

Dear Colleagues.

Here is the ASL Newsletter No. 20.

We would appreciate if you create groups at the ASL Network homepage.

www.asl-network.org

There is news from the cost Action, with a pretty nice contest. Read yourself bellow.

Cheers,
Johanna

Dear WG members of our COST Action,

As discussed in Bruxelles (especially in WG1) we want to challenge everybody participating in WG1, WG2 or WG3 to acquire the best ASL image with the highest resolution. The jury of this contest will be several radiologists and/or neurologists of WG3 and the chair of our action representing the MR physicists. The target area was decided to be the posterior cingulate cortex and the transverse slice that needs to be acquired is indicated in the attachment.

For this contest we have the following 'rules':

1. The images will be scored on image quality and especially on the level of detail (apparent spatial resolution) of the ASL-maps.
2. Images should be acquired within 10 minutes (this is limited to the actual ASL-scan, you can take as many angiograms, PC flow measurements, etc for optimization of the labeling process as you want).
3. Only a single slice will be judged in the transverse orientation, see attachment. When images score equally on the criteria of point 1, then the acquisition with the largest coverage will 'win'
4. You are allowed to perform specialised image processing techniques (filtering, noise reduction), but you should also show the raw subtraction images
5. You should submit your images in NIFTI/analyze format so that they can be viewed by the jury in MRICRON, but additionally you can submit the images in your favorite color LUT. Please also submit a T1-weighted high res scan of the same slice for anatomical reference.
6. Maximum field strength of 3Tesla
7. Maximum slice thickness of 3 mm (FWHM).
8. Make sure you are acquiring perfusion images, no angiograms (i.e. delay \geq 1500ms) and no large vessel artifacts
9. The emphasis is on image quality not on quantification of perfusion
10. The volunteer can be any person age $>$ 18 years
11. You are not allowed to manipulate the condition of the volunteer (i.e. no hypercapnia to increase the perfusion!)
12. In the Amsterdam meeting you are willing to present your image and describe briefly (probably $<$ 3 min) what you did to get to the highest spatial resolution
13. There will be a nice prize for the winner!
14. Deadline is on **September 30, 2012**.

Good luck!

Marion Smits, Xavier Golay and Matthias van Osch

Recent publications

July 2012,

(e-publications might have been earlier):

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Animal studies

[Robust method for 3D arterial spin labeling in mice.](#)

Chugh BP, Bishop J, Zhou YQ, Wu J, Henkelman RM, Sled JG.
Magn Reson Med. 2012 Jul;68(1):98-106. doi: 10.1002/mrm.23209. Epub 2011 Nov 18.

[The serial effect of iodinated contrast media on renal hemodynamics and oxygenation as evaluated by ASL and BOLD MRI.](#)

Zhang Y, Wang J, Yang X, Wang X, Zhang J, Fang J, Jiang X.
Contrast Media Mol Imaging. 2012 Jul;7(4):418-25. doi: 10.1002/cmimi.1468.

[Unique in utero identification of fetuses in multifetal mouse pregnancies by placental bidirectional arterial spin labeling MRI.](#)

Avni R, Raz T, Biton IE, Kalchenko V, Garbow JR, Neeman M.
Magn Reson Med. 2012 Aug;68(2):560-70. doi: 10.1002/mrm.23246. Epub 2011 Dec 8.

Pharmacological / Drug studies

[Altered cerebral blood flow and neurocognitive correlates in adolescent cannabis users.](#)

Jacobus J, Goldenberg D, Wierenga CE, Tolentino NJ, Liu TT, Tapert SF.
Psychopharmacology (Berl). 2012 Aug;222(4):675-84. Epub 2012 Mar 7.

[Effect of paroxetine and bupropion on human resting brain perfusion: An arterial spin labeling study.](#)

Viviani R, Abler B, Seeringer A, Stingl JC.
Neuroimage. 2012 Jul 16;61(4):773-9. Epub 2012 Mar 13.

[Feasibility of ASL-based pHMRI with a single dose of oral citalopram for repeated assessment of serotonin function.](#)

Klomp A, Caan MW, Denys D, Nederveen AJ, Reneman L.
Neuroimage. 2012 Jul 26. [Epub ahead of print]

[Using arterial spin labeling perfusion MRI to explore how midazolam produces anterograde amnesia.](#)

Liang P, Manelis A, Liu X, Aizenstein HJ, Gyulai F, Quinlan JJ, Reder LM.
Neurosci Lett. 2012 Aug 1;522(2):113-7. Epub 2012 Jun 16.

Perfusion studies other than on the brain

[Assessing potential errors of MRI-based measurements of pulmonary blood flow using a detailed network flow model.](#)

Burrowes KS, Buxton RB, Prisk GK.
J Appl Physiol. 2012 Jul;113(1):130-41. Epub 2012 Apr 26.

[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 Jul;36(1):110-9. doi: 10.1002/jmri.23613. Epub 2012 Feb 22.

[Histogram analysis of renal arterial spin labeling perfusion data reveals differences between volunteers and patients with mild chronic kidney disease.](#)

Rossi C, Artunc F, Martirosian P, Schlemmer HP, Schick F, Boss A.
Invest Radiol. 2012 Aug;47(8):490-6.

[The serial effect of iodinated contrast media on renal hemodynamics and oxygenation as evaluated by ASL and BOLD MRI.](#)

Zhang Y, Wang J, Yang X, Wang X, Zhang J, Fang J, Jiang X.
Contrast Media Mol Imaging. 2012 Jul;7(4):418-25. doi: 10.1002/cmimi.1468.

Cerebral blood flow studies

[Arterial spin-labeling in routine clinical practice: a preliminary experience of 200 cases and correlation with MRI and clinical findings.](#)

Chen TY, Chiu L, Wu TC, Wu TC, Lin CJ, Wu SC, Tsui YK.
Clin Imaging. 2012 Jul;36(4):345-52. Epub 2012 Jun 8.

Studies on special diseases

[Arterial spin labeling MRI: an emerging biomarker for Alzheimer's disease and other neurodegenerative conditions.](#)

Wolk DA, Detre JA.
Curr Opin Neurol. 2012 Aug;25(4):421-8.

[Changes in cerebral blood flow after transjugular intrahepatic portosystemic shunt can help predict the development of hepatic encephalopathy: An arterial spin labeling MR study.](#)

Zheng G, Zhang LJ, Wang Z, Qi RF, Shi D, Wang L, Fan X, Lu GM.
Eur J Radiol. 2012 Jul 23. [Epub ahead of print]

[Histogram analysis of renal arterial spin labeling perfusion data reveals differences between volunteers and patients with mild chronic kidney disease.](#)

Rossi C, Artunc F, Martirosian P, Schlemmer HP, Schick F, Boss A.
Invest Radiol. 2012 Aug;47(8):490-6.

[Reduced Neuronal Activity in Language-Related Regions After Transcranial Magnetic Stimulation Therapy for Auditory Verbal Hallucinations.](#)

Kindler J, Homan P, Jann K, Federspiel A, Flury R, Hauf M, Strik W, Dierks T, Hubl D.
Biol Psychiatry. 2012 Jul 26. [Epub ahead of print]

[Regional cerebral perfusion in patients with Alzheimer's disease and mild cognitive impairment: effect of APOE Epsilon4 allele.](#)

Kim SM, Kim MJ, Rhee HY, Ryu CW, Kim EJ, Petersen ET, Jahng GH.
Neuroradiology. 2012 Jul 25. [Epub ahead of print]

[Retrospective Analysis of Imaging Techniques for Treatment Planning and Monitoring of Obliteration for Gamma Knife Treatment of Cerebral Arteriovenous Malformation.](#)

Amponsah K, Ellis TL, Chan MD, Lovato JF, Bourland JD, Deguzman AF, Ekstrand KE, Munley MT, McMullen KP, Shaw EG, Tatter SB.
Neurosurgery. 2012 Jul 11. [Epub ahead of print]

Single case study

[Evaluation of cerebellar mutism by arterial spin-labeling perfusion magnetic resonance imaging in a patient with atypical teratoid/rhabdoid tumor \(AT/RT\): a case report.](#)

Watanabe Y, Yamasaki F, Nakamura K, Kajiwara Y, Takayasu T, Nosaka R, Sugiyama K, Kobayashi M, Kurisu K.

Childs Nerv Syst. 2012 Aug;28(8):1257-60. Epub 2012 Apr 4. No abstract available.

Comparison of ASL Techniques or ASL compared with other imaging methods

[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 Jul;36(1):110-9. doi: 10.1002/jmri.23613. Epub 2012 Feb 22.

[Comparison of arterial spin labeling and bolus perfusion-weighted imaging for detecting mismatch in acute stroke.](#)

Zaharchuk G, El Mogy IS, Fischbein NJ, Albers GW.

Stroke. 2012 Jul;43(7):1843-8. Epub 2012 Apr 26.

[Comparison of pulsed and pseudocontinuous arterial spin-labeling for measuring CO₂ - induced cerebrovascular reactivity.](#)

Tancredi FB, Gauthier CJ, Madjar C, Bolar DS, Fisher JA, Wang DJ, Hoge RD.

J Magn Reson Imaging. 2012 Aug;36(2):312-21. doi: 10.1002/jmri.23658. Epub 2012 Apr 27.

Functional Imaging / BOLD

[Calibrating the BOLD signal during a motor task using an extended fusion model incorporating DOT, BOLD and ASL data.](#)

Yücel MA, Huppert TJ, Boas DA, Gagnon L.

Neuroimage. 2012 Jul 16;61(4):1268-76. Epub 2012 Apr 23.

[Comparison of pulsed and pseudocontinuous arterial spin-labeling for measuring CO₂ - induced cerebrovascular reactivity.](#)

Tancredi FB, Gauthier CJ, Madjar C, Bolar DS, Fisher JA, Wang DJ, Hoge RD.

J Magn Reson Imaging. 2012 Aug;36(2):312-21. doi: 10.1002/jmri.23658. Epub 2012 Apr 27.

[Functional magnetic resonance imaging detection of vascular reactivity in cerebral amyloid angiopathy.](#)

Dumas A, Dierksen GA, Gurol ME, Halpin A, Martinez-Ramirez S, Schwab K, Rosand J, Viswanathan A, Salat DH, Polimeni JR, Greenberg SM.
Ann Neurol. 2012 Jul;72(1):76-81. doi: 10.1002/ana.23566.

[Origins of intersubject variability of blood oxygenation level dependent and arterial spin labeling fMRI: implications for quantification of brain activity.](#)

Gaxiola-Valdez I, Goodyear BG.
Magn Reson Imaging. 2012 Jul 13. [Epub ahead of print]

[The BOLD post-stimulus undershoot, one of the most debated issues in fMRI.](#)

van Zijl PC, Hua J, Lu H.
Neuroimage. 2012 Aug 15;62(2):1092-102. Epub 2012 Jan 9.

[Theta burst TMS increases cerebral blood flow in the primary motor cortex during motor performance as assessed by arterial spin labeling \(ASL\).](#)

Orosz A, Jann K, Wirth M, Wiest R, Dierks T, Federspiel A.
Neuroimage. 2012 Jul 2;61(3):599-605. Epub 2012 Apr 12.

Physiological Parameters beside CBF

[Quantification of arterial cerebral blood volume using multiphase-balanced SSFP-based ASL.](#)

Yan L, Li C, Kilroy E, Wehrli FW, Wang DJ.
Magn Reson Med. 2012 Jul;68(1):130-9. doi: 10.1002/mrm.23218. Epub 2011 Nov 29.

Technical Improvement/ Parameter Optimisation/ Theoretical Papers

[Efficient sampling of early signal arrival for estimation of perfusion and transit time in whole-brain arterial spin labeling.](#)

Lee W, Janik R, Scouten A, Stefanovic B, Sled JG.
Magn Reson Med. 2012 Jul;68(1):179-87. doi: 10.1002/mrm.23222. Epub 2011 Dec 21.

[Per-subject characterization of bolus width in pulsed arterial spin labeling using bolus turbo sampling.](#)

Villien M, Chipon E, Troprès I, Bouvier J, Cantin S, Chechin D, Le Bas JF, Krainik A, Warnking JM.
Magn Reson Med. 2012 Jul 24. doi: 10.1002/mrm.24412. [Epub ahead of print]

[Quantification of arterial cerebral blood volume using multiphase-balanced SSFP-based ASL.](#)

Yan L, Li C, Kilroy E, Wehrli FW, Wang DJ.
Magn Reson Med. 2012 Jul;68(1):130-9. doi: 10.1002/mrm.23218. Epub 2011 Nov 29.

[Selective multivessel labeling approach for perfusion territory imaging in pseudo-continuous arterial spin labeling.](#)

Helle M, Rüfer S, van Osch MJ, Jansen O, Norris DG.

Magn Reson Med. 2012 Jul;68(1):214-9. doi: 10.1002/mrm.23219. Epub 2011 Dec 28.

Review Paper/ Historical Review

[Arterial spin labeling MRI: an emerging biomarker for Alzheimer's disease and other neurodegenerative conditions.](#)

Wolk DA, Detre JA.

Curr Opin Neurol. 2012 Aug;25(4):421-8.

[Central Mechanisms of Pain Revealed Through Functional and Structural MRI.](#)

Davis KD, Moayed M.

J Neuroimmune Pharmacol. 2012 Jul 24. [Epub ahead of print]

[Early development of arterial spin labeling to measure regional brain blood flow by MRI.](#)

Koretsky AP.

Neuroimage. 2012 Aug 15;62(2):602-7. Epub 2012 Jan 8.

[Mapping of cerebral perfusion territories using territorial arterial spin labeling: techniques and clinical application.](#)

Hartkamp NS, Petersen ET, De Vis JB, Bokkers RP, Hendrikse J.

NMR Biomed. 2012 Jul 15. doi: 10.1002/nbm.2836. [Epub ahead of print]

[Non-contrast enhanced MR angiography: Physical principles.](#)

Wheaton AJ, Miyazaki M.

J Magn Reson Imaging. 2012 Aug;36(2):286-304. doi: 10.1002/jmri.23641.

[Record of a single fMRI experiment in May of 1991.](#)

Kwong KK.

Neuroimage. 2012 Aug 15;62(2):610-2. Epub 2011 Aug 3.

[The BOLD post-stimulus undershoot, one of the most debated issues in fMRI.](#)

van Zijl PC, Hua J, Lu H.

Neuroimage. 2012 Aug 15;62(2):1092-102. Epub 2012 Jan 9.

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 editor@asl-network.org