

Dear colleagues,

here is the ASL Newsletter No. 94 with scientific articles of the last two months.

The ISMRM Annual Meeting is approaching quickly. What's going on in Montréal?

Thanks to [mediri](#), [Gold Standard Phantoms](#) and [SUBTLE MEDICAL](#) I am happy to finally announce some more details on the **ASL Network Dinner**. The dinner will take place on Sunday, 12th May 2019. Le 409 (409 rue McGill) will welcome us from 19:30 onwards. Please drop me an email to join the dinner.

ISMRM program – some highlights with ASL relevance:

Some sessions may be of particular interest.

On Sunday, an educational session on **basic perfusion** may be a good starting point.

On Monday, you can start your day with the sunrise session "**Imaging Without Gadolinium: ASL**" (https://www.ismrm.org/19/program_files/SM07.htm). Later on, the Member-Initiated Symposium "**Open Source Initiative for Perfusion Imaging**" (13:45) will have some interesting and ASL relevant topics.

The **Perfusion Study Group** Meeting takes place in Tuesday (9:15), while recent advances in ASL are presented in the **Perfusion & Permeability** scientific session (Wednesday, 13:30).

On the last day of the conference, there is another sunrise session titled "**Beginner's Guide to Perfusion MRI**" (7:00).

For some ASL **chat**, you can join the #aslnetwork channel on **Slack** (<https://ismrm19.slack.com>). You may also be interested in the **WhatsApp** group. Just get in touch with us, send your mobile number and some background on you and your relation to ASL.

See you in Montréal!

Best regards

Klaus

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Epub & Print

Note: The '*new*'-flag' is assigned to articles which haven't been in earlier newsletters (e.g. as e-publications). Additionally you will find titles printed in bold letters which indicates that they are listed for the first time in this particular newsletter. For articles listed multiple times in different sections the bold letters disappear in the later sections.

Publications in March & April 2019

Cerebral Blood Flow Studies

CBF Regional Comparison / Regional ASL

new

Age- and brain region-associated alterations of cerebral blood flow in early Alzheimer's disease assessed in A β PPSWE/PS1AE9 transgenic mice using arterial spin labeling.

Guo Y, Li X, Zhang M, Chen N, Wu S, Lei J, Wang Z, Wang R, Wang J, Liu H.

Mol Med Rep. 2019 Apr;19(4):3045-3052. doi: 10.3892/mmr.2019.9950. Epub 2019 Feb 12.

[Free PMC Article](#)

Studies on Special Disease

new

Cerebral blood flow and cerebrovascular reactivity correlate with severity of motor symptoms in Parkinson's disease.

Pelizzari L, Laganà MM, Rossetto F, Bergsland N, Galli M, Baselli G, Clerici M, Nemni R, Baglio F.

Ther Adv Neurol Disord. 2019 Mar 21;12:1756286419838354. doi: 10.1177/1756286419838354.

eCollection 2019.

[Free PMC Article](#)

new

Diagnostic and prognostic benefit of arterial spin labeling in subacute stroke.

Thamm T, Zweynert S, Piper SK, Madai VI, Livne M, Martin SZ, Herzig CX, Mutke MA, Siebert E, Liebig T, Sobesky J.

Brain Behav. 2019 Mar 25:e01271. doi: 10.1002/brb3.1271. [Epub ahead of print]

[Free Article](#)

new

Dynamics of brain perfusion and cognitive performance in revascularization of carotid artery stenosis.

Schröder J, Heinze M, Günther M, Cheng B, Nickel A, Schröder T, Fischer F, Kessner SS, Magnus T, Fiehler J, Larena-Avellaneda A, Gerloff C, Thomalla G.

Neuroimage Clin. 2019 Mar 13;22:101779. doi: 10.1016/j.nicl.2019.101779. [Epub ahead of print]

[Free Article](#)

new

Arterial Spin Labeling Reveals Disrupted Brain Networks and Functional Connectivity in Drug-Resistant Temporal Epilepsy.

Boscolo Galazzo I, Storti SF, Barnes A, De Blasi B, De Vita E, Koepp M, Duncan JS, Groves A, Pizzini FB, Menegaz G, Fraioli F.

Front Neuroinform. 2019 Mar 6;12:101. doi: 10.3389/fninf.2018.00101. eCollection 2018.

[Free PMC Article](#)

new

Arterial Spin Labeling for Glioma Grade Discrimination: Correlations with IDH1 Genotype and 1p/19q Status.

Wang N, Xie SY, Liu HM, Chen GQ, Zhang WD.

Transl Oncol. 2019 Mar 14;12(5):749-756. doi: 10.1016/j.tranon.2019.02.013. [Epub ahead of print]

[Free PMC Article](#)

new

Arterial Spin Labeling Magnetic Resonance Imaging for Differentiating Acute Ischemic Stroke from Epileptic Disorders.

Kanazawa Y, Arakawa S, Shimogawa T, Hagiwara N, Haga S, Morioka T, Ooboshi H, Ago T, Kitazono T.

J Stroke Cerebrovasc Dis. 2019 Mar 13. pii: S1052-3057(19)30064-3. doi:

10.1016/j.jstrokecerebrovasdis.2019.02.020. [Epub ahead of print]

new

Effects of Acute Alcohol Consumption on the Human Brain: Diffusional Kurtosis Imaging and Arterial Spin-Labeling Study.

Kong LM, Zeng JY, Zheng WB, Shen ZW, Wu RH.

AJNR Am J Neuroradiol. 2019 Mar 14. doi: 10.3174/ajnr.A5992. [Epub ahead of print]

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Prospects for investigating brain oxygenation in acute stroke: Experience with a non-contrast quantitative BOLD based approach.

Stone AJ, Harston GWJ, Carone D, Okell TW, Kennedy J, Blockley NP.

Hum Brain Mapp. 2019 Mar 12. doi: 10.1002/hbm.24564. [Epub ahead of print]

new

CT and Multimodal MR Imaging Features of Embryonal Tumors with Multilayered Rosettes in Children.

Dangouloff-Ros V, Tauziède-Espariat A, Roux CJ, Levy R, Grévent D, Brunelle F, Gareton A, Puget S, Beccaria K, Blauwblomme T, Grill J, Dufour C, Varlet P, Boddaert N.

AJNR Am J Neuroradiol. 2019 Mar 7. doi: 10.3174/ajnr.A6001. [Epub ahead of print]

new

Differentiation of primary central nervous system lymphoma from high-grade glioma and brain metastasis using arterial spin labeling and dynamic contrast-enhanced magnetic resonance imaging.

Xi YB, Kang XW, Wang N, Liu TT, Zhu YQ, Cheng G, Wang K, Li C, Guo F, Yin H.
Eur J Radiol. 2019 Mar;112:59-64. doi: 10.1016/j.ejrad.2019.01.008. Epub 2019 Jan 8.

new

Evaluation of cerebral blood flow in older patients with status epilepticus using arterial spin labeling.

Ueno T, Kimura T, Funamizu Y, Kon T, Haga R, Nishijima H, Arai A, Suzuki C, Nunomura JI, Baba M, Tomiyama M.
eNeurologicalSci. 2018 Dec 17;14:56-59. doi: 10.1016/j.ensci.2018.12.005. eCollection 2019 Mar.

new

Differentiation of Primary Central Nervous System Lymphoma From Glioblastoma: Quantitative Analysis Using Arterial Spin Labeling and Diffusion Tensor Imaging.

Abdel Razek AAK, El-Serougy L, Abdelsalam M, Gaballa G, Talaat M.
World Neurosurg. 2019 Mar;123:e303-e309. doi: 10.1016/j.wneu.2018.11.155. Epub 2018 Nov 29.

new

Advanced MR imaging and ¹⁸F-DOPA PET characteristics of H3K27M-mutant and wild-type pediatric diffuse midline gliomas.

Piccardo A, Tortora D, Mascelli S, Severino M, Piatelli G, Consales A, Pescetto M, Biassoni V, Schiavello E, Massollo M, Verrico A, Milanaccio C, Garrè ML, Rossi A, Morana G.
Eur J Nucl Med Mol Imaging. 2019 Apr 27. doi: 10.1007/s00259-019-04333-4. [Epub ahead of print]

new

Hypoglycemic thalamic activation in type 1 diabetes is associated with preserved symptoms despite reduced epinephrine.

Nwokolo M, Amiel SA, O'Daly O, Byrne ML, Wilson BM, Pernet A, Cordon SM, Macdonald IA, Zelaya FO, Choudhary P.
J Cereb Blood Flow Metab. 2019 Apr 20:271678X19842680. doi: 10.1177/0271678X19842680. [Epub ahead of print]

new

Similar and Differing Distributions Between ¹⁸F-FDG-PET and Arterial Spin Labeling Imaging in Temporal Lobe Epilepsy.

Sone D, Maikusa N, Sato N, Kimura Y, Ota M, Matsuda H.
Front Neurol. 2019 Apr 3;10:318. doi: 10.3389/fneur.2019.00318. eCollection 2019.
[Free PMC Article](#)

new

Cerebral blood flow measurements in patients with comorbid hypertension and depression using 3D arterial spin labeling.

Liu Y, Zeng XZ, Wang Z, Zhang H, Wang XL, Yuan HS.
Beijing Da Xue Xue Bao Yi Xue Ban. 2019 Apr 18;51(2):260-264. Chinese.
[Free Article](#)

new

Differences in cortical perfusion detected by arterial spin labeling in nonamnesic and amnesic subtypes of early-onset Alzheimer's disease.

Sebastien V, Renaud L, Romain V, Adeline R, Matthieu V, Florence P, Jean-Pierre P, Xavier L.
J Neuroradiol. 2019 Apr 11. pii: S0150-9861(18)30446-2. doi: 10.1016/j.neurad.2019.03.017. [Epub ahead of print]

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Cerebral blood flow territory instability in patients with atherosclerotic intracranial stenosis.

Arteaga DF, Strother MK, Faraco CC, Davis LT, Scott AO, Donahue MJ.
J Magn Reson Imaging. 2019 Apr 2. doi: 10.1002/jmri.26737. [Epub ahead of print]

Comparison of ASL Techniques / ASL Compared with Other Imaging Methods / ASL Combined with Other Imaging Methods

new

Differentiating glioblastomas from solitary brain metastasis using arterial spin labeling perfusion and diffusion tensor imaging derived metrics.

Khalek Abdel Razek AA, Talaat M, El-Serougy L, Abdelsalam M, Gaballa G.
World Neurosurg. 2019 Mar 27. pii: S1878-8750(19)30893-9. doi: 10.1016/j.wneu.2019.03.213. [Epub ahead of print]

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Arterial Spin Labeling Reveals Disrupted Brain Networks and Functional Connectivity in Drug-Resistant Temporal Epilepsy.

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Functional Imaging / BOLD

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Front Neuroinform. 2019 Mar 6;12:101. doi: 10.3389/fninf.2018.00101. eCollection 2018.

[Free PMC Article](#)

new

[Hyperperfusion of Frontal White and Subcortical Gray Matter in Autism Spectrum Disorder.](#)

Peterson BS, Zargarian A, Peterson JB, Goh S, Sawardekar S, Williams SCR, Lythgoe DJ, Zelaya FO, Bansal R.

Biol Psychiatry. 2019 Apr 1;85(7):584-595. doi: 10.1016/j.biopsych.2018.11.026. Epub 2018 Dec 21.

new

[Improving the Assessment of Breath-Holding Induced Cerebral Vascular Reactivity Using a Multiband Multi-echo ASL/BOLD Sequence.](#)

Cohen AD, Wang Y.

Sci Rep. 2019 Mar 25;9(1):5079. doi: 10.1038/s41598-019-41199-w.

[Free Article](#)

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Hum Brain Mapp. 2019 Mar 12. doi: 10.1002/hbm.24564. [Epub ahead of print]

new

[Machine learning-based prediction of clinical pain using multimodal neuroimaging and autonomic metrics.](#)

Lee J, Mawla I, Kim J, Loggia ML, Ortiz A, Jung C, Chan ST, Gerber J, Schmithorst VJ, Edwards RR, Wasan AD, Berna C, Kong J, Kaptchuk TJ, Gollub RL, Rosen BR, Napadow V.
Pain. 2019 Mar;160(3):550-560. doi: 10.1097/j.pain.0000000000001417.

ASL Data Analysis/ Comparison of ASL Evaluation Methods/ Kinetic Models/ Data Corrections/ Postprocessing

new

[Arterial spin-labeling magnetic resonance imaging of brain maturation in early childhood: Mathematical model fitting to assess age-dependent change of cerebral blood flow.](#)

Wong AM, Liu HL, Tsai ML, Schwartz ES, Yeh CH, Wang HS, Wu TW, Lin CY.
Magn Reson Imaging. 2019 Mar 21;59:114-120. doi: 10.1016/j.mri.2019.03.016. [Epub ahead of print]

new

[Enabling free-breathing background suppressed renal pCASL using fat imaging and retrospective motion correction.](#)

Bones IK, Hartevelde AA, Franklin SL, van Osch MJP, Hendrikse J, Moonen CTW, Bos C, van Stralen M.
Magn Reson Med. 2019 Mar 18. doi: 10.1002/mrm.27723. [Epub ahead of print]

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Pain. 2019 Mar;160(3):550-560. doi: 10.1097/j.pain.0000000000001417.

ASL at Field Strength > 3T

new

[High resolution continuous arterial spin labeling of human cerebral perfusion using a separate neck tagging RF coil.](#)

Mora Álvarez MG, Stobbe RW, Beaulieu C.
PLoS One. 2019 Apr 25;14(4):e0215998. doi: 10.1371/journal.pone.0215998. eCollection 2019.
[Free Article](#)

new

[Different effects of prenatal MAM vs. perinatal THC exposure on regional cerebral blood perfusion detected by Arterial Spin Labelling MRI in rats.](#)

Drazanova E, Ruda-Kucerova J, Kratka L, Stark T, Kuchar M, Maryska M, Drago F, Starcuk Z Jr, Micale V.
Sci Rep. 2019 Apr 15;9(1):6062. doi: 10.1038/s41598-019-42532-z.

Case Reports

new

[Contre-coup injury-induced middle meningeal arteriovenous fistula detected by time-of-flight magnetic resonance angiography and magnetic resonance arterial spin labeling: case report and review of the literature.](#)

Tokairin K, Osanai T, Kazumata K, Sawaya R, Houkin K.

World Neurosurg. 2019 Mar 27. pii: S1878-8750(19)30869-1. doi: 10.1016/j.wneu.2019.03.189. [Epub ahead of print]

new

[The Relationship Between Regional Cerebral Blood Flow Estimates and Alcohol Problems at 5-Year Follow-Up: The Role of Level of Response.](#)

Courtney KE, Infante MA, Brown GG, Tapert SF, Simmons AN, Smith TL, Schuckit MA.

Alcohol Clin Exp Res. 2019 Mar 29. doi: 10.1111/acer.13998. [Epub ahead of print]

new

[Arterial-spin-labelling MRI to diagnose contrast-induced vasospasm after intracranial stent embolization: a case report.](#)

Romano DG, Frauenfelder G, Locatelli G, Panza MP, Siani A, Tartaglione S, Leonini S, Beomonte Zobel B, Saponiero R.

World Neurosurg. 2019 Mar 15. pii: S1878-8750(19)30724-7. doi: 10.1016/j.wneu.2019.03.069. [Epub ahead of print] No abstract available.

new

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Kong LM, Zeng JY, Zheng WB, Shen ZW, Wu RH.

AJNR Am J Neuroradiol. 2019 Mar 14. doi: 10.3174/ajnr.A5992. [Epub ahead of print]

new

[Lhermitte-Duclos disease: A case report with radiologic-pathologic correlation.](#)

Cheng CS, Ou CH, Chen JS, Lui CC, Yeh LR.

Radiol Case Rep. 2019 Apr 3;14(6):734-739. doi: 10.1016/j.radcr.2019.03.020. eCollection 2019 Jun.

[Free PMC Article](#)

Cohort Studies / Gender- and Age Dependencies

new

[Altered grey matter volume, perfusion and white matter integrity in very low birthweight adults.](#)

Pascoe MJ, Melzer TR, Horwood LJ, Woodward LJ, Darlow BA.

Neuroimage Clin. 2019 Mar 15;22:101780. doi: 10.1016/j.nicl.2019.101780. [Epub ahead of print]

[Free Article](#)

new

[Cortical cerebral blood flow in ageing: effects of haematocrit, sex, ethnicity and diabetes.](#)

Smith LA, Melbourne A, Owen D, Cardoso MJ, Sudre CH, Tillin T, Sokolska M, Atkinson D, Chaturvedi N, Ourselin S, Hughes AD, Barkhof F, Jäger HR.

Eur Radiol. 2019 Mar 18. doi: 10.1007/s00330-019-06096-w. [Epub ahead of print]

new

Fitness, independent of physical activity is associated with cerebral blood flow in adults at risk for Alzheimer's disease.

Dougherty RJ, Boots EA, Lindheimer JB, Stegner AJ, Van Riper S, Edwards DF, Gallagher CL, Carlsson CM, Rowley HA, Bendlin BB, Asthana S, Hermann BP, Sager MA, Johnson SC, Okonkwo OC, Cook DB. Brain Imaging Behav. 2019 Mar 9. doi: 10.1007/s11682-019-00068-w. [Epub ahead of print]

new

CT and Multimodal MR Imaging Features of Embryonal Tumors with Multilayered Rosettes in Children.

Dangouloff-Ros V, Tauziède-Espariat A, Roux CJ, Levy R, Grévent D, Brunelle F, Gareton A, Puget S, Beccaria K, Blauwblomme T, Grill J, Dufour C, Varlet P, Boddaert N. AJNR Am J Neuroradiol. 2019 Mar 7. doi: 10.3174/ajnr.A6001. [Epub ahead of print]

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Pharmacological / Drug Studies / Studies on the Effects of Therapies

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Neuroimage Clin. 2019 Mar 13;22:101779. doi: 10.1016/j.nicl.2019.101779. [Epub ahead of print]

[Free Article](#)

new

Total Cerebrovascular Blood Flow and Whole Brain Perfusion in Children Sedated Using Propofol With or Without Ketamine at Induction: An Investigation With 2D-Cine PC and ASL.

Makki MI, O'Gorman RL, Buhler P, Baledent O, Kellenberger CJ, Sabandal C, Weiss M, Scheer I, Schmitz A.

J Magn Reson Imaging. 2019 Mar 20. doi: 10.1002/jmri.26725. [Epub ahead of print]

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Kong LM, Zeng JY, Zheng WB, Shen ZW, Wu RH.

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new

Cerebral Perfusion Changes After Osteopathic Manipulative Treatment: A Randomized Manual Placebo-Controlled Trial.

Tamburella F, Piras F, Piras F, Spanò B, Tramontano M, Gili T.
Front Physiol. 2019 Apr 5;10:403. doi: 10.3389/fphys.2019.00403. eCollection 2019.
[Free PMC Article](#)

new

Different effects of prenatal MAM vs. perinatal THC exposure on regional cerebral blood perfusion detected by Arterial Spin Labelling MRI in rats.

Drazanova E, Ruda-Kucerova J, Kratka L, Stark T, Kuchar M, Maryska M, Drago F, Starcuk Z Jr, Micale V.
Sci Rep. 2019 Apr 15;9(1):6062. doi: 10.1038/s41598-019-42532-z.
[Free PMC Article](#)

new

Acute effects of Δ^9 -tetrahydrocannabinol (THC) on resting state brain function and their modulation by COMT genotype.

Bossong MG, van Hell HH, Schubart CD, van Saane W, Iseger TA, Jager G, van Osch MJ, Jansma JM, Kahn RS, Boks MP, Ramsey NF.
Eur Neuropsychopharmacol. 2019 Apr 8. pii: S0924-977X(19)30198-1. doi: 10.1016/j.euroneuro.2019.03.010. [Epub ahead of print]

Screening / Prognosis / Prevention

new

Fitness, independent of physical activity is associated with cerebral blood flow in adults at risk for Alzheimer's disease.

Dougherty RJ, Boots EA, Lindheimer JB, Stegner AJ, Van Riper S, Edwards DF, Gallagher CL, Carlsson CM, Rowley HA, Bendlin BB, Asthana S, Hermann BP, Sager MA, Johnson SC, Okonkwo OC, Cook DB.
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Cerebral blood flow territory instability in patients with atherosclerotic intracranial stenosis.

Arteaga DF, Strother MK, Faraco CC, Davis LT, Scott AO, Donahue MJ.
J Magn Reson Imaging. 2019 Apr 2. doi: 10.1002/jmri.26737. [Epub ahead of print]

new

Cerebral perfusion changes in presymptomatic genetic frontotemporal dementia: a GENFI study.

Mutsaerts HJMM, Mirza SS, Petr J, Thomas DL, Cash DM, Bocchetta M, de Vita E, Metcalfe AWS, Shirzadi Z, Robertson AD, Tartaglia MC, Mitchell SB, Black SE, Freedman M, Tang-Wai D, Keren R, Rogaeva E, van Swieten J, Laforce R, Tagliavini F, Borroni B, Galimberti D, Rowe JB, Graff C, Frisoni GB, Finger E, Sorbi S, de Mendonça A, Rohrer JD, MacIntosh BJ, Masellis M; GENetic Frontotemporal dementia Initiative (GENFI).
Brain. 2019 Apr 1;142(4):1108-1120. doi: 10.1093/brain/awz039.
[Free PMC Article](#)

Technical Improvement / Parameter Optimization

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[Improving the Assessment of Breath-Holding Induced Cerebral Vascular Reactivity Using a Multiband Multi-echo ASL/BOLD Sequence.](#)

Cohen AD, Wang Y.

Sci Rep. 2019 Mar 25;9(1):5079. doi: 10.1038/s41598-019-41199-w.

[Free Article](#)

new

[Arterial Spin Labeling Images Synthesis from sMRI using Unbalanced Deep Discriminant Learning.](#)

Huang W, Luo M, Liu X, Zhang P, Ding H, Xue W, Ni D.

IEEE Trans Med Imaging. 2019 Mar 21. doi: 10.1109/TMI.2019.2906677. [Epub ahead of print]

new

[Enabling free-breathing background suppressed renal pCASL using fat imaging and retrospective motion correction.](#)

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Magn Reson Med. 2019 Mar 18. doi: 10.1002/mrm.27723. [Epub ahead of print]

new

[High temporal resolution arterial spin labeling MRI with whole-brain coverage by combining time-encoding with Look-Locker and simultaneous multi-slice imaging.](#)

van der Plas MCE, Teeuwisse WM, Schmid S, Chappell M, van Osch MJP.

Magn Reson Med. 2019 Jun;81(6):3734-3744. doi: 10.1002/mrm.27692. Epub 2019 Mar 3.

new

[Application of MRS- and ASL-guided navigation for biopsy of intracranial tumors.](#)

Jin T, Ren Y, Zhang H, Xie Q, Yao Z, Feng X.

Acta Radiol. 2019 Mar;60(3):374-381. doi: 10.1177/0284185118780906. Epub 2018 Jun 29.

new

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