

1. PERSONAL DATA

Place of Birth: Odessa, USSR

Citizenship: Russian Federation, US Permanent Resident

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2. EDUCATION

1983-1988 M.S. in Chemistry, Lomonosov Moscow State University, Moscow, Russia.

1988-1992 Ph.D. in Chemistry, Lomonosov Moscow State University, Moscow, Russia.

3. POSTGRADUATE TRAINING

1992-1993 Post-doctoral scholarship (Visiting Researcher), Lomonosov Moscow State University, Moscow, Russia.

2000-2003 Post-doctoral fellowship (Senior Fellow), University of Washington, Department of Radiology, Seattle, WA.

4. FACULTY POSITIONS HELD

1994-1997 Senior Research Scientist, Odessa State Medical University, Odessa, Ukraine.

1997-2001 Senior Research Scientist, Center for Magnetic Tomography and Spectroscopy, Lomonosov Moscow State University, Moscow, Russia.

2003-2006 Acting Instructor, Department of Radiology, University of Washington, Seattle, WA.

2006-2013 Research Assistant Professor, Department of Radiology, University of Washington, Seattle, WA.

2013-present Reserarch Associate Professor, Department of Radiology, University of Washington, Seattle, WA.

5. HOSPITAL POSITIONS HELD - N/A

6. CURRENT EMPLOYMENT - N/A

7. HONORS

1993 Bystrov Award for extraordinary results from the Varian NMRI, the Shemyakin and Ovchinnikov Institute for Bioorganic Chemistry, and the Lomonosow Moscow State University.

2000 Certificate of Merit for the presentation at the Meeting of the European Society for Magnetic Resonance in Medicine and Biology.

2001 E.K. Zavoisky Award (travel grant) at the 9th ISMRM Meeting

2002 E.K. Zavoisky Award (travel grant) at the 10th ISMRM Meeting

2011 Journal of Magnetic Resonance Imaging, Distinguished Reviewer.

2011 Magnetic Resonance in Medicine, Distinguished Reviewer.

2012 Magnetic Resonance in Medicine, Distinguished Reviewer.

2013 Journal of Magnetic Resonance Imaging, Distinguished Reviewer.

2013 Magnetic Resonance in Medicine, Distinguished Reviewer.

2014 Magnetic Resonance in Medicine, Distinguished Reviewer.

2015 Magnetic Resonance in Medicine, Distinguished Reviewer.

2016 Magnetic Resonance in Medicine, Distinguished Reviewer.

2017 Magnetic Resonance in Medicine, Distinguished Reviewer.

8. BOARD CERTIFICATION – N/A

9. LICENSURE – N/A

10. PROFESSIONAL ORGANIZATIONS

2001-present Member, International Society for Magnetic Resonance in Medicine (ISMRM).

2015-2018 Member, American Neurological Association (ANA).

11. TEACHING RESPONSIBILITIES

A. Courses Taught:

- 1997-1999 “Physical principles of MRI” for radiologists - certification course by the Moscow Association of Radiologists (Moscow, Russia): author, lecturer, and instructor for the part of the course “Advanced MRI methods and MRI artifacts” (4 hours/year).
- 1998-2000 “Experimental methods of biophysics” for graduate students at the Department of Physics, Lomonosov Moscow State University (Moscow, Russia): author, lecturer, and instructor for the part of the course “MRI and NMR relaxometry” (6 hours/year).
- 1999-2000 “MRI in psychophysiology” for postgraduate students at the Department of Psychology, Lomonosov Moscow State University (Moscow, Russia): author, lecturer, and instructor for the complete course (32 hours/year).
- 2002-2004 “High-resolution MRI of the carotid artery” for MR technologists (hands-on training), Department of Radiology, University of Washington (Seattle, WA): author and instructor (ad hoc, 4 hours/year on average).
- 2011-2011 “Biomedical imaging systems” (BIOEN599), Department of Bioengineering, University of Washington (Seattle, WA): part-time lecturer (4 hours).
- 2013-2013 Principles of Magnetic Resonance Imaging (MRI)” (BIOEN599), Department of Bioengineering, University of Washington (Seattle, WA): part-time lecturer and instructor (8 hours).

B. Ph.D. students:

- 1998-2001 Dmitry Kupriyanov, Ph.D., Department of Physics, Lomonosov Moscow State University (Moscow, Russia).
- 2006-2008 Jinnan Wang, Ph.D., Department of Bioengineering, University of Washington (Seattle, WA).
- 2008-2010 Hunter Underhill, M.D., Ph.D., Department of Bioengineering, University of Washington (Seattle, WA).

C. Supervision of post-doctoral fellows:

- 2005-2010 Anna Naumova, Ph.D., Department of Radiology, University of Washington (Seattle, WA).
- 2007-2012 Niranjan Balu, Ph.D., Department of Radiology, University of Washington (Seattle, WA).

D. Invited courses and lectures:

- 2007 “MRI of Carotid Atherosclerosis” Workshop (October 18-20, 2007), Department of Radiology, University of Washington (Seattle, WA): lecturer and instructor.
- 2007 “Carotid MRI sub-study in AIM-HIGH”, Training course for clinical trial participants (December 7, 2007), Department of Radiology, Michigan State University (Lansing, MI): lecturer and instructor.
- 2008 “Carotid MRI sub-study in AIM-HIGH”, Training course for clinical trial participants (September 4, 2008), Barrow Neurological Institute (Phoenix, AZ), lecturer and instructor.
- 2008 “Carotid MRI sub-study in AIM-HIGH”, Training course for clinical trial participants (September 9, 2008), Mayo Clinic (Rochester, MN): lecturer and instructor.
- 2008 “MRI of Carotid Atherosclerosis” Workshop - CME course (September 24-25, 2008), Department of Radiology, University of Washington (Seattle, WA): lecturer and instructor.
- 2009 “MR Physics for Physicists” ISMRM Weekend Educational Course (April 18-19, 2009) at 17th Annual Meeting of ISMRM (Honolulu, HI): invited lecture.
- 2014 “Magnetic Resonance Imaging: Fundamentals, Techniques and Application” Short course (SC6) (November 10, 2014) at the IEEE Nuclear Science Symposium and Medical Imaging Conference (Seattle, WA): invited lecture.

12. EDITORIAL RESPONSIBILITIES – N/A

13. SPECIAL NATIONAL RESPONSIBILITIES

- 2010 Study Section Member: Radiological Society of North America (RSNA), Research & Education Foundation.
- 2011 Study Section Member: Radiological Society of North America (RSNA), Research & Education Foundation.
- 2013 Study Section Member: Radiological Society of North America (RSNA), Research & Education Foundation.

- 2014 Study Section Member: Radiological Society of North America (RSNA), Research & Education Foundation.
- 2015 Study Section Member: NIH–NINDS, Neurological Sciences and Disorders C (NSD-C) Study Section.
- 2019 Study Section Member: Radiological Society of North America (RSNA), Research & Education Foundation.

14. SPECIAL LOCAL RESPONSIBILITIES

- 2006-present Associate Director, Bio-Molecular Imaging Center, Department of Radiology, University of Washington, Seattle, WA.

15. RESEARCH FUNDING

A. Current:

- 2018-2022 Quantitative myelin mapping in vivo for clinical and pre-clinical MRI. NIH/NINDS High Impact Neuroscience Research Resource Grant R24 NS104098-01A1; Yarnykh, VL (PI); \$1,100,126 total cost; 09/30/18 -07/31/22; Role: PI.
- 2019-2021 Preclinical MRI of demyelination and remyelination in stroke at clinical field strength. NIH/NINDS R21 NS109727-01A1; Yarnykh, VL (PI); \$ 485,375 total cost; 07/01/19 - 06/30/21; Role: PI.
- 2017-2021 Adolescent Brains, Genes, and Social Interaction. Bezos Family Foundation; Kuhl, P (PI); \$1,180,950 direct cost; 09/01/17 – 08/31/21; Role: Co-Investigator.
- 2017-2020 Attentional Control and the Developing Brain: Underlying Mechanisms and Transformative Interventions. Bezos Family Foundation; Kuhl, P (PI); \$476,575 direct cost; 07/01/17 – 06/30/20; Role: Co-Investigator.

B. Past

- 2017-2019 University of Washington subcontract (Multimodal Biological Assessment of Gulf War Illness I01 CX001049; Peskind, E (PI); Veterans Affairs Puget Sound Health Care System). Yarnykh VL (PI); \$33,885 direct cost; 8/1/17 - 5/31/19; Role: Subcontract PI.
- 2016-2017 Macromolecular proton fraction mapping as a new modality for non-invasive imaging of cardiac stem cell grafts based on endogenous collagen-dependent contrast. University of Washington Royalty Research Fund: Naumova, A; Yarnykh, V (Co-PI); \$38,000 direct cost; 09/1/16-08/31/17; Role: Co-PI.
- 2013-2017 University of Washington subcontract (Mild TBI and Biomarkers of Neurodegeneration. Department of Veterans Affairs I01 RX000521; Peskind, E (PI); Veterans Affairs Puget Sound Health Care System). Yarnykh VL (PI); \$22,057 total direct cost; 08/01/13-05/31/17; Role: Subcontract PI.
- 2013-2017 Quantitative imaging of white and gray matter demyelination in multiple sclerosis using macromolecular proton fraction mapping. National Multiple Sclerosis Society RG 4864A1/1; Yarnykh, VL (PI); \$334,479 total cost; 04/01/13-03/31/17; Role: PI.
- 2014-2016 Low-cost non-imaging magnetic resonance technology for quantitative assessment of brain maturation. Bill and Melinda Gates Foundation OPP1119233; Yarnykh, VL (PI); \$100,000 total direct cost; 11/01/14-04/30/16; Role: PI.
- 2013-2016 Fast macromolecular proton fraction mapping of the human spinal cord. NIH/NBIB R21EB016135; Yarnykh, VL (PI); \$485,356 total cost; 01/01/13-12/31/16; Role: PI.
- 2011-2013 University of Washington subcontract (Mild TBI and Biomarkers of Neurodegeneration. Department of Veterans Affairs I01 RX000521; Peskind, E (PI); Veterans Affairs Puget Sound Health Care System). Yarnykh VL (PI); \$23,386 total direct cost; 08/01/11-07/31/13; Role: Subcontract PI.
- 2012-2013 University of Washington Bridge Fund; \$100,000 total cost; 01/01/2012-12/31/13; Role: PI.
- 2009-2012 Clinical Cross-Relaxation Imaging (CRI) at 3T magnetic field strength: methodology development and application to multiple sclerosis. NIH R21EB009908; Yarnykh, VL (PI); \$ 464,427 total cost; 07/15/09-06/30/12; Role: PI.
- 2011-2013 Middle cerebral artery stroke: Non-contrast MR screening of high-risk plaque. NIH R21NS072464; Yuan, C (PI); \$275,000 total direct cost; 8/1/11-7/31/13; Role: Co-Investigator.

2010-2012	Ferritin-Based Molecular Imaging of Cardiac Stem Cell Therapy. NIH RC1HL099230; Murry, C/Yuan, C (Multi-PI); \$602,408; 04/21/10-03/31/12; Role: Co-Investigator.
2008-2013	Carotid Plaque Characteristics by MRI in AIM-HIGH. NIH R01HL088214; Zhao, X-Q (PI); \$500,000/year direct cost; 02/01/08-01/31/13; Role: Co-Investigator.
2006-2011	3T Atherosclerotic MRI and Carotid Scoring System. NIH R01HL056874; Yuan, C (PI); \$246,731/year direct cost; 07/01/06-06/30/11; Role: Co-Investigator.
2006-2008	1.5T-3T Carotid MRI Comparison Study. Pfizer, Inc; Yuan, C (PI); \$460,650 total direct cost; 06/01/06-12/31/08; Role: Co-Investigator.
2005-2008	University of Washington subcontract (Atherosclerotic Lesion Phantom (ALP) for MRI/A. NIH R44HL066832; Burke, TM (PI); Phantoms by Design, Inc); Yarnykh VL (PI); \$139, 976 total direct cost; 09/01/05-05/31/08; Role: Subcontract PI.

16. BIBLIOGRAPHY

A. Publications in Refereed Journals:

1. **Yarnykh VL**, Kisel AA, Khodanovich MY. Scan-Rescan Repeatability and Impact of B(0) and B(1) Field Nonuniformity Corrections in Single-Point Whole-Brain Macromolecular Proton Fraction Mapping. *J Magn Reson Imaging* 2019. doi:10.1002/jmri.26998. [Epub ahead of print]
2. Khodanovich M, Pishchelko A, Glazacheva V, Pan E, Akulov A, Svetlik M, Tyumentseva Y, Anan'ina T, **Yarnykh V**. Quantitative Imaging of White and Gray Matter Remyelination in the Cuprizone Demyelination Model Using the Macromolecular Proton Fraction. *Cells* 2019;8(10). pii: E1204.
3. Pershina AG, Brikunova OY, Demin AM, Shevelev OB, Razumov IA, Zavjalov EL, Malkeyeva D, Kiseleva E, Krakhmal' NV, Vtorushin SV, **Yarnykh VL**, Ivanov VV, Pleshko RI, Krasnov VP, Ogorodova LM. pH-triggered delivery of magnetic nanoparticles depends on tumor volume. *Nanomedicine* 2020;23:102086.
4. Khodanovich MY, Pishchelko AO, Glazacheva VY, Pan ES, Krutenkova EP, Trusov VB, **Yarnykh VL**. Plant polyphenols reduce demyelination and recover impaired oligodendrogenesis and neurogenesis in the cuprizone murine model of multiple sclerosis. *Phytother Res* 2019;33(5):1363-1373.
5. Korostyshevskaya AM, Prihod'ko IY, Savelov AA, **Yarnykh VL**. Direct comparison between apparent diffusion coefficient and macromolecular proton fraction as quantitative biomarkers of the human fetal brain maturation. *J Magn Reson Imaging* 2019;50(1):52-61.
6. Goussakov I, Synowiec S, **Yarnykh V**, Drobyshvsky A. Immediate and delayed decrease of long term potentiation and memory deficits after neonatal intermittent hypoxia. *Int J Dev Neurosci* 2019;74:27-37.
7. Korostyshevskaya AM, Savelov AA, Papusha LI, Druy AE, **Yarnykh VL**. Congenital medulloblastoma: Fetal and postnatal longitudinal observation with quantitative MRI. *Clin Imaging* 2018;52:172-176.
8. Lu J, Synowiec S, Lu L, Yu Y, Bretherick T, Takada S, **Yarnykh V**, Caplan J, Caplan M, Claud EC, Drobyshvsky A. Microbiota influence the development of the brain and behaviors in C57BL/6J mice. *PLoS One* 2018;13(8):e0201829.
9. ***Yarnykh VL**, Prihod'ko IY, Savelov AA, Korostyshevskaya AM. Quantitative Assessment of Normal Fetal Brain Myelination Using Fast Macromolecular Proton Fraction Mapping. *AJNR Am J Neuroradiol* 2018;39(7):1341-1348.
10. **Yarnykh VL**, Krutenkova EP, Aitmagambetova G, Repovic P, Mayadev A, Qian P, Jung Henson LK, Gangadharan B, Bowen JD. Iron-Insensitive Quantitative Assessment of Subcortical Gray Matter Demyelination in Multiple Sclerosis Using the Macromolecular Proton Fraction. *AJNR Am J Neuroradiol* 2018;39(4):618-625. [Editor's Choice]
11. Khodanovich MY, Kisel AA, Akulov AE, Atochin DN, Kudabaeva MS, Glazacheva VY, Svetlik MV, Medvednikova YA, Mustafina LR, **Yarnykh VL**. Quantitative assessment of demyelination in ischemic stroke in vivo using macromolecular proton fraction mapping. *J Cereb Blood Flow Metab* 2018;38(5):919-931.
12. Khodanovich M, Kisel A, Kudabaeva M, Chernysheva G, Smolyakova V, Krutenkova E, Wasserlauf I, Plotnikov M, **Yarnykh V**. Effects of Fluoxetine on Hippocampal Neurogenesis and Neuroprotection in the Model of Global Cerebral Ischemia in Rats. *Int J Mol Sci* 2018;19(1). pii: E162.

13. Khodanovich MY, Sorokina IV, Glazacheva VY, Akulov AE, Nemirovich-Danchenko NM, Romashchenko AV, Tolstikova TG, Mustafina LR, **Yarnykh VL**. Histological validation of fast macromolecular proton fraction mapping as a quantitative myelin imaging method in the cuprizone demyelination model. *Sci Rep* 2017;7:46686.
14. Naumova AV, Akulov AE, Khodanovich MY, **Yarnykh VL**. High-resolution three-dimensional quantitative map of the macromolecular proton fraction distribution in the normal rat brain. *Data Brief* 2016;10:381-384.
15. Naumova AV, Akulov AE, Khodanovich MY, **Yarnykh VL**. High-resolution three-dimensional macromolecular proton fraction mapping for quantitative neuroanatomical imaging of the rodent brain in ultra-high magnetic fields. *Neuroimage* 2017;147:985-993.
16. **Yarnykh VL**. Time-efficient, high-resolution, whole brain three-dimensional macromolecular proton fraction mapping. *Magn Reson Med* 2016;75(5):2100-2106.
17. **Yarnykh VL**, Tartaglione EV, Ioannou GN. Fast macromolecular proton fraction mapping of the human liver in vivo for quantitative assessment of hepatic fibrosis. *NMR Biomed* 2015;28(12):1716-1725.
18. Cross DJ, Garwin GG, Cline MM, Richards TL, **Yarnykh V**, Mourad PD, Ho RJ, Minoshima S. Paclitaxel improves outcome from traumatic brain injury. *Brain Res* 2015;1618:299-308.
19. ***Yarnykh VL**, Bowen JD, Samsonov A, Repovic P, Mayadev A, Qian P, Gangadharan B, Keogh BP, Maravilla KR, Henson LK. Fast Whole-Brain Three-dimensional Macromolecular Proton Fraction Mapping in Multiple Sclerosis. *Radiology* 2015;274(1):210-220.
20. Naumova AV, Balu N, **Yarnykh VL**, Reinecke H, Murry CE, Yuan C. Magnetic Resonance Imaging Tracking of Graft Survival in the Infarcted Heart: Iron Oxide Particles Versus Ferritin Overexpression Approach. *J Cardiovasc Pharmacol Ther* 2014;19(4):358-367.
21. Naumova AV, **Yarnykh VL**. Assessment of heart microstructure: from mouse to man. *Circulation* 2014;129(17):1720-1722.
22. Petrie EC, Cross DJ, **Yarnykh VL**, Richards T, Martin NM, Pagulayan K, Hoff D, Hart K, Mayer C, Tarabochia M, Raskind M, Minoshima S, Peskind E. Neuroimaging, Behavioral, and Psychological Sequelae of Repetitive Combined Blast/Impact Mild Traumatic Brain Injury in Iraq and Afghanistan War Veterans. *J Neurotrauma* 2014;31(5):425-36.
23. Mossahebi P, **Yarnykh VL**, Samsonov A. Analysis and correction of biases in cross-relaxation MRI due to biexponential longitudinal relaxation. *Magn Reson Med* 2013;71(2):830-838.
24. ***Yarnykh VL**. Fast macromolecular proton fraction mapping from a single off-resonance magnetization transfer measurement. *Magn Reson Med* 2012;68(1):166-178.
25. Naumova AV, **Yarnykh VL**, Balu N, Reinecke H, Murry CE, Yuan C. Quantification of MRI signal of transgenic grafts overexpressing ferritin in murine myocardial infarcts. *NMR Biomed* 2012;25(10):1187-1195.
26. Hurley SA, **Yarnykh VL**, Johnson KM, Field AS, Alexander AL, Samsonov AA. Simultaneous variable flip angle-actual flip angle imaging method for improved accuracy and precision of three-dimensional T(1) and B(1) measurements. *Magn Reson Med* 2012;68(1):54-64.
27. Wang J, Gerretsen SC, Maki JH, Jaarsma C, Kooi ME, Herzka D, Chu B, **Yarnykh VL**, Yuan C, Leiner T. Time-efficient black blood RCA wall imaging at 3T using improved motion sensitized driven equilibrium (iMSDE): feasibility and reproducibility. *PLoS One* 2011;6(10):e26567.
28. Underhill HR, Rostomily RC, Mikheev AM, Yuan C, **Yarnykh VL**. Fast bound pool fraction imaging of the in vivo rat brain: Association with myelin content and validation in the C6 glioma model. *Neuroimage* 2011;54(3):2052-2065.
29. Balu N, **Yarnykh VL**, Chu B, Wang J, Hatsukami T, Yuan C. Carotid plaque assessment using fast 3D isotropic resolution black-blood MRI. *Magn Reson Med* 2011;65(3):627-637.
30. Demarco JK, Ota H, Underhill HR, Zhu DC, Reeves MJ, Potchen MJ, Majid A, Collar A, Talsma JA, Potru S, Oikawa M, Dong L, Zhao X, **Yarnykh VL**, Yuan C. MR carotid plaque imaging and contrast-enhanced MR angiography identifies lesions associated with recent ipsilateral thromboembolic symptoms: an in vivo study at 3T. *AJNR Am J Neuroradiol* 2010;31(8):1395-1402.
31. Dong L, Wang J, **Yarnykh VL**, Underhill HR, Neradilek MB, Polissar N, Hatsukami TS, Yuan C. Efficient flow suppressed MRI improves interscan reproducibility of carotid atherosclerosis plaque burden measurements. *J Magn Reson Imaging* 2010;32(2):452-458.

32. **Yarnykh VL**. Optimal radiofrequency and gradient spoiling for improved accuracy of T1 and B1 measurements using fast steady-state techniques. *Magn Reson Med* 2010;63(6):1610-1626.
33. Wang J, **Yarnykh VL**, Yuan C. Enhanced image quality in black-blood MRI using the improved motion-sensitized driven-equilibrium (iMSDE) sequence. *J Magn Reson Imaging* 2010;31(5):1256-1263.
34. Naumova AV, Reinecke H, **Yarnykh V**, Deem J, Yuan C, Murry CE. Ferritin overexpression for noninvasive MRI-based tracking of stem cells transplanted into the heart. *Mol Imaging* 2010;9(4):201-210.
35. Ota H, **Yarnykh VL**, Ferguson MS, Underhill HR, DeMarco JK, Zhu DC, Oikawa M, Dong L, Zhao X, Collar A, Hatsukami TS, Yuan C. Carotid Intraplaque Hemorrhage Imaging at 3.0-T MR Imaging: Comparison of the Diagnostic Performance of Three T1-weighted Sequences. *Radiology* 2010;254(2):551-563.
36. Li F, **Yarnykh VL**, Hatsukami TS, Chu B, Balu N, Wang J, Underhill HR, Zhao X, Smith R, Yuan C. Scan-rescan reproducibility of carotid atherosclerotic plaque morphology and tissue composition measurements using multicontrast MRI at 3T. *J Magn Reson Imaging* 2010;31(1):168-176.
37. Underhill HR, Yuan C, **Yarnykh VL**, Chu B, Oikawa M, Dong L, Polissar NL, Garden GA, Cramer SC, Hatsukami TS. Predictors of surface disruption with MR imaging in asymptomatic carotid artery stenosis. *AJNR Am J Neuroradiol* 2010;31(3):487-493.
38. Underhill HR, Yuan C, **Yarnykh VL**, Chu B, Oikawa M, Polissar NL, Schwartz SM, Jarvik GP, Hatsukami TS. Arterial remodeling in the subclinical carotid artery disease. *JACC Cardiovasc Imaging* 2009;2(12):1381-1389.
39. Underhill HR, Yuan C, **Yarnykh VL**. Direct quantitative comparison between cross-relaxation imaging and diffusion tensor imaging of the human brain at 3.0 T. *Neuroimage* 2009;47(4):1568-1578.
40. Balu N, **Yarnykh VL**, Scholnick J, Chu B, Yuan C, Hayes C. Improvements in carotid plaque imaging using a new eight-element phased array coil at 3T. *J Magn Reson Imaging* 2009;30(5):1209-1214.
41. Wang J, Nash RA, Chu B, **Yarnykh VL**, Schwartz SM, Sullivan KM, Yuan C. Improvements in digital vasculature observed using micro magnetic resonance angiography after high-dose immunosuppression for severe systemic sclerosis. *Bone Marrow Transplant* 2009;44(6):387-389.
42. Kerwin WS, Liu F, **Yarnykh V**, Underhill H, Oikawa M, Yu W, Hatsukami TS, Yuan C. Signal features of the atherosclerotic plaque at 3.0 Tesla versus 1.5 Tesla: impact on automatic classification. *J Magn Reson Imaging* 2008;28(4):987-995.
43. Underhill HR, Yuan C, Terry JG, Chen H, Espeland MA, Hatsukami TS, Saam T, Chu B, Yu W, Oikawa M, Takaya N, **Yarnykh VL**, Kraft R, Carr JJ, Maldjian J, Tang R, Crouse JR 3rd. Differences in carotid arterial morphology and composition between individuals with and without obstructive coronary artery disease: a cardiovascular magnetic resonance study. *J Cardiovasc Magn Reson* 2008;10(1):31.
44. Wang J, **Yarnykh VL**, Molitor JA, Nash RA, Chu B, Wilson GJ, Fleming J, Schwartz SM, Yuan C. Micro magnetic resonance angiography of the finger in systemic sclerosis. *Rheumatology (Oxford)* 2008;47(8):1239-1243.
45. Underhill HR, **Yarnykh VL**, Hatsukami TS, Wang J, Balu N, Hayes CE, Oikawa M, Yu W, Xu D, Chu B, Wyman BT, Polissar NL, Yuan C. Carotid plaque morphology and composition: initial comparison between 1.5- and 3.0-T magnetic field strengths. *Radiology* 2008;248(2):550-560.
46. Balu N, Chu B, Hatsukami TS, Yuan C, **Yarnykh VL**. Comparison between 2D and 3D high-resolution black-blood techniques for the carotid artery wall imaging in clinically significant atherosclerosis. *J Magn Reson Imaging* 2008;27(4):918-924.
47. Kerwin W, Pepin M, Mitsumori L, **Yarnykh V**, Schwarze U, Byers P. MRI of great vessel morphology and function in Ehlers-Danlos syndrome type IV. *Int J Cardiovasc Imaging* 2008;24(5):519-528.
48. Wang J, **Yarnykh VL**, Hatsukami T, Chu B, Balu N, Yuan C. Improved suppression of plaque-mimicking artifacts in black-blood carotid atherosclerosis imaging using a multislice motion-sensitized driven-equilibrium (MSDE) turbo spin-echo (TSE) sequence. *Magn Reson Med* 2007;58(5):973-981.
49. ***Yarnykh VL**. Actual flip-angle imaging in the pulsed steady state: a method for rapid three-dimensional mapping of the transmitted radiofrequency field. *Magn Reson Med* 2007;57(1):192-200.
50. Saam T, Hatsukami TS, **Yarnykh VL**, Hayes CE, Underhill H, Chu B, Takaya N, Cai J, Kerwin WS, Xu D, Polissar NL, Neradilek B, Hamar WK, Maki J, Shaw DW, Buck RJ, Wyman B, Yuan C. Reader- and platform reproducibility for quantitative assessment of carotid atherosclerotic plaque using 1.5T Siemens, Philips and GE scanners. *J Magn Reson Imaging* 2007;26(2):344-352.

51. **Yarnykh VL**, Terashima M, Hayes CE, Shimakawa A, Takaya N, Nguyen PK, Brittain JH, McConnell MV, Yuan C. Multi-contrast black-blood MRI of carotid arteries: comparison between 1.5 and 3 Tesla magnetic field strengths. *J Magn Reson Imaging* 2006;23(5):691-698.
52. **Yarnykh VL**, Yuan C. Simultaneous outer volume and blood suppression by quadruple inversion-recovery. *Magn Reson Med* 2006;55(5):1083-1092.
53. Yuan C, Kerwin WS, **Yarnykh VL**, Cai J, Saam T, Chu B, Takaya N, Ferguson MS, Underhill H, Xu D, Liu F, Hatsukami TS. MRI of atherosclerosis in clinical trials. *NMR Biomed* 2006;19(6):636-654.
54. Takaya N, Cai J, Ferguson MS, **Yarnykh VL**, Chu B, Saam T, Polissar NL, Sherwood J, Cury RC, Anders RJ, Broschat KO, Hinton D, Furie KL, Hatsukami TS, Yuan C. Intra- and interreader reproducibility of magnetic resonance imaging for quantifying the lipid-rich necrotic core is improved with gadolinium contrast enhancement. *J Magn Reson Imaging* 2006;24(1):203-210.
55. Saam T, Ferguson MS, **Yarnykh VL**, Takaya N, Xu D, Polissar NL, Hatsukami TS, Yuan C. Quantitative evaluation of carotid plaque composition by in vivo MRI. *Arterioscler Thromb Vasc Biol* 2005;25(1):234-239.
56. Saam T, Kerwin WS, Chu B, Cai J, Kampschulte A, Hatsukami TS, Zhao XQ, Polissar NL, Neradilek B, **Yarnykh VL**, Flemming K, Huston J 3rd, Insull W Jr, Morrisett JD, Rand SD, DeMarco KJ, Yuan C. Sample size calculation for clinical trials using magnetic resonance imaging for the quantitative assessment of carotid atherosclerosis. *J Cardiovasc Magn Reson* 2005;7(5):799-808.
57. Chu B, Zhao XQ, Saam T, **Yarnykh VL**, Kerwin WS, Flemming KD, Huston J 3rd, Insull W Jr, Morrisett JD, Rand SD, DeMarco KJ, Polissar NL, Balu N, Cai J, Kampschulte A, Hatsukami TS, Yuan C. Feasibility of in vivo, multicontrast-weighted MR imaging of carotid atherosclerosis for multicenter studies. *J Magn Reson Imaging* 2005;21(6):809-817.
58. **Yarnykh VL**, Yuan C. Cross-relaxation imaging reveals detailed anatomy of white matter fiber tracts in the human brain. *Neuroimage* 2004;23(1):409-424.
59. Chu B, Kampschulte A, Ferguson MS, Kerwin WS, **Yarnykh VL**, O'Brien KD, Polissar NL, Hatsukami TS, Yuan C. Hemorrhage in the atherosclerotic carotid plaque: a high-resolution MRI study. *Stroke* 2004; 35(5):1079-1084.
60. Anzai Y, Ishikawa M, Shaw DW, Artru A, **Yarnykh V**, Maravilla KR. Paramagnetic effect of supplemental oxygen on CSF hyperintensity on fluid-attenuated inversion recovery MR images. *AJNR Am J Neuroradiol* 2004; 25(2):274-279.
61. **Yarnykh VL**, Yuan C. Multislice double inversion-recovery black-blood imaging with simultaneous slice reinversion. *J Magn Reson Imaging* 2003;17(4):478-483.
62. Luo Y, Polissar N, Han C, **Yarnykh V**, Kerwin WS, Hatsukami TS, Yuan C. Accuracy and uniqueness of three in vivo measurements of atherosclerotic carotid plaque morphology with black blood MRI. *Magn Reson Med* 2003;50(1):75-82.
63. **Yarnykh VL**, Yuan C. T_1 -Insensitive flow suppression using quadruple inversion-recovery. *Magn Reson Med* 2002;48(5):899-905.
64. ***Yarnykh VL**. Pulsed Z-spectroscopic imaging of cross-relaxation parameters in tissues for human MRI: theory and clinical applications. *Magn Reson Med* 2002;47(5):929-939.
65. **Yarnykh VL**, Kupriyanov DA. Numerical modeling of pulsed magnetization transfer in magnetic resonance imaging. *Moscow University Phys Bull* 2000;55(3):39-45 (Transl. of Vestnik Moskovskogo Universiteta, Seriya 3: Fizika, Astronomiya).
66. **Yarnykh VL**. Pulsed cross-relaxation spectroscopy: theory and perspectives of application in clinical magnetic resonance imaging. *Biomeditsinskaya Radioelektronika* 2000;3:20-33 (in Russian).
67. Verkhliutov VM, Bark ED, Shevelev IA, Kamenkovich VM, Konyshov VA, Mikhailova ES, Polianskii VB, **Yarnykh VL**, Anisimov NV. The dynamic localization of a dipole source of the alpha rhythm in the human brain. *Zhurnal Vysshei Nervnoi Deiatelnosti Imeni I.P.Pavlova* 1999; 49(1):3-11 (in Russian).
68. **Yarnykh VL**, Mstyslavsky VI, Zemlyanskii NN, Borisova IV, Roznyatovsky VA, Ustynyuk YuA. Mechanism and kinetics of the elementotropic rearrangements of tetrahydro-4,4,8,8-tetramethyl-4,8-disila-sym-indacene. *Russ Chem Bull* 1997;46(7):1228-1238 (Transl. of Izvestiya Akademii Nauk, Seriya Khimicheskaya).
69. **Yarnykh VL**, Ustynyuk YuA. Line shape analysis of two-dimensional "Accordion" NMR spectra for quantitative study of multi-site chemical exchange. *J Magn Reson, Series A* 1993;102(2):131-136.

70. Nifant'ev IE, Borzov MV, Ivchenko PV, **Yarnykh VL**, Ustynyuk YuA. Regiospecific mono-transmetalation of 4-stanna-3a,4,4a,8-tetrahydro-4,4,8,8-tetramethyl-s-indacenes. *Organometallics* 1992;11(10):3462-3464.
 71. Pershina ED, Mamedov EA, **Yarnykh VL**, Bogdanovskii GA. Electrochemical decolorization of aniline dye manufacturing wastewater using graphite anodes. *Vestnik Moskovskogo Universiteta, Seriya 2: Khimiya* 1992;33(4):381-382 (in Russian).
 72. Nifant'ev IE, **Yarnykh VL**, Borzov MV, Mazurchik BA, Mstyslavsky VI, Roznyatovsky VA, Ustynyuk YuA. Synthesis, structure and fluxional behavior of 4-sila-, germa- and stanna-3a,4,4a,8-tetrahydro-4,4,8,8-tetramethyl-s-indacenes. *Organometallics* 1991;10(10):3739-3745.
 73. Nifant'ev IE, **Yarnykh VL**, Borzov MV, Mazurchik BA, Mstyslavsky VI, Roznyatovsky VA, Ustynyuk YuA. Synthesis, structure and dynamic behavior of 4-sila-, -germa- and -stanna-3a,4,4a,8-tetrahydro-4,4,8,8-tetramethyl-s-indacenes. *Metalloorganicheskaya Khimiya* 1991;4(6):1269-1281 (in Russian).
 74. Bazhenov DV, **Yarnykh VL**, Grishin YuK, Ustynyuk YuA. Factor analysis of solvation effects on the NMR parameters of mercury(II) compounds. *Vestnik Moskovskogo Universiteta, Seriya 2: Khimiya* 1991;32(6):590-595 (in Russian).
 75. Mitrofanova ND, **Yarnykh VL**, Martynenko LI, Subbotina NA, Kazin PE. Synthesis and physicochemical study of iron(III) mono- β -hydroxyethyliminodiacetate. *Zhurnal Neorganicheskoi Khimii* 1986;31(12):3052-3056 (in Russian).
- B. Book Chapters:
1. **Yarnykh VL**, Yuan C. Unit 1.4: High-resolution multi-contrast MRI of the carotid artery wall for evaluation of atherosclerotic plaques. In: Haacke EM, Lin W, eds. *Current protocols in magnetic resonance imaging*. New York: Wiley; 2004. p A1.4.1-A1.4.18.
- C. Published Books, Videos, Software, etc.: N/A
- D. Other Publications:
1. **Yarnykh VL**. Fast two-point mapping of the bound pool fraction and cross-relaxation rate constant for MRI. US Patent 8369599, 05/02/2013.
 2. **Yarnykh VL**, Yuan C. Quadruple inversion-recovery for quantitative contrast-enhanced black-blood imaging. US Patent 7715900, 05/11/2010.
 3. **Yarnykh VL**, Yuan C. Quantitative contrast enhanced black-blood imaging using quadruple-inversion recovery. US Patent 7627359, 12/01/2009.
 4. **Yarnykh VL**, Yuan C. Multislice double inversion-recovery black-blood imaging with simultaneous slice re-inversion. US Patent 7315756, 01/01/2008.
 5. Wang J, **Yarnykh VL**, Yuan C. Improved motion-sensitized driven equilibrium blood-suppression sequence for vessel wall imaging. US Patent 09448296, 09/20/2016.
 6. **Yarnykh VL**. Methods and Systems for Quantitative Brain Assessment. US Patent Appl. No.: 14/931,303; 11/03/2015.
- E. Manuscripts Submitted: N/A
- F. Abstracts:
1. Korostyshevskaya A, Savelov A, **Yarnykh V**. Quantitative Assessment of the Fetal Brain Maturation Using Macromolecular Proton Fraction and Apparent Diffusion Coefficient. 2nd Annual Meeting of the American Society of Pediatric Neuroradiology, Miami Beach, FL, January 10-12, 2020; Oral Scientific Presentations, Submission ID#751415.
 2. **Yarnykh V**, Prihod'ko I, Savelov A, Korostyshevskaya A. Direct comparison between macromolecular proton fraction and apparent diffusion coefficient as quantitative biomarkers of the human fetal brain maturation. *Proceedings of the 27th Annual Meeting of ISMRM, Montreal, Canada, 2019*; p. 632.
 3. Khodanovich MY, Kudabaeva MS, Glazacheva VY, Gubskiy IL, Namestnikova DD, **Yarnykh VL**. Macromolecular proton fraction parameter as a marker of myelin recovery in the model of local ischemia in rats. "Neuroscience 2019" - 49th Annual Meeting of the Society for Neuroscience (SfN), Chicago, IL, USA, October 19-23, 2019. Program No. 216.11.
 4. Khodanovich MY, Kudabaeva MS, Glazacheva VY, Gubskiy IL, Namestnikova DD, **Yarnykh VL**. Macromolecular Proton Fraction (MPF) Mapping as a Marker of Recovery Processes in the Model of Ischemic

- Stroke in Rats. 144th Annual Meeting of the American Association of Neurology, St Louis, MO, USA, October 13-15, 2019. *Ann Neurol* 2019; 86:S135.
5. Kisel AA, Khodanovich MY, Atochin DN, Akulov AE, Mustafina LR, Naumova AV, **Yarnykh VL**. Macromolecular proton fraction closely correlates with myelin loss in the rat ischemic stroke model. Proceedings of the 26th Annual Meeting of ISMRM-ESMRMB, Paris, France; 2018; p. 369.
 6. **Yarnykh V**, Knipenberg N, Tereshchenkova O. Quantitative assessment of pediatric brain myelination in a clinical setting using macromolecular proton fraction. Proceedings of the 26th Annual Meeting of ISMRM-ESMRMB, Paris, France; 2018; p. 525.
 7. Khodanovich M, Pishchelko A., Glazacheva V, Pan E, Akulov A, **Yarnykh V**. Correlations between quantitative myelin imaging using macromolecular proton fraction, neurogenesis, and oligodendrogenesis in the murine model of cuprizone-induced demyelination. Proceedings of the 26th Annual Meeting of ISMRM-ESMRMB, Paris, France; 2018; p. 923.
 8. Korostyshevskaya AM, Prihod'ko IYu, Savelov AA, **Yarnykh VL**. Quantitative assessment of the fetal brain myelination in vivo using fast macromolecular proton fraction mapping. Proceedings of the 25th Annual Meeting of ISMRM, Honolulu, HI, USA, 2017; p.806.
 9. Khodanovich MY, Kisel AA, Akulov AE, Atochin DN, **Yarnykh VL**. Macromolecular proton fraction (MPF) mapping correlates with histologically assessed demyelination in the rat stroke model. 142nd Annual Meeting of the American Neurological Association, San Diego, CA, USA, October 15 - 17, 2017. *Ann Neurol* 2017;82:S135-S136.
 10. Khodanovich MY, Pischelko AO, Glazacheva VY, Pan ES, Akulov AE, **Yarnykh VL**. Correlations between neurogenesis, oligodendrogenesis, and myelination in the murine cuprizone demyelination model. 142nd Annual Meeting of the American Neurological Association, San Diego, CA, USA, October 15 - 17, 2017. *Ann Neurol* 2017;82:S189-S190.
 11. **Yarnykh VL**. Reproducibility of fast three-dimensional macromolecular proton fraction mapping of the human brain: global tissue characterization and volume measurements.. Proceedings of the 24th Annual Meeting of ISMRM, Singapore, 2016; p. 332.
 12. Naumova AV, Akulov AE, Romashchenko AV, Shevelev OB, Khodanovich MYu, **Yarnykh VL**. Macromolecular proton fraction as an ultimate source of brain tissue contrast in ultra-high magnetic fields. Proceedings of the 24th Annual Meeting of ISMRM, Singapore, 2016; p. 3378.
 13. **Yarnykh VL**, Bowen JD, Gangadharan B, Repovic P, Mayadev A, Qian P, Jung Henson LK. Quantitative Assessment of Demyelination in the Medulla Oblongata in Multiple Sclerosis Using Macromolecular Proton Fraction Mapping. 141th Annual Meeting of the American Neurological Association, Baltimore, MD, USA, October 16-18, 2016. *Ann Neurol* 2016;80:S177.
 14. Khodanovich MYu, Sorokina IV, Glazacheva VYu, Krutenkova EP, Nakesbekova ES, Romachchenko AV, Akulov AE, Tolstikova TG, **Yarnykh VL**. Macromolecular proton fraction (MPF) mapping strongly correlates with histologically assessed white and gray matter demyelination in the murine cuprizone model. 141th Annual Meeting of the American Neurological Association, Baltimore, MD, USA, October 16-18, 2016. *Ann Neurol* 2016;80:S119.
 15. Khodanovich MYu, Kisel AA, Chernyshova GA, Smol'yakova VI, Savchenko RR, Plotnikov MB, **Yarnykh VL**. Modulation of hippocampal neurogenesis in the global brain ischemia model: effects of p-tyrosol and fluoxetine. 141th Annual Meeting of the American Neurological Association, Baltimore, MD, USA, October 16-18, 2016. *Ann Neurol* 2016;80:S265.
 16. Khodanovich MYu, Glazacheva VYu, Pan ES, Akulov AE, Krutenkova EP, Trusov VB, **Yarnykh VL**. Polyprenols stimulate neurogenesis and reduce demyelination in the murine cuprizone model. 141th Annual Meeting of the American Neurological Association, Baltimore, MD, USA, October 16-18, 2016. *Ann Neurol* 2016;80:S175.
 17. Korostyshevskaya A, Savelov A, Makogon A, **Yarnykh V**. Diagnosis of Prenatal Stroke: The Value of Fetal Ultrasonography and MRI. 45th Annual Meeting of the Child Neurology Society, Vancouver, BC, Canada, October 26-29, 2016. *Ann Neurol* 2016;80:S343-S344.
 18. Korostyshevskaya A, Kurganova A, Savelov A, **Yarnykh V**. Microstructural White Matter Abnormalities in Isolated Ventriculomegaly Decrease During Pre- and Post-Natal Brain Maturation. 45th Annual Meeting of the Child Neurology Society, Vancouver, BC, Canada, October 26-29, 2016. *Ann Neurol* 2016;80:S354.

19. **Yarnykh VL**, Tartaglione EV, Ioannou GN. Fast macromolecular proton fraction (MPF) mapping of the human liver in vivo for quantitative assessment of hepatic fibrosis. AASLD Liver Meeting, San Francisco, CA, USA, November 13-17, 2015, Abstract 803. *Hepatology* 2015; 62(Suppl 1), 609A-609A.
20. Krutenkova EP, Khodanovich MYu, Bowen JD, Gangadharan B, Jung Henson LK, Mayadev A, Repovic P, Qian P, **Yarnykh VL**. Demyelination and iron accumulation in subcortical gray matter (GM) in multiple sclerosis (MS). 140th Annual Meeting of the American Neurological Association, Chicago, IL, USA, September 27-29, 2015, Abstract S514. *Ann Neurol* 2015;78 (Suppl 19), S65-S65.
21. Khodanovich MYu, Sorokina IV, Glazacheva VYu, Nemirovich-Danchenko NM, Romashchenko AV, Akulov AE, Shevelev OB, Tatyana G. Tolstikova TG, **Yarnykh VL**. Macromolecular Proton Fraction (MPF) Mapping Reveals Cortical Demyelination in the Cuprizone Model. 140th Annual Meeting of the American Neurological Association, Chicago, IL, USA, September 27-29, 2015, Abstract S508. *Ann Neurol* 2015;78 (Suppl 19), S63-S63.
22. **Yarnykh VL**, Bowen JD, Repovic P, Mayadev A, Qian P, Gangadharan B, Jung Henson LK. Macromolecular Proton Fraction (MPF) and Magnetization Transfer Ratio (MTR) in Normal-Appearing Brain Tissues as Imaging Biomarkers in Multiple Sclerosis (MS). Abstracts of the 139th Annual Meeting of the American Neurological Association, Baltimore, MD, USA, October 12-14, 2014; Abstract M1713. *Ann Neurol* 2014;76: (Suppl 18): S111-S111.
23. **Yarnykh VL**. Fast high-resolution whole-brain macromolecular proton fraction mapping using a minimal number of source images. Proceedings of the 22th Annual Meeting of ISMRM-ESMRMB, Milan, Italy, 2014; p. 3335.
24. **Yarnykh VL**. Three-dimensional macromolecular proton fraction mapping of the human cervical spinal cord. Proceedings of the 22th Annual Meeting of ISMRM-ESMRMB, Milan, Italy, 2014; p. 3449.
25. **Yarnykh VL**, Bowen JD, Samsonov AA, Repovic P, Maravilla KR, Jung Henson LK, Mayadev A, Gangadharan B, Underhill HR, Keogh BP. Fast Whole-brain Macromolecular Proton Fraction (MPF) Mapping for Quantitative Imaging of White and Gray Matter Demyelination in Multiple Sclerosis. RSNA 99th Scientific Assembly and Annual Meeting, Chicago, IL, 2013; Abstract SSG12-07.
26. Cross DJ, Ho R, Richards TL, **Yarnykh VL**, Garwin G, Mourad P, Cook D, Minoshima S. Imaging Biomarker Evaluation of Cytoskeletal Stabilization Therapy for Traumatic Brain Injury. RSNA 99th Scientific Assembly and Annual Meeting, Chicago, IL, 2013; Abstract SSJ15-03.
27. **Yarnykh VL**, Bowen JD, Samsonov AA, Repovic P, Mayadev A, Keogh BP, Gangadharan B, Underhill HR, Maravilla KR, Jung Henson LK. Clinical Relevance of Brain Macromolecular Proton Fraction Changes in MS. Abstracts of the Fifth Cooperative Meeting of CMSC and ACTRIMS, Orlando, FL, USA, May 29 - June 1, Oral Presentations. *Mult Scler* 2013;19(10): 1393-1394.
28. **Yarnykh VL**, Bowen JD, Samsonov AA, Repovic P, Mayadev A, Keogh BP, Gangadharan B, Underhill HR, Maravilla KR, Jung Henson LK. Macromolecular proton fraction as a new clinical biomarker of demyelination in multiple sclerosis. Proceedings of the 21th Annual Meeting of ISMRM, Salt Lake City, Utah, USA, 2013; p. 45.
29. **Yarnykh VL**, Bowen JD, Samsonov AA, Repovic P, Mayadev A, Keogh BP, Gangadharan B, Underhill HR, Maravilla KR, Jung Henson LK. Direct comparison between macromolecular proton fraction, R1, magnetization transfer ratio, and lesion volume as predictors of clinical status in multiple sclerosis. Proceedings of the 21th Annual Meeting of ISMRM, Salt Lake City, Utah, USA, 2013; p. 3613.
30. **Yarnykh VL**, Bowen JD, Repovic P, Mayadev A, Keogh BP, Gangadharan B, Underhill HR, Maravilla KR, Jung Henson LK. Quantitative assessment of white and gray matter pathology in multiple sclerosis using whole-brain macromolecular proton fraction mapping and histogram analysis. Abstracts of the Fourth Cooperative Meeting of CMSC and ACTRIMS, San Diego, CA, USA, May 30 - June 2; Abstract P22. *Mult Scler* 2012;18(9): S20-S20.
31. Peskind ER, Cross DJ, **Yarnykh V**, Pagulayan K, Hoff D, Hart K, Martin N, Richards T, Raskind MA, Minoshima S, Petrie EC. Neuroimaging biomarkers in veterans with blast-mild traumatic brain injury with or without comorbid PTSD. Abstracts of 42nd Annual Conference On Effects of Traumatic Stress, New York, September 11-14, 2012. *Eur J Psychotraumatol* 2012;3(Suppl 1):112.
32. Mossahebi P, **Yarnykh VL**, Samsonov AA. Improved Accuracy of Cross-Relaxation Imaging Using On-Resonance MT Effect Correction. Proceedings of the 20th Annual Meeting of ISMRM, Melbourne, Australia, 2012; p. 741.

33. Naumova A, **Yarnykh VL**, Balu N, Reinecke H, Murry C, Yuan C. Improved Identification of Ferritin-Tagged Grafts in Mouse Heart at Higher Magnetic Field Strength. Proceedings of the 20th Annual Meeting of ISMRM, Melbourne, Australia, 2012; p. 4360.
34. **Yarnykh VL**, Bowen JD, Keogh BP, Repovic P, Mayadev A, Gangadharan B, Rizzuto DS, Underhill HR, Maravilla KR, Jung-Henson LK. Fast Macromolecular Proton Fraction (MPF) mapping in multiple sclerosis (MS). Abstracts of the 136th Annual Meeting of the American Neurological Association, San Diego, CA, USA, September 25-27, 2011; Abstract T1743. *Ann Neurol* 2011;70: (Suppl 15): S90-S90.
35. **Yarnykh VL**. Fast macromolecular proton fraction mapping from a single off-resonance magnetization transfer measurement. Proceedings of the 19th Annual Meeting of ISMRM, Montreal, Canada, 2011; p. 227.
36. **Yarnykh VL**, Ioannou GN. Macromolecular proton fraction mapping of the human liver *in vivo*: technical feasibility and preliminary observations in hepatic fibrosis. Proceedings of the 19th Annual Meeting of ISMRM, Montreal, Canada, 2011; p. 392.
37. Underhill HR, Rostomily RC, Mikheev AM, Yuan C, **Yarnykh VL**. Fast Bound Pool Fraction Imaging of the In Vivo Rat Brain: Association with Myelin Content and Validation in the C6 Glioma Model. Proceedings of the 19th Annual Meeting of ISMRM, Montreal, Canada, 2011; p. 224.
38. Balu N, **Yarnykh V**, Kerwin W, Wang J, Yuan C. Interpretation of tissue contrast in a rapid black-blood gradient echo sequence with motion-sensitized driven equilibrium (MSDE) preparation (3D MERGE) for 3D isotropic high-resolution imaging of the vessel wall and its application for hemorrhage detection. Proceedings of the 19th Annual Meeting of ISMRM, Montreal, Canada, 2011; p. 113.
39. Naumova A, **Yarnykh V**, Reinecke H, Murry C, Yuan C. In vivo MRI Signal Features of Transgenic Grafts Overexpressing Ferritin in the Murine Myocardial Infarction Model. Proceedings of the 19th Annual Meeting of ISMRM, Montreal, Canada, 2011; p. 670.
40. Hurley SA, **Yarnykh VL**, Samsonov AA. Spoiling properties of the VAFI method for fast simultaneous T1 and B1 mapping from actual flip-angle imaging (AFI) and variable flip-angle (VFA) data. Proceedings of the 19th Annual Meeting of ISMRM, Montreal, Canada, 2011; p. 4488.
41. **Yarnykh VL**. Comparison between RF Spoiling Schemes in the Actual Flip-Angle Imaging (AFI) Sequence for Fast B1 Mapping. Proceedings of the 18th Annual Meeting of ISMRM-ESMRMB, Stockholm, Sweden, 2010; p. 241.
42. **Yarnykh VL**, Underhill HR, Cross DJ, McCraw K, Biberston J, Hoff DJ, Hart K, Minoshima S, Petrie EC, Raskind MA, Peskind ER. Whole-brain Histograms of the Bound Pool Fraction Reveal Delayed White and Gray Matter Damage after Blast-induced Mild Traumatic Brain Injury (mTBI). Proceedings of the 18th Annual Meeting of ISMRM-ESMRMB, Stockholm, Sweden, 2010; p. 4342.
43. Underhill HR, Yuan C, **Yarnykh VL**. Reconstruction of Bound Pool Fraction Maps from Subsets of Cross-Relaxation Imaging Data at 3.0 T: Accuracy, Time-Efficiency and Error Analysis. Proceedings of the 18th Annual Meeting of ISMRM-ESMRMB, Stockholm, Sweden, 2010; p. 3000.
44. Balu N, **Yarnykh V**, Chu B, Wang J, Hatsukami T, Yuan C. Carotid plaque burden measurement using ultrafast 3D black-blood MRI. Proceedings of the 18th Annual Meeting of ISMRM-ESMRMB, Stockholm, Sweden, 2010; p. 3683.
45. Dong L, Wang J, **Yarnykh V**, Underhill H, Neradilek M, Hatsukami T, Yuan C. Efficient Flow Suppressed MRI Improves Reproducibility of Carotid Atherosclerosis Plaque Burden Measurements. Proceedings of the 18th Annual Meeting of ISMRM-ESMRMB, Stockholm, Sweden, 2010; p. 1274.
46. Gerretsen S, Wang J, Maki JH, Jaarsma C, Herzka D, Chu B, **Yarnykh V**, Yuan C, Leiner TV. Reproducible coronary vessel wall imaging at 3T using improved Motion Sensitized Driven Equilibrium (iMSDE). Proceedings of the 18th Annual Meeting of ISMRM-ESMRMB, Stockholm, Sweden, 2010; p. 665.
47. **Yarnykh VL**. Analytical Method for Correction of B1 Errors in High-Field Magnetization Transfer Ratio Mapping. Proceedings of the 17th Annual Meeting of ISMRM, Honolulu, HI, USA, 2009; p. 4482.
48. Underhill HR, Yuan C, **Yarnykh VL**. Direct Quantitative Comparison Between Cross-Relaxation Imaging and Diffusion Tensor Imaging of the Human Brain. Proceedings of the 17th Annual Meeting of ISMRM, Honolulu, HI, USA, 2009; p. 2749.
49. Underhill HR, Yuan C, **Yarnykh VL**. Optimization and Validation of a Constrained Reconstruction Algorithm for Rapid Whole-Brain Cross-Relaxation Imaging at 3.0 Tesla. Proceedings of the 17th Annual Meeting of ISMRM, Honolulu, HI, USA, 2009; p. 2748.

50. Wang J, Yuan C, **Yarnykh VL**. Sub-Minute 3D Black-Blood Imaging of the Whole Heart with Isotropic Spatial Resolution. Proceedings of the 17th Annual Meeting of ISMRM, Honolulu, HI, USA, 2009; p. 1803.
51. Wu X, Deelchand DK, **Yarnykh VL**, Ugurbil K, Van de Moortele P-F. Actual Flip Angle Imaging: From 3D to 2D. Proceedings of the 17th Annual Meeting of ISMRM, Honolulu, HI, USA, 2009; p. 372.
52. Ota H, **Yarnykh VL**, Ferguson MS, Underhill HR, DeMarco JK, Oikawa M, Dong L, Zhao X, Zhu DC, Hatsukami TS, Yuan C. Comparison Between Three T1-Weighted Sequences for Detection and Area Measurement of Intraplaque Hemorrhage in Carotid Atherosclerotic Plaque Imaging at 3 Tesla. Proceedings of the 17th Annual Meeting of ISMRM, Honolulu, HI, USA, 2009; p. 605.
53. Balu N, **Yarnykh VL**, Chu B, Wang J, Hatsukami TS, Yuan C. Carotid Plaque Assessment Using Fast 3D Isotropic-Resolution Black-Blood MRI. Proceedings of the 17th Annual Meeting of ISMRM, Honolulu, HI, USA, 2009; p. 1826.
54. Naumova A, Reinecke H, **Yarnykh VL**, Yuan C, Murry C. Ferritin Overexpression for Molecular Imaging of Transplanted Cells. Proceedings of the 17th Annual Meeting of ISMRM, Honolulu, HI, USA, 2009; p. 523.
55. Naumova A, Reinecke H, Stevens K, Deem J, **Yarnykh VL**, Yuan C, Murry C. Ferritin Overexpression as a Tool for Detection of Live Cells Transplanted Into Infarcted Heart. Proceedings of the 17th Annual Meeting of ISMRM, Honolulu, HI, USA, 2009; p. 3135.
56. Dong L, Underhill HR, **Yarnykh VL**, Yu W, Ota H, Zhao X, Hatsukami TS, Zhang Z, Yuan C. Carotid Contrast Enhanced MRA as a Measurement of Atherosclerosis Severity: Direct Comparison with High-Resolution Vessel Wall Imaging. Proceedings of the 17th Annual Meeting of ISMRM, Honolulu, HI, USA, 2009; p. 3834
57. Wang J, Gerretsen SC, Maki JH, Herzka DA, Chu B, **Yarnykh VL**, Yuan C, Leiner T. Robust and Time-Efficient Black Blood Coronary Vessel Wall Imaging at 3T Using iMSDE. Proceedings of the 17th Annual Meeting of ISMRM, Honolulu, HI, USA, 2009; p. 1895.
58. DeMarco JK, Ota H, Underhill HR, Zhu D, Reeves M, Majid A, Collar A, Oikawa M, Dong L, Zhao X, Li F, **Yarnykh VL**, Yuan C. High-Resolution 3T Carotid MRI Identifies the High-Risk Lesion in Patients with Moderate (<70%) Carotid Stenosis. Proceedings of the 17th Annual Meeting of ISMRM, Honolulu, HI, USA, 2009; p. 1821.
59. Leussler CG, Wirtz D, Mazurkewitz PC, Naumova A, Underhill H, Yuan C, **Yarnykh V**, Vernicke P. Coil array for high resolution parallel mouse MRI at 3 Tesla. 25th Annual Scientific Meeting of ESMRMB, Valencia, Spain, 2008. *MAGMA* 2008; 21 (Suppl. 1): 455-456.
60. **Yarnykh VL**. Improved accuracy of variable flip angle T1 measurements using optimal radiofrequency and gradient spoiling. Proceedings of the 16th Annual Meeting of ISMRM, Toronto, Canada, 2008; p. 234.
61. **Yarnykh VL**. Optimal spoiling of the transverse magnetization in the Actual Flip-angle Imaging (AFI) sequence for fast B1 field mapping. Proceedings of the 16th Annual Meeting of ISMRM, Toronto, Canada, 2008; p. 3090.
62. Balu N, **Yarnykh VL**, Hayes C, Scholnick J, Xu D, Chu B, Yuan C. Improvements in spatial resolution using a novel 8-element carotid phased array coil at 3T. ISMRM Proceedings of the 16th Annual Meeting of ISMRM, Toronto, Canada, 2008; p. 952.
63. Balu N, **Yarnykh VL**, Kerwin W, Cai J, Yuan C. Quantitative Contrast Enhancement Maps of the Carotid Atherosclerotic Plaque In-vivo: Methodology and Clinical Assessment. Proceedings of the 16th Annual Meeting of ISMRM, Toronto, Canada, 2008; p. 488.
64. DeMarco K, Ma X, Brooks J, Zhu D, **Yarnykh V**. Time dependence of necrotic core and fibrous cap quantitative measurements with gadobenate dimeglumine enhanced carotid plaque MRI at 3T. Proceedings of the 16th Annual Meeting of ISMRM, Toronto, Canada, 2008; p. 953.
65. Kerwin WS, Liu F, Underhill H, **Yarnykh VL**, Yuan C. Signal Features of the Atherosclerotic Plaque at 3.0T versus 1.5T: Impact on Automatic Classification. Proceedings of the 16th Annual Meeting of ISMRM, Toronto, Canada, 2008; p. 948.
66. Naumova A, Fernandes S, **Yarnykh V**, Muskheli V, Yuan C, Murry CE. Functional Effects of Human Embryonic Stem Cell-Derived Cardiomyocyte Transplantation on Chronic Myocardial Infarction in Rats. Proceedings of the 16th Annual Meeting of ISMRM, Toronto, Canada, 2008; p. 1027.
67. Underhill H, **Yarnykh VL**, Hatsukami TS, Wang J, Balu N, Hayes CE, Oikawa M, Yu W, Xu D, Chu B, Wyman BT, Polissar NL, Yuan C. Quantitative Comparison of Carotid Plaque Composition between 1.5 and 3.0T Field-Strengths. Proceedings of the 16th Annual Meeting of ISMRM, Toronto, Canada, 2008; p. 960.

68. Underhill H, Yuan C, **Yarnykh VL**. High-Resolution Cross-Relaxation Imaging of the Rat Brain at 3.0T. Proceedings of the 16th Annual Meeting of ISMRM, Toronto, Canada, 2008; p. 2242.
69. Wang J, **Yarnykh VL**, Chu B, Yuan C. Improved motion-sensitized driven equilibrium (iMSDE) blood-suppression sequence for atherosclerosis plaque imaging at 3T. Proceedings of the 16th Annual Meeting of ISMRM, Toronto, Canada, 2008; p. 961.
70. Wang J, **Yarnykh VL**, Chu B, Molitor JA, Nash RA, Liu F, Schwartz SM, Yuan C. Micro MR angiography of the finger as a potential biomarker in systemic sclerosis. Proceedings of the 16th Annual Meeting of ISMRM, Toronto, Canada, 2008; p. 734.
71. **Yarnykh VL**. Effect of the Phase Increment on the Accuracy of T1 Measurements by the Variable Flip Angle Method Using a Fast RF Spoiled Gradient Echo Sequence. Proceedings of the 15th Annual Meeting of ISMRM-ESMRMB, Berlin, Germany, 2007; p. 1796.
72. **Yarnykh VL**. Fast Two-Point Mapping of the Bound Pool Fraction and Cross-Relaxation Rate Constant in the Human Brain. Proceedings of the 15th Annual Meeting of ISMRM-ESMRMB, Berlin, Germany, 2007; p. 1765.
73. Wang J, **Yarnykh V**, Hatsukami T, Yuan C. Efficient Slow-Flowing Blood Suppression Technique in Atherosclerosis Imaging with Motion Sensitized Driven Equilibrium (MSDE) TSE Sequence at 3T. Proceedings of the 15th Annual Meeting of ISMRM, Berlin, Germany, 2007; p. 442.
74. Scholnick J, **Yarnykh V**, Balu N, Liu F, Chu B, Yuan C, Hayes C. An Improved Phased-Array Surface Coil for Carotid Vessel Wall Imaging. Proceedings of the 15th Annual Meeting of ISMRM-ESMRMB, Berlin, Germany, 2007; p. 3259.
75. Naumova AV, **Yarnykh V**, Wilson GJ, Yuan C. Rodent Cardiac MRI on 3T Clinical Scanner: Comparison with 4.7T. Proceedings of the 15th Annual Meeting of ISMRM-ESMRMB, Berlin, Germany, 2007; p. 3634.
76. Wang J, **Yarnykh V**, Hayes C, Mathis M, Schwartz S, Yuan C. Using In Vivo High Resolution Finger MRI to Study Scleroderma – A Feasibility Study and Preliminary Results. Proceedings of the 15th Annual Meeting of ISMRM-ESMRMB, Berlin, Germany, 2007; p. 2639.
77. Balu N, Chu B, Hatsukami T, Yuan C, **Yarnykh VL**. Comparison Between 2D and 3D Black Blood Imaging of the Clinically Significant Carotid Atherosclerotic Plaque. Proceedings of the 15th Annual Meeting of ISMRM-ESMRMB, Berlin, Germany, 2007; p. 2281.
78. Terashima M, Nguyen PK, **Yarnykh VL**, Yuan C, Rubin GD, Iribarren C, Courtney BK, Go AS, Fortmann SP, McConnell MV. Subclinical Carotid Atherosclerosis by MRI Is Associated with Coronary Atherosclerosis Measured by CT and MRI: Initial Results. Proceedings of the 15th Annual Meeting of ISMRM-ESMRMB, Berlin, Germany, 2007; p. 2484.
79. Underhill H., Yuan C, **Yarnykh VL**, Wang J, Balu N, Hayes CE, et al. Carotid Plaque Morphology and Composition: A Comparison between 1.5 and 3.0 Tesla Magnetic Field Strengths. RSNA 93rd Scientific Assembly and Annual Meeting, Chicago, IL, 2007; p. 404.
80. Wang J, **Yarnykh V**, Hayes C, Mathis M, Schwartz S, Yuan C. Using high resolution finger MRI for scleroderma disease staging: feasibility study, 1st CSMRM annual meeting, 2007.
81. Wang J, **Yarnykh V**, Hatsukami T, Yuan C. Higher T2eff value separation between lipid and fibrous content in 3T vessel wall imaging, 1st CSMRM annual meeting, 2007.
82. **Yarnykh VL**, Terashima M, Hayes CE, Shimakawa A, Takaya N, Nguyen PK, Brittain JH, McConnell MV, Yuan C. Multi-Contrast Black-Blood MRI of Carotid Arteries: Comparison Between 1.5 and 3 Tesla Magnetic Field Strengths. Proceedings of the 14th Annual Meeting of ISMRM, Seattle, WA, 2006; p. 2169.
83. **Yarnykh VL**, Yuan C. Time-Efficient Multislice Black-Blood Imaging with Reduced Field-Of-View Using Quadruple Inversion-Recovery Sequence. Proceedings of the 14th Annual Meeting of ISMRM, Seattle, WA, 2006; p. 2179.
84. Wang J, **Yarnykh V**, Yuan C, Fleming J, Schwartz S. Preliminary Study for Systemic Sclerosis Staging with MRI. Proceedings of the 14th Annual Meeting of ISMRM, Seattle, WA, 2006; p. 262.
85. Naumova AV, **Yarnykh V**, Ferguson M, Rosenfeld M, Yuan C. MR Histology Of Advanced Atherosclerotic Lesions Of ApoE-knockout Mice. Proceedings of the 14th Annual Meeting of ISMRM, Seattle, WA, 2006; p. 650.
86. Kerwin WS, **Yarnykh V**, Yuan C. Diffusion Based Model of Contrast Agent Kinetics for Dynamic Contrast-Enhanced MRI. Proceedings of the 14th Annual Meeting of ISMRM, Seattle, WA, 2006; p. 2187.

87. Wang J, **Yarnykh V**, Yuan C, Saam T, Hatsukami T, Ferguson M, Zhu T. In vivo Automated Quantification of Fibrous Tissue Content in Atherosclerosis Plaque MRI with T2-Mapping and Contrast Enhanced (TMCE) Technique. Proceedings of the 14th Annual Meeting of ISMRM, Seattle, WA, 2006; p. 2170.
88. Wang J, **Yarnykh V**, Hatsukami T, Yuan C. Reproducibility and SNR Optimization of Quantitative T2 Atherosclerotic Plaque Imaging with a Dual-Echo Technique. Proceedings of the 14th Annual Meeting of ISMRM, Seattle, WA, 2006; p. 2171.
89. Underhill HR, Crouse JR, **Yarnykh V**, Kraft R, Saam T, Takaya N, Chu B, Yang C, Terry JG, Yuan C. An MRI Technique for the Study of the Prevalence of Atherosclerosis. Proceedings of the 14th Annual Meeting of ISMRM, Seattle, WA, 2006; p. 2174.
90. DeMarco K, Zhu D, Hammond C, Henderson G, Kerwin W, Ross W, **Yarnykh V**, Yuan C. High-resolution carotid MRA and plaque MRI at 3T: Initial clinical experience and validation of semi-automated plaque characterization. Proceedings of the 14th Annual Meeting of ISMRM, Seattle, WA, 2006;p. 2173.
91. Naumova AV, **Yarnykh V**, Ferguson M, Rosenfeld M, Yuan C. Feasibility of characterization of atherosclerotic plaque by magnetic resonance microscopy on the murine model of atherosclerosis. Abstracts of the XIV International Symposium on Atherosclerosis, Rome, Italy, 2006. *Atheroscler Suppl* 2006, 7 (3): 267-268.
92. Saam T, Hatsukami TS, Underhill H, Chu B, Takaya N, Cai J, **Yarnykh VL**, Kerwin WS, Xu D, Polissar NL, Hamar WK, Maki J, Shaw DW, Buck R, Wastall P, Mychajluk M, Wyman B, Yuan C. Intra- and Inter-Platform Reproducibility of 1.5T Siemens, GE and Phillips Scanners for Classifying Carotid Atherosclerosis Lesion Type Using Modified AHA Criteria. 9th Annual SCMR Scientific Sessions, Miami, FL, USA, 2006; *J Cardiovasc Magn Reson* 2006; 8(1):137-138.
93. Saam T, Hatsukami TS, Underhill H, Chu B, Takaya N, Cai J, **Yarnykh VL**, Kerwin WS, Xu D, Polissar NL, Hamar WK, Maki J, Shaw DW, Buck R, Wastall P, Mychajluk M, Wyman B, Yuan C. Intra- and Inter-Platform Reproducibility of 1.5T Siemens, GE and Phillips Scanners for Quantitative Assessment of Carotid Atherosclerotic Plaque. 9th Annual SCMR Scientific Sessions, Miami, FL, USA, 2006; *J Cardiovasc Magn Reson* 2006; 8(1):286.
94. Underhill H, Yuan C, Espeland MA, Chen H, Terry JG, Hatsukami TS, Saam T, Chu B, Takaya N, Tang R, **Yarnykh VL**, Carr JJ, Ferguson M, Crouse JR. The Composition and Morphology of the Carotid Artery are Associated with Coronary Artery Disease: A Case-Control High Resolution Magnetic Resonance Imaging Study (#3843). American Heart Association Scientific Sessions, Chicago, IL, 2006. *Circulation* 2006; 114 (18 Suppl.): II-823-II-824.
95. Yang C, Tang D, **Yarnykh V**, Yuan C, Hatsukami TS, Chu B, Liu F, Zheng J, Woodarde PK. Low Structure Stress Correlates Positively with Atherosclerotic Plaque Wall Thickness: In Vivo/Ex Vivo MRI-Based 3D FSI Models for Human Atherosclerotic Plaques. 5th World Congress of Biomechanics, Munich, Germany, 2006. p. 4044.
96. **Yarnykh VL**, Yuan C. Simultaneous outer volume and blood suppression by quadruple inversion-recovery. Proceedings of the 13th Annual Meeting of ISMRM, Miami, FL, 2005; p. 784.
97. **Yarnykh VL**, Wang J, Hatsukami TS, Yuan C. Effective T2 histograms derived from fast spin-echo data as an integrative marker of the atherosclerotic plaque tissue composition. Proceedings of the 13th Annual Meeting of ISMRM, Miami, FL, 2005; p. 1750.
98. **Yarnykh VL**, Yuan C. Multiple Inversion Preparative Schemes for Black-Blood MRI. 17th Annual international conference on magnetic resonance angiography: MR Angio Club, Beijing, China, 2005, p. 48-49 (abstract #2.14).
99. Saam T, Hatsukami TS, Underhill H, Chu B, Takaya N, Cai J, **Yarnykh VL**, Kerwin WS, Xu D, Polissar NL, Hamar WK, Maki J, Shaw D, Buck R, Wastall P, Mychajluk M, Yuan C. Atherosclerotic Plaque Tissue Quantitation Considerations of Inter-Scan and Inter-Platform Variability. 17th Annual international conference on magnetic resonance angiography: MR Angio Club, Beijing, China, 2005, p. 111 (abstract #6.6).
100. Saam T, Kerwin WS, Chu B, Cai J, Kampschulte A, Hatsukami TS, Zhao XQ, Polissar NL, **Yarnykh VL**, Flemming K, Huston III J, Insull Jr W., Morrisett JD, Rand SD, DeMarco KJ, Yuan C. Interscan Reproducibility of Quantitative Plaque Measurements of Carotid Atherosclerosis in a Clinical Multi-Center Trial using Magnetic Resonance Imaging. 8th Annual SCMR Scientific Sessions, San Francisco, CA, USA; 2005. *J Cardiovasc Magn Reson* 2005; 7(1):132-133.
101. Chu B, Zhao XQ, Saam T, **Yarnykh VL**, Kersin WS, Flemming KD, Huston J, Insull W, Jr, Morrisett JD, Rand SD, DeMarco KJ, Polissar NL, Cai JM, Kampschulte A, Hatsukami TS, Yuan C. Feasibility of in vivo, multi-

- contrast weighted MR imaging of carotid atherosclerosis for multi-center studies. 8th Annual SCMR Scientific Sessions, San Francisco, CA, USA, 2005; J Cardiovasc Magn Reson 2005; 7(1): 143-144.
102. **Yarnykh VL**, Yuan C. Actual Flip Angle Imaging in the Pulsed Steady State. Proceedings of the 12th Annual Meeting of ISMRM, Kyoto, Japan, 2004; p. 194.
 103. **Yarnykh VL**. Cross-relaxation imaging reveals detailed anatomy of white matter fiber tracts in the human brain. Proceedings of the 12th Annual Meeting of ISMRM, Kyoto, Japan, 2004; p. 463.
 104. **Yarnykh VL**, Hayes CE, Shimakawa A, Terashima M, Nguyen PK, Brittain JH, McConnell MV, Yuan C. High-resolution Black-blood MRI of Carotid Atherosclerotic Plaque at 3T: Optimization of Clinical Protocol. Proceedings of the 12th Annual Meeting of ISMRM, Kyoto, Japan, 2004; p. 1912.
 105. Terashima M, Nguyen PK, **Yarnykh VL**, Hayes CE, Shimakawa A, Brittain JH, Yuan C, McConnell MV. Carotid Plaque Imaging at 1.5T and 3T: Systematic SNR Comparison. Proceedings of the 12th Annual Meeting of ISMRM, Kyoto, Japan, 2004; p. 1910.
 106. **Yarnykh VL**, Chu B, Hatsukami TS, Yuan C. High-resolution Black-blood MRI of Human Carotid Atherosclerotic Plaque: Comparison of Three- and Two-dimensional Methods. 7th Annual SCMR Scientific Sessions, Barcelona, Spain, 2004. J Cardiovasc Magn Reson 2004; 6(1): 105-107.
 107. **Yarnykh VL**, Hayes CE, Shimakawa A, Terashima M, Nguyen PK, Brittain JH, McConnell MV, Yuan C. Practical guidelines on high-resolution black-blood MRI of carotid atherosclerotic plaque using 3T magnetic field. 7th Annual SCMR Scientific Sessions, Barcelona, Spain, 2004. J Cardiovasc Magn Reson 2004; 6(1): 108-109.
 108. Saam T, Ferguson MS, **Yarnykh VL**, Xu D, Polissar NL, Hatsukami TS, Yuan C. Accuracy of In Vivo Quantitative Characterization of Atherosclerotic Carotid Plaque: A High-Resolution, Multi-Contrast Magnetic Resonance Imaging Study. 7th Annual SCMR Scientific Sessions, Barcelona, Spain, 2004. J Cardiovasc Magn Reson 2004; 6(1): 96-97.
 109. Terashima M, Nguyen PK, **Yarnykh VL**, Hayes CE, Shimakawa A, Brittain JH, Yuan C, McConnell MV. Carotid Plaque Imaging at 1.5T and 3T: Systematic SNR Comparison. 7th Annual SCMR Scientific Sessions, Barcelona, Spain, 2004. J Cardiovasc Magn Reson 2004; 6(1): 263-264.
 110. Saam T, Ferguson MS, **Yarnykh VL**, Hatsukami TS, Yuan C. Carotid Atherosclerotic Plaque Composition has a Direct Impact on Plaque Burden and Lumen Narrowing. 29th International Stroke Conference, San Diego, CA, USA, 2004. Stroke 2004; 35(1):307.
 111. **Yarnykh VL**, Yuan C. Fast high-resolution imaging and histogram analysis of cross-relaxation parameters in the entire brain. Proceedings of the 11th Annual Meeting of ISMRM, Toronto, Canada, 2003; p. 1105.
 112. **Yarnykh VL**, Yuan C. Comparison of 2D and 3D black-blood techniques for high-resolution T1-weighted imaging of carotid arteries. Proceedings of the 11th Annual Meeting of ISMRM, Toronto, Canada, 2003; p. 1632.
 113. Kerwin WS, **Yarnykh V**, Chu B, Ferguson M, Hatsukami TS, Yuan C. Incremental contrast-enhanced quadruple inversion recovery MRI for characterizing temporal patterns of enhancement in carotid atherosclerosis. Proceedings of the 11th Annual Meeting of ISMRM, Toronto, Canada, 2003; p. 963.
 114. **Yarnykh VL**, Yuan C. Fast black-blood imaging of carotid arteries using multi-slice double inversion-recovery. 6th Annual SCMR Scientific Sessions, Orlando, FL, 2003. J Cardiovasc Magn Reson 2003; 5(1): 24-26.
 115. Chu B, **Yarnykh VL**, Huston J, Parker DL, Yuan C. Assessment of inter-site variability of morphological measurements on carotid arteries using black-blood MRI. 6th Annual SCMR Scientific Sessions, Orlando, FL, 2003. J Cardiovasc Magn Reson 2003; 5(1):153-154.
 116. Yuan C, **Yarnykh V**, Chu B, Ferguson M, Kerwin W, Cai J, Hatsukami T. The role of flow suppressed incremental contrast enhanced MRI to study the properties of the luminal surface layer of atherosclerotic plaque Abstracts of the XIV International Symposium on Atherosclerosis, Kyoto, Japan, 2003. Atheroscler Suppl 2003, 4 (2): 159.
 117. Chu B, Kampschulte A, Ferguson MS, Kerwin WS, **Yarnykh VL**, O'Brien KO, Polissar NL, Hatsukami TS, Yuan C. Occurrence and Staging of Hemorrhage in the Advanced Carotid Atherosclerotic Plaque: A Comparison of Histology and High Resolution MRI (#1735). American Heart Association Scientific Sessions, Orlando, FL, 2003. Circulation 2003, 108 (17 Suppl.): IV-372.
 118. **Yarnykh VL**, Yuan C. Feasibility of multi-slice black-blood double inversion-recovery imaging. Proceedings of the 10th Annual Meeting of ISMRM, Honolulu, HI, USA, 2002; p. 1563.

119. **Yarnykh VL**, Yuan C. Quadruple Inversion-Recovery: a method for quantitative contrast-enhanced black-blood imaging. Proceedings of the 10th Annual Meeting of ISMRM, Honolulu, HI, USA, 2002; p. 1562.
120. **Yarnykh VL**, Yuan C. Quadruple Inversion-Recovery: a method for quantitative contrast-enhanced black-blood imaging. 2002, 5th Annual SCMR Scientific Sessions, Lake Buena Vista, FL, 2002. J Cardiovasc Magn Reson 2002; 4(1): 76-77.
121. **Yarnykh VL**. Pulsed Z-spectroscopic imaging for human MRI: theory and experimental technique. Proceedings of the 9th Annual Meeting of ISMRM, Glasgow, UK, 2001. p. 527.
122. Bakhtiozin RF, **Yarnykh VL**, Boiko AN, Baev AA. Magnetization transfer ratio maps with different flip angles in evaluation of multiple sclerosis lesions. Proceedings of the 13th European Congress of Radiology, Vienna, Austria, 2001; Abstract B-0431.
123. **Yarnykh VL**. Quantitative pulsed steady-state Z-spectroscopy: theory and MRI applications. 17th Annual Scientific Meeting of ESMRMB, Paris, France, 2000. MAGMA 2000; 11 (Suppl. 1): 70.
124. **Yarnykh VL**, Bakhtiozin RF, Boiko AN, Baev AA. Flip angle dependency of multiple sclerosis lesions contrast on magnetization transfer ratio maps. 17th Annual Scientific Meeting of ESMRMB, Paris, France, 2000. MAGMA 2000; 11 (Suppl. 1): 24-25.

17. OTHER:

A. Invited National and International Lectures:

- IV International Conference on Metamaterials and Nanophotonics “METANANO 2019” – keynote lecture “Quantitative MRI of macromolecular tissue composition: from bench to bedside,” St. Petersburg, Russian Federation; July 18, 2019.
- “Endogenous tissue contrast in MRI: basic principles and new opportunities” - plenary lecture, International conference “Modern contrast technologies in the diagnosis of cardiovascular and oncological diseases,” Novosibirsk, Russian Federation; October 25, 2018.
- "Quantitative myelin mapping using macromolecular proton fraction" in the Imaging Research in Progress lecture series - University of Washington, Seattle, WA; October 2, 2018.
- “Quantitative mapping of brain myelination using macromolecular proton fraction” - Department of Imaging and Pathology, Faculty of Medicine, KU Leuven (University of Leuven), Leuven, Belgium; June 27, 2018.
- “Endogenous tissue contrast in MRI: basic principles and new opportunities” - plenary lecture, International conference “Molecules and systems for diagnostics and targeted therapy” - Tomsk, Russian Federation; November 1, 2017.
- “Macromolecular proton fraction: application in clinical and preclinical research” – keynote lecture, International Congress on Clinical and Translational Neuroimaging - Novosibirsk, Russian Federation; November 24, 2016.
- “Quantitative Mapping of White and Gray Matter Myelination Using Macromolecular Proton Fraction” -Center for Biomedical Imaging Research, Tsinghua University, Beijing, China; October 22, 2015.
- “Demyelination and iron accumulation in subcortical gray matter in multiple sclerosis” - invited talk at the “Multiple Sclerosis” Special Interest Group Symposium -139th Annual Meeting of the American Neurological Association, Chicago, IL; September 27, 2015.
- “Neuroradiology: Quantitative Mapping of White and Gray Matter Myelination Using Macromolecular Proton Fraction” - Bio-Molecular Imaging Center Symposium “New Frontiers in Imaging,” University of Washington, Seattle, WA; October 7, 2015.
- “Macromolecular Proton Fraction and Magnetization Transfer Ratio in Normal-Appearing Brain Tissues as Imaging Biomarkers in Multiple Sclerosis” - invited talk at the “Multiple Sclerosis as a Neurodegenerative Disease: Biomarkers of Progression and Treatment Strategies” Special Interest Group Symposium -139th Annual Meeting of the American Neurological Association, Baltimore, MD; October 14, 2014.
- “Fast macromolecular proton fraction mapping as a promising approach for imaging myelination in the MS brain” at the Nancy Davis Foundation for Multiple Sclerosis Symposium - Los Angeles, CA, May 3, 2013.
- “MT not limited to brain” at the Gordon Research Conference “In Vivo Magnetic Resonance” - August 2, 2012.

- “Fast Macromolecular Proton Fraction Mapping in Multiple Sclerosis” - invited talk at the Neuroimmunology Special Interest Group Symposium -136th Annual Meeting of the American Neurological Association, San Diego, CA; September 27, 2011.
- “Quantitative imaging of magnetic cross-relaxation *in vivo*” - Wisconsin Institutes for Medical Research, University of Wisconsin - Madison, Madison, WI; March 14, 2010.
- “Physical models for magnetization exchange (magnetization transfer)” at the “MR Physics for Physicists” ISMRM Weekend Educational Course - 17th Annual Meeting of ISMRM, Honolulu, HI; April 18, 2009.
- “Basics of vascular imaging physics”, “Advanced imaging techniques”, and “Carotid protocols & hardware” at the “MRI of Carotid Atherosclerosis” Workshop (CME course) - University of Washington, Seattle, WA; September 24, 2008.
- “Actual flip-angle imaging (AFI) method for fast B1 mapping: theory, sequence design, and applications” - Center for Magnetic Resonance Research, University of Minnesota, Minneapolis, MN; September 10, 2008.
- “Quantitative imaging of cross-relaxation *in vivo*” - Vanderbilt University Institute of Imaging Science, Nashville, TN; October 26, 2007.
- “Introduction to carotid MRI hardware and standard protocols” and “Introduction to advanced imaging techniques” at the “MRI of Carotid Atherosclerosis” Workshop - University of Washington, Seattle, WA; October 18, 2007
- "New approaches in quantitative neuroimaging" in the Imaging Research lecture series - University of Washington, Seattle, WA; March 6, 2007.
- “Cross-relaxation imaging of the human brain” at the Frontiers of Radiology research seminar - University of Washington, Seattle, WA; December 7, 2004.

B. National and International Reviewer Duties:

2018	Research Foundation Flanders (FWO), Belgium: grant reviewer.
2013	Natural Sciences and Engineering Research Council of Canada: grant reviewer.
2003-present	Ad hoc reviewer for journals: Neuroimage; Magnetic Resonance in Medicine; Journal of Magnetic Resonance Imaging; NMR in Biomedicine; Journal of Magnetic Resonance; IEEE Transactions on Medical Imaging; Investigative Radiology; Journal of Cardiovascular Magnetic Resonance; Archives of General Psychiatry; American Journal of Psychiatry; Arteriosclerosis, Thrombosis, and Vascular Biology; Computerized Medical Imaging and Graphics; Annals of Surgical Innovation and Research, Osteoarthritis and Cartilage, Pediatric Investigation.