Stanford



Dwight Nishimura

Addie and Al Macovski Professor, Emeritus

Electrical Engineering

Bio

BIO

Nishimura develops new acquisition and processing techniques for improved medical imaging.

ACADEMIC APPOINTMENTS

- Emeritus Faculty, Acad Council, Electrical Engineering
- Member, Bio-X
- Member, Cardiovascular Institute
- Member, Maternal & Child Health Research Institute (MCHRI)
- Member, Stanford Cancer Institute

LINKS

- Lab: http://mrsrl.stanford.edu
- Personal: http://www-ee.stanford.edu/~dwight

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

medical imaging, magnetic resonance imaging

Teaching

STANFORD ADVISEES

Doctoral Dissertation Reader (AC)

Daniel Abraham, Alex Toews

Doctoral (Program)

Ridvan Yesiloglu

Publications

PUBLICATIONS

- **High-resolution, respiratory-resolved coronary MRA using a Phyllotaxis-reordered variable-density 3D cones trajectory.** *Magnetic resonance imaging*
  Koundinyan, S. P., Baron, C. A., Malavé, M. O., Ong, F., Addy, N. O., Cheng, J. Y., Yang, P. C., Hu, B. S., Nishimura, D. G.

2023

- **Reconstruction of undersampled 3D non-Cartesian image-based navigators for coronary MRA using an unrolled deep learning model.** *Magnetic resonance in medicine*
  Malave, M. O., Baron, C. A., Koundinyan, S. P., Sandino, C. M., Ong, F., Cheng, J. Y., Nishimura, D. G.
  2020
- **Combined T2 -preparation and multidimensional outer volume suppression for coronary artery imaging with 3D cones trajectories.** *Magnetic resonance in medicine*
  Zeng, D. Y., Baron, C. A., Malave, M. O., Kerr, A. B., Yang, P. C., Hu, B. S., Nishimura, D. G.
  2019
- **Banding-free balanced SSFP cardiac cine using frequency modulation and phase cycle redundancy.** *Magnetic resonance in medicine*
  Datta, A., Nishimura, D. G., Baron, C. A.
  2019
- **Whole-heart coronary MR angiography using a 3D cones phyllotaxis trajectory** *MAGNETIC RESONANCE IN MEDICINE*
  Malave, M. O., Baron, C. A., Addy, N., Cheng, J. Y., Yang, P. C., Hu, B. S., Nishimura, D. G.
  2019; 81 (2): 1092–1103
- **Deep residual network for off-resonance artifact correction with application to pediatric body MRA with 3D cones.** *Magnetic resonance in medicine*
  Zeng, D. Y., Shaikh, J. n., Holmes, S. n., Brunsing, R. L., Pauly, J. M., Nishimura, D. G., Vasanawala, S. S., Cheng, J. Y.
  2019
- **Whole-heart coronary MR angiography using a 3D cones phyllotaxis trajectory.** *Magnetic resonance in medicine*
  Malave, M. O., Baron, C. A., Addy, N. O., Cheng, J. Y., Yang, P. C., Hu, B. S., Nishimura, D. G.
  2018
- **Rapid compressed sensing reconstruction of 3D non-Cartesian MRI** *MAGNETIC RESONANCE IN MEDICINE*
  Baron, C. A., Dwork, N., Pauly, J. M., Nishimura, D. G.
  2018; 79 (5): 2685–92
- **Mitigation of near-band balanced steady-state free precession through-plane flow artifacts using partial dephasing.** *Magnetic resonance in medicine*
  Datta, A. n., Cheng, J. Y., Hargreaves, B. A., Baron, C. A., Nishimura, D. G.
  2018; 79 (6): 2944–53
- **3D image-based navigators for coronary MR angiography** *MAGNETIC RESONANCE IN MEDICINE*
  Addy, N. O., Ingle, R. R., Luo, J., Baron, C. A., Yang, P. C., Hu, B. S., Nishimura, D. G.
  2017; 77 (5): 1874-1883
- **Nonrigid Motion Correction With 3D Image-Based Navigators for Coronary MR Angiography** *MAGNETIC RESONANCE IN MEDICINE*
  Luo, J., Addy, N. O., Ingle, R. R., Baron, C. A., Cheng, J. Y., Hu, B. S., Nishimura, D. G.
  2017; 77 (5): 1884-1893
- **Measuring B-1 distributions by B-1 phase encoding** *MAGNETIC RESONANCE IN MEDICINE*
  Jordanova, K. V., Nishimura, D. G., Kerr, A. B.
  2017; 77 (1): 229-236
- **High-resolution diffusion-weighted imaging of the breast with multiband 2D radiofrequency pulses and a generalized parallel imaging reconstruction** *MAGNETIC RESONANCE IN MEDICINE*
  Taviani, V., Alley, M. T., Banerjee, S., Nishimura, D. G., Daniel, B. L., Vasanawala, S. S., Hargreaves, B. A.
  2017; 77 (1): 209-220
- **Reduced Field-of-View DWI with Robust Fat Suppression and Unrestricted Slice Coverage Using Tilted 2D RF Excitation** *MAGNETIC RESONANCE IN MEDICINE*
  Banerjee, S., Nishimura, D. G., Shankaranarayanan, A., Saritas, E. U.
  2016; 76 (6): 1668-1676
- **B0 mapping using rewinding trajectories (BMART).** *Magnetic resonance in medicine*

Baron, C. A., Nishimura, D. G.
2016

- **Robust self-navigated body MRI using dense coil arrays.** *Magnetic resonance in medicine*
  Zhang, T., Cheng, J. Y., Chen, Y., Nishimura, D. G., Pauly, J. M., Vasanawala, S. S.
  2016; 76 (1): 197-205
- **3D image-based navigators for coronary MR angiography.** *Magnetic resonance in medicine*
  Addy, N. O., Ingle, R. R., Luo, J., Baron, C. A., Yang, P. C., Hu, B. S., Nishimura, D. G.
  2016
- **Nonrigid motion correction with 3D image-based navigators for coronary MR angiography.** *Magnetic resonance in medicine*
  Luo, J., Addy, N. O., Ingle, R. R., Baron, C. A., Cheng, J. Y., Hu, B. S., Nishimura, D. G.
  2016
- **Lowering the B1 threshold for improved BEAR B1 mapping.** *Magnetic resonance in medicine*
  Jordanova, K. V., Nishimura, D. G., Kerr, A. B.
  2016; 75 (3): 1262-1268
- **Measuring B1 distributions by B1 phase encoding.** *Magnetic resonance in medicine*
  Jordanova, K. V., Nishimura, D. G., Kerr, A. B.
  2016
- **High-resolution diffusion-weighted imaging of the breast with multiband 2D radiofrequency pulses and a generalized parallel imaging reconstruction.** *Magnetic resonance in medicine*
  Taviani, V., Alley, M. T., Banerjee, S., Nishimura, D. G., Daniel, B. L., Vasanawala, S. S., Hargreaves, B. A.
  2016
- **Combined Outer Volume Suppression and T-2 Preparation Sequence for Coronary Angiography** *MAGNETIC RESONANCE IN MEDICINE*
  Luo, J., Addy, N. O., Ingle, R. R., Hargreaves, B. A., Hu, B. S., Nishimura, D. G., Shin, T.
  2015; 74 (6): 1632-1639
- **Combined outer volume suppression and T2 preparation sequence for coronary angiography.** *Magnetic resonance in medicine*
  Luo, J., Addy, N. O., Ingle, R. R., Hargreaves, B. A., Hu, B. S., Nishimura, D. G., Shin, T.
  2015; 74 (6): 1632-9
- **Non-contrast-enhanced peripheral angiography using a sliding interleaved cylinder acquisition** *MAGNETIC RESONANCE IN MEDICINE*
  Kwon, K. T., Kerr, A. B., Wu, H. H., Hu, B. S., Brittain, J. H., Nishimura, D. G.
  2015; 74 (3): 727-738
- **High-resolution variable-density 3D cones coronary MRA.** *Magnetic resonance in medicine*
  Addy, N. O., Ingle, R. R., Wu, H. H., Hu, B. S., Nishimura, D. G.
  2015; 74 (3): 614-621
- **Non-contrast-enhanced peripheral angiography using a sliding interleaved cylinder acquisition.** *Magnetic resonance in medicine*
  Kwon, K. T., Kerr, A. B., Wu, H. H., Hu, B. S., Brittain, J. H., Nishimura, D. G.
  2015; 74 (3): 727-738
- **High-resolution variable-density 3D cones coronary MRA** *MAGNETIC RESONANCE IN MEDICINE*
  Addy, N. O., Ingle, R. R., Wu, H. H., Hu, B. S., Nishimura, D. G.
  2015; 74 (3): 614-621
- **Self-Gated Fat-Suppressed Cardiac Cine MRI** *MAGNETIC RESONANCE IN MEDICINE*
  Ingle, R. R., Santos, J. M., Overall, W. R., McConnell, M. V., Hu, B. S., Nishimura, D. G.
  2015; 73 (5): 1764-1774
- **Rapid Single-Breath-Hold 3D Late Gadolinium Enhancement Cardiac MRI Using a Stack-of-Spirals Acquisition** *JOURNAL OF MAGNETIC RESONANCE IMAGING*
  Shin, T., Lustig, M., Nishimura, D. G., Hu, B. S.
  2014; 40 (6): 1496-1502

- **Rapid single-breath-hold 3D late gadolinium enhancement cardiac MRI using a stack-of-spirals acquisition.** *Journal of magnetic resonance imaging*
  Shin, T., Lustig, M., Nishimura, D. G., Hu, B. S.
  2014; 40 (6): 1496-1502
- **Hadamard Slice Encoding for Reduced-FOV Diffusion-Weighted Imaging** *MAGNETIC RESONANCE IN MEDICINE*
  Saritas, E. U., Lee, D., Cukur, T., Shankaranarayanan, A., Nishimura, D. G.
  2014; 72 (5): 1277-1290
- **Hadamard slice encoding for reduced-FOV diffusion-weighted imaging.** *Magnetic resonance in medicine*
  Saritas, E. U., Lee, D., Çukur, T., Shankaranarayanan, A., Nishimura, D. G.
  2014; 72 (5): 1277-1290
- **B1 estimation using adiabatic refocusing: BEAR.** *Magnetic resonance in medicine*
  Jordanova, K. V., Nishimura, D. G., Kerr, A. B.
  2014; 72 (5): 1302-1310
- **B-1 Estimation Using Adiabatic Refocusing: BEAR** *MAGNETIC RESONANCE IN MEDICINE*
  Jordanova, K. V., Nishimura, D. G., Kerr, A. B.
  2014; 72 (5): 1302-1310
- **Parameter estimation approach to banding artifact reduction in balanced steady-state free precession.** *Magnetic resonance in medicine*
  Björk, M., Ingle, R. R., Gudmundson, E., Stoica, P., Nishimura, D. G., Barral, J. K.
  2014; 72 (3): 880-892
- **The feasibility of assessing branched-chain amino acid metabolism in cellular models of prostate cancer with hyperpolarized [1-(13)C]-ketoisocaproate.** *Magnetic resonance imaging*
  Billingsley, K. L., Park, J. M., Josan, S., Hurd, R., Mayer, D., Spielman-Sun, E., Nishimura, D. G., Brooks, J. D., Spielman, D.
  2014; 32 (7): 791-795
- **Nonrigid autofocus motion correction for coronary MR angiography with a 3D cones trajectory.** *Magnetic resonance in medicine*
  Ingle, R. R., Wu, H. H., Addy, N. O., Cheng, J. Y., Yang, P. C., Hu, B. S., Nishimura, D. G.
  2014; 72 (2): 347-361
- **Three-Dimensional Magnetization-Prepared Imaging Using a Concentric Cylinders Trajectory** *MAGNETIC RESONANCE IN MEDICINE*
  Kwon, K. T., Wu, H. H., Shin, T., Cukur, T., Lustig, M., Nishimura, D. G.
  2014; 71 (5): 1700-1710
- **Collectivity evolution in the neutron-rich Pd isotopes toward the N=82 shell closure** *PHYSICAL REVIEW C*
  Wang, H., Aoi, N., Takeuchi, S., Matsushita, M., Doornenbal, P., Motobayashi, T., Steppenbeck, D., Yoneda, K., Baba, H., Caceres, L., Dombradi, Z., Kobayashi, K., Kondo, et al
  2013; 88 (5)
- **Off-resonance-robust velocity-selective magnetization preparation for non-contrast-enhanced peripheral MR angiography.** *Magnetic resonance in medicine*
  Shin, T., Hu, B. S., Nishimura, D. G.
  2013; 70 (5): 1229-1240
- **Noncontrast-enhanced renal angiography using multiple inversion recovery and alternating TR balanced steady-state free precession** *MAGNETIC RESONANCE IN MEDICINE*
  Dong, H. Z., Worters, P. W., Wu, H. H., Ingle, R. R., Vasanawala, S. S., Nishimura, D. G.
  2013; 70 (2): 527-536
- **Non-contrast-enhanced renal and abdominal MR angiography using velocity-selective inversion preparation.** *Magnetic resonance in medicine*
  Shin, T., Worters, P. W., Hu, B. S., Nishimura, D. G.
  2013; 69 (5): 1268-1275
- **Reproducibility study for free-breathing measurements of pyruvate metabolism using hyperpolarized 13C in the heart** *MAGNETIC RESONANCE IN MEDICINE*
  Wu, H. H., Gurney, P. T., Hu, B. S., Nishimura, D. G., McConnell, M. V.

2013; 69 (4): 1083-1093

- **Free-breathing multiphase whole-heart coronary MR angiography using image-based navigators and three-dimensional cones imaging.** *Magnetic resonance in medicine : official journal of the Society of Magnetic Resonance in Medicine / Society of Magnetic Resonance in Medicine*
  Wu, H. H., Gurney, P. T., Hu, B. S., Nishimura, D. G., McConnell, M. V.
  2013; 69 (4): 1083-93
- **Three-dimensional first-pass myocardial perfusion MRI using a stack-of-spirals acquisition** *MAGNETIC RESONANCE IN MEDICINE*
  Shin, T., Nayak, K. S., Santos, J. M., Nishimura, D. G., Hu, B. S., McConnell, M. V.
  2013; 69 (3): 839-844
- **Clinical Evaluation of Reduced Field-of-View Diffusion-Weighted Imaging of the Cervical and Thoracic Spine and Spinal Cord** *AMERICAN JOURNAL OF NEURORADIOLOGY*
  Andre, J. B., Zaharchuk, G., Saritas, E., Komakula, S., Shankaranarayan, A., Banerjee, S., Rosenberg, J., Nishimura, D. G., Fischbein, N. J.
  2012; 33 (10): 1860-1866
- **Theranostic effect of serial manganese-enhanced magnetic resonance imaging of human embryonic stem cell derived teratoma** *MAGNETIC RESONANCE IN MEDICINE*
  Chung, J., Dash, R., Kee, K., Barral, J. K., Kosuge, H., Robbins, R. C., Nishimura, D., Reijo-Pera, R. A., Yang, P. C.
  2012; 68 (2): 595-599
- **Simple method for MR gradient system characterization and k-space trajectory estimation** *MAGNETIC RESONANCE IN MEDICINE*
  Addy, N. O., Wu, H. H., Nishimura, D. G.
  2012; 68 (1): 120-129
- **Methods for registration of magnetic resonance images of ex vivo prostate specimens with histology** *JOURNAL OF MAGNETIC RESONANCE IMAGING*
  Kimm, S. Y., Tarin, T. V., Lee, J. H., Hu, B., Jensen, K., Nishimura, D., Brooks, J. D.
  2012; 36 (1): 206-212
- **The central signal singularity phenomenon in balanced SSFP and its application to positive-contrast imaging** *MAGNETIC RESONANCE IN MEDICINE*
  Ingle, R. R., Cukur, T., Nishimura, D. G.
  2012; 67 (6): 1673-1683
- **High-resolution Diffusion-weighted Magnetic Resonance Imaging in Patients with Locally Advanced Breast Cancer** *ACADEMIC RADIOLOGY*
  Singer, L., Wilmes, L. J., Saritas, E. U., Shankaranarayanan, A., Proctor, E., Wisner, D. J., Chang, B., Joe, B. N., Nishimura, D. G., Hylton, N. M.
  2012; 19 (5): 526-534
- **A k-space analysis of small-tip-angle excitation. 1989.** *Journal of magnetic resonance*
  Pauly, J., Nishimura, D., Macovski, A.
  2011; 213 (2): 544-557
- **Introduction to: A k-space analysis of small-tip-angle excitation.** *Journal of magnetic resonance*
  Pauly, J. M., Nishimura, D. G., Macovski, A.
  2011; 213 (2): 558-559
- **Initial Experience with Five-Dimensional Cardiac-Respiratory Ventricular Function Evaluation Using a Novel Magnetic Resonance Imaging Technique** *Scientific Sessions of the American-Heart-Association/Resuscitation Science Symposium*
  Wu, H. H., Nishimura, D. G., McConnell, M. V., Hu, B. S.
  LIPPINCOTT WILLIAMS & WILKINS.2011
- **In vivo Molecular MRI of Cell Survival and Teratoma Formation Following Embryonic Stem Cell Transplantation Into the Injured Murine Myocardium** *MAGNETIC RESONANCE IN MEDICINE*
  Chung, J., Kee, K., Barral, J. K., Dash, R., Kosuge, H., Wang, X., Weissman, I., Robbins, R. C., Nishimura, D., Quertermous, T., Reijo-Pera, R. A., Yang, P. C.
  2011; 66 (5): 1374-1381
- **Three-dimensional fluid-suppressed T2-prep flow-independent peripheral angiography using balanced SSFP** *MAGNETIC RESONANCE IMAGING*

Bangerter, N. K., Cukur, T., Hargreaves, B. A., Hu, B. S., Brittain, J. H., Park, D., Gold, G. E., Nishimura, D. G.
2011; 29 (8): 1119-1124

- **A Molecular MRI Probe to Detect Treatment of Cardiac Apoptosis In Vivo** *MAGNETIC RESONANCE IN MEDICINE*
  Dash, R., Chung, J., Chan, T., Yamada, M., Barral, J., Nishimura, D., Yang, P. C., Simpson, P. C.
  2011; 66 (4): 1152-1162
- **Real-Time Motion Correction for High-Resolution Larynx Imaging** *MAGNETIC RESONANCE IN MEDICINE*
  Barral, J. K., Santos, J. M., Damrose, E. J., Fischbein, N. J., Nishimura, D. G.
  2011; 66 (1): 174-179
- **Reduced Field-of-View Diffusion Imaging of the Human Spinal Cord: Comparison with Conventional Single-Shot Echo-Planar Imaging** *AMERICAN JOURNAL OF NEURORADIOLOGY*
  Zaharchuk, G., Saritas, E. U., Andre, J. B., CHIN, C. T., Rosenberg, J., Brosnan, T. J., Shankaranarayan, A., Nishimura, D. G., Fischbein, N. J.
  2011; 32 (5): 813-820
- **Signal Compensation and Compressed Sensing for Magnetization-Prepared MR Angiography** *IEEE TRANSACTIONS ON MEDICAL IMAGING*
  Cukur, T., Lustig, M., Saritas, E. U., Nishimura, D. G.
  2011; 30 (5): 1017-1027
- **Magnetization-Prepared IDEAL bSSFP: A Flow-Independent Technique for Noncontrast-Enhanced Peripheral Angiography** *JOURNAL OF MAGNETIC RESONANCE IMAGING*
  Cukur, T., Shimakawa, A., Yu, H., Hargreaves, B. A., Hu, B. S., Nishimura, D. G., Brittain, J. H.
  2011; 33 (4): 931-939
- **SNR Dependence of Optimal Parameters for Apparent Diffusion Coefficient Measurements** *IEEE TRANSACTIONS ON MEDICAL IMAGING*
  Saritas, E. U., Lee, J. H., Nishimura, D. G.
  2011; 30 (2): 424-437
- **FeCo/Graphite Nanocrystals for Multi-Modality Imaging of Experimental Vascular Inflammation** *PLOS ONE*
  Kosuge, H., Sherlock, S. P., Kitagawa, T., Terashima, M., Barral, J. K., Nishimura, D. G., Dai, H., McConnell, M. V.
  2011; 6 (1)
- **Right coronary wall cmr in the older asymptomatic advance cohort: positive remodeling and associations with type 2 diabetes and coronary calcium** *JOURNAL OF CARDIOVASCULAR MAGNETIC RESONANCE*
  Terashima, M., Nguyen, P. K., Rubin, G. D., Meyer, C. H., Shimakawa, A., Nishimura, D. G., Ehara, S., Iribarren, C., Courtney, B. K., Go, A. S., Hlatky, M. A., Fortmann, S. P., McConnell, et al
  2010; 12
- **A Robust Methodology for In Vivo T-1 Mapping** *MAGNETIC RESONANCE IN MEDICINE*
  Barral, J. K., Gudmundson, E., Stikov, N., Etezadi-Amoli, M., Stoica, P., Nishimura, D. G.
  2010; 64 (4): 1057-1067
- **3D Magnetization-Prepared Imaging Using a Stack-of-Rings Trajectory** *MAGNETIC RESONANCE IN MEDICINE*
  Wu, H. H., Nishimura, D. G.
  2010; 63 (5): 1210-1218
- **Variable-Density Parallel Imaging With Partially Localized Coil Sensitivities** *IEEE TRANSACTIONS ON MEDICAL IMAGING*
  Cukur, T., Santos, J. M., Pauly, J. M., Nishimura, D. G.
  2010; 29 (5): 1173-1181
- **In Vivo High-Resolution Magnetic Resonance Skin Imaging at 1.5 T and 3 T** *MAGNETIC RESONANCE IN MEDICINE*
  Barral, J. K., Bangerter, N. K., Hu, B. S., Nishimura, D. G.
  2010; 63 (3): 790-796
- **Positive Contrast with Alternating Repetition Time SSFP (PARTS): A Fast Imaging Technique for SPIO-Labeled Cells** *MAGNETIC RESONANCE IN MEDICINE*
  Cukur, T., Yamada, M., Overall, W. R., Yang, P., Nishimura, D. G.
  2010; 63 (2): 427-437

- **High-Contrast In Vivo Visualization of Microvessels Using Novel FeCo/GC Magnetic Nanocrystals** *MAGNETIC RESONANCE IN MEDICINE*
  Lee, J. H., Sherlock, S. P., Terashima, M., Kosuge, H., Suzuki, Y., Goodwin, A., Robinson, J., Seo, W. S., Liu, Z., Luong, R., McConnell, M. V., Nishimura, D. G., Dai, et al
  2009; 62 (6): 1497-1509

- **In vivo Kinetics of Embryonic Stem Cell Viability Following Transplantation Into the Injured Murine Myocardium** *82nd National Conference and Exhibitions and Scientific Sessions of the American-Heart-Association*
  Chung, J., Kee, K., Barral, J. K., Dash, R., Weissman, I., Quertermous, T., Robbins, R. C., Nishimura, D. G., Reijo-Pera, R. A., Yang, P. C.
  LIPPINCOTT WILLIAMS & WILKINS.2009: S310–S311

- **Manganese-Guided Cellular MRI of Human Embryonic Stem Cell and Human Bone Marrow Stromal Cell Viability** *MAGNETIC RESONANCE IN MEDICINE*
  Yamada, M., Gurney, P. T., Chung, J., Kundu, P., Drukker, M., Smith, A. K., Weissman, I. L., Nishimura, D., Robbins, R. C., Yang, P. C.
  2009; 62 (4): 1047-1054

- **Multiple Repetition Time Balanced Steady-State Free Precession Imaging** *MAGNETIC RESONANCE IN MEDICINE*
  Cukur, T., Nishimura, D. G.
  2009; 62 (1): 193-204

- **Non-contrast-Enhanced Flow-Independent Peripheral MR Angiography with Balanced SSFP** *MAGNETIC RESONANCE IN MEDICINE*
  Cukur, T., Lee, J. H., Bangerter, N. K., Hargreaves, B. A., Nishimura, D. G.
  2009; 61 (6): 1533-1539

- **Anisotropic field-of-view shapes for improved PROPELLER imaging** *MAGNETIC RESONANCE IMAGING*
  Larson, P. E., Lustig, M. S., Nishimura, D. G.
  2009; 27 (4): 470-479

- **Improving Non-contrast-Enhanced Steady-State Free Precession Angiography with Compressed Sensing** *MAGNETIC RESONANCE IN MEDICINE*
  Cukur, T., Lustig, M., Nishimura, D. G.
  2009; 61 (5): 1122-1131

- **Fat/Water Separation Using a Concentric Rings Trajectory** *MAGNETIC RESONANCE IN MEDICINE*
  Wu, H. H., Lee, J. H., Nishimura, D. G.
  2009; 61 (3): 639-649

- **Multiple-profile homogeneous image combination: Application to phase-cycled SSFP and multicoil imaging** *MAGNETIC RESONANCE IN MEDICINE*
  Cukur, T., Lustig, M., Nishimura, D. G.
  2008; 60 (3): 732-738

- **DWI of the spinal cord with reduced FOV single-shot EPI** *MAGNETIC RESONANCE IN MEDICINE*
  Saritas, E. U., Cunningham, C. H., Lee, J. H., Han, E. T., Nishimura, D. G.
  2008; 60 (2): 468-473

- **Fat-water separation with alternating repetition time balanced SSFP** *MAGNETIC RESONANCE IN MEDICINE*
  Cukur, T., Nishimura, D. G.
  2008; 60 (2): 479-484

- **Full-brain coverage and high-resolution Imaging capabilities of passband b-SSFP fMRI at 3T** *MAGNETIC RESONANCE IN MEDICINE*
  Lee, J. H., Dumoulin, S. O., Saritas, E. U., Glover, G. H., Wandell, B. A., Nishimura, D. G., Pauly, J. M.
  2008; 59 (5): 1099-1110

- **Synthesis and characterization of PVP-coated large core iron oxide nanoparticles as an MRI contrast agent** *NANOTECHNOLOGY*
  Lee, H., Lee, S., Xu, C., Xie, J., Lee, J., Wu, B., Koh, A. L., Wang, X., Sinclair, R., Xwang, S., Nishimura, D. G., Biswal, S., Sun, et al
  2008; 19 (16)

- **Synthesis and characterization of PVP-coated large core iron oxide nanoparticles as an MRI contrast agent.** *Nanotechnology*
  Lee, H. Y., Lee, S. H., Xu, C., Xie, J., Lee, J. H., Wu, B., Koh, A. L., Wang, X., Sinclair, R., Wang, S. X., Nishimura, D. G., Biswal, S., Sun, et al
  2008; 19 (16): 165101

- **MRI using a concentric rings trajectory** *MAGNETIC RESONANCE IN MEDICINE*
  Wu, H. H., Lee, J. H., Nishimura, D. G.
  2008; 59 (1): 102-112
- **Anisotropic field-of-views in radial imaging** *IEEE TRANSACTIONS ON MEDICAL IMAGING*
  Larson, P. E., Gurney, P. T., Nishimura, D. G.
  2008; 27 (1): 47-57
- **Varying kernel-extent gridding reconstruction for undersampled variable-density spirals** *MAGNETIC RESONANCE IN MEDICINE*
  Cukur, T., Santos, J. M., Nishimura, D. G., Pauly, J. M.
  2008; 59 (1): 196-201
- **Enhanced spectral shaping in steady-state free precession imaging** *MAGNETIC RESONANCE IN MEDICINE*
  Cukur, T., Bangerter, N. K., Nishimura, D. G.
  2007; 58 (6): 1216-1223
- **Using adiabatic inversion pulses for long-T-2 suppression in ultrashort echo time (UTE) imaging** *MAGNETIC RESONANCE IN MEDICINE*
  Larson, P. E., Conolly, S. M., Pauly, J. M., Nishimura, D. G.
  2007; 58 (5): 952-961
- **Implementation of the Derivative Back Projection - Finite Hilbert Inverse algorithm in projection reconstruction MRI** *IEEE Nuclear Science Symposium/Medical Imaging Conference*
  Barral, J. K., Pelc, N. J., Pauly, J. A., Nishimura, D. G.
  IEEE.2007: 4083–4089
- **Fluid-attenuated inversion-recovery SSFP imaging** *JOURNAL OF MAGNETIC RESONANCE IMAGING*
  Bangerter, N. K., Hargreaves, B. A., Gold, G. E., Stucker, D. T., Nishimura, D. G.
  2006; 24 (6): 1426-1431
- **FeCo/graphitic-shell nanocrystals as advanced magnetic-resonance-imaging and near-infrared agents** *NATURE MATERIALS*
  Seo, W. S., Lee, J. H., Sun, X., Suzuki, Y., Mann, D., Liu, Z., Terashima, M., Yang, P. C., McConnell, M. V., Nishimura, D. G., Dai, H.
  2006; 5 (12): 971-976
- **Effects of 3D sampling in (k,t)-space on temporal qualities of dynamic MRI** *MAGNETIC RESONANCE IMAGING*
  Park, J. B., Nishimura, D. G.
  2006; 24 (8): 1009-1014
- **Rapid cardiac-output measurement with ungated spiral phase contrast** *MAGNETIC RESONANCE IN MEDICINE*
  Park, J. B., Hu, B. S., Conolly, S. M., Nayak, K. S., Nishimura, D. G.
  2006; 56 (2): 432-438
- **Designing long-T-2 suppression pulses for ultrashort echo time imaging** *MAGNETIC RESONANCE IN MEDICINE*
  Larson, P. E., Gurney, P. T., Nayak, K., Gold, G. E., Pauly, J. M., Nishimura, D. G.
  2006; 56 (1): 94-103
- **Design and analysis of a practical 3D cones trajectory** *MAGNETIC RESONANCE IN MEDICINE*
  Gurney, P. T., Hargreaves, B. A., Nishimura, D. G.
  2006; 55 (3): 575-582
- **Single breath-hold whole-heart MRA using variable-density spirals at 3T** *MAGNETIC RESONANCE IN MEDICINE*
  Santos, J. M., Cunningham, C. H., Lustig, M., Hargreaves, B. A., Hu, B. S., Nishimura, D. G., Pauly, J. M.
  2006; 55 (2): 371-379
- **Dual-acquisition phase-sensitive fat-water separation using balanced steady-state free precession** *MAGNETIC RESONANCE IMAGING*
  Hargreaves, B. A., Bangerter, N. K., Shimakawa, A., Vasanawala, S. S., Brittain, J. H., Nishimura, D. G.
  2006; 24 (2): 113-122
- **Broadband multicoil imaging using multiple demodulation hardware: A feasibility study** *MAGNETIC RESONANCE IN MEDICINE*
  Lee, J. H., Scott, G. C., Pauly, J. M., Nishimura, D. G.
  2005; 54 (3): 669-676

- **Variable-density one-shot Fourier velocity encoding** *MAGNETIC RESONANCE IN MEDICINE*
  DiCarlo, J. C., Hargreaves, B. A., Nayak, K. S., Hu, B. S., Pauly, J. M., Nishimura, D. G.
  2005; 54 (3): 645-655
- **Rapid gridding reconstruction with a minimal oversampling ratio** *IEEE TRANSACTIONS ON MEDICAL IMAGING*
  Beatty, P. J., Nishimura, D. G., Pauly, J. M.
  2005; 24 (6): 799-808
- **Spiral balanced steady-state free precession cardiac imaging** *MAGNETIC RESONANCE IN MEDICINE*
  Nayak, K. S., Hargreaves, B. A., Hu, B. S., Nishimura, D. G., Pauly, J. M., Meyer, C. H.
  2005; 53 (6): 1468-1473
- **Rapid musculoskeletal MRI with phase-sensitive steady-state free precession: Comparison with routine knee MRI** *AMERICAN JOURNAL OF ROENTGENOLOGY*
  Vasanawala, S. S., Hargreaves, B. A., Pauly, J. M., Nishimura, D. G., Beaulieu, C. F., Gold, G. E.
  2005; 184 (5): 1450-1455
- **Rapid measurement of renal artery blood flow with ungated spiral phase-contrast MRI** *10th Annual Meeting of the International-Society-for-Magnetic-Resonance-in-Medicine (ISMRM)*
  Park, J. B., Santos, J. M., Hargreaves, B. A., Nayak, K. S., Sommer, G., Hu, B. S., Nishimura, D. G.
  JOHN WILEY & SONS INC.2005: 590–95
- **Noninvasive assessment of coronary vasodilation using magnetic resonance angiography** *JOURNAL OF THE AMERICAN COLLEGE OF CARDIOLOGY*
  Terashima, M., Meyer, C. H., Keeffe, B. G., Putz, E. J., De La Pena-Almaguer, E., Yang, P. C., Hu, B. S., Nishimura, D. G., McConnell, M. V.
  2005; 45 (1): 104-110
- **Variable-rate selective excitation for rapid MRI sequences** *MAGNETIC RESONANCE IN MEDICINE*
  Hargreaves, B. A., Cunningham, C. H., Nishimura, D. G., Conolly, S. M.
  2004; 52 (3): 590-597
- **Analysis of multiple-acquisition SSFP** *MAGNETIC RESONANCE IN MEDICINE*
  Bangerter, N. K., Hargreaves, B. A., Vasanawala, S. S., Pauly, J. M., Gold, G. E., Nishimura, D. G.
  2004; 51 (5): 1038-1047
- **Dynamic real-time architecture in magnetic resonance coronary angiography-a prospective clinical trial** *JOURNAL OF CARDIOVASCULAR MAGNETIC RESONANCE*
  Yang, P. C., Santos, J. M., Nguyen, P. K., Scott, G. C., Engvall, J., McConnell, M. V., Wright, G. A., Nishimura, D. G., Pauly, J. M., Hu, B. S.
  2004; 6 (4): 885-894
- **Optimal variable-density K-SPACE sampling in MRI** *2nd IEEE International Symposium on Biomedical Imaging*
  Lee, J. H., Osgood, B., Nishimura, D. G.
  IEEE.2004: 237–240
- **Spiral magnetic resonance coronary angiography - Direct comparison of 1.5 tesla vs. 3 tesla** *JOURNAL OF CARDIOVASCULAR MAGNETIC RESONANCE*
  Yang, P. C., Nguyen, P., Shimakawa, A., Brittain, J., Pauly, J., Nishimura, D., Hu, B., McConnell, M.
  2004; 6 (4): 877-884
- **Time-optimal multidimensional gradient waveform design for rapid imaging** *MAGNETIC RESONANCE IN MEDICINE*
  Hargreaves, B. A., Nishimura, D. G., Conolly, S. M.
  2004; 51 (1): 81-92
- **Fast 3D imaging using variable-density spiral trajectories with applications to limb perfusion** *MAGNETIC RESONANCE IN MEDICINE*
  Lee, J. H., Hargreaves, B. A., Hu, B. S., Nishimura, D. G.
  2003; 50 (6): 1276-1285
- **Real-time imaging of skeletal muscle velocity** *9th Annual Meeting of the ISMRM*
  Asakawa, D. S., Nayak, K. S., Blemker, S. S., Delp, S. L., Pauly, J. M., Nishimura, D. G., Gold, G. E.
  JOHN WILEY & SONS INC.2003: 734–39

- **Steady-state sequence synthesis and its application to efficient fat-suppressed imaging** *MAGNETIC RESONANCE IN MEDICINE*
  Overall, W. R., Nishimura, D. G., Hu, B. S.
  2003; 50 (3): 550-559
- **Rapid quantitation of high-speed flow jets** *6th Annual Scientific Session of the Society-for-Cardiovascular-Magnetic-Resonance*
  Nayak, K. S., Hu, B. S., Nishimura, D. G.
  JOHN WILEY & SONS INC.2003: 366–72
- **Fat-suppressed steady-state free precession imaging using phase detection** *MAGNETIC RESONANCE IN MEDICINE*
  Hargreaves, B. A., Vasanawala, S. S., Nayak, K. S., Hu, B. S., Nishimura, D. G.
  2003; 50 (1): 210-213
- **Spiral magnetic resonance coronary angiography with rapid real-time localization** *JOURNAL OF THE AMERICAN COLLEGE OF CARDIOLOGY*
  Yang, P. C., Meyer, C. H., Terashima, M., Kaji, S., McConnell, M. V., Macovski, A., Pauly, J. M., Nishimura, D. G., Hu, B. S.
  2003; 41 (7): 1134-1141
- **Comparison of new sequences for high-resolution cartilage imaging** *MAGNETIC RESONANCE IN MEDICINE*
  Hargreaves, B. A., Gold, G. E., Beaulieu, C. F., Vasanawala, S. S., Nishimura, D. G., Pauly, J. M.
  2003; 49 (4): 700-709
- **Adaptive real-time architecture in magnetic resonance coronary angiography: Clinical study** *52nd Annual Scientific Session of the American-College-of-Cardiology*
  Nguyen, P. K., Santos, J., Scott, G., Engvall, J., Wright, G., McConnell, M., Meyer, C., Nishimura, D., Pauly, J., Hu, B., Yang, P. C.
  ELSEVIER SCIENCE INC.2003: 468A–469A
- **Adaptive real-time imaging in magnetic resonance coronary angiography** *Clinical Research 2003 Meeting*
  Yang, P., Nguyen, P., Santos, J., Engvall, J., McConnell, M., Scott, G., Wright, G., Nishimura, D., Pauly, J., Hu, B.
  B C DECKER INC.2003: S360–S360
- **Rapid measurement of time-averaged blood flow using ungated spiral phase-contrast** *MAGNETIC RESONANCE IN MEDICINE*
  Park, J. B., Olcott, E. W., Nishimura, D. G.
  2003; 49 (2): 322-328
- **Magnetic resonance coronary angiography.** *Current cardiology reports*
  Yang, P. C., McConnell, M. V., Nishimura, D. G., Hu, B. S.
  2003; 5 (1): 55-62
- **Fast phase-contrast velocity measurement in the steady state** *MAGNETIC RESONANCE IN MEDICINE*
  Overall, W. R., Nishimura, D. G., Hu, B. S.
  2002; 48 (5): 890-898
- **MR imaging of knee cartilage with FEMR** *SKELETAL RADIOLOGY*
  Vasnawala, S. S., Pauly, J. M., Nishimura, D. G., Gold, G. E.
  2002; 31 (10): 574-580
- **NTG-enhanced coronary MRA: Improved SNR and vasodilation time course**
  Terashima, M., Keeffe, B. G., Putz, E. J., Yang, P. C., De La Pena-Almaguer, E., Hu, B. S., Nishimura, D. G., Meyer, C. H., McConnell, M. V.
  ELSEVIER SCIENCE INC.2002: 218A–218A
- **Oscillating dual-equilibrium steady-state angiography** *MAGNETIC RESONANCE IN MEDICINE*
  Overall, W. R., Conolly, S. M., Nishimura, D. G., Hu, B. S.
  2002; 47 (3): 513-522
- **In vivo real-time intravascular MRI** *JOURNAL OF CARDIOVASCULAR MAGNETIC RESONANCE*
  Rivas, P. A., Nayak, K. S., Scott, G. C., McConnell, M. V., Kerr, A. B., Nishimura, D. G., Pauly, J. M., Hu, B. S.
  2002; 4 (2): 223-232
- **High-resolution real-time MRI for vascular interventions**
  Terashima, M., De la pena-Almageur, E., Nayak, K. S., Yang, P. C., Pauly, J. M., Hu, B. S., McConnell, M. V.

LIPPINCOTT WILLIAMS & WILKINS.2001: 638–38

- **Real-time interactive coronary MRA** *MAGNETIC RESONANCE IN MEDICINE*
  Nayak, K. S., Pauly, J. M., Yang, P. C., Hu, B. S., Meyer, C. H., Nishimura, D. G.
  2001; 46 (3): 430-435
- **Rapid evaluation of left ventricular volume and mass without breath-holding using real-time interactive cardiac magnetic resonance imaging system** *JOURNAL OF THE AMERICAN COLLEGE OF CARDIOLOGY*
  Kaji, S., Yang, P. C., Kerr, A. B., Tang, W. H., Meyer, C. H., Macovski, A., Pauly, J. M., Nishimura, D. G., Hu, B. S.
  2001; 38 (2): 527-533
- **Characterization and reduction of the transient response in steady-state MR imaging** *MAGNETIC RESONANCE IN MEDICINE*
  Hargreaves, B. A., Vasanawala, S. S., Pauly, J. M., Nishimura, D. G.
  2001; 46 (1): 149-158
- **Real-time black-blood MRI using spatial presaturation** *7th Annual ISMRM Meeting*
  Nayak, K. S., Rivas, P. A., Pauly, J. M., Scott, G. C., Kerr, A. B., Hu, B. S., Nishimura, D. G.
  JOHN WILEY & SONS INC.2001: 807–12
- **Rapid ventricular assessment using real-time interactive multislice MRI** *MAGNETIC RESONANCE IN MEDICINE*
  Nayak, K. S., Pauly, J. M., Nishimura, D. G., Hu, B. S.
  2001; 45 (3): 371-375
- **Efficient off-resonance correction for spiral imaging** *8th Annual Meeting of the ISMRM*
  Nayak, K. S., Tsai, C. M., Meyer, C. H., Nishimura, D. G.
  JOHN WILEY & SONS INC.2001: 521–24
- **Seducing off-resonance distortion by echo-time interpolation** *MAGNETIC RESONANCE IN MEDICINE*
  Luk-Pat, G. T., Nishimura, D. G.
  2001; 45 (2): 269-276
- **Real-time interactive multislice MRI: Stress LV function and first pass perfusion**
  Nayak, K. S., Hu, B. S., Pauly, J. M., Putz, E. J., Kerr, A. B., Nishimura, D. G.
  LIPPINCOTT WILLIAMS & WILKINS.2000: 687–87
- **Real-time interactive coronary MR angiography**
  Nayak, K. S., Pauly, J. M., Hu, B. S., Yang, P. C., Meyer, C. H., Kerr, A. B., Nishimura, D. G.
  LIPPINCOTT WILLIAMS & WILKINS.2000: 398–98
- **Combined connectivity and a gray-level morphological filter in magnetic resonance coronary angiography** *MAGNETIC RESONANCE IN MEDICINE*
  Cline, H. E., Thedens, D. R., Meyer, C. H., Nishimura, D. G., Foo, T. K., Ludke, S.
  2000; 43 (6): 892-895
- **On the optimality of the gridding reconstruction algorithm** *IEEE TRANSACTIONS ON MEDICAL IMAGING*
  Sedarat, H., Nishimura, D. G.
  2000; 19 (4): 306-317
- **Reduced aliasing artifacts using variable-density k-space sampling trajectories** *MAGNETIC RESONANCE IN MEDICINE*
  Tsai, C. M., Nishimura, D. G.
  2000; 43 (3): 452-458
- **Off-centered spiral trajectories** *MAGNETIC RESONANCE IN MEDICINE*
  Tsai, C. M., Man, L. C., Nishimura, D. G.
  2000; 43 (3): 446-451
- **Partial-FOV reconstruction in dynamic spiral imaging** *MAGNETIC RESONANCE IN MEDICINE*
  Sedarat, H., Kerr, A. B., Pauly, J. M., Nishimura, D. G.
  2000; 43 (3): 429-439
- **Evaluation of valvular regurgitation: Real-time color flow magnetic resonance imaging compared to echo**

Rivas, P. A., Nayak, K. S., Kerr, A. B., McConnell, M. V., Yang, P. C., Pauly, J. M., Nishimura, D. G., Hu, B. S.
ELSEVIER SCIENCE INC.2000: 453A–454A

- **Real-time color flow MRI** *2nd Annual Meeting of the Society-for-Cardiovascular-Magnetic-Resonance*
  Nayak, K. S., Pauly, J. M., Kerr, A. B., Hu, B. S., Nishimura, D. G.
  JOHN WILEY & SONS INC.2000: 251–58
- **The real-time interactive 3-D-DVA for robust coronary MRA** *IEEE TRANSACTIONS ON MEDICAL IMAGING*
  Sachs, T. S., Meyer, C. H., Pauly, J. M., Hu, B. S., Nishimura, D. G., Macovski, A.
  2000; 19 (2): 73-79
- **Automatic field map generation and off-resonance correction for projection reconstruction imaging** *MAGNETIC RESONANCE IN MEDICINE*
  Nayak, K. S., Nishimura, D. G.
  2000; 43 (1): 151-154
- **Linear combination steady-state free precession MRI** *MAGNETIC RESONANCE IN MEDICINE*
  Vasanawala, S. S., Pauly, J. M., Nishimura, D. G.
  2000; 43 (1): 82-90
- **Flow properties of fast three-dimensional sequences for MR angiography** *MAGNETIC RESONANCE IMAGING*
  Irarrazaval, P., Santos, J. M., Guarini, M., Nishimura, D.
  1999; 17 (10): 1469-1479
- **Real-time black-blood cardiac MRI**
  Nayak, K. S., Pauly, J. M., Hu, B. S., Kerr, A. B., Nishimura, D. G.
  LIPPINCOTT WILLIAMS & WILKINS.1999: 162–62
- **A randomized clinical trial of risk factor modification in 535 healthy women during menopause**
  Kuller, L. H., Simkin-Silverman, L. R., Milas, N. C., Berry, M., Wing, R. R.
  LIPPINCOTT WILLIAMS & WILKINS.1999: 522–22
- **Real-time interactive cardiac magnetic resonance imaging system with color flow mapping: Assessment of regurgitation severity compared with ultrasound color doppler**
  Rivas, P. A., Nayak, K. S., Kerr, A. B., Nishimura, D., Pauly, J. M., Hu, B. S.
  LIPPINCOTT WILLIAMS & WILKINS.1999: 456–56
- **Fluctuating equilibrium MRI** *MAGNETIC RESONANCE IN MEDICINE*
  Vasanawala, S. S., Pauly, J. M., Nishimura, D. G.
  1999; 42 (5): 876-883
- **Nonsubtractive spiral phase contrast velocity imaging** *MAGNETIC RESONANCE IN MEDICINE*
  Man, L. C., Pauly, J. M., Nishimura, D. G., Macovski, A.
  1999; 42 (4): 704-713
- **Flow quantification using low-spatial-resolution and low-velocity-resolution velocity images** *MAGNETIC RESONANCE IN MEDICINE*
  Tsai, C. H., Olcott, E. W., Nishimura, D. G.
  1999; 42 (4): 682-690
- **High-resolution three-dimensional in vivo imaging of atherosclerotic plaque** *MAGNETIC RESONANCE IN MEDICINE*
  Luk-Pat, G. T., Gold, G. E., Olcott, E. W., Hu, B. S., Nishimura, D. G.
  1999; 42 (4): 762-771
- **MR imaging of articular cartilage using driven equilibrium** *Scientific Meeting of the International-Society-for-Magnetic-Resonance-in-Medicine*
  Hargreaves, B. A., Gold, G. E., Lang, P. K., Conolly, S. M., Pauly, J. M., Bergman, G., Vandevenne, J., Nishimura, D. G.
  JOHN WILEY & SONS INC.1999: 695–703
- **Prospective MR signal-based cardiac triggering** *MAGNETIC RESONANCE IN MEDICINE*
  Vasanawala, S. S., Sachs, T. S., Brittain, J. H., Meyer, C. H., Nishimura, D. G.
  1999; 42 (1): 82-86

- **Fast magnetic resonance coronary angiography with a three-dimensional stack of spirals trajectory** *MAGNETIC RESONANCE IN MEDICINE*
  Thedens, D. R., Irarrazaval, P., Sachs, T. S., Meyer, C. H., Nishimura, D. G.
  1999; 41 (6): 1170-1179
- **Ultra-short echo-time 2D time-of-flight MR angiography using a half-pulse excitation** *MAGNETIC RESONANCE IN MEDICINE*
  Nielsen, H. T., Gold, G. E., Olcott, E. W., Pauly, J. M., Nishimura, D. G.
  1999; 41 (3): 591-599
- **Generalized gridding reconstruction from non-uniformly sampled data** *Conference on Applications of Digital Image Processing XXII*
  Sedarat, H., Nishimura, D.
  SPIE-INT SOC OPTICAL ENGINEERING.1999: 447–456
- **Real-time interactive MRI for cardiac applications** *International Symposium on Ultrafast Magnetic Resonance Imaging in Medicine (ISUM 99)*
  Pauly, J., Kerr, A., Meyer, C., Nayak, K., Hu, B., Yang, P., Nishimura, D., Macovski, A.
  ELSEVIER SCIENCE BV.1999: 119–123
- **3D MR coronary artery segmentation** *MAGNETIC RESONANCE IN MEDICINE*
  Cline, H. E., Thedens, D. R., Irarrazaval, P., Meyer, C. H., Hu, B. S., Nishimura, D. G., Ludke, S.
  1998; 40 (5): 697-702
- **Real-time cardiac MRI with color flow mapping**
  Nayak, K. S., Kerr, A. B., Hu, B. S., Pauly, J. M., Nishimura, D. G.
  LIPPINCOTT WILLIAMS & WILKINS.1998: 513–13
- **Real-time intravascular magnetic resonance imaging system**
  Hu, B. S., Scott, G. C., Meyer, C. H., Pauly, J. M., Nishimura, D. G., Macovski, A.
  LIPPINCOTT WILLIAMS & WILKINS.1998: 857–57
- **One-shot spatially resolved velocity imaging** *MAGNETIC RESONANCE IN MEDICINE*
  Pat, G. T., Pauly, J. M., Hu, B. S., Nishimura, D. G.
  1998; 40 (4): 603-613
- **The forkhead transcription factor gene FKHL7 is responsible for glaucoma phenotypes which map to 6p25** *NATURE GENETICS*
  Nishimura, D. Y., Swiderski, R. E., Alward, W. L., Searby, C. C., Patil, S. R., Bennet, S. R., Kanis, A. B., Gastier, J. M., Stone, E. M., Sheffield, V. C.
  1998; 19 (2): 140-147
- **High resolution magnetic resonance coronary angiography with real-time interactive localization**
  Meyer, C. H., Hu, B. S., Kerr, A. B., Pauly, J. M., Macovski, A., Nishimura, D. G.
  LIPPINCOTT WILLIAMS & WILKINS.1997: 1377–77
- **Three-dimensional flow-independent peripheral angiography** *MAGNETIC RESONANCE IN MEDICINE*
  Brittain, J. H., Olcott, E. W., Szuba, A., Gold, G. E., Wright, G. A., Irarrazaval, P., Nishimura, D. G.
  1997; 38 (3): 343-354
- **Real-time interactive MRI on a conventional scanner** *MAGNETIC RESONANCE IN MEDICINE*
  Kerr, A. B., Pauly, J. M., Hu, B. S., Li, K. C., Hardy, C. J., Meyer, C. H., Macovski, A., Nishimura, D. G.
  1997; 38 (3): 355-367
- **Consistent fat suppression with compensated spectral-spatial pulses** *MAGNETIC RESONANCE IN MEDICINE*
  Block, W., Pauly, J., Kerr, A., Nishimura, D.
  1997; 38 (2): 198-206
- **Background suppression with multiple inversion recovery nulling: Applications to projective angiography** *MAGNETIC RESONANCE IN MEDICINE*
  Mani, S., Pauly, J., Conolly, S., Meyer, C., Nishimura, D.
  1997; 37 (6): 898-905
- **RARE spiral T-2-weighted imaging** *MAGNETIC RESONANCE IN MEDICINE*
  Block, W., Pauly, J., Nishimura, D.
  1997; 37 (4): 582-590

- **Reducing flow artifacts in echo-planar imaging** *MAGNETIC RESONANCE IN MEDICINE*
  Pat, G. T., Meyer, C. H., Pauly, J. M., Nishimura, D. G.
  1997; 37 (3): 436-447
- **Improved 2D time-of-flight angiography using a radial-line k-space acquisition** *MAGNETIC RESONANCE IN MEDICINE*
  Nielsen, H. T., Olcott, E. W., Nishimura, D. G.
  1997; 37 (2): 285-291
- **Multi-slab three-dimensional magnetic resonance coronary angiography**
  Meyer, C. H., Hu, B. S., Sachs, T. S., Macovski, A., Nishimura, D. G.
  LIPPINCOTT WILLIAMS & WILKINS.1996: 2432–32
- **Inhomogeneity correction using an estimated linear field map** *MAGNETIC RESONANCE IN MEDICINE*
  Irarrazabal, P., Meyer, C. H., Nishimura, D. G., Macovski, A.
  1996; 35 (2): 278-282
- **FAST MULTISLICE MAGNETIC-RESONANCE CORONARY ANGIOGRAPHY**
  Hu, B. S., Meyer, C. H., Macovski, A., Nishimura, D. G.
  LIPPINCOTT WILLIAMS & WILKINS.1995: 1498–98
- **THE DIMINISHING VARIANCE ALGORITHM FOR REAL-TIME REDUCTION OF MOTION ARTIFACTS IN MRI** *MAGNETIC RESONANCE IN MEDICINE*
  Sachs, T. S., Meyer, C. H., Irarrazabal, P., Hu, B. S., Nishimura, D. G., Macovski, A.
  1995; 34 (3): 412-422
- **FAST 3-DIMENSIONAL MAGNETIC-RESONANCE-IMAGING** *MAGNETIC RESONANCE IN MEDICINE*
  Irarrazabal, P., Nishimura, D. G.
  1995; 33 (5): 656-662
- **CORONARY ANGIOGRAPHY WITH MAGNETIZATION-PREPARED T-2 CONTRAST** *MAGNETIC RESONANCE IN MEDICINE*
  Brittain, J. H., Hu, B. S., Wright, G. A., Meyer, C. H., Macovski, A., Nishimura, D. G.
  1995; 33 (5): 689-696
- **A VELOCITY K-SPACE ANALYSIS OF FLOW EFFECTS IN ECHO-PLANAR AND SPIRAL IMAGING** *MAGNETIC RESONANCE IN MEDICINE*
  Nishimura, D. G., Irarrazabal, P., Meyer, C. H.
  1995; 33 (4): 549-556
- **NOISE BEHAVIOR IN GRIDDING RECONSTRUCTION** *1995 International Conference on Acoustics, Speech, and Signal Processing*
  Mosquera, C., Irarrazabal, P., Nishimura, D. G.
  IEEE.1995: 2281–2284
- **REAL-TIME MOTION DETECTION IN SPIRAL MRI USING NAVIGATORS** *MAGNETIC RESONANCE IN MEDICINE*
  Sachs, T. S., Meyer, C. H., Hu, B. S., Kohli, J., Nishimura, D. G., Macovski, A.
  1994; 32 (5): 639-645
- **MULTISLICE MAGNETIC-RESONANCE CORONARY ANGIOGRAPHY**
  Hu, B. S., Meyer, C. H., Macovski, A., Nishimura, D. G.
  ELSEVIER SCIENCE INC.1994: A89–A89
- **Magnetic resonance angiography of the body. Physical principles and technical challenges.** *Magnetic resonance imaging clinics of North America*
  Nishimura, D. G.
  1993; 1 (2): 203-215
- **LOCALIZED REAL-TIME VELOCITY SPECTRA DETERMINATION** *MAGNETIC RESONANCE IN MEDICINE*
  Hu, B. S., Pauly, J. M., Nishimura, D. G.
  1993; 30 (3): 393-398
- **SPATIALLY-RESOLVED AND LOCALIZED REAL-TIME VELOCITY DISTRIBUTION** *MAGNETIC RESONANCE IN MEDICINE*
  Irarrazabal, P., Hu, B. S., Pauly, J. M., Nishimura, D. G.

1993; 30 (2): 207-212

- **A 3-DIMENSIONAL SPIN-ECHO OR INVERSION PULSE** *MAGNETIC RESONANCE IN MEDICINE*
  Pauly, J. M., Hu, B. S., Wang, S. J., Nishimura, D. G., Macovski, A.
  1993; 29 (1): 2-6
- **MAGNETIC-RESONANCE ANGIOGRAPHY** *WORKSHOP ON CARDIOVASCULAR IMAGING*
  Macovski, A., Hu, B., Meyer, C., Pauly, J., Wright, G., Nishimura, D. G.
  RAVEN PRESS.1993: 221–236
- **FAST SPIRAL CORONARY-ARTERY IMAGING** *MAGNETIC RESONANCE IN MEDICINE*
  Meyer, C. H., Hu, B. S., Nishimura, D. G., Macovski, A.
  1992; 28 (2): 202-213
- **INITIAL PATIENT STUDIES WITH FAST SPIRAL MAGNETIC-RESONANCE CORONARY ANGIOGRAPHY**
  Hu, B. S., Meyer, C. H., Macovski, A., Nishimura, D. G.
  LIPPINCOTT WILLIAMS & WILKINS.1992: 503–
- **PULSED SATURATION TRANSFER CONTRAST** *MAGNETIC RESONANCE IN MEDICINE*
  Hu, B. S., Conolly, S. M., Wright, G. A., Nishimura, D. G., Macovski, A.
  1992; 26 (2): 231-240
- **DEBLURRING FOR NON-2D FOURIER-TRANSFORM MAGNETIC-RESONANCE-IMAGING** *MAGNETIC RESONANCE IN MEDICINE*
  Noll, D. C., Pauly, J. M., Meyer, C. H., Nishimura, D. G., Macovski, A.
  1992; 25 (2): 319-333
- **TWISTING RADIAL LINES WITH APPLICATION TO ROBUST MAGNETIC-RESONANCE-IMAGING OF IRREGULAR FLOW** *MAGNETIC RESONANCE IN MEDICINE*
  Jackson, J. I., Nishimura, D. G., Macovski, A.
  1992; 25 (1): 128-139
- **2-DIMENSIONAL SELECTIVE ADIABATIC PULSES** *MAGNETIC RESONANCE IN MEDICINE*
  Conolly, S., Pauly, J., Nishimura, D., Macovski, A.
  1992; 24 (2): 302-313
- **FAST ANGIOGRAPHY USING SELECTIVE INVERSION RECOVERY** *MAGNETIC RESONANCE IN MEDICINE*
  Wang, S. J., Nishimura, D. G., Macovski, A.
  1992; 23 (1): 109-121
- **ON THE NATURE AND REDUCTION OF THE DISPLACEMENT ARTIFACT IN FLOW IMAGES** *MAGNETIC RESONANCE IN MEDICINE*
  Nishimura, D. G., Jackson, J. I., Pauly, J. M.
  1991; 22 (2): 481-492
- **A HOMOGENEITY CORRECTION METHOD FOR MAGNETIC-RESONANCE-IMAGING WITH TIME-VARYING GRADIENTS** *IEEE TRANSACTIONS ON MEDICAL IMAGING*
  Noll, D. C., Meyer, C. H., Pauly, J. M., Nishimura, D. G., Macovski, A.
  1991; 10 (4): 629-637
- **SELECTION OF A CONVOLUTION FUNCTION FOR FOURIER INVERSION USING GRIDDING** *IEEE TRANSACTIONS ON MEDICAL IMAGING*
  Jackson, J. I., Meyer, C. H., Nishimura, D. G., Macovski, A.
  1991; 10 (3): 473-478
- **HOMODYNE DETECTION IN MAGNETIC-RESONANCE-IMAGING** *IEEE TRANSACTIONS ON MEDICAL IMAGING*
  Noll, D. C., Nishimura, D. G., Macovski, A.
  1991; 10 (2): 154-163
- **THE CEPH1 CONSORTIUM LINKAGE MAP OF HUMAN CHROMOSOME-1** *GENOMICS*
  Dracopoli, N. C., OCONNELL, P., ELSNER, T. I., Lalouel, J. M., White, R. L., Buetow, K. H., Nishimura, D. Y., Murray, J. C., Helms, C., Mishra, S. K., DONISKELLER, H., Hall, J. M., Lee, et al
  1991; 9 (4): 686-700

- **CORONARY ANGIOGRAPHY USING FAST SELECTIVE INVERSION RECOVERY** *MAGNETIC RESONANCE IN MEDICINE*
  Wang, S. J., Hu, B. S., Macovski, A., Nishimura, D. G.
  1991; 18 (2): 417-423
- **PARAMETER RELATIONS FOR THE SHINNAR-LEROUX SELECTIVE EXCITATION PULSE DESIGN ALGORITHM** *IEEE TRANSACTIONS ON MEDICAL IMAGING*
  Pauly, J., LEROUX, P., Nishimura, D., Macovski, A.
  1991; 10 (1): 53-65
- **A REDUCED POWER SELECTIVE ADIABATIC SPIN-ECHO PULSE SEQUENCE** *MAGNETIC RESONANCE IN MEDICINE*
  Conolly, S., Glover, G., Nishimura, D., Macovski, A.
  1991; 18 (1): 28-38
- **FLOW-INDEPENDENT MAGNETIC-RESONANCE PROJECTION ANGIOGRAPHY** *DISCUSSION MEETING ON NMR IMAGING AND SPECTROSCOPY : ADVANCED TOPICS IN IMPLEMENTATION*
  Wright, G. A., Nishimura, D. G., Macovski, A.
  WILLIAMS & WILKINS.1991: 126–40
- **MAGNETIC-RESONANCE RECONSTRUCTION FROM PROJECTIONS USING HALF THE DATA** *CONF ON MEDICAL IMAGING 5 : IMAGE PHYSICS*
  Noll, D. C., Pauly, J. M., Nishimura, D. G., Macovski, A.
  SPIE - INT SOC OPTICAL ENGINEERING.1991: 29–36
- **MULTIPLE-READOUT SELECTIVE INVERSION RECOVERY ANGIOGRAPHY** *DISCUSSION MEETING ON NMR IMAGING AND SPECTROSCOPY : ADVANCED TOPICS IN IMPLEMENTATION*
  Wang, S. J., Nishimura, D. G., Macovski, A.
  WILLIAMS & WILKINS.1991: 244–51
- **SIMULTANEOUS SPATIAL AND SPECTRAL SELECTIVE EXCITATION** *MAGNETIC RESONANCE IN MEDICINE*
  Meyer, C. H., Pauly, J. M., Macovski, A., Nishimura, D. G.
  1990; 15 (2): 287-304
- **TIME-OF-FLIGHT MR ANGIOGRAPHY** *WORKSHOP ON MAGNETIC RESONANCE IMAGING OF BLOOD FLOW*
  Nishimura, D. G.
  WILLIAMS & WILKINS.1990: 194–201
- **2 INTERPOLATING FILTERS FOR SCATTER ESTIMATION** *MEDICAL PHYSICS*
  Wagner, F. C., Macovski, A., Nishimura, D. G.
  1989; 16 (5): 747-757
- **EFFECTS OF SCATTER IN DUAL-ENERGY IMAGING - AN ALTERNATIVE ANALYSIS** *IEEE TRANSACTIONS ON MEDICAL IMAGING*
  Wagner, F. C., Macovski, A., Nishimura, D. G.
  1989; 8 (3): 236-244
- **COMPUTING MATERIAL-SELECTIVE PROJECTION IMAGES IN MR** *MAGNETIC RESONANCE IN MEDICINE*
  Wright, G. A., Brosnan, T. J., Macovski, A., Nishimura, D. G.
  1989; 11 (2): 135-151
- **LOW-FREQUENCY RESTORATION** *MAGNETIC RESONANCE IN MEDICINE*
  Jackson, J., Macovski, A., Nishimura, D.
  1989; 11 (2): 248-257
- **SWEEP-DIAGRAM ANALYSIS OF SELECTIVE ADIABATIC PULSES** *JOURNAL OF MAGNETIC RESONANCE*
  Conolly, S., Nishimura, D., Macovski, A.
  1989; 83 (3): 549-564
- **A SELECTIVE ADIABATIC SPIN-ECHO PULSE** *JOURNAL OF MAGNETIC RESONANCE*
  Conolly, S., Nishimura, D., Macovski, A.
  1989; 83 (2): 324-334

- **GENERALIZED TOMOSYNTHESIS FOR FOCUSING ON AN ARBITRARY SURFACE** *IEEE TRANSACTIONS ON MEDICAL IMAGING*
  Liu, J., Nishimura, D., Macovski, A.
  1989; 8 (2): 168-172
- **A LINEAR CLASS OF LARGE-TIP-ANGLE SELECTIVE EXCITATION PULSES** *JOURNAL OF MAGNETIC RESONANCE*
  Pauly, J., Nishimura, D., Macovski, A.
  1989; 82 (3): 571-587
- **MODEL-BASED 3-D RECONSTRUCTION OF BRANCHING VESSELS** *1989 ANNUAL INTERNATIONAL CONF OF THE IEEE ENGINEERING IN MEDICINE AND BIOLOGY SOC : IMAGES OF THE TWENTY-FIRST CENTURY*
  Fessler, J., Nishimura, D., Macovski, A.
  I E E E.1989: 561–562
- **PARTIAL K-SPACE RECONSTRUCTION FOR MAGNETIC-RESONANCE ANGIOGRAPHY BY SELECTIVE INVERSION RECOVERY** *1989 ANNUAL INTERNATIONAL CONF OF THE IEEE ENGINEERING IN MEDICINE AND BIOLOGY SOC : IMAGES OF THE TWENTY-FIRST CENTURY*
  Nishimura, D., Noll, D., Glover, G., Macovski, A.
  I E E E.1989: 593–594
- **A K-SPACE ANALYSIS OF SMALL-TIP-ANGLE EXCITATION** *JOURNAL OF MAGNETIC RESONANCE*
  Pauly, J., Nishimura, D., Macovski, A.
  1989; 81 (1): 43-56
- **NOISE-REDUCTION IN MAGNETIC-RESONANCE IMAGING** *MAGNETIC RESONANCE IN MEDICINE*
  Brosnan, T., Wright, G., Nishimura, D., Cao, Q. H., Macovski, A., Sommer, F. G.
  1988; 8 (4): 394-409
- **A CHARACTERIZATION OF THE SCATTER POINT-SPREAD-FUNCTION IN TERMS OF AIR GAPS** *IEEE TRANSACTIONS ON MEDICAL IMAGING*
  Wagner, F. C., Macovski, A., Nishimura, D. G.
  1988; 7 (4): 337-344
- **NOISE-REDUCED PROSTATIC MR IMAGING - WORK IN PROGRESS** *RADIOLOGY*
  Sommer, G., Brosnan, T., Cao, Q., Nishimura, D., Macovski, A., McNeal, J.
  1988; 169 (2): 347-350
- **DUAL-ENERGY X-RAY PROJECTION IMAGING - 2 SAMPLING SCHEMES FOR THE CORRECTION OF SCATTERED RADIATION** *MEDICAL PHYSICS*
  Wagner, F. C., Macovski, A., Nishimura, D. G.
  1988; 15 (5): 732-748
- **MAGNETIC-RESONANCE ANGIOGRAPHY BY SELECTIVE INVERSION RECOVERY USING A COMPACT GRADIENT ECHO SEQUENCE** *MAGNETIC RESONANCE IN MEDICINE*
  Nishimura, D. G., Macovski, A., Jackson, J. I., Hu, R. S., STEVICK, C. A., Axel, L.
  1988; 8 (1): 96-103
- **CONSIDERATIONS OF MAGNETIC-RESONANCE ANGIOGRAPHY BY SELECTIVE INVERSION RECOVERY** *MAGNETIC RESONANCE IN MEDICINE*
  Nishimura, D. G., Macovski, A., Pauly, J. M.
  1988; 7 (4): 472-484
- **VARIABLE-RATE SELECTIVE EXCITATION** *JOURNAL OF MAGNETIC RESONANCE*
  Conolly, S., Nishimura, D., Macovski, A., Glover, G.
  1988; 78 (3): 440-458
- **LEAST-SQUARES APPROACH IN MEASUREMENT-DEPENDENT FILTERING FOR SELECTIVE MEDICAL IMAGES** *IEEE TRANSACTIONS ON MEDICAL IMAGING*
  Cao, Q. Z., Brosnan, T., Macovski, A., Nishimura, D.
  1988; 7 (2): 154-160
- **VESSEL IMAGING USING DUAL-ENERGY TOMOSYNTHESIS** *MEDICAL PHYSICS*

Liu, J., Nishimura, D., Macovski, A.
1987; 14 (6): 950-955

- **MR ANGIOGRAPHY BY SELECTIVE INVERSION RECOVERY** *MAGNETIC RESONANCE IN MEDICINE*
  Nishimura, D. G., Macovski, A., Pauly, J. M., Conolly, S. M.
  1987; 4 (2): 193-202
- **MAGNETIC-RESONANCE ANGIOGRAPHY** *IEEE TRANSACTIONS ON MEDICAL IMAGING*
  Nishimura, D. G., Macovski, A., Pauly, J. M.
  1986; 5 (3): 140-151
- **OPTIMAL-CONTROL SOLUTIONS TO THE MAGNETIC-RESONANCE SELECTIVE EXCITATION PROBLEM** *IEEE TRANSACTIONS ON MEDICAL IMAGING*
  Conolly, S., Nishimura, D., Macovski, A.
  1986; 5 (2): 106-115
- **A MULTIPLE-PULSE SEQUENCE FOR IMPROVED SELECTIVE EXCITATION IN MAGNETIC-RESONANCE IMAGING** *MEDICAL PHYSICS*
  Nishimura, D. G.
  1985; 12 (4): 413-418
- **NOISE-REDUCTION METHODS FOR HYBRID SUBTRACTION** *MEDICAL PHYSICS*
  Nishimura, D. G., Macovski, A., Brody, W. R.
  1984; 11 (3): 259-265
- **Measurement-Dependent Filtering: A Novel Approach to Improved SNR.** *IEEE transactions on medical imaging*
  Macovski, A., Nishimura, D. G., Doost-Hoseini, A., Brody, W. R.
  1983; 2 (3): 122-127
- **ON THE NATURE AND ELIMINATION OF STIMULUS ARTIFACT IN NERVE SIGNALS EVOKED AND RECORDED USING SURFACE ELECTRODES** *IEEE TRANSACTIONS ON BIOMEDICAL ENGINEERING*
  McGill, K. C., Cummins, K. L., DORFMAN, L. J., BERLIZOT, B. B., LUETKEMEYER, K., Nishimura, D. G., Widrow, B.
  1982; 29 (2): 129-137
- **DIGITAL TOMOSYNTHESIS USING A SCANNED PROJECTION RADIOGRAPHIC SYSTEM** *PROCEEDINGS OF THE SOCIETY OF PHOTO-OPTICAL INSTRUMENTATION ENGINEERS*
  Nishimura, D. G., Macovski, A., Brody, W. R.
  1981; 314: 31-36