

Yutaka Natsuaki, PhD



Educational Background

Medical Physics Residency, University of California, San Francisco, Department of Radiation Oncology (2018-2020)

CAMPEP-Accredited Certificate Program in Medical Physics, Physics and Biology in Medicine, University of California, Los Angeles (2018)

Visiting Scientist, University of California, Los Angeles, Department of Radiological Sciences (2013-)

Visiting Consultant, Cedars-Sinai Medical Center (2012-)

Scientist / Collaboration Manager, MR R&D MW+WE, Siemens Healthcare (2007-)

Ph.D., Biomedical Engineering, University of California, Davis (2007)

Thesis Topic: Development of Novel 3D Diffusion MRI Data Acquisition Technique (Diffusion-Weighted Three-dimensional Overlapped "Rod" acquisition (DW-TORQ))

M.S., Biomedical Engineering, University of California, Davis (2002)
Thesis Topic: Parallel Magnetic Resonance Imaging with Natural Pixel Reconstruction Algorithm

B.S., Biosystems Engineering, University of California, Davis (2000)

Awards and Honors

UC Davis Dissertation Year Fellowship, University of California, Davis (2006-2007)

Student Travel Award, International Society for Magnetic Resonance in Medicine (2005,2006,20007)

Engineering Dean's Office Whitaker Fellowship, University of California, Davis (2000)

Selected Patents, Publications, and Presentations

Patents:

Natsuaki Y, Bi X, Laub G. Variable Slice Resolution Time Of Flight (TOF) Multi-Slab Imaging for Optimal Scan Efficiency. To be applied in non-contrast MR Angiography of the Vasculatures. (Invention Disclosed Sep. 29, 2015). 2015E21489US.

Natsuaki Y, Kroeker R, Schmitt P, Laub G. Advancements in ECG-Gated MR Angiography. (2013, invention disclosure filed) E15427US.

Natsuaki Y, Kroeker R, Schmitt P, Laub G. System for ordering acquisition of frequency domain components representing MR image data. (Filed Jan 15. 2010) US20100205143.

Publications:

Peer Reviewed Journals:

Celicanin Z, Manasseh G, Petrusca L, Scheffler K, Auboiroux V, Crowe LA, Hyacinthe JN, Natsuaki Y, Santini F, Becker CD, Terraz S, Bieri O, Salomir R. **Hybrid ultrasound-MR guided HIFU treatment method with 3D motion compensation.** (2018) MRM 79(5):2511-2523

Armstrong T, Dregely I, Stemmer A, Han F, Natsuaki Y, Sung K, Wu HH. **Free-breathing liver fat quantification using a multiecho 3D stack-of-radial technique.** (2018) MRM 79(1):370-382.

Yamamoto T, Fujimoto K, Okada T, Fushimi Y, Stalder AF, Natsuaki Y, Schmidt M, Togashi K. **Time-of-Flight Magnetic Resonance Angiography With Sparse Undersampling and Iterative Reconstruction: Comparison With Conventional Parallel Imaging for Accelerated Imaging.**

(2016) Invest Radiol 51(6):372-8.

Xie G, Bi X, Liu J, Yang Q, Natsuaki Y, Conte AH, Liu X, Li K, Li D, Fan Z. **Three-dimensional coronary dark-blood interleaved with gray-blood (cDIG) magnetic resonance imaging at 3 tesla.** (2016) MRM 75(3):997-1007.

Takagi H, Ota H, Natsuaki Y, Komori Y, Ito K, Saiki Y, Takase K. **Identifying the Adamkiewicz artery using 3-T time-resolved magnetic resonance angiography: its role in addition to multidetector computed tomography angiography.** (2015). Jpn J Radiol 33(12):749-56.

Rapacchi S, Han F, Natsuaki Y, Plotnik A, Lehman E, Sayre J, Laub G, Finn JP, Hu P. **High spatial and temporal resolution dynamic contrast-enhanced magnetic resonance angiography using compressed sensing with magnitude image subtraction.** (2014). MRM 71(5):1771-83.

Reyhan M, Natsuaki Y, Ennis DB. **Off-resonance insensitive complementary SPAtial modulation of magnetization (ORI-CSPAMM) for quantification of left ventricular twist.** (2014). J Magn Res Imaging 39(2): 339-45.

Nordahl TE, Salo R, Natsuaki Y, Galloway GP, Waters C, Moore CD, Kile S, Buonocore MB. **Proton MRS in sustained methamphetamine dependence remission: Preliminary evidence of relative choline normalization.** (2005) Arch Gen Psychiatry. Apr;62(4):444-52.

Work-In-Progress Release (pre-product development MRI sequence and reconstruction software):

Natsuaki Y, Bolster B, Johnson KJ, Altbach M, Bilgin A, Keerthivasan M. 2D Radial TSE with Echo-Sharing and Tiered-Recon, Simulated TE images and Inline T2 Mapping (2016, 2017,2018). Collaborative Release with U of Arizona. IPR #932A,B,C.

Natsuaki Y, Nickel DM, Wu H, Dlagery I. Modified Dual Echo Steady State (mDESS) MRI for prostate MRI with inline T2Map (2015, 2016, 2017). Collaborative release with UCLA. IPR #1036A, B,C,D,E.

Natsuaki Y, Grodzki D. PETRA lung MRI with respiratory triggering (2015, 2016, 2017). IPR #811E,F,G,H,I.

Natsuaki Y, Stalder A, Bi X, Zenge M, Schmidt M, Nadar M. Time-of-Flight with Sparse Undersampling and Iterative Reconstruction (TOFu, CS-TOF) (2014). IPR #869, #1005.

Natsuaki Y, Kroeker R, Schmitt P, Laub, G. Improvements of 3D FLASH for cardiac-gated contrast-enhanced MR angiography with libKSpace (reordering with time to center per heart beat) and adaptive triggering. (2012, 2013, 2017) IPR #691A,B, #791A,B,C,D.

Natsuaki Y, Bi X, Rehwald W, Bhat H, Laub G. Improvements of a_cv_nav: 2D pencil beam navigator and adiabatic T2 preparation.(2011) IPR #625.

White Papers (Siemens Publications):

Khan SN, Natsuaki Y, Tao W, Laub G, Finn JP. Contrast-Enhanced MRA in Practice: Tips and Caveats. (2013) Siemens MAGNETOM Flash. 3/2013 40-53.

Natsuaki Y, Kroeker R, Laub G, Schmitt P, Finn JP. Advancements in the ECG-Gated Contrast-Enhanced MR Angiography. (2013) Siemens MAGNETOM Flash. 3/2013 32-39.

Saleh R, Finn JP, Natsuaki Y, Laub G. Low-dose contrast-enhanced MR Angiography. (2010) Siemens MAGNETOM Flash. 2/2010 24-34.

Natsuaki Y, Laub G. Large FOV imaging at 3T with a 32-channel body array coil. (2009) Siemens MAGNETOM Flash. 1/2009 144-148.

Conference Presentations:

Natsuaki Y, Keerthisavan M, Bilgin A, Bolster B, Johnson K, Bi X, Altbach MI. **Motion Robust and Efficient Radial Turbo Spin Echo (TSE) T2 Mapping with "Pseudo" Golden Ratio View Ordering.** AAPM Annual Meeting (Nashville, TN, July 2018).

Bi X, Nguyen C, Fan Z, Natsuaki Y, Saouaf R, Li D, Laub G. **Free-breathing 3D Body Diffusion Imaging at 3T Using M1-compensated Diffusion Preparation and Stack-of-Stars Readout.** The Intl Soc Magnetic Resonance Med (Honolulu, Hawaii, April 2017).

Natsuaki Y, Grimm R, Bi X, Grodzki D, Schmitt P, Laub G. PETRA quiet MRA: **Improved Robustness and Image Resolution with 3D Elastic Cross-Registration.** The Intl Soc Magnetic Resonance Med (Singapore, May 2016).

Natsuaki Y, Bi X, Grodzki D, Laub G. **PETRA Lung MRI: towards robust imaging with patient comfort and with improved contrast.** The Intl Soc Magnetic Resonance Med (Singapore, May 2016).

Natsuaki Y, Bi X, Stalder AF, Laub G. **Large Slice FOV Non-Contrast MR Angiography with Variable Slice Resolution 3D Time-of-Flight.** The Intl Soc Magnetic Resonance Med (Toronto, Canada, May 2015).

Natsuaki Y, Finn JP, Kroeker R, Laub G. **Adaptive Steady State Triggering Adds Confidence to the Thoracic ECG-Gated Contrast Enhanced MR Angiography.** The Intl Soc Magnetic Resonance Med (Milan, Italy, April 2014).

Natsuaki Y, Bi X, Zenge MO, Speier P, Schmitt P, Laub G. **Time-Of-Flight with Sparse Undersampling (TOFu): Towards Practical MR Applications of the Compressed Sensing.** The Intl Soc Magnetic Resonance Med (Milan, Italy, April 2014).

Natsuaki Y, Kroeker R, Finn JP, Laub G. **A novel adaptive approach to the steady-state triggering for the ECG-gated contrast-enhanced MR Angiography.** MR Angio Club (New York, NY, August 2013)

Natsuaki Y, Kroeker R, Schmitt P, Finn JP, Laub G. **Time-Resolved 3D Dynamic Contrast-Enhanced MR Angiography with Optimized Separate Auto Calibration Signal Lines.** The Intl Soc Magnetic Resonance Med (Melbourne, Australia, May 2012).

Natsuaki Y, Wagner PM, Finn JP, Kroeker R, Laub G. **A Novel Approach to ECG-Gated High-Resolution Contrast-Enhanced MR Angiography in Thorax: Technical Aspects.** The Intl Soc Magnetic Resonance Med (Melbourne, Australia, May 2011).

Natsuaki Y, Kroeker R, Laub G. A novel 3D **Time-of-Flight MRA with optimized partial saturation recovery 3D-FLASH.** The Intl Soc Magnetic Resonance Med (Stockholm, Sweden, May 2010).

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