

Dear Colleagues.

Here is the ASL Newsletter No. 15

I like to draw your attention to a paper from Xavier and Matthias concerning the ASL network :

[Arterial spin labelling: final steps to make it a clinical reality.](#)

Golay X, Guenther M.

MAGMA. 2012 Mar 3. [Epub ahead of print]

Abstract:

Since its inception in the early 1990s, arterial spin labelling (ASL) has been developed in numerous variants. Tremendous improvements in both pulse sequences and hardware have allowed improved image quality and reduced scan time, to the point where the technique might be ready for clinical application. However, although now routinely used in research centres and universities, its application in daily clinical routine remains restricted to a few centres. Its popularity in magnetic resonance imaging (MRI) research centres and among physicists may have contributed to the lack of enthusiasm from the clinical community, as the variety of possible sequences available might deter even the most die-hard technology-driven neuroradiologist from using this technique. Therefore, a joint action directed towards the harmonisation of all the existing ASL pulse sequences and the development of a reliable and common post-processing pipeline to provide guidance for the major MRI manufacturers was recently endeavoured and dubbed the 'ASL Network' (<http://www.asl-network.org>). This network was established to provide a communication platform among physicists, engineers and clinicians who are keen to see this technique finally make it to daily clinical practice. Finally, a networking European Grant from the COST Office was secured to help fund some of the activities of the ASL Network, in particular as they pertain to the application of ASL in dementia (http://www.cost.eu/domains_actions/bmbs/Actions/BM1103). Here, both the ASL Network and the COST Action are described, with their respective goals and aspirations.

Cheers,
Johanna

Recent publications

February 2012,

(e-publications might have been earlier):

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Animal studies

[fMRI fingerprint of unconditioned fear-like behavior in rats exposed to trimethylthiazoline.](#)

Keßler MS, Debilly S, Schöppenthau S, Bielser T, Bruns A, Künnecke B, von Kienlin M, Wettstein JG, Moreau JL, Risterucci C.
Eur Neuropsychopharmacol. 2012 Mar;22(3):222-230.

[Magnetic resonance imaging indicates decreased choroidal and retinal blood flow in the DBA/2J mouse model of glaucoma.](#)

Lavery WJ, Muir ER, Kiel JW, Duong TQ.
Invest Ophthalmol Vis Sci. 2012 Feb 1;53(2):560-4. Print 2012.

[Pharmacological modulation of functional connectivity: \$\alpha\(2\)\$ -adrenergic receptor agonist alters synchrony but not neural activation.](#)

Nasrallah FA, Tan J, Chuang KH.
Neuroimage. 2012 Mar;60(1):436-46. Epub 2011 Dec 22.

Pharmacological / Drug studies

[Dynamic physostigmine effects on hippocampus perfusion.](#)

Li X, Spence JS, Buhner DM, Haley RW, Briggs RW.

J Magn Reson Imaging. 2012 Feb;35(2):280-6. doi: 10.1002/jmri.22821. Epub 2011 Sep 30.

[Pharmacological modulation of functional connectivity: \$\alpha\(2\)\$ -adrenergic receptor agonist alters synchrony but not neural activation.](#)

Nasrallah FA, Tan J, Chuang KH.

Neuroimage. 2012 Mar;60(1):436-46. Epub 2011 Dec 22.

[Reversibility of the effects of aliskiren in the renal versus systemic circulation.](#)

Schneider MP, Janka R, Ziegler T, Raff U, Ritt M, Ott C, Veelken R, Uder M, Schmieder RE.

Clin J Am Soc Nephrol. 2012 Feb;7(2):258-64. Epub 2011 Dec 15.

Perfusion studies other than on the brain

[Arterial spin labeling MR imaging for characterisation of renal masses in patients with impaired renal function: initial experience.](#)

Pedrosa I, Rafatzand K, Robson P, Wagner AA, Atkins MB, Rofsky NM, Alsop DC.

Eur Radiol. 2012 Feb;22(2):484-92. Epub 2011 Aug 30.

[Magnetic resonance imaging indicates decreased choroidal and retinal blood flow in the DBA/2J mouse model of glaucoma.](#)

Lavery WJ, Muir ER, Kiel JW, Duong TQ.

Invest Ophthalmol Vis Sci. 2012 Feb 1;53(2):560-4. Print 2012.

[Noncontrast functional MRI of the kidneys.](#)

Mannelli L, Maki JH, Osman SF, Chandarana H, Lomas DJ, Shuman WP, Linnau KF, Green DE, Laffi G, Moshiri M.

Curr Urol Rep. 2012 Feb;13(1):99-107.

[Rapid intravenous infusion of 20mL/kg saline alters the distribution of perfusion in healthy supine humans.](#)

Henderson AC, Sá RC, Barash IA, Holverda S, Buxton RB, Hopkins SR, Prisk GK.

Respir Physiol Neurobiol. 2012 Mar 15;180(2-3):331-41. Epub 2011 Dec 31.

[Reversibility of the effects of aliskiren in the renal versus systemic circulation.](#)

Schneider MP, Janka R, Ziegler T, Raff U, Ritt M, Ott C, Veelken R, Uder M, Schmieder RE.

Clin J Am Soc Nephrol. 2012 Feb;7(2):258-64. Epub 2011 Dec 15.

Cerebral blood flow studies

Reproducibility study

[Robustness and reproducibility of flow territories defined by planning-free vessel-encoded pseudocontinuous arterial spin-labeling.](#)

Gevers S, Bokkers RP, Hendrikse J, Majoie CB, Kies DA, Teeuwisse WM, Nederveen AJ, van Osch MJ.

AJNR Am J Neuroradiol. 2012 Feb;33(2):E21-5. Epub 2011 Mar 10.

Regional comparison

[Resting state functional connectivity in perfusion imaging: correlation maps with BOLD connectivity and resting state perfusion.](#)

Viviani R, Messina I, Walter M.

PLoS One. 2011;6(11):e27050. Epub 2011 Nov 4.

Studies on special diseases

[CBF measurements using multidelay pseudocontinuous and velocity-selective arterial spin labeling in patients with long arterial transit delays: Comparison with xenon CT CBF.](#)

Qiu D, Straka M, Zun Z, Bammer R, Moseley ME, Zaharchuk G.

J Magn Reson Imaging. 2012 Feb 22. doi: 10.1002/jmri.23613. [Epub ahead of print]

[Measuring the neural response to continuous intramuscular infusion of hypertonic saline by perfusion MRI.](#)

Owen DG, Clarke CF, Bureau Y, Ganapathy S, Prato FS, St Lawrence KS.

J Magn Reson Imaging. 2012 Mar;35(3):669-77. doi: 10.1002/jmri.22814. Epub 2011 Sep 23.

[MR perfusion imaging using the arterial spin labeling technique for breast cancer.](#)

Kawashima M, Katada Y, Shukuya T, Kojima M, Nozaki M.

J Magn Reson Imaging. 2012 Feb;35(2):436-40. doi: 10.1002/jmri.22882. Epub 2011 Nov 16.

[Perfusion abnormalities in mild cognitive impairment and mild dementia in Alzheimer's disease measured by pulsed arterial spin labeling MRI.](#)

Alexopoulos P, Sorg C, Förchler A, Grimmer T, Skokou M, Wohlschläger A, Perneczky R, Zimmer C, Kurz A, Preibisch C.

Eur Arch Psychiatry Clin Neurosci. 2012 Feb;262(1):69-77. Epub 2011 Jul 24.

[Perfusion MRI \(dynamic susceptibility contrast imaging\) with different measurement approaches for the evaluation of blood flow and blood volume in human gliomas.](#)

Thomsen H, Steffensen E, Larsson EM.

Acta Radiol. 2012 Feb 1;53(1):95-101. Epub 2011 Nov 23.

[Regional cerebral blood flow in late-life depression: arterial spin labelling magnetic resonance study.](#)

Colloby SJ, Firbank MJ, He J, Thomas AJ, Vasudev A, Parry SW, O'Brien JT.
Br J Psychiatry. 2012 Feb;200:150-5. Epub 2011 Dec 22.

Comparison of ASL Techniques or ASL compared with other imaging methods

[Arterial spin-labeling magnetic resonance imaging: the timing of regional maximal perfusion-related signal intensity revealed by a multiphase technique.](#)

Noguchi T, Yoshiura T, Hiwatashi A, Togao O, Yamashita K, Nagao E, Honda H.
Jpn J Radiol. 2012 Feb;30(2):137-45. Epub 2011 Dec 16.

[CBF measurements using multidelay pseudocontinuous and velocity-selective arterial spin labeling in patients with long arterial transit delays: Comparison with xenon CT CBF.](#)

Qiu D, Straka M, Zun Z, Bammer R, Moseley ME, Zaharchuk G.
J Magn Reson Imaging. 2012 Feb 22. doi: 10.1002/jmri.23613. [Epub ahead of print]

[MR perfusion imaging using the arterial spin labeling technique for breast cancer.](#)

Kawashima M, Katada Y, Shukuya T, Kojima M, Nozaki M.
J Magn Reson Imaging. 2012 Feb;35(2):436-40. doi: 10.1002/jmri.22882. Epub 2011 Nov 16.

[Perfusion MRI \(dynamic susceptibility contrast imaging\) with different measurement approaches for the evaluation of blood flow and blood volume in human gliomas.](#)

Thomsen H, Steffensen E, Larsson EM.
Acta Radiol. 2012 Feb 1;53(1):95-101. Epub 2011 Nov 23.

[Pseudocontinuous arterial spin labeling quantifies relative cerebral blood flow in acute stroke.](#)

Hernandez DA, Bokkers RP, Mirasol RV, Luby M, Henning EC, Merino JG, Warach S, Latour LL.
Stroke. 2012 Mar;43(3):753-8. Epub 2012 Feb 16.

[Quantitative measurement of cerebral physiology using respiratory-calibrated MRI.](#)

Bulte DP, Kelly M, Germuska M, Xie J, Chappell MA, Okell TW, Bright MG, Jezzard P.
Neuroimage. 2012 Mar;60(1):582-91. Epub 2011 Dec 22.

Functional Imaging / BOLD

[A tale of two itches. Common features and notable differences in brain activation evoked by cowhage and histamine induced itch.](#)

Papoiu AD, Coghill RC, Kraft RA, Wang H, Yosipovitch G.
Neuroimage. 2012 Feb 15;59(4):3611-23. Epub 2011 Nov 12.

[Differential effects of intranasal insulin and caffeine on cerebral blood flow.](#)

Grichisch Y, Cavuşoğlu M, Preissl H, Uludağ K, Hallschmid M, Birbaumer N, Häring HU, Fritsche A, Veit R.
Hum Brain Mapp. 2012 Feb;33(2):280-7. doi: 10.1002/hbm.21216. Epub 2011 Mar 9.

[Neural correlates of the psychedelic state as determined by fMRI studies with psilocybin.](#)

Carhart-Harris RL, Erritzoe D, Williams T, Stone JM, Reed LJ, Colasanti A, Tyacke RJ, Leech R, Malizia AL, Murphy K, Hobden P, Evans J, Feilding A, Wise RG, Nutt DJ.
Proc Natl Acad Sci U S A. 2012 Feb 7;109(6):2138-43. Epub 2012 Jan 23.

[Resting state functional connectivity in perfusion imaging: correlation maps with BOLD connectivity and resting state perfusion.](#)

Viviani R, Messina I, Walter M.
PLoS One. 2011;6(11):e27050. Epub 2011 Nov 4.

[Retinotopic maps and hemodynamic delays in the human visual cortex measured using arterial spin labeling.](#)

Cavusoglu M, Bartels A, Yesilyurt B, Uludağ K.
Neuroimage. 2012 Feb 15;59(4):4044-54. Epub 2011 Oct 24.

Physiological Parameters beside CBF

[Phase-based regional oxygen metabolism \(PROM\) using MRI.](#)

Fan AP, Benner T, Bolar DS, Rosen BR, Adalsteinsson E.
Magn Reson Med. 2012 Mar;67(3):669-78. doi: 10.1002/mrm.23050. Epub 2011 Jun 28.

Technical Improvement/ Parameter Optimisation/ Theoretical Papers

[Arterial spin labeling angiography using a triple inversion recovery prepulse.](#)

Andia ME, Botnar RM.
Magn Reson Med. 2012 Feb;67(2):477-83. doi: 10.1002/mrm.23028. Epub 2011 Jun 7.

[Quantitative Assessment of External Carotid Artery Territory Supply with Modified Vessel-Encoded Arterial Spin-Labeling.](#)

Dang Y, Wu B, Sun Y, Mo D, Wang X, Zhang J, Fang J.
AJNR Am J Neuroradiol. 2012 Feb 16. [Epub ahead of print]

Comment

[Better Late than Never: The Long Journey for Noncontrast Arterial Spin Labeling Perfusion Imaging in Acute Stroke.](#)

Zaharchuk G.

Stroke. 2012 Feb 9. [Epub ahead of print] No abstract available.

Job offerings

If you have any vacancies send them to jobs@asl-network.org

Feature articles

If you like to write a comment on an interesting article mail it to newsletter@asl-network.org