

Dear Colleagues,

Here is the ASL Newsletter No. 59.

Please find some impressions of the final COST Working Group Meeting on: <http://asl-network.org/gallery-3>. If you want to share some of private photos, too, you are welcome to send them to me (klaus.eickel(at)mevis.fraunhofer.de).

Kind regards,  
Klaus

## Recent publications October 2015, (e-publications might have been earlier):

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## Animal Studies

[N-octanoyl dopamine treatment exerts renoprotective properties in acute kidney injury but not in renal allograft recipients.](#)

Klotz S, Pallavi P, Tsagogiorgas C, Zimmer F, Zöllner FG, Binzen U, Greffrath W, Treede RD, Walter J, Harmsen MC, Krämer BK, Hafner M, Yard BA, Hoeger S.

Nephrol Dial Transplant. 2015 Oct 9. pii: gfv363. [Epub ahead of print]

[Pharmacologically-induced neurovascular uncoupling is associated with cognitive impairment in mice.](#)

Tarantini S, Hertelendy P, Tucsek Z, Valcarcel-Ares MN, Smith N, Menyhart A, Farkas E, Hodges EL, Towner R, Deak F, Sonntag WE, Csiszar A, Ungvari Z, Toth P.

J Cereb Blood Flow Metab. 2015 Nov;35(11):1871-81. doi: 10.1038/jcbfm.2015.162. Epub 2015 Jul 15.

[Evaluation of EPI distortion correction methods for quantitative MRI of the brain at high magnetic field.](#)

Hong X, To XV, Teh I, Soh JR, Chuang KH.

Magn Reson Imaging. 2015 Nov;33(9):1098-105. doi: 10.1016/j.mri.2015.06.010. Epub 2015 Jun 25.

[Positron emission tomography/magnetic resonance hybrid scanner imaging of cerebral blood flow using \(15\)O-water positron emission tomography and arterial spin labeling magnetic resonance imaging in newborn piglets.](#)

Andersen JB, Henning WS, Lindberg U, Ladefoged CN, Højgaard L, Greisen G, Law I.

J Cereb Blood Flow Metab. 2015 Nov;35(11):1703-10. doi: 10.1038/jcbfm.2015.139. Epub 2015 Jun 10.

[Fast imaging strategies for mouse kidney perfusion measurement with pseudocontinuous arterial spin labeling \(pCASL\) at ultra high magnetic field \(11.75 tesla\).](#)

Prevost VH, Girard OM, Callot V, Cozzone PJ Pr, Duhamel G.

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Biochim Biophys Acta. 2015 Oct 28. pii: S0925-4439(15)00323-3. doi: 10.1016/j.bbadis.2015.10.023. [Epub ahead of print]

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Nephrol Dial Transplant. 2015 Oct 9. pii: gfv363. [Epub ahead of print]

[Phenomenologically distinct psychotomimetic effects of ketamine are associated with cerebral blood flow changes in functionally relevant cerebral foci: a continuous arterial spin labelling study.](#)

Pollak TA, De Simoni S, Barimani B, Zelaya FO, Stone JM, Mehta MA.

Psychopharmacology (Berl). 2015 Oct 5. [Epub ahead of print]

[Modulatory effects of ketamine, risperidone and lamotrigine on resting brain perfusion in healthy human subjects.](#)

Shcherbinin S, Doyle O, Zelaya FO, de Simoni S, Mehta MA, Schwarz AJ.  
Psychopharmacology (Berl). 2015 Nov;232(21-22):4191-204. doi: 10.1007/s00213-015-4021-z. Epub 2015 Jul 31.

[Temporal assessment of pancreatic blood flow and perfusion following secretin stimulation using noninvasive MRI.](#)

Cox EF, Smith JK, Chowdhury AH, Lobo DN, Francis ST, Simpson J.  
J Magn Reson Imaging. 2015 Nov;42(5):1233-40. doi: 10.1002/jmri.24889. Epub 2015 Mar 18.

[Basal Hippocampal Activity and Its Functional Connectivity Predicts Cocaine Relapse.](#)

Adinoff B, Gu H, Merrick C, McHugh M, Jeon-Slaughter H, Lu H, Yang Y, Stein EA.  
Biol Psychiatry. 2015 Oct 1;78(7):496-504. doi: 10.1016/j.biopsych.2014.12.027. Epub 2015 Jan 30.

[Quantitative mapping of cerebral metabolic rate of oxygen \(CMRO<sub>2</sub>\) using quantitative susceptibility mapping \(QSM\).](#)

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[The Effects of Acutely Administered 3,4-Methylenedioxymethamphetamine on Spontaneous Brain Function in Healthy Volunteers Measured with Arterial Spin Labeling and Blood Oxygen Level-Dependent Resting State Functional Connectivity.](#)

Carhart-Harris RL, Murphy K, Leech R, Erritzoe D, Wall MB, Ferguson B, Williams LT, Roseman L, Brugger S, De Meer I, Tanner M, Tyacke R, Wolff K, Sethi A, Bloomfield MA, Williams TM, Bolstridge M, Stewart L, Morgan C, Newbould RD, Feilding A, Curran HV, Nutt DJ.  
Biol Psychiatry. 2015 Oct 15;78(8):554-62. doi: 10.1016/j.biopsych.2013.12.015. Epub 2014 Jan 10.

## Cerebral Blood Flow Studies

### **CBF Regional Comparison / Regional ASL**

[A Short Introduction to Arterial Spin Labeling and its Application to Flow Territory Mapping.](#)

Lindner T, Helle M, Jansen O.  
Clin Neuroradiol. 2015 Oct;25 Suppl 2:211-8. doi: 10.1007/s00062-015-0450-7. Epub 2015 Aug 26.

[Time-efficient determination of spin compartments by time-encoded pCASL T<sub>2</sub>-relaxation-under-spin-tagging and its application in hemodynamic characterization of the cerebral border zones.](#)

Schmid S, Teeuwisse WM, Lu H, van Osch MJ.  
Neuroimage. 2015 Dec;123:72-9. doi: 10.1016/j.neuroimage.2015.08.025. Epub 2015 Aug 19.

[Arterial spin-labeling MR imaging of cerebral hemorrhages.](#)

Noguchi T, Nishihara M, Egashira Y, Azama S, Hirai T, Kitano I, Yakushiji Y, Kawashima M, Irie H.  
Neuroradiology. 2015 Nov;57(11):1135-44. doi: 10.1007/s00234-015-1574-9. Epub 2015 Aug 18.

[Baseline brain perfusion and brain structure in patients with major depression: a multimodal magnetic resonance imaging study.](#)

Vasic N, Wolf ND, Grön G, Sasic-Vasic Z, Connemann BJ, Sambataro F, von Stromebeck A, Lang D, Otte S, Dudek M, Wolf RC.  
J Psychiatry Neurosci. 2015 Nov;40(6):412-21.

[Different post label delay cerebral blood flow measurements in patients with Alzheimer's disease using 3D arterial spin labeling.](#)

Liu Y, Zeng X, Wang Z, Zhang N, Fan D, Yuan H.

Magn Reson Imaging. 2015 Nov;33(9):1019-25. doi: 10.1016/j.mri.2015.05.001. Epub 2015 Jun 22.

[An Optimized Encoding Scheme for Planning Vessel-Encoded Pseudocontinuous Arterial Spin Labeling.](#)

Berry ES, Jezzard P, Okell TW.

Magn Reson Med. 2015 Nov;74(5):1248-56. doi: 10.1002/mrm.25508. Epub 2014 Oct 28.

## Studies on Special Disease

[Prediction of Early Reperfusion From Repeated Arterial Spin Labeling Perfusion Magnetic Resonance Imaging During Intravenous Thrombolysis.](#)

Okazaki S, Griebel M, Gregori J, Günther M, Sauter-Servaes J, Wolf ME, Gass A, Hennerici MG, Szabo K, Kern R.

Stroke. 2015 Oct 29. pii: STROKEAHA.115.011482. [Epub ahead of print]

[Arterial Spin Labeling Magnetic Resonance Perfusion for Traumatic Brain Injury: Technical Challenges and Potentials.](#)

Andre JB.

Top Magn Reson Imaging. 2015 Oct;24(5):275-87. doi: 10.1097/RMR.0000000000000065.

[A case of acute onset succinic semialdehyde dehydrogenase deficiency: neuroimaging findings and literature review.](#)

Wang KY, Barker PB, Lin DD.

Childs Nerv Syst. 2015 Oct 24. [Epub ahead of print]

[Usefulness of arterial spin-labeling images in periictal state diagnosis of epilepsy.](#)

Matsuura K, Maeda M, Okamoto K, Araki T, Miura Y, Hamada K, Kanamaru K, Tomimoto H.

J Neurol Sci. 2015 Oct 15. pii: S0022-510X(15)02476-4. doi: 10.1016/j.jns.2015.10.009. [Epub ahead of print]

[Transient reduction in venous susceptibility during posterior reversible encephalopathy syndrome.](#)

Ollivier M, Wanono E, Leclercq D, Domont F, Trunet S, Dormont D, Bertrand A.

J Neurol Sci. 2015 Nov 15;358(1-2):505-6. doi: 10.1016/j.jns.2015.09.359. Epub 2015 Sep 25.

[Usefulness of Pseudocontinuous Arterial Spin-Labeling for the Assessment of Patients with Head and Neck Squamous Cell Carcinoma by Measuring Tumor Blood Flow in the Pretreatment and Early Treatment Period.](#)

Fujima N, Yoshida D, Sakashita T, Homma A, Tsukahara A, Tha KK, Kudo K, Shirato H.

AJNR Am J Neuroradiol. 2015 Oct 1. [Epub ahead of print]

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Noguchi T, Nishihara M, Egashira Y, Azama S, Hirai T, Kitano I, Yakushiji Y, Kawashima M, Irie H.

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Wagner M, Helfrich M, Volz S, Magerkurth J, Blasel S, Porto L, Singer OC, Deichmann R, Jurcoane A, Hattinen E.

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Wright SN, Hong LE, Winkler AM, Chiappelli J, Nugent K, Muellerklein F, Du X, Rowland LM, Wang DJ, Kochunov P.

Hum Brain Mapp. 2015 Oct;36(10):3793-804. doi: 10.1002/hbm.22878. Epub 2015 Jun 24.

[Perfusion imaging of parotid gland tumours: usefulness of arterial spin labeling for differentiating Warthin's tumours.](#)

Kato H, Kanematsu M, Watanabe H, Kajita K, Mizuta K, Aoki M, Okuaki T.

Eur Radiol. 2015 Nov;25(11):3247-54. doi: 10.1007/s00330-015-3755-7. Epub 2015 Apr 29.

[Cerebral perfusion and glucose metabolism in Alzheimer's disease and frontotemporal dementia: two sides of the same coin?](#)

Verfaillie SC, Adriaanse SM, Binnewijzend MA, Benedictus MR, Ossenkoppele R, Wattjes MP, Pijnenburg YA, van der Flier WM, Lammertsma AA, Kuijer JP, Boellaard R, Scheltens P, van Berckel BN, Barkhof F.

Eur Radiol. 2015 Oct;25(10):3050-9. doi: 10.1007/s00330-015-3696-1. Epub 2015 Apr 22.

[Asymmetry of cerebral blood flow measured with three-dimensional pseudocontinuous arterial spin-labeling mr imaging in temporal lobe epilepsy with and without mesial temporal sclerosis.](#)

Guo X, Xu S, Wang G, Zhang Y, Guo L, Zhao B.

J Magn Reson Imaging. 2015 Nov;42(5):1386-97. doi: 10.1002/jmri.24920. Epub 2015 Apr 17.

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

[Functional imaging of the human placenta with magnetic resonance.](#)

Siauve N, Chalouhi GE, Deloison B, Alison M, Clement O, Ville Y, Salomon LJ.

Am J Obstet Gynecol. 2015 Oct;213(4 Suppl):S103-14. doi: 10.1016/j.ajog.2015.06.045. Review

[Diagnostic Accuracy of PET, SPECT, and Arterial Spin-Labeling in Differentiating Tumor Recurrence from Necrosis in Cerebral Metastasis after Stereotactic Radiosurgery.](#)

Lai G, Mahadevan A, Hackney D, Warnke PC, Nigim F, Kasper E, Wong ET, Carter BS, Chen CC.

AJNR Am J Neuroradiol. 2015 Oct 1. [Epub ahead of print]

[The Significance of Cerebral Hemodynamics Imaging in Carotid Endarterectomy: A Brief Review.](#)

Hosoda K.

Neurol Med Chir (Tokyo). 2015 Oct 15;55(10):782-8. doi: 10.2176/nmc.ra.2015-0090. Epub 2015 Sep 15

[Accuracy of Parenchymal Cerebral Blood Flow Measurements Using Pseudocontinuous Arterial Spin-Labeling in Healthy Volunteers.](#)

Ambarki K, Wählin A, Zarrinkoob L, Wirestam R, Petr J, Malm J, Eklund A.

AJNR Am J Neuroradiol. 2015 Oct;36(10):1816-21. doi: 10.3174/ajnr.A4367. Epub 2015 Aug 6.

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[Reliability comparison of spontaneous brain activities between BOLD and CBF contrasts in eyes-open and eyes-closed resting states.](#)

Zou Q, Miao X, Liu D, Wang DJ, Zhuo Y, Gao JH.

Neuroimage. 2015 Nov 1;121:91-105. doi: 10.1016/j.neuroimage.2015.07.044. Epub 2015 Jul 27.

[A novel application of four-dimensional magnetic resonance angiography using an arterial spin labeling technique for noninvasive diagnosis of Moyamoya disease.](#)

Uchino H, Ito M, Fujima N, Kazumata K, Yamazaki K, Nakayama N, Kuroda S, Houkin K.

Clin Neurol Neurosurg. 2015 Oct;137:105-11. doi: 10.1016/j.clineuro.2015.07.003. Epub 2015 Jul 7.

[Age-related changes in brain hemodynamics: A calibrated MRI study.](#)

De Vis JB, Hendrikse J, Bhogal A, Adams A, Kappelle LJ, Petersen ET.

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[A method for reducing the effects of motion contamination in arterial spin labeling magnetic resonance imaging.](#)

Tanenbaum AB, Snyder AZ, Brier MR, Ances BM.

J Cereb Blood Flow Metab. 2015 Oct;35(10):1697-702. doi: 10.1038/jcbfm.2015.124. Epub 2015 Jun 3.

[Presurgical evaluation of mesial temporal lobe epilepsy with multiple advanced MR techniques at 3T.](#)

Eryurt B, Oner AY, Ucar M, Capraz I, Kurt G, Bilir E, Tali ET.

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# Functional Imaging / BOLD

## [Attenuation of functional hyperemia to visual stimulation in mild Alzheimer's disease and its sensitivity to cholinesterase inhibition.](#)

Janik R, Thomason LA, Chaudhary S, Dorr A, Scouten A, Schwindt G, Masellis M, Stanisz GJ, Black SE, Stefanovic B.  
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## [Epileptic Ictal Hyperperfusion on Arterial Spin Labeling Perfusion and Diffusion-Weighted Magnetic Resonance Images in Posterior Reversible Encephalopathy Syndrome.](#)

Wakisaka K, Morioka T, Shimogawa T, Murao K, Kanazawa Y, Hagiwara N, Arakawa S.  
J Stroke Cerebrovasc Dis. 2015 Oct 26. pii: S1052-3057(15)00509-1. doi:10.1016/j.jstrokecerebrovasdis.2015.09.023. [Epub ahead of print]

## [The absolute CBF response to activation is preserved during elevated perfusion: Implications for neurovascular coupling measures.](#)

Whittaker JR, Driver ID, Bright MG, Murphy K.  
Neuroimage. 2015 Oct 23;125:198-207. doi: 10.1016/j.neuroimage.2015.10.023. [Epub ahead of print]

## [Transient reduction in venous susceptibility during posterior reversible encephalopathy syndrome.](#)

Ollivier M, Wanono E, Leclercq D, Domont F, Trunet S, Dormont D, Bertrand A.  
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Biol Psychiatry. 2015 Oct 15;78(8):554-62. doi: 10.1016/j.biopsych.2013.12.015. Epub 2014 Jan 10.

## Others CBF Related

### [Mastication induces long-term increases in blood perfusion of the trigeminal principal nucleus.](#)

Viggiano A, Manara R, Conforti R, Paccone A, Secondulfo C, Lorusso L, Sbordone L, Di Salle F, Monda M, Tedeschi G, Esposito F.  
Neuroscience. 2015 Oct 21;311:75-80. doi: 10.1016/j.neuroscience.2015.10.017. [Epub ahead of print]

### [Humoral Mediators of Remote Ischemic Conditioning: Important Role of eNOS/NO/Nitrite.](#)

Hess DC, Hoda MN, Khan MB.  
Acta Neurochir Suppl. 2016;121:45-8. doi: 10.1007/978-3-319-18497-5\_8.

[In vivo quantification of hyperoxic arterial blood water T1.](#)

Siero JC, Strother MK, Faraco CC, Hoogduin H, Hendrikse J, Donahue MJ.  
NMR Biomed. 2015 Nov;28(11):1518-25. doi: 10.1002/nbm.3411. Epub 2015 Sep 30.

[Brain Perfusion Is Increased at Term in the White Matter of Very Preterm Newborns and Newborns with Congenital Heart Disease: Does this Reflect Activated Angiogenesis?](#)

Wintermark P, Lechpammer M, Kosaras B, Jensen FE, Warfield SK.  
Neuropediatrics. 2015 Oct;46(5):344-51. doi: 10.1055/s-0035-1563533. Epub 2015 Sep 4.

[Accuracy of Parenchymal Cerebral Blood Flow Measurements Using Pseudocontinuous Arterial Spin-Labeling in Healthy Volunteers.](#)

Ambarki K, Wählin A, Zarrinkoob L, Wirestam R, Petr J, Malm J, Eklund A.  
AJNR Am J Neuroradiol. 2015 Oct;36(10):1816-21. doi: 10.3174/ajnr.A4367. Epub 2015 Aug 6.

## **Physiological Parameters besides CBF**

[Water Exchange across the Blood-Brain Barrier in Obstructive Sleep Apnea: An MRI Diffusion-Weighted Pseudo-Continuous Arterial Spin Labeling Study.](#)

Palomares JA, Tummala S, Wang DJ, Park B, Woo MA, Kang DW, Lawrence KS, Harper RM, Kumar R.  
J Neuroimaging. 2015 Nov;25(6):900-5. doi: 10.1111/jon.12288. Epub 2015 Aug 29.

[Age-related changes in brain hemodynamics: A calibrated MRI study.](#)

De Vis JB, Hendrikse J, Bhogal A, Adams A, Kappelle LJ, Petersen ET.  
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J Psychiatry Neurosci. 2015 Nov;40(6):412-21.

[Towards the identification of multi-parametric quantitative MRI biomarkers in lupus nephritis.](#)

Rapacchi S, Smith RX, Wang Y, Yan L, Sigalov V, Krasileva KE, Karpouzas G, Plotnik A, Sayre J, Hernandez E, Verma A, Burkly L, Wisniacki N, Torrington J, He X, Hu P, Chiao PC, Wang DJ.  
Magn Reson Imaging. 2015 Nov;33(9):1066-74. doi: 10.1016/j.mri.2015.06.019. Epub 2015 Jun 25.

[Intrahepatic portal vein blood volume estimated by non-contrast magnetic resonance imaging for the assessment of portal hypertension.](#)

Aguirre-Reyes DF, Sotelo JA, Arab JP, Arrese M, Tejos R, Irrarrazaval P, Tejos C, Uribe SA, Andia ME.  
Magn Reson Imaging. 2015 Oct;33(8):970-7. doi: 10.1016/j.mri.2015.06.016. Epub 2015 Jun 25

[Perfusion shift from white to gray matter may account for processing speed deficits in schizophrenia.](#)

Wright SN, Hong LE, Winkler AM, Chiappelli J, Nugent K, Muellerklein F, Du X, Rowland LM, Wang DJ, Kochunov P.  
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Magn Reson Med. 2015 Oct;74(4):945-52. doi: 10.1002/mrm.25463. Epub 2014 Sep 26.



# Perfusion Studies Other than on the Brain

## [Volumetric Arterial Spin-labeled Perfusion Imaging of the Kidneys with a Three-dimensional Fast Spin Echo Acquisition.](#)

Robson PM, Madhuranthakam AJ, Smith MP, Sun MR, Dai W, Rofsky NM, Pedrosa I, Alsop DC. Acad Radiol. 2015 Oct 29. pii: S1076-6332(15)00422-5. doi: 10.1016/j.acra.2015.09.013. [Epub ahead of print]

## [Quantification of liver perfusion using multidelay pseudocontinuous arterial spin labeling.](#)

Pan X, Qian T, Fernandez-Seara MA, Smith RX, Li K, Ying K, Sung K, Wang DJ. J Magn Reson Imaging. 2015 Oct 7. doi: 10.1002/jmri.25070. [Epub ahead of print]

## [Diagnostic value of tumor blood flow and its histogram analysis obtained with pCASL to differentiate sinonasal malignant lymphoma from squamous cell carcinoma.](#)

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## [Towards the identification of multi-parametric quantitative MRI biomarkers in lupus nephritis.](#)

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