

Dear Colleagues,

Here is the ASL Newsletter No. 57.

For me it is now "time to say goodbye"- from next month on, Klaus Eickel from mediri will be in charge of the ASL Newsletter and the homepage. I had a great time taking care of the Newsletter and being closely linked to the ASL community! I hope we'll stay in contact in the future!

I would also like to draw your attention to the upcoming last COST Working Group Meeting, which will be taking place from Sunday, October 4<sup>th</sup> until Tuesday, October 6<sup>th</sup> 2015 at the Airth Castle Hotel & Spa (<http://www.airthcastlehotel.com>), Airth, Stirlingshire, Scotland, FK2 8JF (40 min away from Edinburgh).

More details regarding the registration, hotel booking and programme can be found at [www.aslindementia.org](http://www.aslindementia.org).

There are also new entries in the job section which might be of interest to you.

Kind regards and all the best,  
Ina

## Recent publications

**August 2015,**  
(e-publications might have been earlier):

### Content:

Animal Studies.....	2
Pharmacological / Drug Studies / Studies on the Effects of Therapies.....	2
Perfusion Studies Other than on the Brain .....	2
Cerebral Blood Flow Studies .....	3
CBF Correlation with Age/ Pediatric Studies.....	3
CBF Regional Comparison/ Regional ASL.....	3
Studies on Special Disease.....	4
Comparison of ASL Techniques/ ASL Compared with Other Imaging Methods / ASL Combined with Other Imaging Methods .....	6
Functional Imaging / BOLD .....	7
Physiological Parameters besides CBF .....	8
Reproducibility Studies.....	9
ASL Data Analysis/ Comparison of ASL Evaluation Methods/ Kinetic Models/ Data Corrections/ Data Reconstruction .....	9
Case Reports.....	10
Technical Improvement/ Parameter Optimisation/ Theoretical Papers .....	10
Review Paper/ Historical Review .....	11
Job offerings .....	12
Positions wanted .....	13
Feature articles.....	13

## Animal Studies

[Optimization of arterial spin labeling MRI for quantitative tumor perfusion in a mouse xenograft model.](#)

Rajendran R, Liang J, Tang MY, Henry B, Chuang KH.  
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## Pharmacological / Drug Studies / Studies on the Effects of Therapies

[Associations between regional brain physiology and trait impulsivity, motor inhibition, and impaired control over drinking.](#)

Weafer J, Dzemidzic M, Eiler II W, Oberlin BG, Wang Y, Kareken DA.  
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## Perfusion Studies Other than on the Brain

[Matching of postcontraction perfusion to oxygen consumption across submaximal contraction intensities in exercising humans.](#)

Buck AK, Elder CP, Donahue MJ, Damon BM.  
J Appl Physiol (1985). 2015 Aug 1;119(3):280-9. doi: 10.1152/japplphysiol.01027.2014. Epub 2015 Jun 11.

[A statistical clustering approach to discriminating perfusion from conduit vessel signal contributions in a pulmonary ASL MR image.](#)

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

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Magn Reson Imaging. 2015 Oct;33(8):970-7. doi: 10.1016/j.mri.2015.06.016. Epub 2015 Jun 25.

# Cerebral Blood Flow Studies

## CBF Correlation with Age/ Pediatric Studies

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

Ambarki K, Wåhlin A, Zarrinkoob L, Wirestam R, Petr J, Malm J, Eklund A. AJNR Am J Neuroradiol. 2015 Aug 6. [Epub ahead of print]

[Arterial spin-labeling perfusion imaging of childhood meningitis: a case series.](#)

Wong AM, Yeh CH, Liu HL, Lin KL, Wang HS, Toh CH. Childs Nerv Syst. 2015 Aug 7. [Epub ahead of print]

[Cerebral Perfusion Measurements in Elderly with Hypertension Using Arterial Spin Labeling.](#)

Mutsaerts HJ, van Dalen JW, Heijtel DF, Groot PF, Majoie CB, Petersen ET, Richard E, Nederveen AJ.

PLoS One. 2015 Aug 4;10(8):e0133717. doi: 10.1371/journal.pone.0133717. eCollection 2015.

## 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.

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[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.

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[Reduced perfusion in normal-appearing white matter in mild to moderate hypertension as revealed by 3D pseudocontinuous arterial spin labeling.](#)

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Superselective pseudo-continuous arterial spin labeling angiography.

Jensen-Kondering U, Lindner T, van Osch MJ, Rohr A, Jansen O, Helle M.

Eur J Radiol. 2015 Sep;84(9):1758-67. doi: 10.1016/j.ejrad.2015.05.034. Epub 2015 Jun 22.

Inflammation-associated declines in cerebral vasoactivity and cognition in type 2 diabetes.

Chung CC, Pimentel D, Jor'dan AJ, Hao Y, Milberg W, Novak V.

Neurology. 2015 Aug 4;85(5):450-8. doi: 10.1212/WNL.0000000000001820. Epub 2015 Jul 8.

Exercise intensity modulates the change in cerebral blood flow following aerobic exercise in chronic stroke.

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How far is arterial spin labeling MRI from a clinical reality? Insights from arterial spin labeling comparative studies in Alzheimer's disease and other neurological disorders.

Zhang J.

J Magn Reson Imaging. 2015 Aug 6. doi: 10.1002/jmri.25022. [Epub ahead of print] No abstract available.

A case report of sporadic hemiplegic migraine associated cerebral hypoperfusion: comparison of arterial spin labeling and dynamic susceptibility contrast perfusion MR imaging.

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Collateral circulation via the circle of Willis in patients with carotid artery steno-occlusive disease: evaluation on 3-T 4D MRA using arterial spin labelling.

Iryo Y, Hirai T, Nakamura M, Inoue Y, Watanabe M, Ando Y, Azuma M, Nishimura S, Shigematsu Y, Kitajima M, Yamashita Y.

Clin Radiol. 2015 Sep;70(9):960-5. doi: 10.1016/j.crad.2015.05.002. Epub 2015 Jun 6.

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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Verclytte S, Lopes R, Delmaire C, Ferre JC, Pasquier F, Leclerc X.

Eur Radiol. 2015 Aug;25(8):2479-84. doi: 10.1007/s00330-015-3652-0. Epub 2015 Mar 6.

Amygdala Hyperactivity at Rest in Paranoid Individuals With Schizophrenia.

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### Comparison of velocity- and acceleration-selective arterial spin labeling with [(15)O]H<sub>2</sub>O positron emission tomography.

Schmid S, Heijtel DF, Mutsaerts HJ, Boellaard R, Lammertsma AA, Nederveen AJ, van Osch MJ.

J Cereb Blood Flow Metab. 2015 Aug;35(8):1296-303. doi: 10.1038/jcbfm.2015.42. Epub 2015 Mar 18.

## Functional Imaging / BOLD

### Whole-Brain N-Acetylaspartate Concentration Is Preserved during Mild Hypercapnia Challenge.

Chawla S, Ge Y, Lu H, Marshall O, Davitz MS, Fatterpekar G, Soher BJ, Gonen O. AJNR Am J Neuroradiol. 2015 Aug 20. [Epub ahead of print]

### Association between cardiovagal baroreflex sensitivity and baseline cerebral perfusion of the hippocampus.

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Exp Brain Res. 2015 Aug;233(8):2467-75. doi: 10.1007/s00221-015-4317-6. Epub 2015 May 24.

Understanding the dynamic relationship between cerebral blood flow and the BOLD signal: Implications for quantitative functional MRI.

Simon AB, Buxton RB.

Neuroimage. 2015 Aug 1;116:158-67. doi: 10.1016/j.neuroimage.2015.03.080. Epub 2015 Apr 8.

Simultaneous acquisition of cerebral blood volume-, blood flow-, and blood oxygenation-weighted MRI signals at ultra-high magnetic field.

Krieger SN, Huber L, Poser BA, Turner R, Egan GF.

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## Physiological Parameters besides CBF

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 Aug 19. pii: S1053-8119(15)00736-3.

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Evaluation of cerebral blood flow using multi-phase pseudo continuous arterial spin labeling at 3-tesla.

Sugimori H, Fujima N, Suzuki Y, Hamaguchi H, Sakata M, Kudo K.

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## Reproducibility Studies

Reproducibility of multiphase pseudo-continuous arterial spin labeling and the effect of post-processing analysis methods.

Fazlollahi A, Bourgeat P, Liang X, Meriaudeau F, Connelly A, Salvado O, Calamante F. Neuroimage. 2015 Aug 15;117:191-201. doi: 10.1016/j.neuroimage.2015.05.048. Epub 2015 May 27.

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## Case Reports

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## Technical Improvement/ Parameter Optimisation/ Theoretical Papers

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Voxel-Wise Perfusion Assessment in Cerebral White Matter with PCASL at 3T; Is It Possible and How Long Does It Take?

Skurdal MJ, Bjørnerud A, van Osch MJ, Nordhøy W, Lagopoulos J, Groote IR.

PLoS One. 2015 Aug 12;10(8):e0135596. doi: 10.1371/journal.pone.0135596. eCollection 2015.

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Increased SNR efficiency in velocity selective arterial spin labeling using multiple velocity selective saturation modules (mm-VSASL).

Guo J, Wong EC.

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Improving perfusion quantification in arterial spin labeling for delayed arrival times by using optimized acquisition schemes.

Kramme J, Gregori J, Diehl V, Madai VI, von Samson-Himmelstjerna FC, Lentschig M, Sobesky J, Günther M.

## Review Paper/ Historical Review

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# Job offerings

## **Postdoctoral research fellow in Functional MRI at the University of Michigan Ann Arbor, MI, USA**

### **Position title:**

Postdoctoral research fellow in functional MRI

### **Description:**

A postdoctoral research position will be available at the Functional MRI Laboratory in January of 2016. The candidate's job will be to conduct research on projects related to quantitative imaging of cerebral blood flow using MRI without the use of contrast agents. The research duties will include pulse sequence programming of a GE scanner (EPIC language), image reconstruction and processing, and importantly modeling the MR signal under blood flow conditions. The candidate will be expected to publish their findings in peer reviewed journals and international conferences.

### **Requirements:**

The ideal candidate will have a Ph.D. degree in a relevant discipline such as Biomedical Engineering, Electrical Engineering, or Physics. He/she will also have experience in the areas of Arterial Spin Labeling (ASL) or Magnetic Resonance Fingerprinting (MRF). MR pulse programming experience is a must, preferably in EPIC. A strong background in signal processing and mathematical modeling is also crucial for this project.

### **Environment:**

The Functional MRI Laboratory at the University of Michigan, has a fifteen-year history of neuroimaging and MRI engineering research. During its operation, the laboratory has provided a common forum for research groups ranging from Psychiatry to Electrical Engineering. The laboratory hosts numerous seminars given by invited speakers, are attended by investigators from the Great Lakes region. The FMRI laboratory holds an intensive two-week course in FMRI every summer, and an advanced neuroimaging speaker series in order to facilitate training of new investigators and disseminate the latest findings in the literature among the local neuroimaging community.

The laboratory houses two state-of-the-art, research-dedicated, 3.0 T GE MR750 (Discovery) MRI scanners, which are fully equipped for functional imaging studies and are outfitted with custom parallel transmission equipment. In addition, there is ample room for participant waiting, dressing and training rooms, computational support facilities, and a fully equipped electronics workshop for coil and phantom construction. Multiple FMRI participant stimulation devices are available to investigators for audio-visual stimulation. The University of Michigan 3D Laboratory provides the latest 3D printing services to the University community.

The Engineering Preclinical Imaging Center is also available for this project. It is a small animal imaging facility adjacent to the Functional MRI Laboratory. It consists of an Agilent 7T scanner. This system has a 31 cm bore and has 3 gradient inserts, and supports a full range of MRI pulse sequences, including echo planar imaging and diffusion tensor imaging. The system has include 4 transmit channels for parallel excitation and 4 receive channels along with several array coils for parallel imaging. Full physiological monitoring, animal holders, rapid animal positioning systems, and an animal ventilator, stereotaxic frame and heater are available.

### **How to Apply:**

Please submit a cover letter, CV and the contact information of three references to:

Luis Hernandez-Garcia, Ph.D.  
2360 Bonisteel Blvd.  
Ann Arbor, MI, 48109-2108  
[hernan@umich.edu](mailto:hernan@umich.edu)

## **Positions wanted**

Helen Beaumont, just completed PhD at Manchester University, title of PhD is *MultiModal MRI of frontotemporal dementia*.

Special interests: ASL, diffusion, dementia.

Seeking a position from November 2015.

Please contact: [helen.beaumont@manchester.ac.uk](mailto:helen.beaumont@manchester.ac.uk)

If you are looking for a new position in the field of ASL, please send a description of your qualifications and interests to [jobs@asl-network.org](mailto:jobs@asl-network.org)

## **Feature articles**

If you would like to write a comment on an interesting article mail it to [editor@asl-network.org](mailto:editor@asl-network.org)