From the macro- to the microvasculature : temporal and spatial visualization using arterial spin labeling

Suzuki, Y.

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I would not be here now without Dr. Marc Van Cauteren, my former supervisor in Philips, who provided me with a chance for a position as a clinical scientist regardless of my academic degree (I only had a bachelor's degree). He never failed to answer my thousands of questions, and I would like to proudly say that he made me who I am today. He was always very supportive and gave me a lot of opportunities for my growth. As a result I was inspired to pursue a career in academia, but he sent me off with warm encouragement. Also, I want to thank all of my former colleagues. I still think of the days when we worked together, which makes me feel encouraged.

My love of Arterial Spin Labeling started during the time I was visiting Dr. Noriyuki Fujima and Dr. Hiroyuki Sugimori at Hokkaido University, with Mr. Akira Suwa. We had a lot of discussions and experiments, often until late at night, and their professional opinions always inspired me. Dr. Fujima still gives me insightful suggestions, which help bridge my technical knowledge with the clinical requirements. When I joined LUMC, I wished that one day I could help their research and diagnostic work through my newly obtained knowledge and experience. Although this has not yet been achieved, it has been one of my biggest motivators.

Curriculum vitae

Yuriko Suzuki was born on August 10th 1977 in Ibaraki, Japan. After graduating from Mito First High School, she studied Physics at Meiji University and obtained her bachelor's degree in 2000 with her academic dissertation "Simulating neuronal firing with the Hodgkin-Huxley model". Immediately after graduating, she joined Philips Medical Systems as a MR Application Specialist. In 2002, she obtained an opportunity of an internship at Philips head office in Best, the Netherlands. From 2004, she continued her career in Philips as a MR Clinical Scientist and experienced many collaborative research projects in areas such as MR spectroscopy, cardiac imaging, liver imaging and brain imaging. Since 2011, she has been focusing her research on the brain using diffusion imaging, susceptibility weighted imaging, amide proton transfer imaging and arterial spin labelling (ASL). In 2013, she received the Stefan Fischer Prize for her development of a new accelerated ASL-based 4D-MRA sequence and obtained an opportunity to work as a neuro clinical scientist in the head office in Best, the Netherlands. During this three-month exchange program, she started a collaborative research project with Prof.dr.ir. Matthias van Osch in Leiden University Medical Center on ASL-based 4D-MRA. In March 2015, she obtained her master's degree in radiation diagnosis from Juntendo University Graduate School of Medicine, with her academic dissertation "Estimation of Mean Axon Diameter and Intra-Axonal-Space Volume Fraction in the Human Corpus Callosum: Diffusion Q-space Imaging with Low q-values".

In October 2015, she started a PhD at the C.J. Gorter Center for High Field MRI at Leiden University Medical Center under the supervision of Prof.dr.ir. Matthias van Osch. Her main research topics are the development and optimization of ASL-based 4D-MRA and perfusion techniques. From September to December in 2016, she was a visiting student at Nuffield Department of Clinical Neurosciences within the University of Oxford and started a collaborative research project with Dr. Thomas Okell under his supervision.

She finished her PhD in March 2018, and started a postdoctoral position in modeling and analysis of cerebral perfusion imaging at the Institute of Biomedical Engineering within the University of Oxford.

Publications that are part of the thesis

1. **Suzuki Y**, Okell TW, Fujima N, Chappell MA, van Osch MJP. Acceleration of Vessel-Selective Dynamic MR Angiography by pCASL in Combination with Acquisition of Control and Labeled Images in the Same Shot (ACTRESS). submitted to Magn Reson Med, in revision
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Patent

Suzuki, Yuriko. 2014. MR Imaging using Arterial Spin Labeling with Improved Temporal Resolution. International Publication Number, WO 2014/162237 A1, published October 9 2014. International Application Number, PCT/IB2014/060119, filed March 25 2014. Patent Pending.

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1. **Suzuki Y**, Okell TW, van Osch MJP. Acceleration of Vessel-Selective 4D-MRA by pCASL in combination with ACTRESS. P186, Proceesings of 26th Annual Meeting of ISMRM, 2018

2. **Suzuki Y**, Okell TW, Teeuwisse WM, Schmid S, van der Plas M, Chappell MA, van Osch MJP. Solving the dark-sides of multiband-ASL: A framework to correct for increased motion aftefacts in MB-ASL due to sharp transitions in the level of background suppression. P3616, Proceedings of the 25th Annual Meeting of ISMRM, 2017

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