

Stanford



Greg Zaharchuk

Professor of Radiology (Neuroimaging and Neurointervention)

 Curriculum Vitae available Online

CLINICAL OFFICES

- **Neuroradiology**

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Stanford, CA 94305

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- **Stanford Neuroscience Health Center**

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ACADEMIC CONTACT INFORMATION

- **Alternate Contact**

Susan Mir - Administrative Associate

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Tel 650-736-6172

Bio

CLINICAL FOCUS

- Neuroradiology

ACADEMIC APPOINTMENTS

- Professor, Radiology
- Member, Bio-X
- Member, Wu Tsai Neurosciences Institute

HONORS AND AWARDS

- Distinguished Investigator Award, The Academy for Radiology & Biomedical Imaging Research (2016)
- Scholar Award, Neuroradiology Education and Research Foundation (2009)
- Executive Council Award, American Roentgen Ray Society (2006)
- Resident/Fellow Research Award, Radiological Society of North America (2002)
- Young Investigator Award in Stroke, American Heart Association (1998)
- Young Investigator Finalist, International Society of Magnetic Resonance in Medicine (1998)
- Phi Beta Kappa, Stanford University (1989)
- Valedictorian, Materials Science and Engineering, Stanford University (1989)
- Tau Beta Pi, Stanford University (1987)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Editorial Board, Radiology (2016 - present)
- Treasurer, American Society of Functional Neuroradiology (2016 - present)
- Scientific Program Committee, Neuroradiology/Head & Neck Subcommittee, Radiological Society of North America (RSNA) (2012 - present)
- Annual Meeting Program Committee, International Society of Magnetic Resonance in Medicine (2012 - 2015)
- Special Consultant to the Editor - Physics, American Journal of Neuroradiology (2011 - present)

PROFESSIONAL EDUCATION

- Fellowship: Univ of California San Francisco (2006) CA
- Residency: Univ of California San Francisco (2005) CA
- Internship: Robert Wood Johnson University Hospital (2001) NJ
- MD, Harvard Medical School , Medicine (2000)
- PhD, Harvard University / Massachusetts Institute of Technology , Applied Physics (HST Program) (1999)
- BS & BA, Stanford , Materials Science & Engineering/German Studies (1990)

PATENTS

- Greg Zaharchuk, Enhao Gong, John Pauly. "United States Patent submitted Improving Quality of Medical Images Using Multi-Contrast and Deep Learning", Leland Stanford Junior University, Mar 6, 2017
- Greg Zaharchuk, Roland Bammer. "United States Patent 8,929,972 Arterial Spin Labeling MRI-based Correction Factor for Improving Quantitative Accuracy of Blood Flow and Volume Images", Leland Stanford Junior University,, Jan 6, 2015
- Greg Zaharchuk, Jean Brittain. "United States Patent 7,064,545 Method and Apparatus of Background Suppression in MR imaging using Spin Locking", General Electric Company, The Regents Of The University Of California, Jun 20, 2006
- Kookrin Char, Stephen M. Garrison, Nathan Newman, Greg Zaharchuk. "United States Patent 5,157,466 Grain Boundary Junctions in High Temperature Superconductor Films", Conductus, Inc., Oct 20, 1992
- Reed Busse, John Pauly, Greg Zaharchuk. "United States Patent 7,276,904 Method for Generating T1-weighted Magnetic Resonance Images and Quantitative T1 Maps", Leland Stanford Junior University, Oct 2, 0007

LINKS

- Center for Advanced Functional Neuroimaging: <http://med.stanford.edu/cafn.html>

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

Improving medical image quality using deep learning artificial intelligence

Imaging of cerebral hemodynamics with MRI and CT

Noninvasive oxygenation measurement with MRI

Clinical imaging of cerebrovascular disease

Imaging of cervical artery dissection

MR/PET in Neuroradiology

Resting-state fMRI for perfusion imaging and stroke

CLINICAL TRIALS

- Computed Tomography Perfusion (CTP) to Predict Response to Recanalization in Ischemic Stroke Project (CRISP), Not Recruiting
- Imaging Collaterals in Acute Stroke (iCAS), Not Recruiting
- Quantifying Collateral Perfusion in Cerebrovascular Disease-Moyamoya Disease and Stroke Patients, Not Recruiting

Teaching

COURSES

2018-19

- Introduction to Imaging and Image-based Human Anatomy: BIOE 220, RAD 220 (Win)

2017-18

- Introduction to Imaging and Image-based Human Anatomy: BIOE 220, RAD 220 (Win)

2016-17

- Introduction to Imaging and Image-based Human Anatomy: BIOE 220, RAD 220 (Win)

STANFORD ADVISEES

Postdoctoral Faculty Sponsor

Kevin Chen, Yannan Yu, Yize Zhao

Publications

PUBLICATIONS

- **Ultra-Low-Dose 18F-Florbetaben Amyloid PET Imaging Using Deep Learning with Multi-Contrast MRI Inputs.** *Radiology*
Chen, K. T., Gong, E., de Carvalho Macruz, F. B., Xu, J., Boumis, A., Khalighi, M., Poston, K. L., Sha, S. J., Greicius, M. D., Mormino, E., Pauly, J. M., Srinivas, S., Zaharchuk, et al
2018; 180940
- **Thrombectomy for Stroke at 6 to 16 Hours with Selection by Perfusion Imaging.** *The New England journal of medicine*
Albers, G. W., Marks, M. P., Kemp, S., Christensen, S., Tsai, J. P., Ortega-Gutierrez, S., McTaggart, R. A., Torbey, M. T., Kim-Tenser, M., Leslie-Mazwi, T., Sarraj, A., Kasner, S. E., Ansari, et al
2018; 378 (8): 708–18
- **Arterial Spin Labeling Perfusion of the Brain: Emerging Clinical Applications** *RADIOLOGY*
Haller, S., Zaharchuk, G., Thomas, D. L., Lovblad, K., Barkhof, F., Golay, X.
2016; 281 (2): 337-356
- **MR vascular fingerprinting: A new approach to compute cerebral blood volume, mean vessel radius, and oxygenation maps in the human brain.** *NeuroImage*
Christen, T., Pannetier, N. A., Ni, W. W., Qiu, D., Moseley, M. E., Schuff, N., Zaharchuk, G.
2014; 89: 262-270
- **Measuring brain oxygenation in humans using a multiparametric quantitative blood oxygenation level dependent MRI approach** *MAGNETIC RESONANCE IN MEDICINE*
Christen, T., Schmiedeskamp, H., Straka, M., Bammer, R., Zaharchuk, G.
2012; 68 (3): 905-911
- **Comparison of Arterial Spin Labeling and Bolus Perfusion-Weighted Imaging for Detecting Mismatch in Acute Stroke** *STROKE*
Zaharchuk, G., El Mogy, I. S., Fischbein, N. J., Albers, G. W.
2012; 43 (7): 1843-1848
- **Identification of Venous Signal on Arterial Spin Labeling Improves Diagnosis of Dural Arteriovenous Fistulas and Small Arteriovenous Malformations** *AMERICAN JOURNAL OF NEURORADIOLOGY*
Le, T. T., Fischbein, N. J., Andre, J. B., Wijman, C., Rosenberg, J., Zaharchuk, G.
2012; 33 (1): 61-68
- **Arterial Spin Label Imaging of Acute Ischemic Stroke and Transient Ischemic Attack** *NEUROIMAGING CLINICS OF NORTH AMERICA*
Zaharchuk, G.
2011; 21 (2): 285-?

- **Identifying cardiovascular risk factors that impact cerebrovascular reactivity: An ASL MRI study.** *Journal of magnetic resonance imaging : JMRI*
Soman, S., Dai, W., Dong, L., Hitchner, E., Lee, K., Baughman, B. D., Holdsworth, S. J., Massaband, P., Bhat, J. V., Moseley, M. E., Rosen, A., Zhou, W., Zaharchuk, et al
2019
- **Rigid Motion Correction for Brain PET/MR Imaging Using Optical Tracking** *IEEE TRANSACTIONS ON RADIATION AND PLASMA MEDICAL SCIENCES*
Spangler-Bickell, M. G., Khalighi, M., Hoo, C., DiGiacomo, P., Maclaren, J., Aksoy, M., Rettmann, D., Bammer, R., Zaharchuk, G., Zeineh, M., Jansen, F.
2019; 3 (4): 498–503
- **Ultra-low-dose PET Reconstruction using Generative Adversarial Network with Feature Matching and Task-Specific Perceptual Loss.** *Medical physics*
Ouyang, J., Chen, K. T., Gong, E., Pauly, J., Zaharchuk, G.
2019
- **State of the Art PET/MRI: Applications and Limitations - Summary of the First ISMRM/SNMMI Co-Provided Workshop on PET/MRI.** *Journal of nuclear medicine : official publication, Society of Nuclear Medicine*
Hope, T. A., Fayad, Z. A., Fowler, K. J., Holley, D., Igaru, A. H., McMillan, A., Veit-Haibach, P., Witte, R. J., Zaharchuk, G., Catana, C.
2019
- **Impact of attenuation correction on image-derived input functions and cerebral blood flow quantification with simultaneous [O-15]-water PET/MRI**
Hjoernevik, T., Khalighi, M., Kaushik, S., Ishii, Y., Zaharchuk, G., Fan, A.
SOC NUCLEAR MEDICINE INC.2019
- **Ischemic Core and Hypoperfusion Volumes Correlate With Infarct Size 24 Hours After Randomization in DEFUSE 3 STROKE**
Rao, V., Christensen, S., Yennu, A., Mlynash, M., Zaharchuk, G., Heit, J., Marks, M. P., Lansberg, M. G., Albers, G. W.
2019; 50 (3): 626–31
- **Ultra-Low-Dose F-18-Florbetaben Amyloid PET Imaging Using Deep Learning with Multi-Contrast MRI Inputs** *RADIOLOGY*
Chen, K. T., Gong, E., Macruz, F., Xu, J., Boumis, A., Khalighi, M., Poston, K. L., Sha, S. J., Greicius, M. D., Mormino, E., Pauly, J. M., Srinivas, S., Zaharchuk, et al
2019; 290 (3): 649–56
- **Elevated brain oxygen extraction fraction measured by MRI susceptibility relates to perfusion status in acute ischemic stroke.** *Journal of cerebral blood flow and metabolism : official journal of the International Society of Cerebral Blood Flow and Metabolism*
Fan, A. P., Khalil, A. A., Fiebach, J. B., Zaharchuk, G., Villringer, A., Villringer, K., Gauthier, C. J.
2019: 271678X19827944
- **Ischemic Core and Hypoperfusion Volumes Correlate With Infarct Size 24 Hours After Randomization in DEFUSE 3.** *Stroke*
Rao, V., Christensen, S., Yennu, A., Mlynash, M., Zaharchuk, G., Heit, J., Marks, M. P., Lansberg, M. G., Albers, G. W.
2019: STROKEAHA118023177
- **Identifying Hypoperfusion in Moyamoya Disease With Arterial Spin Labeling and an [O-15]-Water Positron Emission Tomography/Magnetic Resonance Imaging Normative Database** *STROKE*
Fan, A. P., Khalighi, M. M., Guo, J., Ishii, Y., Rosenberg, J., Wardak, M., Park, J., Shen, B., Holley, D., Gandhi, H., Haywood, T., Singh, P., Steinberg, et al
2019; 50 (2): 373–80
- **Identifying Hypoperfusion in Moyamoya Disease With Arterial Spin Labeling and an [15O]-Water Positron Emission Tomography/Magnetic Resonance Imaging Normative Database.** *Stroke*
Fan, A. P., Khalighi, M. M., Guo, J., Ishii, Y., Rosenberg, J., Wardak, M., Park, J. H., Shen, B., Holley, D., Gandhi, H., Haywood, T., Singh, P., Steinberg, et al
2019: STROKEAHA118023426
- **Deep learning enables automatic detection and segmentation of brain metastases on multisequence MRI.** *Journal of magnetic resonance imaging : JMRI*
Grøvik, E., Yi, D., Iv, M., Tong, E., Rubin, D., Zaharchuk, G.
2019
- **Rigid Motion Correction for Brain PET/MR Imaging using Optical Tracking.** *IEEE transactions on radiation and plasma medical sciences*
Spangler-Bickell, M. G., Khalighi, M. M., Hoo, C., DiGiacomo, P. S., Maclaren, J., Aksoy, M., Rettmann, D., Bammer, R., Zaharchuk, G., Zeineh, M., Jansen, F.
2019; 3 (4): 498–503
- **Arterial-Spin Labeling MRI Identifies Residual Cerebral Arteriovenous Malformation Following Stereotactic Radiosurgery Treatment.** *Journal of neuroradiology. Journal de neuroradiologie*
Heit, J. J., Thakur, N. H., Iv, M., Fischbein, N. J., Wintermark, M., Dodd, R. L., Steinberg, G. K., Chang, S. D., Kapadia, K. B., Zaharchuk, G.

2019

- **Advantages of short repetition time resting-state functional MRI enabled by simultaneous multi-slice imaging** *JOURNAL OF NEUROSCIENCE METHODS*
Jahanian, H., Holdsworth, S., Christen, T., Wu, H., Zhu, K., Kerr, A. B., Middione, M. J., Dougherty, R. F., Moseley, M., Zaharchuk, G.
2019; 311: 122–32
- **Use of Gradient Boosting Machine Learning to Predict Patient Outcome in Acute Ischemic Stroke on the Basis of Imaging, Demographic, and Clinical Information** *AMERICAN JOURNAL OF ROENTGENOLOGY*
Xie, Y., Jiang, B., Gong, E., Li, Y., Zhu, G., Michel, P., Wintermark, M., Zaharchuk, G.
2019; 212 (1): 44–51
- **Next generation research applications for hybrid PET/MR and PET/CT imaging using deep learning.** *European journal of nuclear medicine and molecular imaging*
Zaharchuk, G.
2019
- **Simultaneous phase-contrast MRI and PET for noninvasive quantification of cerebral blood flow and reactivity in healthy subjects and patients with cerebrovascular disease.** *Journal of magnetic resonance imaging : JMRI*
Ishii, Y., Thamm, T., Guo, J., Khalighi, M. M., Wardak, M., Holley, D., Gandhi, H., Park, J. H., Shen, B., Steinberg, G. K., Chin, F. T., Zaharchuk, G., Fan, et al
2019
- **Can diffusion- and perfusion-weighted imaging alone accurately triage anterior circulation acute ischemic stroke patients to endovascular therapy?** *JOURNAL OF NEUROINTERVENTIONAL SURGERY*
Wolman, D. N., Iv, M., Wintermark, M., Zaharchuk, G., Marks, M. P., Do, H. M., Dodd, R. L., Albers, G. W., Lansberg, M. G., Heit, J. J.
2018; 10 (12): 1132–+
- **Revealing sub-voxel motions of brain tissue using phase-based amplified MRI (aMRI)** *MAGNETIC RESONANCE IN MEDICINE*
Terem, I., Ni, W. W., Goubran, M., Rahimi, M., Zaharchuk, G., Yeom, K. W., Moseley, M. E., Kurt, M., Holdsworth, S. J.
2018; 80 (6): 2549–59
- **Striatal dopamine deficits predict reductions in striatal functional connectivity in major depression: a concurrent 11C-raclopride positron emission tomography and functional magnetic resonance imaging investigation.** *Translational psychiatry*
Hamilton, J. P., Sacchet, M. D., Hjernevik, T., Chin, F. T., Shen, B., Kampe, R., Park, J. H., Knutson, B. D., Williams, L. M., Borg, N., Zaharchuk, G., Camacho, M. C., Mackey, et al
2018; 8 (1): 264
- **Striatal dopamine deficits predict reductions in striatal functional connectivity in major depression: a concurrent C-11-raclopride positron emission tomography and functional magnetic resonance imaging investigation** *TRANSLATIONAL PSYCHIATRY*
Hamilton, J., Sacchet, M. D., Hjernevik, T., Chin, F. T., Shen, B., Kampe, R., Park, J., Knutson, B. D., Williams, L. M., Borg, N., Zaharchuk, G., Camacho, M., Mackey, et al
2018; 8
- **Advanced Neuroimaging of Acute Ischemic Stroke: Penumbra and Collateral Assessment.** *Neuroimaging clinics of North America*
Heit, J. J., Zaharchuk, G., Wintermark, M.
2018; 28 (4): 585–97
- **Use of Gradient Boosting Machine Learning to Predict Patient Outcome in Acute Ischemic Stroke on the Basis of Imaging, Demographic, and Clinical Information.** *AJR. American journal of roentgenology*
Xie, Y., Jiang, B., Gong, E., Li, Y., Zhu, G., Michel, P., Wintermark, M., Zaharchuk, G.
2018: 1–7
- **Advantages of Short Repetition Time Resting-State Functional MRI Enabled by Simultaneous Multi-slice Imaging.** *Journal of neuroscience methods*
Jahanian, H., Holdsworth, S., Christen, T., Wu, H., Zhu, K., Kerr, A. B., Middione, M. J., Dougherty, R. F., Moseley, M., Zaharchuk, G.
2018
- **Quantitative susceptibility mapping using deep neural network: QSMnet** *NEUROIMAGE*
Yoon, J., Gong, E., Chatnuntawech, I., Bilgic, B., Lee, J., Jung, W., Ko, J., Jung, H., Setsompop, K., Zaharchuk, G., Kim, E., Pauly, J., Lee, et al
2018; 179: 199–206
- **ISLES 2016 and 2017-Benchmarking Ischemic Stroke Lesion Outcome Prediction Based on Multispectral MRI** *FRONTIERS IN NEUROLOGY*
Winzeck, S., Hakim, A., McKinley, R., Pinto, J. R., Alves, V., Silva, C., Pisov, M., Krivov, E., Belyaev, M., Monteiro, M., Oliveira, A., Choi, Y., Palk, et al

2018; 9

- **Hypoxia Detection in Infiltrative Astrocytoma: Ferumoxytol-based Quantitative BOLD MRI with Intraoperative and Histologic Validation**
Maralani, P., Das, S., Mainprize, T., Phan, N., Bharatha, A., Keith, J., Munoz, D. G., Sahgal, A., Symons, S., Ironside, S., Faraji-Dana, Z., Eilaghi, A., Chan, et al
RADIOLOGICAL SOC NORTH AMERICA.2018: 821–29
- **Consensus statement on current and emerging methods for the diagnosis and evaluation of cerebrovascular disease** *JOURNAL OF CEREBRAL BLOOD FLOW AND METABOLISM*
Donahue, M. J., Achten, E., Cogswell, P. M., De Leeuw, F., Derdeyn, C. P., Dijkhuizen, R. M., Fan, A. P., Ghaznawi, R., Heit, J. J., Ikram, M., Jezzard, P., Jordan, L. C., Jouvent, et al
2018; 38 (9): 1391–1417
- **Erroneous Resting-State fMRI Connectivity Maps Due to Prolonged Arterial Arrival Time and How to Fix Them** *BRAIN CONNECTIVITY*
Jahanian, H., Christen, T., Moseley, M. E., Zaharchuk, G.
2018; 8 (6): 362–70
- **Deep learning enables reduced gadolinium dose for contrast-enhanced brain MRI** *JOURNAL OF MAGNETIC RESONANCE IMAGING*
Gong, E., Pauly, J. M., Wintermark, M., Zaharchuk, G.
2018; 48 (2): 330–40
- **The vast potential and bright future of neuroimaging.** *The British journal of radiology*
Wintermark, M., Colen, R., Whitlow, C. T., Zaharchuk, G.
2018: 20170505
- **Revealing sub-voxel motions of brain tissue using phase-based amplified MRI (aMRI).** *Magnetic resonance in medicine*
Terem, I., Ni, W. W., Goubran, M., Rahimi, M. S., Zaharchuk, G., Yeom, K. W., Moseley, M. E., Kurt, M., Holdsworth, S. J.
2018
- **Comparing accuracy and reproducibility of sequential and Hadamard-encoded multidelay pseudocontinuous arterial spin labeling for measuring cerebral blood flow and arterial transit time in healthy subjects: A simulation and in vivo study** *JOURNAL OF MAGNETIC RESONANCE IMAGING*
Guo, J., Holdsworth, S. J., Fan, A. P., Lebel, M. R., Zun, Z., Shankaranarayanan, A., Zaharchuk, G.
2018; 47 (4): 1119–32
- **Time From Imaging to Endovascular Reperfusion Predicts Outcome in Acute Stroke** *STROKE*
Tsai, J. P., Mlynash, M., Christensen, S., Kemp, S., Kim, S., Mishra, N. K., Federau, C., Nogueira, R. G., Jovin, T. G., Devlin, T. G., Akhtar, N., Yavagal, D. R., Bammer, et al
2018; 49 (4): 952–+
- **Deep learning enables reduced gadolinium dose for contrast-enhanced brain MRI.** *Journal of magnetic resonance imaging : JMRI*
Gong, E., Pauly, J. M., Wintermark, M., Zaharchuk, G.
2018
- **Clinical Evaluation of Silent T1-Weighted MRI and Silent MR Angiography of the Brain** *AMERICAN JOURNAL OF ROENTGENOLOGY*
Holdsworth, S. J., Macpherson, S. J., Yeom, K. W., Wintermark, M., Zaharchuk, G.
2018; 210 (2): 404–11
- **Reduced Intravoxel Incoherent Motion Microvascular Perfusion Predicts Delayed Cerebral Ischemia and Vasospasm After Aneurysm Rupture.** *Stroke*
Heit, J. J., Wintermark, M., Martin, B. W., Zhu, G., Marks, M. P., Zaharchuk, G., Dodd, R. L., Do, H. M., Steinberg, G. K., Lansberg, M. G., Albers, G. W., Federau, C.
2018
- **ISLES 2016 and 2017-Benchmarking Ischemic Stroke Lesion Outcome Prediction Based on Multispectral MRI.** *Frontiers in neurology*
Winzeck, S., Hakim, A., McKinley, R., Pinto, J. A., Alves, V., Silva, C., Pisov, M., Krivov, E., Belyaev, M., Monteiro, M., Oliveira, A., Choi, Y., Paik, et al
2018; 9: 679
- **The vast potential and bright future of neuroimaging** *BRITISH JOURNAL OF RADIOLOGY*
Wintermark, M., Colen, R., Whitlow, C. T., Zaharchuk, G.
2018; 91 (1087)
- **Can diffusion- and perfusion-weighted imaging alone accurately triage anterior circulation acute ischemic stroke patients to endovascular therapy?** *Journal of neurointerventional surgery*

- Wolman, D. N., Iv, M., Wintermark, M., Zaharchuk, G., Marks, M. P., Do, H. M., Dodd, R. L., Albers, G. W., Lansberg, M. G., Heit, J. J.
2018
- **Non-Invasive Placental Perfusion Imaging in Pregnancies Complicated by Fetal Heart Disease Using Velocity-Selective Arterial Spin Labeled MRI** *SCIENTIFIC REPORTS*
Zun, Z., Zaharchuk, G., Andescavage, N. N., Donofrio, M. T., Limperopoulos, C.
2017; 7: 16126
 - **Semiquantitative Assessment of F-18-FDG Uptake in the Normal Skeleton: Comparison Between PET/CT and Time-of-Flight Simultaneous PET/MRI** *AMERICAN JOURNAL OF ROENTGENOLOGY*
Minamimoto, R., Xu, G., Jamali, M., Holley, D., Barkhodari, A., Zaharchuk, G., Iagaru, A.
2017; 209 (5): 1136–42
 - **CEREBRAL BLOW FLOW AND SUV TRENDS IN PET/MRI FOLLOWING BEVACIZUMAB ADMINISTRATION IN GLIOBLASTOMA**
Corbin, Z. A., Zaharchuk, G., Spielman, D. M., Recht, L. D.
OXFORD UNIV PRESS INC.2017: 158
 - **Clinical evaluation of TOF versus non-TOF on PET artifacts in simultaneous PET/MR: a dual centre experience.** *European journal of nuclear medicine and molecular imaging*
Ter Voert, E. E., Veit-Haibach, P., Ahn, S., Wiesinger, F., Khalighi, M. M., Levin, C. S., Iagaru, A. H., Zaharchuk, G., Huellner, M., Delso, G.
2017; 44 (7): 1223-1233
 - **Further Implications of Off-Label Use of Acetazolamide in the Management of Moyamoya Disease in Japan Response** *RADIOLOGY*
Haller, S., Barkhof, F., Thomas, D., Lovblad, K., Golay, X., Zaharchuk, G.
2017; 284 (1): 302–3
 - **F-FTC-146 in humans.** *Journal of nuclear medicine*
Hjørnevik, T., Cipriano, P. W., Shen, B., Hyung Park, J., Gulaka, P., Holley, D., Gandhi, H., Yoon, D., Mitra, E. S., Zaharchuk, G., Gambhir, S. S., McCurdy, C. R., Chin, et al
2017
 - **CT Perfusion to Predict Response to Recanalization in Ischemic Stroke.** *Annals of neurology*
Lansberg, M. G., Christensen, S., Kemp, S., Mlynash, M., Mishra, N., Federau, C., Tsai, J. P., Kim, S., Nogueira, R. G., Jovin, T., Devlin, T. G., Akhtar, N., Yavagal, et al
2017
 - **Resting-State BOLD MRI for Perfusion and Ischemia.** *Topics in magnetic resonance imaging*
Kroll, H., Zaharchuk, G., Christen, T., Heit, J. J., Iv, M.
2017; 26 (2): 91-96
 - **Imaging of cerebrovascular reserve and oxygenation in Moyamoya disease** *JOURNAL OF CEREBRAL BLOOD FLOW AND METABOLISM*
Ni, W. W., Christen, T., Rosenberg, J., Zun, Z., Moseley, M. E., Zaharchuk, G.
2017; 37 (4): 1213-1222
 - **Benchmarking transverse spin relaxation based oxygenation measurements in the brain during hypercapnia and hypoxia.** *Journal of magnetic resonance imaging : JMIR*
Ni, W. W., Christen, T., Zaharchuk, G.
2017
 - **Conspicuity of Malignant Lesions on PET/CT and Simultaneous Time-Of-Flight PET/MRI** *PLOS ONE*
Minamimoto, R., Iagaru, A., Jamali, M., Holley, D., Barkhodari, A., Vasanawala, S., Zaharchuk, G.
2017; 12 (1)
 - **Cerebral blood flow, transit time, and apparent diffusion coefficient in moyamoya disease before and after acetazolamide** *NEURORADIOLOGY*
Federau, C., Christensen, S., Zun, Z., Park, S., Ni, W., Moseley, M., Zaharchuk, G.
2017; 59 (1): 5-12
 - **Clinical and Arterial Spin Labeling Brain MRI Features of Transitional Venous Anomalies.** *Journal of neuroimaging : official journal of the American Society of Neuroimaging*
Zhang, M., Telischak, N. A., Fischbein, N. J., Steinberg, G. K., Marks, M., Zaharchuk, G., Heit, J. J., Iv, M.
2017

- **Image-derived input function estimation on a TOF-enabled PET/MR for cerebral blood flow mapping.** *Journal of cerebral blood flow and metabolism*
Khalighi, M. M., Deller, T. W., Fan, A. P., Gulaka, P. K., Shen, B., Singh, P., Park, J., Chin, F. T., Zaharchuk, G.
2017; 271678X17691784-?
- **Long-Delay Arterial Spin Labeling Provides More Accurate Cerebral Blood Flow Measurements in Moyamoya Patients: A Simultaneous Positron Emission Tomography/MRI Study.** *Stroke*
Fan, A. P., Guo, J., Khalighi, M. M., Gulaka, P. K., Shen, B., Park, J. H., Gandhi, H., Holley, D., Rutledge, O., Singh, P., Haywood, T., Steinberg, G. K., Chin, et al
2017; 48 (9): 2441-49
- **MR Vascular Fingerprinting in Stroke and Brain Tumors Models** *SCIENTIFIC REPORTS*
LeMasson, B., Pannetier, N., Coquery, N., Boisserand, L. S., Collomb, N., Schuff, N., Moseley, M., Zaharchuk, G., Barbier, E. L., Christen, T.
2016; 6
- **Comparison of stroke volume evolution on diffusion-weighted imaging and fluid-attenuated inversion recovery following endovascular thrombectomy.** *International journal of stroke*
Federau, C., Christensen, S., Mlynash, M., Tsai, J., Kim, S., Zaharchuk, G., Inoue, M., Straka, M., Mishra, N. K., Kemp, S., Lansberg, M. G., Albers, G. W.
2016
- **CHANGES IN ACUTE FDG-PET FOLLOWING BEVACIZUMAB ADMINISTRATION IN GLIOBLASTOMA**
Corbin, Z., Zaharchuk, G., Spielman, D., Recht, L.
OXFORD UNIV PRESS INC.2016: 140
- **Improvements in PET Image Quality in Time of Flight (TOF) Simultaneous PET/MRI.** *Molecular imaging and biology*
Minamimoto, R., Levin, C., Jamali, M., Holley, D., Barkhodari, A., Zaharchuk, G., Iagaru, A.
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