overload with MRI for Diagnosis and Treatment Monitoring

Role: Co-PI with Scott Reeder, MD, PhD (UW-Madison)

Source/Funding: WARF Accelerator Grant, $100,000

Dates:07/01/11- 06/30/12

**In-Kind Industrial Contracts**

1. Project Title: Confounder-Corrected Quantitative Diffusion MRI of the Body

Industrial Partner: GE Healthcare

Principal Investigator: Diego Hernando

Term: 7/13/2018 – 7/12/2020

**Publications**

1. **Hernando D**, Crespi V, Cybenko G. Efficient Computation of the Hidden Markov Model Entropy for a Given Observation Sequence. IEEE Transactions on Information Theory. 2005;51(7):2681-2685.
2. **Hernando D**, Haldar JP, Sutton B, Ma J, Kellman P, Liang Z-P. Joint Estimation of Water/Fat Images and Field Inhomogeneity Map. Magnetic Resonance in Medicine. 2008 Mar;59(3):571-580.
3. Haldar JP, **Hernando D**, Song S-K, Liang Z-P. Anatomically Constrained Reconstruction from Noisy Data. Magnetic Resonance in Medicine. 2008 Apr;59(4):810-818.
4. Kellman P, **Hernando D**, Shah S, Zuehlsdorff S, Jerecic R, Mancini C, Liang Z-P, Arai AE. Multi-echo Dixon Fat and Water Separation Method for Detecting Fibro-fatty Infiltration in they Myocardium. Magnetic Resonance in Medicine. 2009 Jan;61(1):215-221.
5. Haldar JP, **Hernando D**. Rank-Constrained Solutions to Linear Matrix Equations using PowerFactorization. IEEE Signal Processing Letters. 2009;16(7):584-587.
6. **Hernando D**, Kellman P, Haldar JP, Liang Z-P. Robust Water/Fat Separation in the Presence of Large Field Inhomogeneities Using a Graph Cut Algorithm. Magnetic Resonance in Medicine. 2010 Jan;63(1):79-90.
7. Kellman P, **Hernando D**, Arai AE. Myocardial Fat Imaging. Current Cardiovascular Imaging Reports, Invited Article. 2010 Apr;3(2):83-91.
8. **Hernando D,** Liang Z-P, Kellman P. Chemical Shift-Based Water/Fat Separation: A Comparison of Signal Models. Magnetic Resonance in Medicine. 2010 Sep;64(3):811-822.
9. **Hernando D**, Karampinos DC, King KF, Haldar JP, Majumdar S, Georgiadis JG, Liang Z-P. Removal of Olefinic Fat Chemical Shift Artifact in Diffusion MRI. Magnetic Resonance in Medicine. 2011 Mar;65(3):692-701.
10. Haldar JP, **Hernando D**, Liang Z-P. Compressed-Sensing MRI with Random Encoding. IEEE Transactions on Medical Imaging. 2011 Apr;30(4):893-903.
11. Van AT, **Hernando D**, Sutton BP. Motion-Induced Phase Error Estimation and Correction for 3D Diffusion Tensor Imaging. IEEE Transactions on Medical Imaging. 2011 Nov;30(11):1933-1940.
12. Reeder SB, Bice E, Yu H, **Hernando D**, Pineda A. On the Performance of T2\* Correction Methods for Quantification of Hepatic Fat Content. Magnetic Resonance in Medicine. 2012 Feb;67(2):389-404.
13. **Hernando D**, Hines CDG, Yu H, Reeder SB. Addressing Phase Errors in Fat-Water Imaging using a Mixed Magnitude/Complex Fitting Method. Magnetic Resonance in Medicine. 2012 Mar;67(3):638-644.
14. Hines CDG, Agni R, Roen C, Rowland I, **Hernando D**, Bultman E, Horng DE, Yu H, Shimakawa A, Brittain JH, Reeder SB. Validation of MRI Biomarkers of Hepatic Steatosis in the Presence of Iron Overload in the ob/ob Mouse. Journal of Magnetic Resonance Imaging. 2012 Apr;35(4):844-851.
15. Yin X, Guo Y, Li W, Huo E, Zhang Z, Nicolai J, Kleps RA, **Hernando D**, Katsaggelos AK, Omary RA, Larson AC. Chemical Shift MR Imaging Methods for the Quantification of Transcatheter Lipiodol Delivery to the Liver: Preclinical Feasibility Studies in a Rodent Model. Radiology. 2012 Jun;263(3):714-722.
16. Hu HH, Boernert P, **Hernando D**, Kellman P, Ma J, Reeder SB, Sirlin C. ISMRM Workshop on Fat-Water Separation: Insights, Applications and Progress in MRI. Magnetic Resonance in Medicine. 2012 Aug;68(2):378-388.
17. **Hernando D**, Vigen KK, Shimakawa A, Reeder SB. R2\* Mapping in the Presence of Macroscopic B0 field variations. Magnetic Resonance in Medicine. 2012 Sep;68(3):830-840.
18. Kühn J-P, **Hernando D**, Hosten N, Evert M, Munoz del Rio A, Voelzke H, Kannengiesser S, Reeder SB. Impact of Multi-Peak Spectral Modeling of Fat for Liver Iron and Fat Quantification: A Biopsy-MRI Correlation Study Radiology. 2012 Oct;265(1):133-142.
19. Hansmann J, **Hernando D**, Reeder SB. Fat Confounds the Observed Apparent Diffusion Coefficient in Patients with Hepatic Steatosis. Magnetic Resonance in Medicine. 2013 Feb;69(2):545-552.
20. Horng DE, **Hernando D**, Hines CDG, Reeder SB. Comparison of R2\* Correction Methods for Accurate Fat Quantification in Fatty Liver. Journal of Magnetic Resonance Imaging. 2013 Feb;37(2):414-422.
21. Poonawalla AH, Sjoberg BP, Rehm JL, **Hernando D**, Hines CDG, Irarrazabal P, Reeder SB. Adipose Tissue MRI for Quantitative Measurement of Central Obesity. Journal of Magnetic Resonance Imaging. 2013 Mar;37(3):707-716.
22. **Hernando D**, Kühn JP, Mensel B, Hosten N, Volzke H, Puls R, Reeder SB. R2\* Estimation using “In-Phase” Echoes in the Presence of Fat: The Effects of Complex Spectrum of Fat. Journal of Magnetic Resonance Imaging. 2013 Mar;37(3):717-726.
23. Bülow R, Mensel B, Meffert P, **Hernando D**, Evert M, Kühn JP. Diffusion-Weighted Magnetic Resonance Imaging for Staging Liver Fibrosis is Less Reliabile in the Presence of Fat and Iron. European Radiology. 2013 May;23(5):1281-1287.
24. **Hernando D**, Cook RJ, Diamond C, Reeder SB. Magnetic Susceptibility as a B0 Field Independent MRI Biomarker of Liver Iron Overload. Magnetic Resonance in Medicine. 2013 Sep;70(3):648-656.
25. **Hernando D**, Kramer H, Reeder SB. Multipeak Fat-Corrected Complex R2\* Relaxometry: Theory, Optimization and Clinical Validation. Magnetic Resonance in Medicine. 2013 Nov;70(5):1319-1331.
26. Kühn JP, **Hernando D**, Meffert PJ, Reeder SB, Hosten N, Laqua R, Steveling A, Ender S, Schroder H, Pillich DT. Proton Density Fat Fraction and Simultaneous R2\* Estimation as an MRI Tool for Assessment of Osteoporosis. European Radiology. 2013 Dec;23(12):3432-3439.
27. Artz NS, **Hernando D**, Taviani V, Samsonov A, Brittain JH, Reeder SB. Spectrally-Resolved Fully Phase-Encoded 3D Fast Spin-Echo for Metal Artifact Reduction and Spectroscopic Imaging. Magnetic Resonance in Medicine. 2014 Feb;71(2):681-690.
28. Kühn J, **Hernando D**, Mensel B, Krüger PC, Ittermann T, Mayerle J, Hosten N, Reeder SB. Quantitative chemical shift-encoded MRI is an accurate method to quantify hepatic steatosis. Journal of Magnetic Resonance Imaging. 2014 Jun;39(6):1494-1501.
29. **Hernando D**, Sharma SD, Kramer H, Reeder SB. On the Confounding Effect of Temperature on Chemical Shift-Encoded Fat Quantification. Magnetic Resonance in Medicine. 2014 Aug;72(2):464-470.
30. Taviani V, **Hernando D**, Francois CJ, Shimakawa A, Vigen KK, Nagle SK, Schiebler ML, Grist TM, Reeder SB. Whole-Heart Chemical Shift Encoded Water-Fat MRI. Magnetic Resonance in Medicine. 2014 Sept;72(3):718-725.
31. Kühn J, Jahn C, **Hernando D**, Siegmund W, Hadlich S, Mayerle J, Pfannmöller J, Hosten N, Wolf-Dieter Z, Reeder SB. T1 Bias in Chemical Shift-Encoded Liver Fat-Fraction: Role of the Flip Angle. Journal of Magnetic Resonance Imaging. 2014 Oct;40(4):875-883.
32. Kühn J, Holmes JH, Brau ACS, Iwadate Y, **Hernando D**, Hosten N, Reeder SB. Navigator Flip Angle Optimization for Free-Breathing T1-weighted Hepatobiliary Phase Imaging with Gadoxetic Acid. Journal of Magnetic Resonance Imaging. 2014 Nov;40(5):1003-1021.
33. **Hernando D**, Levin YS, Sirlin CB, Reeder SB. Quantification of Liver Iron with MRI: State of the Art and Remaining Challenges. Journal of Magnetic Resonance Imaging. 2014 Nov;40(5):1129-1136.
34. Bannas P, Motosugi U, Ichikawa S, **Hernando D**, Reeder SB. Primer on Magnetic Resonance Imaging of the Liver. Clinical Liver Disease. 2014;4(5):120-123.
35. Bannas P, **Hernando D**, Motosugi U, Roldan A, Reeder SB. Emerging Quantitative MRI Biomarkers of Diffuse Liver Disease. Clinical Liver Disease. 2014;4(6):129-132.
36. **Hernando D**, Wells SA, Vigen KK, Reeder SB. Effect of Hepatocyte-Specific Gadolinium-Based Contrast Agents on Hepatic Fat-Fraction and R2\*. Magnetic Resonance Imaging. 2015 Jan;33(1):43-50.
37. Sharma SD, Artz NA, **Hernando D**, Horng DE, Reeder SB. Improving Chemical Shift Encoded Water-Fat Separation Using Object-Based Information of the Magnetic Field Inhomogeneity. Magnetic Resonance in Medicine. 2015 Feb;73(2):597-604.
38. Sharma SD, **Hernando D**, Horng DE, Reeder SB. Quantitative Susceptibility Mapping in the Abdomen as an Imaging Biomarker of Hepatic Iron Overload. Magnetic Resonance in Medicine. 2015 Sep;74(3):673-683.
39. Attenberger UI, Morelli J, Budjan J, Henzler T, Sourbron S, Bock M, Riffel P, **Hernando D**, Ong MM, Schoenberg SO. Fifty Years of Technological Innovation: Potential and Limitations of Current Technologies in Abdominal Magnetic Resonance Imaging and Computed Tomography. Investigative Radiology. 2015 Sep;50(9):584-593.
40. Rehm JL, Wolfgram P, **Hernando D**, Eickhoff J, Allen DB, Reeder SB. Proton Density Fat-Fraction is an Accurate Biomarker of Hepatic Steatosis in Adolescent Girls and Young Women. European Radiology. 2015 Oct;25(10):2921-2930.
41. Baiu DC, Artz NS, McElreath MR, Menapace BD, **Hernando D**, Reeder SB, Grüttner C, Otto M. High specificity targeting and detection of human neuroblastoma using multifunctional anti-GD2 iron-oxide nanoparticles. Nanomedicine. 2015 Oct;10(19):2973-2988.
42. Motosugi U, **Hernando D**, Bannas P, Holmes JH, Wang K, Shimakawa A, Iwadate Y, Taviani V, Rehm JL, Reeder SB. Quantification of liver fat with respiratory-gated quantitative chemical shift encoded MRI. Journal of Magnetic Resonance Imaging. 2015 Nov;42(5):1241-1248.
43. Bannas P, Kramer H, **Hernando D**, Agni R, Cunningham AM, Mandal R, Motosugi U, Sharma SD, Munoz del Rio A, Fernandez L, Reeder SB. Quantitative MR Imaging of Hepatic Steatosis: Validation in Ex Vivo Human Livers. Hepatology. 2015 Nov;62(5):1444-1455.
44. Alexander CM, Kasza I, Yen CLE, Reeder SB, **Hernando D**, Gallo RL, Jahoda CAB, Horsley V, MacDougald OA. Dermal White Adipose Tissue: A New Component of the Thermogenic Response. Journal of Lipid Research. 2015 Nov;56(11):2061-2069.
45. Smith MR, Artz NS, Wiens C, **Hernando D**, Reeder SB. Characterizing the Limits of Magnetic Resonance Imaging Near Metallic Prostheses. Magnetic Resonance in Medicine. 2015 Dec;74(6):1564-1573.
46. Bannas P, Motosugi U, **Hernando D**, Rahimi MS, Holmes JH, Reeder SB. Combined Gadoxetic acid and Gadofosveset Enhanced Liver MRI: A Feasibility and Parameter Optimization Study. Magnetic Resonance in Medicine. 2016 Jan;75(1):318-328.
47. Motosugi U, Bannas P, **Hernando D**, Rahimi MS, Holmes JH, Reeder SB. Intraindividual Crossover Comparison of Dose of Gadoxetic Acid for Liver MRI: Parameter Optimization and Quantitative Relaxometry in Normal Volunteers. Magnetic Resonance in Medial Sciences. 2016;15(1):60-72.
48. Wang X, **Hernando D**, Reeder SB. Sensitivity of Chemical Shift Encoded Fat Quantification to Calibration of Fat MR Spectrum. Magnetic Resonance in Medicine. 2016 Feb;75(2):845-851.
49. Luker GD, Nguyen H, Hoff BA, Galban CJ, **Hernando D**, Chenevert TL, Talpaz M, Ross BD. Pilot Study of Quantitative MRI Parametric Response Mapping of Bone Marrow Fat for Treatment Assessment in Myelofibrosis. Tomography. 2016 Mar;2(1):67-78.
50. Henze Bancroft LC, Strigel RM, **Hernando D**, Johnson KM, Kelcz F, Kijowski R, Block WF. Utilization of a bSSFP Signal Model for Improved Fat/Water Decomposition. Magnetic Resonance in Medicine. 2016 Mar;75(3):1269-1277.
51. Reeder SB, Smith MR, **Hernando D**. Mathematical Optimization of Contrast Concentration for T1-Weighted Spoiled Gradient Echo Imaging. Magnetic Resonance in Medicine. 2016 Apr;75(4):1556-1564.
52. Kasza I, **Hernando D**, Roldan-Alzate A, Alexander CM, Reeder SB. Thermogenic profiling using magnetic resonance imaging of dermal and other adipose tissues. JCI Insight. 2016 Aug 18;1(13):e87146.
53. Mahlke C, **Hernando D**, Jahn C, Cigliano A, Ittermann T, Mössler A, Kromrey ML, Domaska G, Reeder SB, Kühn JP. Quantification of liver proton density fat fraction in 7.1T preclinical MR systems: Impact of the fitting technique. Journal of Magnetic Resonance Imaging. 2016 Dec;44(6):1425-1431.
54. Kramer JH, Pickhardt PJ, Kliewer MA, **Hernando D**, Chen GH, Zagzebski JA, Reeder SB. Accuracy of liver fat quantification by advanced CT, MR and US techniques: Prospective comparison with MR Spectroscopy. American Journal of Roentgenology. 2017 Jan;208(1):92-100.
55. Horng DE, **Hernando D**, Reeder SB. Quantification of liver fat in the presence of iron overload. J Magn Reson Imaging. 2017 Feb;45(2):428-439.
56. Artz NS, Wiens CN, Smith MR, **Hernando D**, Samsonov A, Reeder SB. Accelerating Fully Phase-Encoded Magnetic Resonance Imaging Near Metal Using Multiband Radiofrequency Excitation. Magnetic Resonance in Medicine 2017 Mar;77(3):1223-1230.
57. **Hernando D**, Sharma SD, Aliyari M, Alvis BD, Arora SS, Hamilton G, Pan L, Shaffer JM, Sofue K, Szeverenyi NM, Welch EB, Yuan Q, Bashir MR, Kamel IR, Rice MJ, Sirlin CB, Yokoo T, Reeder SB. Multi-Site, Multi-Vendor Validation of the Accuracy and Reproducibility of Proton-Density Fat-Fraction Quantification at 1.5T and 3T using a Fat-Water Phantom. Magnetic Resonance in Medicine. 2017 Apr:77(4):1516-1524.
58. Sharma SD, Fischer R, Schoennagle BP, Nielsen P, Kooijman H, Yamamura J, Adam G, Bannas P, **Hernando D**, Reeder SB. MRI-based quantitative susceptibility mapping (QSM) and R2\* mapping of liver iron overload: comparison with SQUID-based biomagnetic liver susceptometry. Magnetic Resonance in Medicine. 2017 Jul;78(1):264-270.
59. Colgan TJ, **Hernando D**, Sharma SD, Reeder SB. The effects of concomitant gradients on chemical shift encoded MRI. Magn Reson Med. 2017 Aug;78(2):730-738.
60. Kühn JP, Meffert P, Heske C, Kromrey ML, Schmidt CO, Mensel B, Völzke H, Lerch MM, **Hernando D**, Mayerle J, Reeder SB. Prevalence of Fatty Liver Disease and Hepatic Iron Overload in a Northeastern German Population by Using Quantitative MR Imaging. Radiology. 2017 Sep;284(3):706-716.
61. Campo CA, **Hernando D**, Schubert T, Bookwalter CA, Pay AJV, Reeder SB. Standardized Approach for ROI-Based Measurements of Proton Density Fat Fraction and R2\* in the Liver. AJR Am J Roentgenol. 2017 Sep;209(3):592-603.
62. Motosugi U, **Hernando D**, Wiens C, Bannas P, Reeder SB. High SNR Acquisitions Improve the Repeatability of Liver Fat Quantification Using Confounder-corrected Chemical Shift-encoded MR Imaging. Magn Reson Med Sci. 2017 Oct 10;16(4):332-339.
63. Haufe WM, Wolfson T, Hooker CA, Hooker JC, Covarrubias Y, Schlein AN, Hamilton G, Middleton MS, Angeles JE, **Hernando D**, Reeder SB, Schwimmer JB, Sirlin CB. Accuracy of PDFF estimation by magnitude-based and complex-based MRI in children with MR spectroscopy as a reference. J Magn Reson Imaging. 2017 Dec;46(6):1641-1647.
64. Wang X, Reeder SB, **Hernando D**. An acetone-based phantom for quantitative diffusion MRI. J Magn Reson Imaging. 2017 Dec;46(6):1683-1692.
65. Rabanillo I, Aja-Fernandez S, Alberola-Lopez C, **Hernando D**. Exact Calculation of Noise Maps and g-Factor in GRAPPA using a k-space Analysis. IEEE Trans Med Imaging. 2018 Feb;37(2):480-490.
66. Yokoo T, Serai SD, Pirasteh A, Bashir MR, Hamilton G, **Hernando D**, Hu HH, Hetterich H, Kühn JP, Kukuk GM, Loomba R, Middleton MS, Obuchowski NA, Song JS, Tang A, Wu X, Reeder SB, Sirlin CB; RSNA-QIBA Proton Density Fat Fraction Committee. Linearity, Bias, and Precision of Hepatic Proton Density Fat Fraction Measurements by Using MR Imaging: A Meta-Analysis. Radiology. 2018 Feb;286(2):486-498.
67. Ichikawa S, Motosugi U, **Hernando D**, Morisaka H, Enomoto N, Matsuda M, Onishi H. Histological Grading of Hepatocellular Carcinomas with Intravoxel Incoherent Motion Diffusion-weighted Imaging: Inconsistent Results Depending on the Fitting Method. Magn Reson Med Sci. 2018 Apr;17(2):168-173.
68. Ludwig KD, **Hernando D**, Roberts NT, van Heeswijk RB, Fain SB. A chemical shift encoding (CSE) approach for spectral selection in fluorine-19 MRI. Magn Reson Med. 2018 Apr;79(4):2183-2189.
69. Pooler BD, **Hernando D**, Ruby JA, Ishii H, Shimakawa A, Reeder SB. Validation of a motion-robust 2D sequential technique for quantification of hepatic proton density fat fraction during free breathing. Journal of Magnetic Resonance Imaging. 2018 Dec;48(6):1578-1585.
70. Park CC, Hooker C, Hooker JC, Bass E, Haufe W, Schlein A, Covarrubias Y, Heba E, Bydder M, Wolfson T, Gamst A, Loomba R, Schwimmer J, **Hernando D,** Reeder SB, Middleton M, Sirlin CB, Hamilton G. Assessment of a high-SNR chemical-shift-encoded MRI with complex construction for proton density fat fraction (PDFF) estimation overall and in the low-fat range. J Magn Reson Imaging. 2019 Jan;49(1):229-238.
71. Knobloch G, Colgan T, Wiens CN, Wang X, Schubert T, **Hernando D**, Sharma SD, Reeder S. Relaxivity of Ferumoxytol at 1.5 T and 3.0 T. Invest Radiol. 2018 May;53(5):257-263.
72. van Heeswijk RB, Colotti R, Darçot E, Delacoste J, Pellegrin M, Piccini D, **Hernando D**. Chemical shift encoding (CSE) for sensitive fluorine-19 MRI of perfluorocarbons with complex spectra. Magn Reson Med. 2018 May;79(5):2724-2730.
73. Pirasteh A, Yuan Q, **Hernando D**, Reeder SB, Pedrosa I, Yokoo T. Inter-method reproducibility of biexponential R2 MR relaxometry for estimation of liver iron concentration. Magn Reson Med. 2018 Dec;80(6):2691-2701.
74. Jeong D, Raghunand N, **Hernando D**, Poch M, Jeong K, Eck B, Dhillon J. Quantification of sarcomatoid differentiation in renal cell carcinoma on magnetic resonance imaging. Quant Imaging Med Surg. 2018 May;8(4):373-382.
75. Pickhardt PJ, Graffy PM, Reeder SB**, Hernando D**, Li K. Quantification of Liver Fat Content With Unenhanced MDCT: Phantom and Clinical Correlation With MRI Proton Density Fat Fraction. AJR Am J Roentgenol. 2018 Sep;211(3):W151-W157.
76. Zhang Y, Wells SA, **Hernando D**. [Stimulated echo based mapping (STEM) of T1 , T2 , and apparent diffusion coefficient: validation and protocol optimization.](https://www.ncbi.nlm.nih.gov/pubmed/30024051) Magn Reson Med. 2019 Jan;81(1):187-181.
77. Roberts NT, **Hernando D**, Holmes JH, Wiens CN, Reeder SB. Noise properties of proton density fat fraction estimated using chemical shift-encoded MRI. Magn Reson Med. 2018 Aug;80(2):685-695.
78. Zhang Y, Holmes J, Rabanillo I, Guidon A, Wells S, **Hernando D**. Quantitative diffusion MRI using reduced field-of-view and multi-shot acquisition techniques: Validation in phantoms and prostate imaging. Magn Reson Imaging. 2018 Sep;51:173-181.
79. Rabanillo-Viloria I, Aja-Fernandez S, Alberola-Lopez C, **Hernando D**. Computation of exact g-factor maps in 3D GRAPPA reconstructions. Magn Reson Med. 2019 Feb;81(2):1353-1367.
80. Stojanovska J, Lumeng CN, Griffin C, **Hernando D**, Hoffmann U, Haft JW, Kim KM, Burant CF, Singer K, Tsodikov A, Long BD, Romano MA, Tang PC, Yang B, Chenevert TL. Water-fat magnetic resonance imaging quantifies relative proportions of brown and white adipose tissues: ex-vivo experiments. J Med Imaging. 2018 Apr;5(2):024007.
81. Pena-Nogales O, Zhang Y, Wang X, de Luis-Garcia R, Aja-Fernandez S, Holmes JH, **Hernando D.** Optimized Diffusion-Weighting Gradient Waveform Design (ODGD) formulation for motion compensation and concomitant gradient nulling. Magn Reson Med. 2019 Feb;81(2):989-1003.
82. Yi S, Barnett BR, Torres-Velazquez M, Zhang Y, Rowley PA, **Hernando D**, Yu JP. Detecting Microglial Density with Quantitative Multi-Compartment Diffusion MRI. Frontiers in Neuroscience, section Brain Imaging Methods. 2019 Feb 19;13:81.
83. Liu TT, Thomas S, Mclean DT, Roldan-Alzate A, **Hernando D**, Ricke EA, Ricke WA. Prostate enlargement and altered urinary function are part of the aging process. Aging. 2019 May:11(9):2653-2669. PMID: 31085797.
84. Zhang Y, Pena-Nogales O, Holmes JH, **Hernando D.** Motion-Robust and Blood-Suppressed M1-Optimized Diffusion MR Imaging of the Liver. Magnetic Resonance in Medicine. 2019 Jul;82(1):302-311. PMID: 30859628.
85. Pooler BD, **Hernando D**, Reeder SB. Clinical Implementation of a Focused MRI Protocol for Hepatic Fat and Iron Quantification. AJR Am J Roentgenol. 2019 May 27: 1-6 [Epub ahead of print]
86. Zhu A, **Hernando D**, Johnson KM, Reeder SB. Characterizing a short T2\* signal component in the liver using ultrashort TE chemical shift-encoded MRI at 1.5T and 3.0T. Magn Reson Med. 2019 Dec; 82(6):2032-2045. PMID: 31270858.
87. Zhu A, Reeder SB, Johnson KM, Nguyen SM, Golos TG, Shimakawa A, Muehler MR, Francois CJ, Bird IM, Fain SB, Shah DM, Wieben O, **Hernando D**. Evaluation of a motion-robust 2D chemical shift-encoded technique for R2\* and field map quantification in ferumoxytol-enhanced MRI of the placenta in pregnant rhesus macaques. J Magn Reson Imaging. 2019 Jul 5. [Epub ahead of print]
88. Kasza I, Adler D, Nelson DW, Yen C-LE, Dumas S, Ntambi JM, MacDougald OA, **Hernando D**, Porter W, Best FA, Alexander CM. Evaporative Cooling Provides a Major Metabolic Energy Sink. Molecular Metabolism. 2019 Sep;27:47-61. PMID: 31302039.
89. McLean DT, Rutkowski DR, Liu T, **Hernando D**, Ricke WA, Roldán-Alzate A. MRI-based method for lower urinary tract dysfunction in adult male mice. Am J Clin Exp Urol. 2019 Jun 15;7(3): 153-158.
90. Colgan TJ, Knobloch G, Reeder SB, **Hernando D**. Sensitivity of quantitative relaxometry and susceptibility mapping to microscopic iron distribution. Magn Reson Med. 2019 Aug 18. [Epub ahead of print] PMID: 31423637.
91. Liu TT, Rodgers AC, Nicholson TM, Macoska JA, Marker PC, Vezina CM, Bjorling DE, Roldan-Alzate A, **Hernando D**, Lloyd GL, Hacker TA, Ricke WA. Ultrasonography of the Adult Male Urinary Tract for Urinary Functional Testing. J Vis Exp. 2019 Aug 14;(150). PMID: 31475976.

**Chapters in Books**

1. Hu HH, **Hernando D**, “Direct Water-Fat Imaging Methods: Chemical Shift-Selective and Chemical Shift-Encoded MRI”, Handbook of Magnetic Resonance Spectroscopy In Vivo: MRS Theory, Practice and Applications, John Wiley & Sons, October 2016.

**Publications (Conference)**

1. **Hernando D,** Poonawalla AH, Zhou XJ, Liang Z-P. “Model Order Estimation in DTI.” In Proceedings of the 13th Annual Meeting of the International Society of Magnetic Resonance Medicine. Miami. 2005.
2. Liang Z-P, Poonawalla AH, **Hernando D**, Ying L, Zhou XJ, “Reduced-Encoding Imaging of Diffusion Anisotropy,” In Proceedings of the 13th Annual Meeting of the International Society of Magnetic Resonance in Medicine, Miami, 2005.
3. Raguin LG, **Hernando D**, Karampinos D, Ciobanu L, Sutton BP, Liang Z-P, Georgiadis JG, “Quantitative Analysis of q-Space MRI Data,” Proceedings of the 3rd European Medical & Biological Engineering Conference (EMBEC’05), Hozman J., Kneppo P. (Editors). IFMBE Proceedings Vol. 11, Prague, Czech Republic, November 23-27, 2005.
4. Raguin LG, **Hernando D**, Karampinos D, Ciobanu L, Sutton BP, Liang Z-P, Georgiadis JG, “Quantitative Analysis of q-Space MRI Data: Theoretical and Experimental Validation,” In Proceedings of the 14th Annual Meeting of the International Society of Magnetic Resonance in Medicine, Seattle, 2006.
5. Haldar JP, Jacob M, Ebel A, Zhu X, Schuff N, **Hernando D**, Sutton B, Liang Z-P, “Constrained Spectroscopic Imaging with Hard and Soft Anatomical Boundary Constraints,” ISMRM 2006, 14th Scientific Meeting, Seattle, Washington, USA, May 6-12, 2006.
6. Haldar JP, Jacob M, Ebel A, Zhu X, Schuff N, **Hernando D**, Sutton B, Liang Z-P, “Regularized Inversion of Noisy, Incomplete Spectroscopic Imaging Data with Anatomical Prior,” IEEE International Symposium on Biomedical Imaging 2006.
7. **Hernando D**, Haldar JP, Liang Z-P, “Reduced-Encoding MRI Using Higher-Order Generalized Series,” IEEE International Symposium on Biomedical Imaging 2006.
8. Haldar JP, **Hernando D**, Liang Z-P, “Shaping Spatial Response Functions for Optimal Estimation of Compartmental Signals from Limited Fourier Data,” IEEE International Symposium on Biomedical Imaging 2007.
9. **Hernando D**, Haldar JP, Sutton B, Liang Z-P. “Removal of Lipid Signal in MRSI Using Spatial-Spectral Constraints.” IEEE International Symposium on Biomedical Imaging 2007
10. Haldar JP, **Hernando D**, Budde MD, Wang Q, Song S-K, Liang Z-P. “High-Resolution Spectroscopic Imaging with Statistical Reconstruction.” In Proceedings of the 15th Annual Meeting of the International Society of Magnetic Resonance in Medicine. 2007.
11. Haldar JP, **Hernando D**, Sutton B, Liang Z-P. “Data Acquisition Considerations for Compressed Sensing in MRI.” In Proceedings of the 15th Annual Meeting of the International Society of Magnetic Resonance in Medicine. 2007.
12. **Hernando D**, Haldar JP, Ma J, Liang Z-P, “A Linear Prediction Approach to Joint Estimation of Water/Fat Images and Field Inhomogeneity Map,” In Proceedings of the 15th Annual Meeting of the International Society of Magnetic Resonance in Medicine, 2007.
13. **Hernando D**, Haldar JP, Sutton B, Liang Z-P, “Removal of Lipid Nuisance Signals in MRSI using Spatial-Spectral Constraints,” In Proceedings of the 15th Annual Meeting of the International Society of Magnetic Resonance in Medicine, 2007.
14. **Hernando D**, Haldar JP, Ying L, King KF, Xu D, Liang Z-P. “Interventional MRI with Sparse Sampling: An Application of Compressed Sensing,” In Proceedings of the 16th Annual Meeting of the International Society of Magnetic Resonance Medicine, Toronto 2008.
15. Haldar JP, **Hernando D**, Karampinos D, Sutton BP, Georgiadis JG, Liang ZP. “Sensitivity Encoding of Chemical Shifts.” In Proceedings of the 16th Annual Meeting of the International Society of Magnetic Resonance in Medicine. Toronto. 2008.
16. Kellman P, **Hernando D**, Shah S, Zuehlsdorff S, Jerecic R, Liang Z-P, Arai AE, “Multiecho Dixon Fat and Water Separation Method for Detecting Fibro-fatty Infiltration in the Myocardium,” In Society for Cardiovascular Magnetic Resonance (SCMR) Eleventh Annual Scientific Sessions. Los Angeles. 2008.
17. **Hernando D**, Kellman P, Haldar JP, Liang Z-P, “Improved Field Map Estimation in the Presence of Multiple Spectral Components,” In Proceedings of the 16th Annual Meeting of the International Society of Magnetic Resonance in Medicine, Toronto 2008.
18. **Hernando D**, Kellman P, Haldar JP, Liang Z-P, “Estimation of Water/Fat Images, B0 Field Map and T2\* Map using VARPRO,” In Proceedings of the 16th Annual Meeting of the International Society of Magnetic Resonance in Medicine, Toronto 2008.
19. **Hernando D**, Kellman P, Haldar JP, Liang Z-P, “A Network Flow Method for Improved MR Field Map Estimation in the Presence of Water and Fat,” In Proceedings of EMBC, Vancouver, 2008. *EMBS Student Paper Competition Geographic Finalist: North America.*
20. Kellman P, **Hernando D**, Shah S, Hoyt RF, Kotin RM, Keene BW, Kornegay JN, Aletras AH, Arai AE, “Myocardial Fibro-fatty Infiltration in Duchenne Muscular Dystrophy Canine Model Detected using Multi-echo Dixon Method of Water and Fat Separation Imaging,” In Proceedings of the 17th Annual Meeting of the International Society of Magnetic Resonance in Medicine, Honolulu 2009.
21. Kellman P, **Hernando D**, Shah S, Zuehlsdorff S, Greiser A, Jerecic R, “Improved Cardiac Shim using Field Map Estimate from Multi-Echo Dixon Method,” In Proceedings of the 17th Annual Meeting of the International Society of Magnetic Resonance Medicine, Honolulu 2009.
22. **Hernando D**, Karampinos D, King KF, Haldar JP, Liang Z-P., “Removal of Olefinic Fat Signal in Body Diffusion-Weighted EPI Using a Dixon Method,” In Proceedings of the 17th Annual Meeting of the International Society of Magnetic Resonance in Medicine, Honolulu 2009.
23. **Hernando D**, Koch K, King KF, Liang Z-P, “Generalized Reconstruction of Multi-Spectral MR Acquisitions for Imaging Near Metal Implants,” In Proceedings of the 17th Annual Meeting of the International Society of Magnetic Resonance in Medicine, Honolulu 2009.
24. **Hernando D**, Kellman P, Haldar JP, Liang Z-P, “Robust Water/Fat Separation in the Presence of Large Field Inhomogeneities Using a Graph Cut Algorithm,” In Proceedings of the 17th Annual Meeting of the International Society of Magnetic Resonance Medicine, Honolulu 2009. *I.I. Rabi Young Investigator Award.*
25. Johnson CL, **Hernando D**, Mojtahedi MC, Karampinos DC, Thorpe MP, Chen D, Evans EM, Georgiadis JG, “Quantification of Adipose Tissue Depots in the Obese Thigh During Weight Loss Using Dixon Method,” In Proceedings of the 18th Annual Meeting of the Inter- national Society of Magnetic Resonance Medicine, Stockholm 2010.
26. Shah S, Bi X, **Hernando D**, Weale P, Zuehlsdorff S, Nielles-Vallespin S, Kellman P, “3T Coronary MRA Using 3D Multi-Interleaved Multi-Echo Acquisition and VARPRO Fat-Water Separation,” In Proceedings of the 18th Annual Meeting of the International Society of Magnetic Resonance in Medicine, Stockholm 2010.
27. Lam F, **Hernando D**, King KF, Liang Z-P, “Compressed Sensing Reconstruction in the Presence of a Reference Image,” In Proceedings of the 18th Annual Meeting of the International Society of Magnetic Resonance in Medicine, Stockholm 2010.
28. Kellman P, **Hernando D**, Shah S, Liang Z-P, Arai, AE, “Dark Blood Fat-Water Separated Cardiac Imaging Improves Delineation of Right Ventricular Myocardium,” In Proceedings of the 18th Annual Meeting of the International Society of Magnetic Resonance Medicine, Stockholm 2010.
29. Kellman P, **Hernando D**, Shah S, Chefd’Hotel C, Liang Z-P, Arai, AE, “Free-Breathing, Single Shot Fat-Water Separated Cardiac Imaging with Motion Corrected Averaging,” In Proceedings of the 18th Annual Meeting of the International Society of Magnetic Resonance in Medicine, Stockholm 2010.
30. Kellman P, **Hernando D**, Shah S, Liang Z-P, Bluemke DA, Arai, AE, “Rapid, Multi-Slice Fat Water Separated Imaging for Mapping Body Fat,” In Proceedings of the 18th Annual Meeting of the International Society of Magnetic Resonance in Medicine, Stockholm 2010.
31. **Hernando D**, Kellman P, Liang Z-P, “A Joint Estimation Method for Two-Point Water/fat Imaging with Regularized Field Map,” In Proceedings of the 18th Annual Meeting of the International Society of Magnetic Resonance in Medicine, Stockholm 2010.
32. **Hernando D**, Liang Z-P, Kellman P, “Modeling of T2\* Decay in Water/fat Imaging: Comparison of One-Decay and Two-Decay Models,” In Proceedings of the 18th Annual Meeting of the International Society of Magnetic Resonance in Medicine, Stockholm 2010.
33. **Hernando D**, Liang Z-P, Kellman P “Comparison of Magnitude and Complex Data Fitting for Quantitative Water/fat Imaging,” In Proceedings of the 18th Annual Meeting of the International Society of Magnetic Resonance in Medicine, Stockholm 2010.
34. **Hernando D**, Liang Z-P, Kellman P, “Chemical Shift-Based Water/fat Separation: Comparison of Fitting Models,” In Proceedings of the 18th Annual Meeting of the International Society of Magnetic Resonance in Medicine, Stockholm 2010.
35. **Hernando D**, Hines CDG, Reeder SB “R2\* Estimation in the Presence of Fat and Macroscopic Field Variations,” In Proceedings of the 19th Annual Meeting of the International Society of Magnetic Resonance in Medicine, Montreal 2011.
36. **Hernando D**, Hines CDG, Yu H, Reeder SB. “Addressing Phase Errors in Fat-Water Imaging using a Mixed Magnitude/Complex Fitting Method.” In Proceedings of the 19th Annual Meeting of the International Society of Magnetic Resonance in Medicine. Montreal 2011.
37. Chen DD, **Hernando D**, Johnson CL, Gharibans AA, Guest DD, Ward C, Das B, Evans EM, Georgiadis JG, “Quantification of Adipose Tissue Depots in the Thigh with Two-Point Dixon Imaging: Effect of Fitness Level on Adiposity in Elderly Women,” In Proceedings of the 19th Annual Meeting of the International Society of Magnetic Resonance in Medicine, Montreal 2011.
38. Hines CDG, Rowland I, Roen C, **Hernando D**, Horng DE, Yu H, Brittain JH, Reeder SB, “Validation of Imaging Biomarkers of Steatosis in ob/ob Mice with Multiple SPIO Injections,” In Proceedings of the 19th Annual Meeting of the International Society of Magnetic Resonance in Medicine, Montreal 2011.
39. Poonawalla AH, Hines CDG, **Hernando D**, Irarrazaval P, Reeder SB, “Fully Automated Measurement of Total Adipose Tissue Volume using Quantitative Chemical Shift MRI: Phantom Validation,” In Proceedings of the 19th Annual Meeting of the International Society of Magnetic Resonance in Medicine, Montreal 2011.
40. Poonawalla AH, Sjoberg BP, Schroeder M, **Hernando D**, Irarrazaval P, Reeder SB, “Rapid, Volumetric Segmentation of Visceral Adipose Tissue with Quantitative Chemical Shift MRI at 3T,” In Proceedings of the 19th Annual Meeting of the International Society of Magnetic Resonance in Medicine, Montreal 2011.
41. Chen DD, **Hernando D**, Johnson CL, Gharibans AA, Guest DD, Ward C, Das B, Evans EM, Georgiadis JG, “Quantification of Myocellular Lipids Via 1H-MR Spectroscopy in Elderly Women: Effect of Adiposity & Physical Activity,” In Proceedings of the 19th Annual Meeting of the International Society of Magnetic Resonance in Medicine, Montreal 2011.
42. Van AT, **Hernando D**, Holtrop J, Sutton BP, “Motion-Induced Phase Error Correction in 3D Diffusion-Weighted Imaging,” In Proceedings of the 19th Annual Meeting of the International Society of Magnetic Resonance in Medicine, Montreal 2011.
43. Yu H, Shimakawa A, **Hernando D**, Hines CDG, McKenzie CA, Reeder SB, Brittain JH, “Noise Performance of Magnitude-Based Water-Fat Separation is Sensitive to the Echo Times,” In Proceedings of the 19th Annual Meeting of the International Society of Magnetic Resonance in Medicine, Montreal 2011.
44. Hines CDG, Roen C, **Hernando D**, Reeder SB, “Effects of Fat Particle Size on R2\* in Fat-Water-SPIO Emulsion Phantoms: Implications for Fat Quantification with Phantoms,” In Proceedings of the 19th Annual Meeting of the International Society of Magnetic Resonance in Medicine, Montreal 2011.
45. Johnson CL, Chen DD, **Hernando D**, Guest DD, Ward CL, Das BM, Evans EM, Georgiadis JG, “Changes in Muscular Lipid Storage After Diet or Exercise in Elderly Obese Women,” In Proceedings of the 20th Annual Meeting of the International Society of Magnetic Resonance Medicine, Melbourne 2012.
46. Horng DE, **Hernando D**, Hines CDG, Reeder SB, “Clinical Comparison of Single-R2\* and Dual-R2\* Correction for Accurate Fat Quantification in the Liver,” In Proceedings of the 20th Annual Meeting of the International Society of Magnetic Resonance in Medicine, Melbourne 2012.
47. Rold´an-Alzate A, Hines CDG, Agni RM, **Hernando D**, Vigen KK, Hamilton G, Bydder M, Sirlin C, Reeder SB, “Complex and Magnitude MRI for Quantification of Hepatic Steatosis-Correlation with MR Spectroscopy and Biopsy,” In Proceedings of the 20th Annual Meeting of the International Society of Magnetic Resonance in Medicine, Melbourne 2012.
48. **Hernando D**, Reeder SB. “Correction for Fat Improves Robustness of R2\* Mapping Without SNR Penalty.” In Proceedings of the 20th Annual Meeting of the International Society of Magnetic Resonance Medicine. Melbourne 2012.
49. Taviani V, Brittain JH, Collick BD, **Hernando D**, Artz NS, Reeder SB, “Diffusion-Prepared Single-Shot Fast Spin-Echo Imaging and the Effects of Eddy Currents: Preliminary Investigation,” In Proceedings of the 20th Annual Meeting of the International Society of Magnetic Resonance in Medicine, Melbourne 2012.
50. Wells SA, **Hernando D**, Vigen KK, Reeder SB, “Effect of Hepatocyte-Specific Gadolinium-Based Contrast Agents on Hepatic Fat-Fraction and R2\*,” In Proceedings of the 20th Annual Meeting of the International Society of Magnetic Resonance in Medicine, Melbourne 2012.
51. **Hernando D**, Kühn JP, Reeder SB. “Fat and Susceptibility-Corrected R2\* Mapping for Liver Iron Quantification: Preliminary Evaluation in a Healthy Cohort.” In Proceedings of the 20th Annual Meeting of the International Society of Magnetic Resonance Medicine. Melbourne 2012.
52. Taviani V, **Hernando D**, Shimakawa A, Brittain JH, Johnson KM, Vigen KK, Reeder SB, “Free-Breathing 3D Water-Fat Separation and R2\* Mapping in the Heart,” In Proceedings of the 20th Annual Meeting of the International Society of Magnetic Resonance Medicine, Melbourne 2012.
53. Kühn JP, **Hernando D**, Hosten N, Reeder SB. “Multi-Peak Spectral Modeling of Fat is Necessary for Both Accurate Liver Fat and Iron Quantification: A Biopsy-MRI Correlation Study.” In Proceedings of the 20th Annual Meeting of the International Society of Magnetic Resonance in Medicine. Melbourne 2012.
54. Kühn JP, Holmes JH, **Hernando D**, Reeder SB. “Navigator Flip Angle Optimization for Navigator-Gated T1-Weighted Gadoxetic Acid-Enhanced Hepatobiliary Liver Imaging.” In Proceedings of the 20th Annual Meeting of the International Society of Magnetic Resonance in Medicine. Melbourne 2012.
55. Horng DE, **Hernando D**, Kühn JP, Reeder SB. “Spatially-Variant B0 Field Gradients in the Liver: Implications for R2\* Mapping for Iron Quantification.” In Proceedings of the 20th Annual Meeting of the International Society of Magnetic Resonance in Medicine. Melbourne 2012.
56. Artz NS, **Hernando D**, Taviani V, Johnson KM, Brittain JH, Reeder SB. “Spectrally Resolved Fully Phase-Encoded 3D Fast Spin-Echo for Metal Artifact Reduction and Spectroscopic Imaging.” In Proceedings of the 20th Annual Meeting of the International Society of Magnetic Resonance in Medicine. Melbourne 2012.
57. Wells SA, Vigen KK, Nackos JS, Reeder SB, **Hernando D**. “Susceptibility Corrected Myocardial R2\* Quantification with Magnetic Resonance Imaging.” In Proceedings of the 20th Annual Meeting of the International Society of Magnetic Resonance in Medicine. Melbourne 2012.
58. Artz NS, Samsonov AA, **Hernando D**, Taviani V, Smith MR, Brittain JH, Reeder SB, “Accelerating a Spectrally-Resolved Fully Phase-Encoded (SR-FPE) Method for Metal Artifact Reduction,” In Proceedings of the 21st Annual Meeting of the International Society of Magnetic Resonance in Medicine, Salt Lake City 2013.
59. **Hernando D**, Qazi N, Reeder SB. “Calibration of Confounder-Corrected R2\* for Liver Iron Quantification at 1.5T and 3T: Preliminary Results.” In Proceedings of the 21st Annual meeting of the International Society of Magnetic Resonance in Medicine. Salt Lake City 2013.
60. Kramer H, Corcos AR, **Hernando D**, Berry JF, Schiebler ML, Reeder SB. “Effect of Molecular Oxygen on Relaxation Times at Clinical Field Strengths.” In Proceedings of the 21st Annual Meeting of the International Society of Magnetic Resonance in Medicine. Salk Lake City 2013.
61. Hansmann J, **Hernando D**, Reeder SB, “Fat Confounds the Observed Apparent Diffusion Coefficient in Patients with Hepatic Steatosis,” In Proceedings of the 21st Annual Meeting of the International Society of Magnetic Resonance in Medicine, Salt Lake City 2013.
62. Horng DE, **Hernando D**, Sharma SD, Reeder SB, “Fat-Constrained QSM for Abdominal Applications,” In Proceedings of the 21st Annual Meeting of the International Society of Magnetic Resonance in Medicine, Salt Lake City 2013.
63. Taviani V, **Hernando D**, Francois CJ, Nagle SK, Schiebler ML, Grist TM, Vigen KK, Shimakawa A, Reeder SB, “Free-Breathing Whole-Heart 3D Water-Fat Imaging: Clinical Experience,” In Proceedings of the 21st Annual Meeting of the International Society of Magnetic Resonance in Medicine, Salt Lake City 2013.
64. Al Saleh H, Johnson KM, Block WF, Kijowski R, Hernando D, “High Contrast 3D IDEAL Ultrashort TE (UTE) Imaging,” In Proceedings of the 21st Annual Meeting of the International Society of Magnetic Resonance in Medicine, Salt Lake City 2013.
65. **Hernando D**, Reeder SB, “Magnetic Susceptibility as a Field-Independent MRI Biomarker of Liver Iron Overload,” In Proceedings of the 21st Annual Meeting of the International Society of Magnetic Resonance in Medicine, Salt Lake City 2013.
66. Taviani V, **Hernando D**, Munoz del Rio A, Shimakawa A, Drees R, Johnson R, Vigen KK, Reeder SB, Francois CJ, “Preclinical Evaluation of a 3D Technique for Whole-Heart Water-Fat Imaging: Comparison with CT ,” In Proceedings of the 21st Annual Meeting of the International Society of Magnetic Resonance in Medicine, Salt Lake City 2013.
67. Rehm JL, Wolfgram P, Connor EL, Zha W, Allen D, **Hernando D**, Reeder SB, “Proton Density Fat Fraction Is a Highly Accurate Biomarker of Hepatic Steatosis in Adolescent Girls and Young Women,” In Proceedings of the 21st Annual Meeting of the International Society of Magnetic Resonance in Medicine, Salt Lake City 2013.
68. Qazi N, Reeder SB, **Hernando D**, “Robustness of R2\* Mapping for Liver Iron Assessment at 1.5T and 3T,” In Proceedings of the 21st Annual Meeting of the International Society of Magnetic Resonance in Medicine, Salt Lake City 2013.
69. Taviani V, Johnson KM, **Hernando D**, Reeder SB, “Single Breath-Hold 3D Radial Imaging for R2\* and Fat Fraction Quantification in the Liver,” In Proceedings of the 21st Annual Meeting of the International Society of Magnetic Resonance in Medicine, Salt Lake City 2013.
70. Taviani V, **Hernando D**, Reeder SB. “Single-Voxel Diffusion-Weighted MR Spectroscopy for Fat-Corrected ADC Measurement.” In Proceedings of the 21st Annual Meeting of the International Society of Magnetic Resonance in Medicine. Salt Lake City 2013.
71. Bancroft LCH, **Hernando D**, Johnson KM, Kelcz F, Strigel R, Block WF, “Utilization of a BSSFP Signal Model for Improved Fat/Water Decomposition in BSSFP Breast Imaging,” In Proceedings of the 21st Annual Meeting of the International Society of Magnetic Resonance in Medicine, Salt Lake City 2013.
72. Awai H, Sirlin CB, Heba E, Hooker CA, Lam J, Hamilton G, Wolfson T, Gamst AC, Reeder SB, Artz N, **Hernando D**, Agni R, Campos GM, Greenberg JA, Garren M, Jacobsen GR, Horgan H, Schwimmer J. Differential Effects of Very Low Calorie Diet on Body Weight, Liver Fat and Liver Volume in Obese Adults Prior to Weight Loss Surgery. Exhibited at Digestive Diseases Week (DDW), 2014.
73. Kramer H, Kliewer MA, Pickhardt PJ, **Hernando D**, Chen GH, Reeder SB. “Accuracy of Liver Fat Quantification by CT, MRI and US: a Prospective Comparison with Magnetic Resonance Spectroscopy (MRS).” In Proceedings of the 22nd Annual Meeting of the International Society of Magnetic Resonance in Medicine. Milan, Italy 2014.
74. Bannas P, Motosugi U, **Hernando D**, Rahimi MS, Holmes JH, Reeder SB, “Combined Gadoxetic Acid and Gadofosveset Enhanced Liver MRI: A Feasibility and Parameter Optimization Study,” In Proceedings of the 22nd Annual Meeting of the International Society of Magnetic Resonance in Medicine, Milan, Italy 2014.
75. **Hernando D**, Wells SA, Vigen KK, Reeder SB, “Comparison of Serum Liver Function Tests and Liver R2\* Measurements Before and After Gadoxetic Acid,” In Proceedings of the 22nd Annual Meeting of the International Society of Magnetic Resonance in Medicine, Milan, Italy 2014.
76. Sharma SD, **Hernando D**, Reeder SB, “The Effect of Echo Time Sampling on B0 Field Map Estimation for QSM of Liver Iron Overload,” In Proceedings of the 22nd Annual Meeting of the International Society of Magnetic Resonance in Medicine, Milan, Italy 2014.
77. Wang X, **Hernando D**, Reeder SB, “Evaluation of Sensitivity of Fat Fraction Measurement to Fat Spectral Model Precalibration,” In Proceedings of the 22nd Annual Meeting of the International Society of Magnetic Resonance in Medicine, Milan, Italy 2014.
78. Motosugi U, **Hernando D**, Bannas P, Holmes JH, Wang K, Shimakawa A, Iwadate Y, Taviani V, Reeder SB, “Free-Breathing Quantification of Liver Proton Density Fat-Fraction,” In Proceedings of the 22nd Annual Meeting of the International Society of Magnetic Resonance in Medicine, Milan, Italy 2014.
79. **Hernando D**, Artz N, Hamilton G, Roldan A, Reeder SB, “Fully Automated Processing of Multi-Echo Spectroscopy Data for Liver Fat Quantification,” In Proceedings of the 22nd Annual Meeting of the International Society of Magnetic Resonance in Medicine, Milan, Italy 2014.
80. Sharma SD, Artz N, **Hernando D**, Horng DE, Reeder SB, “Improving Water-Fat Separation Using Object-Based Information of the B0 Field Inhomogeneity,” In Proceedings of the 22nd Annual Meeting of the International Society of Magnetic Resonance in Medicine, Milan, Italy 2014.
81. Sharma SD, **Hernando D**, Horng DE, Reeder SB, “A Joint Background Field Removal and Dipole Deconvolution Approach for Quantitative Susceptibility Mapping in the Liver,” In Proceedings of the 22nd Annual Meeting of the International Society of Magnetic Resonance in Medicine, Milan, Italy 2014.
82. **Hernando D**, Sharma SD, Reeder SB, “Limits of Liver Fat Quantification in the Presence of Severe Iron Overload,” In Proceedings of the 22nd Annual Meeting of the International Society of Magnetic Resonance in Medicine, Milan, Italy 2014.
83. **Hernando D**, Kamel I, Pan L, Pedrosa I, Vasanawala S, Yokoo T, Yuan Q, Reeder SB, “Multi-Site, Multi-Vendor Reproducibility of R2\* Relaxometry on an SPIO Phantom at 1.5T and 3T,” In Proceedings of the 22nd Annual Meeting of the International Society of Magnetic Resonance in Medicine, Milan, Italy 2014.
84. **Hernando D**, Sharma SD, Kramer H, Reeder SB, “On the Confounding Effect of Temper- ature on Chemical Shift-Encoded Fat Quantification,” In Proceedings of the 22nd Annual Meeting of the International Society of Magnetic Resonance in Medicine, Milan, Italy 2014.
85. Holmes JH, **Hernando D**, Iwadate Y, Shimakawa A, Hamilton G, Motosugi U, Reeder SB, “Optimizing Navigator Flip Angle for Free-Breathing Fat-Fraction and R2\* Quantification of the Liver,” In Proceedings of the 22nd Annual Meeting of the International Society of Magnetic Resonance in Medicine, Milan, Italy 2014.
86. Jeong D, **Hernando D**, Vigen KK, Schiebler ML, Francois CJ, Nagle S, Reeder SB, “R2\* Magnetic Resonance in the Evaluation of Cardiac Iron,” In Proceedings of the 22nd Annual Meeting of the International Society of Magnetic Resonance in Medicine, Milan, Italy 2014.
87. Horng DE, **Hernando D**, Reeder SB, “R2\* of Water and Fat in Hepatic Iron Overload: Implications for R2\*-Corrected Fat Quantification,” In Proceedings of the 22nd Annual Meeting of the International Society of Magnetic Resonance in Medicine, Milan, Italy 2014.
88. **Hernando D**, Motosugi U, Bannas P, Sharma SD, Reeder SB, “Reduction of Cardiac Motion-Related Effects on Liver Diffusion Imaging,” In Proceedings of the 22nd Annual Meeting of the International Society of Magnetic Resonance in Medicine, Milan, Italy 2014.
89. Artz N, Haufe W, Chavez T, Hamilton G, Middleton M, Schwimmer J, **Hernando D**, Shimakawa A, Hooker J, Sirlin CB, Reeder SB. “Same Day 1.5T vs 3T Reproducibility of Liver Proton Density Fat Fractions in Obese Patients.” In Proceedings of the 22nd Annual Meeting of the International Society of Magnetic Resonance in Medicine. Milan, Italy 2014.
90. **Hernando D**, Motosugi U, Reeder SB, “Bias in liver fat quantification using chemical shift- encoded techniques with short echo times,” In Proceedings of the 23nd Annual Meeting of the International Society of Magnetic Resonance in Medicine, Toronto, Canada 2015.
91. **Hernando D**, Haufe WM, Hooker CA, Schlein A, Wolfson T, Artz NS, Reeder SB, Sirlin CB, “Relationship between liver proton density fat fraction and R2\* in the absence of iron overload,” In Proceedings of the 23nd Annual Meeting of the International Society of Magnetic Resonance in Medicine, Toronto, Canada 2015.
92. **Hernando D**, Bashir MR, Hamilton G, Shaffer JM, Sharma SD, Sirlin CB, Sofue K, Szeverenyi N, Yokoo T, Yuan Q, Reeder SB, “Multi-site, multi-vendor validation of accuracy, robustness and reproducibility of fat quantification on an oil-water phantom at 1.5T and 3T,” In Proceedings of the 23nd Annual Meeting of the International Society of Magnetic Resonance in Medicine, Toronto, Canada 2015.
93. **Hernando D**, Horng DE, Sharma SD, Reeder SB, “On the feasibility of QSM in MR-invisible regions,” In Proceedings of the 23nd Annual Meeting of the International Society of Magnetic Resonance in Medicine, Toronto, Canada 2015.
94. Wang X, Reeder SB, **Hernando D**, “A novel phantom for quantitative diffusion MRI based on acetone and deuterium oxide,” In Proceedings of the 23nd Annual Meeting of the International Society of Magnetic Resonance in Medicine, Toronto, Canada 2015.
95. Kramer H, Kliewer MA, Pickhardt PJ, **Hernando D**, Chen GH, Reeder SB, “Accuracy of Liver Fat Quantification by CT, MRI and US: a Prospective Comparison with Magnetic Resonance Spectroscopy (MRS),” In Proceedings of the 23nd Annual Meeting of the International Society of Magnetic Resonance in Medicine, Toronto, Canada 2015.
96. Motosugi U, **Hernando D**, Bannas P, Reeder SB. “High SNR Improves the Repeatability of Proton Density Fat Fraction Measurements in the Liver.” In Proceedings of the 23rd Annual Meeting of the International Society of Magnetic Resonance in Medicine. Toronto, Canada 2015.
97. Motosugi U, Bannas P, **Hernando D**, Rahimi MS, Holmes JH, Reeder SB, “Intra-Individual Crossover Comparison of Dose of Gadoxetic Acid for Liver MRI: Parameter Optimization and Quantitative Relaxometry in Normal Volunteers,” In Proceedings of the 23nd Annual Meeting of the International Society of Magnetic Resonance in Medicine, Toronto, Canada 2015.
98. Artz NS, Wiens CN, Smith MR, **Hernando D**, Samsonov A, Reeder SB. “In-Vivo Fully Phase-Encoded Magnetic Resonance Imaging in the Presence of Metal Using Multiband RF Excitation.” In Proceedings of the 23rd Annual Meeting of the International Society of Magnetic Resonance in Medicine. Toronto, Canada 2015.
99. Holmes JH, Johnson KM, **Hernando D**, Reeder SB, Samsonov A. “Magnetization Transfer Ratio (MTR) Imaging in the Presence of Fat.” In Proceedings of the 23rd Annual Meeting of the International Society of Magnetic Resonance in Medicine. Toronto, Canada 2015.
100. Holmes JH, Wang K, Morrison CK, Korosec FR, Bayram E, Strigel RM, **Hernando D**, Reeder SB, Jackson EF, Bosca R, “Mitigating Bias and Variance Associated with Fat Signal in Quantitative DCE of the Breast,” In Proceedings of the 23nd Annual Meeting of the International Society of Magnetic Resonance in Medicine, Toronto, Canada 2015.
101. Sharma SD, Schoennagel B, Yamamura J, Nielsen P, Grosse R, Kooijman H, Fischer R, **Hernando D**, Adam G, Bannas P, Reeder SB, “MR-Based R2\* and Quantitative Susceptibility Mapping (QSM) of Liver Iron Overload: Comparison with SQUID-Based Biomagnetic Liver Susceptometry,” In Proceedings of the 23nd Annual Meeting of the International Society of Magnetic Resonance in Medicine, Toronto, Canada 2015.
102. Sharma SD, **Hernando D**, Horng DE, Reeder SB. “Optimizing the Data Acquisition Strategy for Quantitative Susceptibility Mapping in the Liver.” In Proceedings of the 23nd Annual Meeting of the International Society of Magnetic Resonance in Medicine. Toronto, Canada 2015.
103. Horng DE, Sharma SD, **Hernando D**, Reeder SB, “Quantitative Assessment of Background Field Removal Methods for Abdominal Imaging,” In Proceedings of the 23rd Annual Meeting of the International Society of Magnetic Resonance in Medicine, Toronto, Canada 2015.
104. Horng DE, **Hernando D**, Reeder SB. “R2\* Estimation Performance in Iron-Overloaded Livers: Fit First or Average First?” In Proceedings of the 23rd Annual Meeting of the International Society of Magnetic Resonance in Medicine. Toronto, Canada 2015.
105. Bannas P, Kramer H, **Hernando D**, Cunningham AM, Mandal R, Agni R, Motosugi U, SharmaSD, del Rio AM, Fernandez L, Reeder SB, “Quantitative MR Imaging of Hepatic Steatosis: Validation in Ex Vivo Human Livers,” In Proceedings of the 23nd Annual Meeting of the International Society of Magnetic Resonance in Medicine, Toronto, Canada 2015.
106. Holmes JH, Samsonov A, Mossahebi P, **Hernando D**, Field A, Johnson KM. “Rapid, Motion Robust, and Quiet Quantitative Magnetization Transfer (QMT) Imaging Using a Zero Echo Time (ZTE) Acquisition.” In Proceedings of the 23rd Annual Meeting of the International Society of Magnetic Resonance in Medicine. Toronto, Canada 2015.
107. Wang X, Reeder SB, **Hernando D**, “T1 Corrected Fat Quantification Using a Dual Flip Angle Acquisition and Joint Fit Reconstruction,” In Proceedings of the 23nd Annual Meeting of the International Society of Magnetic Resonance in Medicine, Toronto, Canada 2015.
108. Piccini D, Kellman P, **Hernando D**, Coppo S, Bonanno G, Stuber M. “Self-Navigated 3D Whole Heart Coronary MRI with VARPRO Fat-Water Separation.” In Proceedings of the 23rd Annual Meeting of the International Society of Magnetic Resonance in Medicine. Toronto, Canada 2015.
109. Holmes H, **Hernando D**, Wang K, Shimakawa A, Roberts N, Reeder SB. “Analysis of Bias with SNR in Mutli-Echo Chemical Shift Encoded Fat Quantification.” In Proceedings of the 24th Annual Meeting of the International Society of Magnetic Resonance in Medicine. Singapore 2016 (abstract 3273).
110. Schubert T, Motosugi U, **Hernando D**, Camilo CA, Samir SD, Reeder SB, Wells SA, “Biodis- tribution of Ferumoxytol: A Longitudinal MRI Study,” In Proceedings of the 24th Annual Meeting of the International Society of Magnetic Resonance in Medicine, Singapore, 2016 (abstract 918).
111. Colgan TJ, **Hernando D**, Sharma SD, Shimakawa A, Reeder SB, “Concomitant Gradient Effects on Chemical Shift Encoded Imaging,” In Proceedings of the 24th Annual Meeting of the International Society of Magnetic Resonance in Medicine, Singapore, 2016 (abstract 44).
112. Sharma SD, **Hernando D**, Yokoo T, Bashir M, Shaffer J, Yuan Q, Ruschke R, Karampinos D, Brittain JH, Reeder SB, “Development and Multi-Center Validation of a Novel Water-Fat-Iron Phantom for Joint Fat and Iron Quantification,” In Proceedings of the 24th Annual Meeting of the International Society of Magnetic Resonance in Medicine, Singapore, 2016 (abstract 3274).
113. Colgan TJ, **Hernando D**, Sharma SD, Debra DE, Reeder SB, “Effects of Concomitant Gradients on Quantitative Susceptibility Mapping,” In Proceedings of the 24th Annual Meeting of the International Society of Magnetic Resonance in Medicine, Singapore, 2016 (abstract 1560).
114. Schubert T, Motosugi U, Sharma SD, Kinner S, Wells SA, **Hernando D**, Reeder SB. “Flip-Angle and Dose Optimization in Ferumoxytol-Enhanced MRA: Preliminary Results Compared with Gadolinium-Enhanced MRA.” In Proceedings of the 24th Annual Meeting of the International Society of Magnetic Resonance in Medicine. Singapore 2016 (abstract 2561).
115. Jimenez J, Johnson KM, Henze-Bancroft L, **Hernando D**, Strigel R, Reeder SB, Block W. “High Performance Volumetric 3T Breast Acquisition: A Foundation for Multi-Parametric Imaging.” In Proceedings of the 24th Annual Meeting of the International Society of Magnetic Resonance in Medicine. Singapore 2016 (abstract 3263).
116. **Hernando D**, Kasza I, Reeder SB, Alexander C, “Imaging of Dermal White Adipose Tissue in Mice,” In Proceedings of the 24th Annual Meeting of the International Society of Magnetic Resonance in Medicine, Singapore, 2016 (abstract 3931).
117. Ruby J, **Hernando D**, Campo CA, Shimakawa A, Vigen K, Holmes J, Wang K, Reeder SB, “Motion Insensitive Quantification of Liver Proton Density Fat-Fraction Using a Single-Shot 2D Technique,” In Proceedings of the 24th Annual Meeting of the International Society of Magnetic Resonance in Medicine, Singapore, 2016 (abstract 3931) (abstract 3836).
118. Wang X, Sharma SD, Bashir M, Brittain JH, Shaffer J, Yokoo T, Yuan Q, Reeder SB, **Hernando D**. “Multi-Center Validation of an Acetone-D20 Quantitative Diffusion Phantom.” In Proceedings of the 24th Annual Meeting of the International Society of Magnetic Resonance in Medicine. Singapore 2016 (abstract 3485).
119. Wang C, Zhang X, Ma Y, Liu X, **Hernando D**, Reeder SB, Chen W, Feng Y, “A Noise Correction Model Incorporating Weighted Neighborhood Information for Liver R2\* Mapping,” In Proceedings of the 24th Annual Meeting of the International Society of Magnetic Resonance in Medicine, Singapore, 2016 (abstract 1914).
120. Horng DE, Sharma SD, Reeder SB, **Hernando D**, “A Novel Method for Background Field Removal in Abdominal QSM,” In Proceedings of the 24th Annual Meeting of the International Society of Magnetic Resonance in Medicine, Singapore, 2016 (abstract 29).
121. **Hernando D**, Sharma SD, Horng DE, Reeder SB, “Paradoxical Narrowing of the Spec- troscopy Water Peak in the Presence of Iron Overload,” In Proceedings of the 24th Annual Meeting of the International Society of Magnetic Resonance in Medicine, Singapore, 2016 (abstract 2834).
122. Strigel R, Henze-Bancroft L, **Hernando D**, Reeder SB, “Proton Density Water Fraction as a Measurement of Breast Fibroglandular Tissue Volume and Concentration,” In Proceedings of the 24th Annual Meeting of the International Society of Magnetic Resonance in Medicine, Singapore, 2016 (abstract 2480).
123. Campo CA, **Hernando D**, Schubert T, Motosugi U, Sharma SD, Wells SA, Reeder SB, “Proton-Density Fat-Fraction Quantification of the Liver in the Presence of Ferumoxytol at 1.5T and 3T,” In Proceedings of the 24th Annual Meeting of the International Society of Magnetic Resonance in Medicine, Singapore, 2016 (abstract 3841).
124. Sharma SD, Colgan TJ, Campo CA, Schubert T, Motosugi U, **Hernando D**, Reeder SB, “Quantitative Susceptibility Mapping of the Liver and Spleen in Subjects with Ferumoxytol Injection,” In Proceedings of the 24th Annual Meeting of the International Society of Magnetic Resonance in Medicine, Singapore, 2016 (abstract 2983).
125. Henze-Bancroft L, Strigel R, Hamilton G, Reeder SB, **Hernando D**, “Rapid T1 and T2 Measurements of Breast Tissue at 3T Using Multi-TR, Multi-TE Spectroscopy,” In Proceedings of the 24th Annual Meeting of the International Society of Magnetic Resonance in Medicine, Singapore, 2016 (abstract 2484).
126. Wang X, Reeder SB, **Hernando D**. Single MR Spectral Peak Diffusion Phantom with Wide ADC Range Based on Acetone, H2O and Manganese Chloride. 24th Annual Meeting of the International Society of Magnetic Resonance in Medicine. Singapore. 2016. (Abstract 921).
127. Campo CA, **Hernando D,** Bookwalter C, Schubert T, Reeder SB. Standardized Approach for Region-of-Interest-Based Measurements of Proton-Density Fat-Fraction and R2\* in the Liver. 24th Annual Meeting of the International Society of Magnetic Resonance in Medicine. Singapore. 2016. (Abstract 3845).
128. Sharma SD, Kühn JP, Kromrey ML, Reeder SB, **Hernando D**. Whole-Body Quantitative Susceptibility Mapping in Healthy Subjects and in Patients with Iron Overload. In Proceedings of the 24th Annual Meeting of the International Society of Magnetic Resonance in Medicine. Singapore. 2016. (Abstract 2855).
129. Zhu A, Sharma SD, Reeder SB, Wieben O, Golos T, Nguyen S, Shah DM, Bird IM, **Hernando D**. Ferumoxytol-Enhanced Quantitative Susceptibility Mapping of the Rhesus Placenta. Poster. 4th International Workshop on MRI Phase Contrast & Quantitative Susceptibility Mapping. Graz, Austria. September 26, 2016.
130. Reeder SB, Wiens CN, Artz N, Schwimmer J, Agni R, Watson R, Wolfson T, Gamst A, Campos G, Horgan S, Funk L, Jacobsen G, Greenberg J, Schlein A, Covarrubias Y, Hooker J, Middleton M, Hamilton G, Ratliff B, McMillan A, **Hernando D**, Sirlin CB. In Vivo Biochemical and Histological Validation of Proton Density Fat Fraction as a Quantitative Biomarker of Hepatic Steatosis. International Society for Magnetic Resonance in Medicine 25th Annual Meeting. Honolulu, HI. April 2017. Program Number: 124.
131. Wiens CN, Zhu A, Johnson KM, Reeder SB, **Hernando D**. Accuracy and Reproducibility of Iron Quantification using Ultra-Short TE Imaging at 1.5T and 3.0T. Oral Presentation. International Society for Magnetic Resonance in Medicine 25th Annual Meeting. Honolulu, HI. April 25, 2017.
132. Colgan TJ, Sharma SD, Reeder SB, **Hernando D**. Effects of Spatial Resolution on Quantitative Susceptibility Mapping. International Society for Magnetic Resonance in Medicine 25th Annual Meeting. Honolulu, HI. April 22-27, 2017.
133. Zhu A, **Hernando D**, Johnson KM, Reeder SB. Quantification of Short-T2\* Signal Components in the Liver Using Radial 3D UTE Chemical Shift-Encoded MRI. International Society for Magnetic Resonance in Medicine 25th Annual Meeting. Honolulu, HI. April 2017.
134. Zhu A, Sharma SD, Nguyen S, Johnson KM, Bird IM, Golos T, Fain SB, Shah DM, Wieben O, Reeder SB, **Hernando D**. Ferumoxytol-Enhanced Quantitative Susceptibility Mapping of the Rhesus Placenta. E-Poster. International Society for Magnetic Resonance in Medicine 25th Annual Meeting. Honolulu, HI. April 26, 2017. Program Number: 2093.
135. Zhu A, Shimakawa A, Nguyen S, Johnson KM, Bird IM, Golos T, Fain SB, Shah DM, Wieben O, **Reeder SB**, Hernando D. Comparison of R2\* and B0 Field in 2D and 3D Ferumoxytol-Enhanced Chemical Shift-Encoded MRI of the Healthy Rhesus Placenta. International Society for Magnetic Resonance in Medicine 25th Annual Meeting. Honolulu, HI. April 2017.
136. Roberts NR, **Hernando D**, Holmes JH, Wiens CN, Reeder SB. Noise Properties of Proton Density Fat Fraction Estimated using Chemical Shift Encoded MRI. International Society for Magnetic Resonance in Medicine 25th Annual Meeting. Honolulu, HI. April 26,2017. Program Number: 5193.
137. Horng DE, Sharma SD, Reeder SB, **Hernando D**. Effect of Poisson kernel parameters on background field removal accuracy for QSM. 25th Annual Meeting of the International Society for Magnetic Resonance in Medicine. Honolulu, HI. April 2017.
138. Wang X, **Hernando D**, Reeder SB. Fast T1 Correction for Fat Quantification using a Dual-TR Chemical Shift Encoded MRI Acquisition. 25th Annual Meeting of the International Society for Magnetic Resonance in Medicine, Honolulu, HI, April 2017.
139. Pirasteh A, Yuan Q, Wang C, **Hernando D**, Reeder SB, Pedrosa I, Yokoo T. Liver R2 Quantiﬁcation at 3 Tesla in Patients with Iron Overload - Interim Validation Result Validation Result. Electronic Poster. 25th Annual Meeting of the International Society for Magnetic Resonance in Medicine. Honolulu, HI. April 24, 2017.
140. Peña-Nogales Ó, **Hernando D**, Aja-Fernández S, Luis-Garcia R. Determination of the Optimal Set of B-Values for ADC Mapping Under a Rician Noise Assumption. E-Poster. 25th Annual Meeting of the International Society for Magnetic Resonance in Medicine. Honolulu, HI. April 24, 2017.
141. Peña-Nogales Ó, Luis-Garcia R, Aja-Fernández S, Zhang Y, Holmes J, **Hernando D.** Optimal Design of Motion-Compensated Diffusion Gradient Waveforms. E-Poster. 25th Annual Meeting of the International Society for Magnetic Resonance in Medicine. Honolulu, HI. April 24, 2017.
142. Zhu A, **Hernando D**, Johnson KM, Reeder SB. Quantification of Short-T2\* Signal Components in the Liver Using Radial 3D UTE Chemical Shift-Encoded MRI. Electronic Power Pitch Poster. International Society for Magnetic Resonance in Medicine 25th Annual Meeting. Honolulu, HI. April 24, 2017.
143. Reeder SB, Wiens CN, Artz N, Schwimmer J, Agni R, Watson R, Wolfson T, Gamst A, Campos G, Horgan S, Funk L, Jacobsen G, Greenberg J, Schlein A, Covarrubias Y, Hooker J, Middleton M, Hamilton G, Ratliff B, McMillan A, **Hernando D**, Sirlin CB. Electronic Power Pitch Poster. In Vivo Biochemical and Histological Validation of Proton Density Fat Fraction as a Quantitative Biomarker of Hepatic Steatosis. International Society for Magnetic Resonance in Medicine 25th Annual Meeting. Honolulu, HI. April, 24, 2017. Program Number: 0124.
144. Ratliff BA, **Hernando D**, Wiens C, Wang C, Watson R, Agni R, Sirlin CB, Reeder SB. Liver Biopsy Analysis to Determine Fat Droplet Distribution. Traditional Poster. 25th Annual Meeting of the International Society for Magnetic Resonance in Medicine. Honolulu, HI. April 24, 2017.
145. Van Heeswijk R, Colotti R, Darcot E, Delacoste J, Pellegrin M, Piccini D, **Hernando D**. Multi-Echo Chemical Shift Encoding (MECSE) for Sensitive Fluorine-19 MRI of Complex Spectra. Oral Presentation. 25th Annual Meeting of the International Society for Magnetic Resonance in Medicine. Honolulu, HI. April 25, 2017.
146. Zhang Y, Peña-Nogales Ó, Holmes J, **Hernando D**. Monte-Carlo Analysis of Quantitative Diffusion Measurements Using Motion-Compensated Diffusion Weighting Waveforms. Traditional Poster. 25th Annual Meeting of the International Society for Magnetic Resonance in Medicine. Honolulu, HI. April 25, 2017.
147. Henze Bancroft LC, **Hernando D**, Wang X, Reeder SB, Strigel RM. Quantifying Fibroglandular Tissue Volume using Chemical-Shift Encoded MRI: Validation in a Phantom. Traditional Poster. 25th Annual Meeting of the International Society for Magnetic Resonance in Medicine. Honolulu, HI. April 26, 2017.
148. Campo CA, **Hernando D**, Schubert T, Van Pay A, Reeder SB. Inter- and intra-reviewer agreement of region-of-interest-based quantification of liver R2\* in patients with iron overload. Traditional Poster. 25th Annual Meeting of the International Society for Magnetic Resonance in Medicine. Honolulu, HI, April 26, 2017. Program Number: 2848.
149. Pooler BD, Ruby JA, **Hernando D**, Shimakawa, Reeder SB. MRI Quantification of Liver Proton Density Fat Fraction during Free Breathing using a Motion-Insensitive Single-Shot 2D Technique. E-Poster. 25th Annual Meeting of the International Society for Magnetic Resonance in Medicine. Honolulu, HI. April 26, 2017.
150. **Hernando D**, Wang C, Mattison RJ, Yokoo T, Reeder SB. Spectroscopy-Based R2 Relaxometry for Liver Iron Quantiﬁcation at 1.5T and 3.0T. Traditional Poster. 25th Annual Meeting of the International Society for Magnetic Resonance in Medicine. Honolulu, HI. April 26, 2017.
151. Sing-Long C, Arrieta C, Wiens C, **Hernando D**, Uribe S. Water and Fat Separation Using a Gauss-Newton Trust-Region Based Algorithm. E-Poster. 25th Annual Meeting of the International Society for Magnetic Resonance in Medicine. Honolulu, HI. April 26, 2017.
152. Johnson J, Bancroft LH, Zea R, **Hernando D**, Reeder SB, Strigel R. Gradient tracing for segmentation of low resolution, low T1-weighted breast MR images. Traditional Poster. 25th Annual Meeting of the International Society for Magnetic Resonance in Medicine. Honolulu, HI. April 26, 2017.
153. Luo H, Wiens C, Shimakawa A, Reeder SB, Johnson KM, **Hernando D**. A novel fat and iron quantiﬁcation technique with non-rigid motion-corrected averaging based on non-local means. Oral Presentation. 25th Annual Meeting of the International Society for Magnetic Resonance in Medicine. Honolulu, HI. April 27, 2017.
154. Zhang Y, Holmes J, Guidon A, Well S, **Hernando D**. In-Vivo Reproducibility of Quantitative Diffusion MRI in the Prostate Using Reduced Field-Of-View and Multi-Shot Acquisitions. Oral Presentation. 25th Annual Meeting of the International Society for Magnetic Resonance in Medicine. Honolulu, HI. April 27, 2017.
155. Ludwig K, **Hernando D**, Roberts N, van Heeswijk R, Fain S. Chemical shift encoded (CSE) image reconstruction for spectral selection in Fluorine-19 MRI. Traditional Poster. 25th Annual Meeting of the International Society for Magnetic Resonance in Medicine. Honolulu, HI. April 27, 2017.
156. Guan X, **Hernando D**, Cokic I, Yang HJ, Wang G, Tang RL, Reeder SB, Dharmakumar R. The dependence of fatty remodeling of infarct territories on iron remnants from acute myocardial infarctions: a serial CMR study. CMR 2018. Jan 31- Feb 3, 2018. Barcelona, Spain.
157. Cokic I, Wang G, Guan X, Yang HJ, Tang RL, **Hernando D**, Reeder SB, Dharmakumar R. Lipomatous metaplasia of hemorrhagic myocardial infarction is a self-perpetuating process driven by foam cell formation and iron recycling. CMR 2018. Jan 31- Feb 3, 2018. Barcelona, Spain.
158. Zhu A, Ludwig KD, Zha W, Nguyen S, Golos TG, Bird IM, Shah DM, Wieben O, Fain SB, Reeder SB, **Hernando D**, Johnson KM. Functional imaging of the placenta: comparison of ferumoxytol DCE MRI and endogenous bold contrast in rhesus macaque. Poster. ISMRM Workshop on MRI of the Placenta. Atlanta, GA. February 4-6, 2018.
159. Reeder SB, Pooler BD, **Hernando D**. A rapid, non-contrast MRI protocol for detection and quantification of hepatic steatosis and iron overload. Oral Presentation. ISMRM-RSNA Co-Provided Workshop on High-Value MRI. Washington, D.C. February 18, 2018.
160. Johnson JM, Henze Bancroft L, **Hernando D**, Reeder SB, Strigel RM. Effects of Training Data Quantity on Performance of Convolutional Segmentation Model for Breast MR Images. Poster. ISMRM Workshop on Machine Learning. Pacific Grove, CA. March 14-17, 2018.
161. Knobloch G, Colgan T, Wang X, Schubert T, **Hernando D**, Reeder SB. Combined Gadoxetic Acid and Gadobenate Dimeglumine Enhanced Liver MRI for Liver Metastasis Detection: a Parameter Optimization Study. Oral Presentation. ISMRM Annual Meeting. Paris, France. June 18, 2018.
162. Colgan T, Knobloch G, Reeder SB, **Hernando D**. Sensitivity of Relaxometry and Quantitative Susceptibility Mapping o Microscopic Iron Distribution. Oral Presentation. ISMRM Annual Meeting. Paris, France. June 18, 2018.
163. Roberts N, Colgan T, Wang X, **Hernando D**, Reeder SB. B1- And Fat-Corrected T1 Mapping Using Chemical-Shift Encoded MRI. E-Poster. ISMRM Annual Meeting. Paris, France. June 19, 2018.
164. Rivera-Rivera L, Zhu A, Colgan T, **Hernando D**, Schubert T, Turski P, Johnson K. Comparison of Cerebral Blood Volume Estimates using Quantitative Susceptibility Mapping, and R2\* relaxometry. Oral Presentation. ISMRM Annual Meeting. Paris, France. June 19, 2018.
165. **Hernando D**, Zhao R, Taviani V, Ghasabeh MA, Pan L, Yuan Q, Ruschke S, Karampinos D, Zhong X, Mattison R, Kamel I, Pedrosa I, Vasanawala S, Yokoo T, Reeder SB. Liver R2 as a Biomarker of Liver Iron Concentration: Interim Results from a Multi-Center, Multi-Vendor Reproducibility Study at 1.5T and 3T. ISMRM Annual Meeting. Paris, France. June 19, 2018.
166. Pena-Nogales O, Zhang Y, de Luis-Garcia R, Aja-Fernandez S, Holmes J, **Hernando D**. Optimal Diffusion-weighting Gradient Waveform Design (ODGD): Formulation and Experimental Validation. Poster. ISMRM Annual Meeting. Paris, France. June 19, 2018.
167. Zhang Y, Holmes J, Johnson K, Cashen T, **Hernando D**. Quantitative Characterization of the Motion Sensitivity of Stimulated Echo Diffusion-weighted Imaging in the Liver. Oral Presentation. ISMRM Annual Meeting. Paris, France. June 19, 2018.
168. Knobloch G, Colgan T, Wiens C, Wang X, Schubert T, **Hernando D**, Reeder SB. Relaxivity of Ferumoxytol at 1.5 T and 3.0T. E-Poster. ISMRM Annual Meeting. Paris, France. June 20, 2018.
169. Zhu A, Colgan T, Reeder SB, **Hernando D**. Test-retest Repeatability of R2\* Mapping and Quantitative Susceptibility Mapping for Liver Iron Quantification. Poster. ISMRM Annual Meeting. Paris, France. June 20, 2018.
170. Zhao R, Taviani V, Vasanawala S, Reeder SB, **Hernando D**. Validation of Quantitative Susceptibility Mapping of the Liver at 1.5T and 3.0T using SQUID-Based Liver Susceptometry as the Reference. Poster. ISMRM Annual Meeting. Paris, France. June 20, 2018.
171. Ratliff B, Sharma S, Brittain J, Reeder SB, **Hernando D**. Longitudinal Stability of a Quantitative Fat-Water Phantom. Poster. ISMRM Annual Meeting. Paris, France. June 20, 2018.
172. Zhu A, Ludwig K, Zha W, Nguyen S, Golos T, Bird I, Shah D, Wieben O, Fain S, Reeder SB, **Hernando D**, Johnson K. Placental Functional Imaging with Endogenous Contrast: Preliminary Comparison of BOLD Effect and ASL Fair in Rhesus Macaque and Human. E-poster. ISMRM Annual Meeting. Paris, France. June 20, 2018.
173. Cokic I, Wang G, Guan X, Yang HJ, Tang R, **Hernando D**, Reeder SB, Dharmakumar R. Propagation of Metaplastic Adipose Tissue Throughout the Scar of Hemorrhagic Myocardial Infarct is an Iron-Dependent Process: Cardiac MRI Study with Histological Insights. E-Poster. ISMRM Annual Meeting. Paris, France. June 20, 2018.
174. Wang C, Ratliff B, Sirlin C, Reeder SB, **Hernando D**. Monte Carlo Modeling of Liver MR Signal in the Presence of Fat. Poster. ISMRM Annual Meeting. Paris, France. June 20, 2018.
175. Wang C, Reeder SB, **Hernando D**. Monte Carlo Modeling of Multiple Spin Echo Signals in the Presence of Liver Iron Overload. Poster. ISMRM Annual Meeting. Paris, France. June 20, 2018.
176. Carey K, Reeder SB, Kliewer M, Guillerman R, **Hernando D**, Nagle SK. MRI in the evaluation of liver involvement in pediatric patients with cystic fibrosis. Poster. ISMRM Annual Meeting. Paris, France. June 20, 2018.
177. Pirasteh A, Yuan Q, Pedrosa I, **Hernando D**, Reeder SB, Yokoo T. Inter-method Reproducibility of Biexponential R2 Magnetic Resonance Relaxometry for Estimation of Liver Iron Concentration. Poster. ISMRM Annual Meeting. Paris, France. June 20, 2018.
178. Jones R, Bentley J, Taviani V, **Hernando D**, Reeder SB, Vasanawala S. Demonstration of linear correlation between R2\* and liver iron concentration across multiple MR acquisition parameters at 1.5T and 3T. Poster. ISMRM Annual Meeting. Paris, France. June 20, 2018.
179. Lawrence E, Roberts N, **Hernando D**, Reeder SB. Effect of Signal to Noise Ratio and Estimator Type on Bias of Hepatic Proton Density Fat Fraction Measurement. Poster. ISMRM Annual Meeting. Paris, France. June 20, 2018.
180. Wang X, **Hernando D**, Reeder SB. In vivo feasibility of T1-corrected Dual-TR Chemical Shift Encoded Fat Quantification Method. Poster. ISMRM Annual Meeting. Paris, France. June 21, 2018.
181. Zhang Y, Wang X, Taviani V, **Hernando D**. Stimulated Echo based Mapping (STEM) of T1, T2 and Apparent Diffusion Coefficient. E-Poster. ISMRM Annual Meeting. Paris, France. June 21, 2018.
182. **Hernando D**, Zhao R, Mattison R, Reeder S, Yokoo T, Pedrosa I, Yuan Q, Karampinos D, Ruschke S, Kamel I, Aliyari M, Zhong X, Vasanawala S, Taviani V. Multi-center, multi-vendor reproducibility of confounder-corrected R2\* mapping for liver iron quantification at 1.5T and 3T: interim results. Society of Abdominal Imaging Annual Meeting. Orlando, FL. March 17, 2019.
183. Zhao R, Hamilton G, Brittain J, Reeder SB, **Hernando D**. A Quantitative MRI Phantom to Mimic the Simultaneous Presence of Fat, Iron, and Fibrosis. Poster. International Society for Magnetic Resonance in Medicine Annual Meeting. Montreal, Canada. May 13, 2019.
184. Roberts N, **Hernando D**, Colgan T, Hinshaw L, Kernan D, Reeder SB. B0 and B1 Inhomogeneities in the Liver at 1.5T and 3.0T. Poster. International Society for Magnetic Resonance in Medicine Annual Meeting. Montreal, Canada. May 13, 2019.
185. Zhang Y, Wells S, Triche B, Kelcz K, **Hernando D**. Reduced T2-shinethrough effects in prostate diffusion-weighted imaging with Stimulated Echo imaging. Poster. International Society for Magnetic Resonance in Medicine Annual Meeting. Montreal, Canada. May 13, 2019.
186. Yokoo T, Pedrosa I, **Hernando D**, Reeder SB. Bayesian selection of dedicated liver iron quantification MRI for patients with clinically-significant iron overload. Poster. International Society for Magnetic Resonance in Medicine Annual Meeting. Montreal, Canada. May 13, 2019.
187. Zhang Y, Pena-Nogales O, Holmes J, **Hernando D**. Motion-Robust and Blood-Suppressed M1-Optimized Diffusion MR Imaging of the Liver. Poster. International Society for Magnetic Resonance in Medicine Annual Meeting. Montreal, Canada. May 13, 2019.
188. Anzia L, Wells S, Hernando D, Roldan-Alzate A. Pelvic MRI with Segmentation and 3D Anatomical Renderings provide a Novel Method for Quantifying Clinically Relevant Parameters of the Lower Urinary Tract. Poster. International Society for Magnetic Resonance in Medicine Annual Meeting. Montreal, Canada. May 13, 2019.
189. Wang X, **Hernando D**, Reeder SB. A Novel Phase Based T2 Mapping Technique Using Gradient Echo Imaging. Oral Presentation. International Society for Magnetic Resonance in Medicine Annual Meeting. Montreal, Canada. May 15, 2019.
190. Hoffman C, Laeseke P, Wieben O, **Hernando D**. Effects of Multiple Contrast Agents in Multi-Modality Imaging for Liver Embolizations: A Preliminary MRI Analysis. Poster. International Society for Magnetic Resonance in Medicine Annual Meeting. Montreal, Canada. May 15, 2019.
191. Zhang Y, Wells S, Roldan-Alzate A, **Hernando D**. Simultaneous T1, T2, and ADC Mapping in Prostate Cancer and BPH using Stimulated-Echo based Mapping (STEM). Oral Presentation. International Society for Magnetic Resonance in Medicine Annual Meeting. Montreal, Canada. May 15, 2019.
192. Geng R, Zhang Y, Luo H, **Hernando D**. Toward high-SNR, motion-robust diffusion MRI of the liver using optimized gradient waveforms, non-gated free-breathing acquisitions, and motion-corrected averaging. Oral Presentation. International Society for Magnetic Resonance in Medicine Annual Meeting. Montreal, Canada. May 15, 2019.
193. Zhang Y, Geng R, Guidon A, Holmes J, **Hernando D**. Motion-Robust and Distortion-Corrected Diffusion MR Imaging of the Liver with Optimized Motion-Compensated Waveforms and Multi-shot EPI acquisition. Poster. International Society for Magnetic Resonance in Medicine Annual Meeting. Montreal, Canada. May 15, 2019.
194. Pena-Nogales O, Zhang Y, de Luis-Garcia R, Aja-Fernandez S, Holmes J, Hernando D. Reduced Eddy Current induced image distortions and Peripheral Nerve Stimulation based on the Optimal Diffusion-weighting Gradient Waveform Design (ODGD) formulation. Poster. International Society for Magnetic Resonance in Medicine Annual Meeting. Montreal, Canada. May 15, 2019.
195. Zhu A, Colgan T, Reeder SB, **Hernando D**. Characterization of Bias in Quantitative Susceptibility Mapping with Anisotropic Imaging Resolution: Studies in a Numerical Phantom, 3D Printed Liver Phantom, and In Vivo Patient Scans. Poster. International Society for Magnetic Resonance in Medicine Annual Meeting. Montreal, Canada. May 16, 2019.
196. Roberts N, **Hernando D**, Colgan T, Wang X, Reeder SB. Simultaneous B1- and fat-corrected T1 mapping using chemical-shift encoded MRI. Poster. International Society for Magnetic Resonance in Medicine Annual Meeting. Montreal, Canada. May 16, 2019.
197. **Hernando D**, Zhao R, Taviani V, Aliyari Ghasabeh M, Pan L, Yuan Q, Ruschke S, Karampinos D, Zhong X, Mattison R, Kamel I, Pedrosa I, Vasanawala S, Yokoo T, Reeder SB. Repeatability and reproducibility of confounder-corrected R2\* as a biomarker of liver iron concentration: interim results from a multi-center, multi-vendor study at 1.5T and 3T. Power Pitch and Power Pitch Poster. International Society for Magnetic Resonance in Medicine Annual Meeting. Montreal, Canada. May 16, 2019.
198. Qiu S, Colgan TJ, Zhu A, Johnson KM, Reeder SB, **Hernando D**. Readout duration-dependent bias on R2\* mapping and quantitative susceptibility mapping using 3D Radial and Cones Acquisitions at 3.0T. Poster. International Society for Magnetic Resonance in Medicine Annual Meeting. Montreal, Canada. May 16, 2019.
199. Roberts N, Colgan TJ, Wang K, **Hernando D**. Performance comparison of channel combination methods for multi-echo chemical shift-encoded MRI. Poster. International Society for Magnetic Resonance in Medicine Annual Meeting. Montreal, Canada. May 16, 2019.
200. Rajlawot K, Zhou J, Lin C, Kuang S, Chen J, Zhang Y, Yang H, Deng Y, He B, **Hernando D**, Wang J, Reeder SB. Diagnostic performance of chemical shift in/opposed phase (IOP) and fat-fraction to evaluate the presence of intra-tumoral fat in HCC. Poster. International Society for Magnetic Resonance in Medicine Annual Meeting. Montreal, Canada. May 16, 2019.
201. Zhao R, Zhang Y, Wang X, Johnson KM, Reeder SB, **Hernando D**. Motion-Robust, High-SNR Fat Quantification using a Variable Flip Angle Approach. Oral Presentation. International Society for Magnetic Resonance in Medicine Annual Meeting. Montreal, Canada. May 16, 2019.
202. Hu H, Yokoo T, **Hernando D**, Bashir M, Middleton M, Seraj S, Malyarenko D, Chenevert T, Smith M, Henderson W, Hamilton G, Shu Y, Sirlin C, Tkach J, Trout A, Brittain J, Reeder SB. QIBA PDFF Committee, the RSNA. Multi-Site, Multi-Vendor, and Multi-Platform Reproducibility and Accuracy of Quantitative Proton-Density Fat Fraction (PDFF) at 1.5 and 3 Tesla with a Standardized Spherical Phantom: Preliminary Results from a Study by the RSNA QIBA PDFF Committee. Power Pitch and Power Pitch Poster. International Society for Magnetic Resonance in Medicine Annual Meeting. Montreal, Canada. May 16, 2019.
203. Liu X, Pedrosa I, **Hernando D**, Reeder S, Yokoo T. Improved robustness of R2\* mapping using spin-density projection for liver iron quantification at 3 Tesla. Oral Presentation. International Society for Magnetic Resonance in Medicine Annual Meeting. Montreal, Canada. May 16, 2019.
204. Zhao R, **Hernando D**, Li K, Brittain JH, Pickhardt PJ, Reeder SB. Novel CT and MR Compatible Phantom to Mimic Liver Fat Concentration. E-Poster. AAPM 2019. San Antonio, TX. July 14-18, 2019.

**Invited Research Presentations**

1. Investigacion multidisciplinar. Universidad de Valladolid (Spain), November 18, 2013.
2. Quantitative liver imaging. Madison-Freiburg Workshop on Accelerated MRI, Freiburg (Germany), September 24, 2012.
3. Development and validation of MRI-based quantitative imaging biomarkers. Systems Information Learning Optimization (SILO)seminar, Wisconsin Institutes for Discovery, University of Wisconsin- Madison, October 23, 2013.
4. Introduction to magnetic resonance imaging (MRI). Hot research topics in MRI. Universidad de Valladolid (Spain), November 18, 2013.
5. MRI-based quantitative imaging biomarkers. Universidad de Valladolid (Spain), November 19, 2013.
6. Quantitative diffusion MRI in the body: why it doesn’t work. Universidad de Valladolid (Spain), November 20, 2013.
7. Fat and iron quantification using MRI. Universidad de Valladolid (Spain), November 25, 2013.
8. Desarrollo de una carrera investigadora en EEUU. Universidad de Valladolid (Spain), November 26, 2013.
9. MRI research topics: flow quantification and imaging near metal. Universidad de Valladolid (Spain), November 27, 2013.
10. Introduction to MRI-based quantitative imaging biomarkers, UW-Madison “MR Physics for Fellows” course, Madison, WI, December 2013.
11. MR quantification of liver iron, Annual Meeting of the Radiological Society of North America, Chicago, December 5, 2013.
12. MRI-based quantification of liver fat and iron, University of Michigan Department of Radiology, Ann Arbor, March 28, 2014.
13. Fat Quantification in MSK Imaging: Technical Factors, ISMRM Sunrise Educational Course, Milan, Italy, May 14, 2014 (Outstanding Teacher Award)
14. Introduction to MRI-based quantitative imaging biomarkers, UW-Madison “MR Physics for Fellows” course, Madison, WI, January 2015.
15. Susceptibility MRI Outside the Brain, ISMRM Weekend Educational Course: Magnetic Susceptibility Imaging, Singapore, May 8, 2016
16. Confounders to Iron Quantification in the Liver, ISMRM Combined Educational & Scientific Session: Quantitative Biomarkers of Diffuse Liver Disease, Singapore, May 10, 2016
17. Quantitative Susceptibility Mapping, Society for Magnetic Resonance Radiographers and Technologists 2017 Annual Meeting, Honolulu, HI, April 23, 2017.
18. Quantitative Susceptibility Mapping, Society for Magnetic Resonance Radiographers and Technologists 2017 Annual Meeting, April 23, 2017.
19. Quantitative MRI of BPH, O’Brien Center Symposium, Madison, WI, May 24, 2017
20. Magnetic Resonance Imaging of the Prostate, Summer Program in Undergraduate Urologic Research (SPUUR) invited lecture, Madison, WI, July 6, 2017
21. Quantitative MRI of the Prostate, O’Brien Center Monthly on Campus Speaker Seminar, Madison, WI, October 18, 2017.
22. Magnetic Resonance Imaging of Prostatic Disease. Society of Basic Urologic Research at the American Urological Association (AUA) Annual Meeting. San Francisco, CA. May 19, 2018.
23. Technical Development. International Society for Magnetic Resonance in Medicine Annual Meeting. Montreal, Canada. May 13, 2019.

**Patents**

1. Koch KM, **Hernando D**. *System and method for reconstructing multi-spectral 3D MR images*.

Patent No.: US 7,952,356 B2; May 31, 2011.

1. **Hernando D**, Reeder SB. Method for R2\* quantification with magnetic resonance imaging.

Patent No.: US 20,120,268,121, October 25, 2012.

1. **Hernando D**. *Method for error compensated chemical species signal separation with magnetic resonance imaging.* Patent No.: US 20,120,268,120, October 25, 2012.
2. Hernando D, Reeder SB. System and Method For Magnetic Resonance Imaging Parametric Mapping Using Confidence Maps. Patent Application 20140233817, August 21, 2014.
3. Sutton B, Van A, **Hernando D**. *Method for Correcting Motion-Induced Phase Errors In Magnetic Resonance Imaging*. Patent No.: US 8,975,895, March 10, 2015.
4. **Hernando D**, Reeder SB. *System and Method for Magnetic Resonance Imaging Water-Fat Separation with Full Dynamic Range Using In-Phase Images.* Patent No.: US 8,957,681, February 17, 2015.
5. Reeder SB, **Hernando D**. System and Method for Assessing Susceptibility of Tissue Using Magnetic Resonance Imaging. US Patent Application: 20140142417. Submitted 5/22/14. Accepted 1/12/18. US Patent 9,943,246 B2, 4/17/18
6. Reeder SB, **Hernando D**, Sharma S. Phantom For Iron and Fat Quantification Magnetic Resonance Imaging. US Patent Application: 20160363645. US Patent 10,036,796, issued 7/31/18.
7. Reeder SB, Wang X, Hernando D. System and Method for Confounder-Corrected T1 Measures using MRI. US Patent 10,261.152, issued 4/16/19.
8. Wang X, Hernando D, Reeder SB. Phantom for Quantitative Diffusion Magnetic Resonance Imaging. US Patent 10,261,161, issued 4/16/19.

**Educational Activities & Presentations**

**Teaching**

1. **BME 574 / Medical Physics 574: Medical Imaging Science: Applications**. Co-instructor of the course, jointly with Prof. Sean Fain, since Spring 2019.
2. **BME 573 / Medical Physics 573: Medical Imaging Science: Mathematical and Conceptual Foundations**. Co-instructor of the course, jointly with Prof. Sean Fain, since Fall 2018.
3. **BME 530 / Medical Physics 530: Medical imaging systems**. First half of the course, covering signal processing and MRI physics, Spring 2014 and Spring 2015. *An interim evaluation was performed in 2015, with all respondents rating Dr. Hernando in the top category compared to all other instructors they have had.*
4. **BME 574 / Medical Physics 574: Medical Imaging Science: Applications**. Invited lecture covering regularized image reconstruction and compressed sensing, Spring 2014 and Spring 2015
5. Medical Physics 710 (Oliver Wieben’s Course). Quantitative MRI. October 3, 2017.
6. Medical Physics 573 (Jim Holden’s Course). Moments of Distributions. October 20, 2017.

**Mentoring**

1. Debra Horng (Medical Physics PhD student, 2010-2017).
2. Xiaoke Wang (Biomedical Engineering PhD student, 2012-present).
3. Ante Zhu (Biomedical Engineering PhD student, 2015-present).
4. Nathan Roberts (Electrical Engineering PhD student, 2015-present).
5. Huiwen Luo (Visiting student, 2016).
6. Annie Zhang (Medical Physics PhD student, 20160-present).
7. Ruiyang Zhao (Medical Physics PhD student, 2017-present).
8. Collin Buelo (Medical Physics PhD student, 2018-present).
9. Ruiqi Geng (Medical Physics PhD student, 2018-present).
10. Shihan Qiu (Vising undergraduate student, 2018-present).
11. Aitor Jaunarena (Visiting student, 2018-1/2019).

**Service Activities**

**Departmental**

**UWSMPH/Hospital**

2017 - Current **MR Modality Expert**

UW Carbone Cancer

2018 – Current **Organizer and Leader**

Machine Learning for Medical Imaging (ML4MI) Initiative

**Community**

**Regional**

**National/International**

2018 – Current **Vice-Chair, Quantitative MRI Study Group**

International Society for Magnetic Resonance in Medicine

**Other Activities**

**Professional Activities**

February 19-22, 2012 Co-Organizer, ISMRM Workshop on Fat-Water Separation

2011-2012 Led the development of the Fat-Water Toolbox for MRI based chemical shift encoded imaging, available through the ISMRM website

2019 Co-Organizer, ISMRM Workshop on MRI of Obesity & Metabolic Disorders

# Journal Reviewer:

Magnetic Resonance in Medicine

Journal of Magnetic Resonance Imaging

Radiology

Medical Physics

IEEE Transactions on Medical Imaging

IEEE Transactions on Biomedical Engineering

IEEE Signal Processing Letters European Radiology

European Radiology

# Moderator at International Conferences

Fat-Water Imaging. 18th Annual Meeting of the International Society for Magnetic Resonance in Medicine, Stockholm, Sweden, May 7, 2010.

Relaxometric and Water/Fat Imaging. 20th Annual Meeting of the International Society for Magnetic Resonance in Medicine. Melbourne, Australia. May 9, 2012.

Hepatobiliary I. 22nd Annual Meeting of the International Society for Magnetic Resonance in Medicine. Milan, Italy. May 12, 2014.

Parametric Mapping 23rd Annual Meeting of the International Society for Magnetic Resonance in Medicine, Toronto, Canada, June 2, 2015.

Hepatobiliary 2: Pancreasbiliary. 24th Annual Meeting of the International Society for Magnetic Resonance in Medicine. Singapore. May 10, 2015.