

## Publications (Peer-reviewed)

[ResearcherID:F-2550-2010](#); [ORCID ID: 0000-0002-8618-6875](#); [Google Scholar](#)

(h-index (WoS, Aug 2023): 56, total citations: >10'000)

1. [Kreis R](#), Suter D, and Ernst RR. Time-domain zero-field magnetic resonance with field pulse excitation. *Chem Phys Lett* **118**, 120-124 (1985)
2. [Kreis R](#), Suter D, and Ernst RR. Radio frequency-pulse excitation in time-domain zero-field magnetic resonance. *Chem Phys Lett* **123**, 154-158 (1986)
3. [Kreis R](#), Thomas A, Studer W, and Ernst RR. Low-frequency pulse excitation in zero-field magnetic resonance. *J Chem Phys* **89**, 6623-35 (1988)
4. Stöckli A, Meier BH, [Kreis R](#), Meyer R, and Ernst RR. Hydrogen bond dynamics in isotopically substituted benzoic acid dimers. *J Chem Phys* **93**, 1502-1520 (1990)
5. [Kreis R](#), Farrow N, and Ross BD. Diagnosis of hepatic encephalopathy by cerebral <sup>1</sup>H magnetic resonance spectroscopy. *Lancet* **336** (8715), 635-636 (1990)
6. [Kreis R](#), Farrow NA, and Ross BD. Localized <sup>1</sup>H NMR spectroscopy in patients with chronic hepatic encephalopathy: Analysis of changes in cerebral glutamine, choline and inositols. *NMR Biomed* **4** (2), 109-116 (1991)
7. [Kreis R](#), Ross BD, Farrow N, and Ackerman Z. Metabolic disorders of the brain in hepatic encephalopathy detected by <sup>1</sup>H MRS. *Radiology* **182**, 19-27 (1992)<sup>1</sup>
8. Ross BD, [Kreis R](#), and Ernst T. Clinical tools for the 90's: Spectroscopy and metabolite imaging. *Eur J Radiol* **14**, 128-140 (1992)
9. [Kreis R](#), and Ross BD. Detection of cerebral metabolic disturbances in patients with subacute and chronic diabetes mellitus by <sup>1</sup>H MRS. *Radiology* **184**, 123-130 (1992)
10. Ernst T, [Kreis R](#), and Ross BD. Absolute quantitation of water and metabolites in the human brain. Part I: Compartments and water. *J Magn Reson B* **102**, 1 (1993)
11. [Kreis R](#), Ernst T, and Ross BD. Absolute quantitation of water and metabolites in the human brain. Part II: Metabolite concentrations. *J Magn Reson B* **102**, 9 (1993)
12. [Kreis R](#), Ernst T, and Ross BD. Development of the human brain: *In vivo* quantification of metabolite and water content with proton magnetic resonance spectroscopy. *Magn Reson Med* **30**, 424-437 (1993)
13. [Kreis R](#), and Boesch C. Liquid-crystal-like structures of human muscle demonstrated by *in vivo* observation of direct dipolar coupling in localized proton magnetic resonance spectroscopy. *J Magn Reson B* **104**, 189-192 (1994)
14. Ross BD, Jacobson S, Villamil F, Korula J, [Kreis R](#), Ernst T, Shonk T, and Moats RA. Subclinical hepatic encephalopathy: Proton MR spectroscopic abnormalities. *Radiology* **193**, 457-463 (1994)
15. [Kreis R](#), Pfenninger J, Herschkowitz N, and Boesch C. *In vivo* proton magnetic resonance spectroscopy in a case of Reye's syndrome. *Intensive Care Medicine*, **21**, 266-269 (1995)
16. [Kreis R](#), Pietz J, Penzien J, Herschkowitz N, and Boesch C. Identification and quantitation of phenylalanine in the brain of patients with phenylketonuria by means of localized *in vivo* <sup>1</sup>H magnetic resonance spectroscopy. *J Magn Reson B*, **107**, 242-251 (1995)

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<sup>1</sup> See also: Bottomley, PA. Proton MR spectroscopy for diagnosing hepatic encephalopathy? (editorial). *Radiology* **182**, 6-7 (1992).

17. Pietz J, Kreis R, Boesch C, Penzien J, Rating D, and Herschkowitz N. The dynamics of brain concentrations of phenylalanine and its clinical significance in patients with phenylketonuria determined by in vivo <sup>1</sup>H magnetic resonance spectroscopy. *Pediatr Res*, **38**, 657-663 (1995)
18. Kreis R, Arcinue E, Ernst T, Shonk TK, Flores R, and Ross BD. Hypoxic encephalopathy after near-drowning studied by quantitative <sup>1</sup>H-magnetic resonance spectroscopy: Metabolic changes and their prognostic value. *J Clin Invest*, **97**, 1142-1154 (1996)
19. Pietz J, Kreis R, Schmidt H, Meyding-Lamadé UK, Rupp A, and Boesch C. Magnetic resonance imaging and localized in vivo <sup>1</sup>H MR spectroscopy of the brain in patients with early-treated phenylketonuria. *Radiology*, **201**, 413-420. (1996)
20. Kreis R, and Boesch, C. Spatially localized, one- and two-dimensional NMR spectroscopy and in vivo application to human muscle, *J. Magn. Reson. Series B* **113**, 103-118. (1996)
21. Kreis R, Koster M, Kamber M, Hoppeler H, and Boesch C. Peak assignment in localized <sup>1</sup>H MR spectra based on oral creatine supplementation. *Magn. Reson. Med.* **37**, 159-163. (1997)
22. Boos N, Dreier D, Hilfiker E, Schade V, Kreis R, Hora J, Aebi M & Boesch C. Tissue characterization of symptomatic and asymptomatic disc herniations by quantitative magnetic resonance imaging. *J. Orthop. Res.* **15**, 141-149. (1997)
23. Ntziachristos V, Kreis R, Boesch C, and Quistorff B. Dipolar resonance frequency shifts in <sup>1</sup>H-MR spectra of skeletal muscle: Confirmation in rats at 4.7T *in-vivo* and changes *post-mortem*. *Magn. Reson. Med.* **38**, 33-39 (1997)
24. Boesch C, Slotboom J, Hoppeler H, and Kreis R. *In vivo* determination of intra-myocellular lipids in human muscle by means of localized <sup>1</sup>H-MR spectroscopy. *Magn. Reson. Med.* **37**, 484-493 (1997)
25. Felblinger J, Kreis R and Boesch C, Effects of physiologic motion of the brain upon quantitative <sup>1</sup>H-MRS: Analysis and correction by retro-gating. *NMR Biomed.* **11**, 107-114 (1998).
26. Ross BD, Ernst T, Kreis R, Haseler LJ, Bayer S, Danielsen E, Bluml S, Shonk T, Mandigo JC, Caton W, Clark C, Jensen SW, Lehman NL, Arcinue E, Pudenz R and Shelden CH. <sup>1</sup>H MRS in acute traumatic brain injury. *J. Magn. Reson. Imaging* **8**, 829-840 (1998).
27. Slotboom J, Boesch C and Kreis R. Versatile frequency domain fitting using time domain models and prior knowledge. *Magn. Reson. Med.* **39**, 899-911 (1998).
28. Kreis R, Jung B, Slotboom J, Felblinger J and Boesch C. Effect of exercise on the creatine resonances in <sup>1</sup>H-MR spectra of human skeletal muscle. *J. Magn. Reson.* **137**, 350-357 (1999).
29. Pietz J, Kreis R, Rupp A, Mayatepek E, Rating D, Boesch C and Bremer HJ. Large neutral amino acids block phenylalanine transport into brain tissue in patients with phenylketonuria. *J. Clin. Invest.* **103**, 1169-1178 (1999).
30. Felblinger J, Slotboom J, Kreis R, Jung B and Boesch C. Restoration of electrophysiological signals distorted by the inductive effects of magnetic field gradients during MR scans. *Magn. Reson. Med.* **41**, 715-721 (1999).
31. Kamber M, Koster M, Kreis R, Walker G, Boesch C and Hoppeler H, Creatine supplementation. Part I: performance, clinical chemistry and muscle volume. *Med. Sci. Sports Exerc.* **31**, 1763-1769 (1999).
32. Kreis R, Kamber M, Koster M, Felblinger J, Slotboom J, Hoppeler H and Boesch C. Creatine supplementation. Part II: In vivo magnetic resonance spectroscopy. *Med. Sci. Sports Exerc.* **31**, 1770-1777 (1999).
33. Felblinger J, Jung B, Slotboom J, Boesch C, and Kreis R. Methods and reproducibility of cardiac / respiratory double-triggered <sup>1</sup>H-MR spectroscopy of the human heart. *Magn. Reson. Med.* **42**, 903-910 (1999).

34. Kreis R, Jung B, Rotman S, Slotboom J, Boesch C. Non-invasive observation of acetyl-group buffering by  $^1\text{H}$ -MR spectroscopy in exercising human muscle. *NMR Biomed.* **12**, 471-476 (1999).
35. Rotman S, Slotboom J, Kreis R, Boesch C, and Jéquier E. Muscle glycogen recovery after exercise measured by  $^{13}\text{C}$ -magnetic resonance spectroscopy in humans: effect of nutritional solutions. *MAGMA* **11**, 114-121 (2000).
36. Decombaz J, Fleith M, Hoppeler H, Kreis R, Boesch C. Effect of diet on the replenishment of intramyocellular lipids after exercise. *Eur J Nutr* **39**, 244-247 (2000)
37. Rupp A, Kreis R, Zschocke J, Slotboom J, Boesch C, Rating D, and Pietz J. Variability of blood-brain ratios of phenylalanine in "typical" patients with phenylketonuria. *J. Cereb. Blood Flow Metab.* **21**, 276-284 (2001).
38. Kreis R, Bruegger K, Skjelsvik C, Zwicky S, Ith M, Jung B, Baumgartner I, and Boesch C. Quantitative  $^1\text{H}$  magnetic resonance spectroscopy of myoglobin de- and re-oxygenation in skeletal muscle: Reproducibility and effects of location and disease. *Magn. Reson. Med.* **46**, 240-248 (2001).
39. Kreis R, Slotboom J, Pietz J, Jung B, and Boesch C. Quantitation of localized  $(^{31}\text{P})$  magnetic resonance spectra based on the reciprocity principle. *J Magn Reson.* **149**, 245-250 (2001).
40. Boesch C, Ith M, Jung B, Bruegger K, Erban S, Diamantis I, Kreis R, Bar A. Effect of oral D-tagatose on liver volume and hepatic glycogen accumulation in healthy male volunteers. *Regul Toxicol Pharmacol.* **33**, 257-267 (2001).
41. Decombaz J, Schmitt B, Ith M, Decarli B, Diem P, Kreis R, Hoppeler H, Boesch C. Postexercise fat intake repletes intramyocellular lipids but no faster in trained than in sedentary subjects. *Am J Physiol Regul Integr Comp Physiol.* **281**, R760-769 (2001)
42. Hofmann L, Slotboom J, Boesch C, and Kreis R. Characterization of the macromolecule baseline in localized  $^1\text{H}$ -MR spectra of human brain. *Magn Reson Med.* **46**, 855-863 (2001)
43. Wächter S, Vogt M, Kreis R, Boesch C, Bigler P, Hoppeler H, and Krähenbühl S. Long-term administration of L-carnitine to humans: effect on skeletal muscle carnitine content and physical performance. *Clin Chim Acta.* **318**, 51-61 (2002)
44. Howald H, Boesch C, Kreis R, Matter S, Billeter R, Essen-Gustavsson B, Hoppeler H. Content of intramyocellular lipids derived by electron microscopy, biochemical assays, and  $^1\text{H}$ -MR spectroscopy. *J Appl Physiol* **92**, 2264-2272 (2002).
45. Pietz J, Rupp A, Burgard P, Boesch C, Kreis R. No evidence for individual blood-brain barrier phenylalanine transport to influence clinical outcome in typical phenylketonuria patients. *Ann Neurol* **52**, 382-383 (2002).
46. Hofmann L, Slotboom J, Jung B, Maloca P, Boesch C, Kreis R. Quantitative  $^1\text{H}$ -magnetic resonance spectroscopy of human brain: Influence of composition and parameterization of the basis set in linear combination model fitting. *Magn Reson Med*, **48**, 440-453 (2002).
47. Ith M, Bigler P, Scheurer E, Kreis R, Hofmann L, Dirnhofer R, Boesch C. Identification of metabolites emerging during autolysis and bacterial heterolysis of decomposing brain tissue by  $^1\text{H}$ -MRS in situ and in vitro. *Magn Reson Med*; **48**, 915-920 (2002).
48. Kreis R, Hofmann L, Kuhlmann B, Boesch C, Bossi E, Hüppi PS. Brain metabolite composition during early human brain development as measured by quantitative in vivo  $^1\text{H}$  magnetic resonance spectroscopy. *Magn Reson Med*; **48**, 949-958 (2002).
49. Vermathen P, Boesch C, Kreis R. Mapping fiber orientation in human muscle by proton MR spectroscopic imaging. *Magn Reson Med*, **49**, 424-432 (2003).

50. Pietz J, Rupp A, Ebinger F, Rating D, Mayatepek E, Boesch C, Kreis R. Cerebral energy metabolism in phenylketonuria: findings by quantitative in vivo <sup>31</sup>P MR spectroscopy. *Pediatr Res*, **53**, 654-662 (2003).
51. Vella S, Kreis R, Lovblad KO, Steinlin M, Acute leukoencephalopathy after inhalation of a single dose of heroin. *Neuropediatrics*, **34**, 100-104 (2003).
52. Flück CE, Slotboom J, Nuoffer JM, Kreis R, Boesch C, Mullis PE. Normal hepatic glycogen storage after fasting and feeding in children and adolescents with type 1 diabetes. *Pediatr Diabetes*, **4**, 70-76 (2003).
53. Schmitt B Flück M, Décombaz J, Kreis R, Boesch C, Wittwer M, Graber F, Vogt M, Howald H, Hoppeler H. Transcriptional adaptations of lipid metabolism in tibialis anterior muscle of endurance trained athletes. *Physiol Genomics*, **15**, 148-157 (2003).
54. Pietz J, Lutz T, Zwygart K, Hoffmann GF, Ebinger F, Boesch C, Kreis R. Phenylalanine can be detected in brain tissue of healthy subjects by <sup>1</sup>H magnetic resonance spectroscopy. *J Inherit Metab Dis*, **26**, 683-691 (2003).
55. Vermathen P, Kreis R, Boesch C. Distribution of intra-myocellular lipids in human calf muscles determined by MR spectroscopic imaging. *Magn Reson Med*, **51**, 253-262 (2004).
56. Kreis R. Issues of spectral quality in clinical <sup>1</sup>H-magnetic resonance spectroscopy and a gallery of artifacts. *NMR Biomed* **17**:361-381 (2004).
57. Hubl D, Koenig T, Strik W, Federspiel A, Kreis R, Boesch C, Maier SE, Schroth G, Lovblad K, Dierks T. Pathways that make voices: White matter changes in auditory hallucinations. *Arch Gen Psychiatry* **61**:658-668 (2004).
58. Scheurer E, Ith M, Dietrich D, Kreis R, Hüsler J, Dirnhofer R, Boesch C. Statistical evaluation of time-dependent metabolite concentrations: Estimation of post-mortem intervals based on *in situ* <sup>1</sup>H-MRS of the brain. *NMR Biomed* **18**:163-72 (2005).
59. Baumgartner I, Thoeny HC, Kummer O, Roefke C, Skjelsvik C, Boesch C, Kreis R. Leg ischemia: assessment with MR angiography and spectroscopy. *Radiology* **234**:833-841 (2005).
60. Kreis R, Salvisberg C, Lutz T, Boesch C, Pietz J. Visibility of vascular phenylalanine in dynamic uptake studies in humans using magnetic resonance spectroscopy. *Magn Reson Med* **54**: 435-438 (2005).
61. Kreis R, Slotboom J, Hofmann L, Boesch C. Integrated data acquisition and processing to determine metabolite contents, relaxation times, and macromolecule baseline in single examinations of individual subjects. *Magn Reson Med* **54**:761-768 (2005).
62. Zehnder M, Ith M, Kreis R, Saris W, Boutellier U, Boesch C. Gender-specific usage of intramyocellular lipids and glycogen during exercise. *Med Sci Sports Exerc* **37**:1516-1524 (2005).
63. Yen K, Weis J, Kreis R, Aghayev E, Jackowski C, Thali M, Boesch C, Maier SE, Dirnhofer R, Lövblad KO. Line scan diffusion tensor imaging of the posttraumatic brain stem: Changes with neuropathologic correlation. *Am J Neuroradiol* **27**:70-73 (2006).
64. Zacharia A, Zimine S, Lovblad KO, Warfield S, Thoeny H, Ozdoba C, Bossi E, Kreis R, Boesch C, Schroth G, Hüppi PS. Longitudinal assessment of brain maturation by MRI segmentation in newborns. *Am J Neuroradiol* **27**:972-977 (2006).
65. Zehnder M, Christ ER, Ith M, Acheson KJ, Pouteau E, Kreis R, Trepp R, Diem P, Boesch C, Decombaz J. Intramyocellular lipid stores increase markedly in athletes after 1.5 days lipid supplementation and are utilized during exercise in proportion to their content. *Eur J Appl Physiol* **98**:341-54 (2006).

66. Lê KA, Faeh D, Stettler R, Ith M, Kreis R, Vermathen P, Boesch C, Ravussin E, Tappy L. Effects of a 4-week high fructose diet on insulin sensitivity and ectopic lipids. *Am J Clin Nutr* **84**:1374-1379 (2006).
67. Vermathen P, Robert-Tissot L, Pietz, J, Lutz T, Boesch C, Kreis R. Characterization of white matter alterations in phenylketonuria by magnetic resonance relaxometry and diffusion tensor imaging. *Magn Reson Med* **58**:1145-1156 (2007)
68. Trepp R, Flück M, Stettler C, Boesch C, Ith M, Kreis R, Hoppeler H, Howald H, Schmid JP, Diem P, Christ ER. Effect of GH on human skeletal muscle lipid metabolism in GH deficiency. *Am J Physiol Endocrinol Metab.* **294**:E1127-E1134 (2008)
69. Lê KA, Ith M, Kreis R, Faeh D, Bortolotti M, Tran C, Boesch C, Tappy L. Fructose overconsumption causes dyslipidemia and ectopic lipid deposition in healthy subjects with and without a family history of type 2 diabetes. *Am J Clin Nutr* **89**:1760-1765 (2009).
70. Kreis R, Zwygart K, Boesch C, Nuoffer J-M. Reproducibility of cerebral phenylalanine levels in patients with phenylketonuria determined by 1H-MR spectroscopy. *Magn Reson Med* **62**:11-16 (2009)
71. Bortolotti M, Kreis R, Debard C, Cariou B, Faeh D, Chetiveaux, Ith M, Vermathen P, Stefanoni N, Lê KA, Schneiter P, Krempf M, Vidal H, Boesch C, Tappy L. High protein intake reduces intrahepatocellular lipid deposition in humans. *Am J Clin Nutr* **90**:1002-1010 (2009).
72. Ngo-Sock ET, Lê KA, Ith M, Kreis R, Boesch C, Tappy L. Effects of a short-term overfeeding with fructose or glucose in healthy young males. *Br J Nutr* **103**:939-943 (2010).
73. Ith M, Huber PM, Egger A, Schmid JP, Kreis R, Christ E, Boesch C. Standardized protocol for a depletion of intramyocellular lipids (IMCL). *NMR Biomed.* **23**:532-538 (2010)
74. Sobrecases H, Lê KA, Bortolotti M, Schneiter P, Ith M, Kreis R, Boesch C, Tappy L. Effects of short-term overfeeding with fructose, fat, or fructose+fat on plasma and hepatic lipids in healthy males. *Diabetes & Metabolism* **36**:244-246 (2010).
75. Kreis R, Wingeier K, Vermathen P, Giger E, Joncourt F, Zwygart K, Kaufmann F, Boesch C, Steinlin M. Brain metabolite composition in relation to cognitive functioning and dystrophin mutations in boys with Duchenne muscular dystrophy. *NMR Biomed.* **24**:253-262 (2011), (Epub 2010 Dec 7)
76. Wingeier K, Giger E, Strozzi S, Kreis R, Joncourt F, Conrad B, Gallati S, Steinlin M. Duchenne muscular dystrophy: neuropsychological impairments and the impact of different dystrophin mutations on general cognitive functioning. *J. Clin. Neurosci.* **18**:90-95 (2011), (Epub 2010 Nov 24)
77. Boss A<sup>#</sup>, Kreis R<sup>#</sup>, Jenni S, Ith M, Nuoffer J-M, Christ E, Boesch C, Stettler C. Non-invasive assessment of exercise-related intramyocellular acetylcarnitine in eu- and hyperglycemia in patients with type 1 diabetes using <sup>1</sup>H-magnetic resonance spectroscopy: A randomized single-blinded cross-over study. *Diabetes Care* **34**:220-222 (2011), (Epub 2010 Oct 26)
78. Ith M, Scheurer E, Kreis R, Thali M, Dirnhofer R, Boesch C. Estimation of the postmortem interval by means of <sup>1</sup>H magnetic resonance spectroscopy of decomposing brain tissue: influence of ambient temperature. *NMR Biomed.* **24**:791-798 (2011), (Epub 2011 Jan 12)
79. MacMillan EL, Chong DGQ, Dreher W, Henning A, Boesch C, Kreis R. Magnetization exchange with water and T<sub>1</sub> relaxation of the downfield resonances in human brain spectra at 3.0T. *Magn Reson Med* **65**:1269-1246 (2011), (Epub 2011 Mar 10).

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<sup>#</sup> equal contributions

80. Scheurer E, Lovblad KO, Kreis R, Maier SE, Boesch C, Dirnhofer R, and Yen K. Forensic application of postmortem diffusion-weighted and diffusion tensor MRI of the human brain in situ. *American Journal of Neuroradiology (AJNR)* **32**:1518-1524 (2011) (Epub 2011 Jun 9)
81. Bortolotti M, Maiolo E, Corazza M; Van Dijke E, Schneiter P; Boss A, Carrel G, Giusti V, Lê KA, Chong DGQ, Buehler T, Kreis R, Boesch C, Tappy L. Effects of a whey protein supplementation on intrahepatocellular lipids in obese female patients. *Clinical Nutrition* **30**: 494-498 (2011), (Epub 2011 Jan 11).
82. Chong DGQ, Kreis R, Bolliger CS, Boesch C, Slotboom J. Two-dimensional linear-combination model fitting of magnetic resonance spectra to define the macromolecule baseline using FiTAID, a Fitting Tool for Arrays of Interrelated Datasets. *Magn Reson Mater Phy* **24**:147-164 (2011), (Epub 2011 Mar 20)
83. Brandejsky V, Kreis R, Boesch C. Restricted or severely hindered diffusion of intramyocellular lipids in human skeletal muscle shown by in vivo proton MR spectroscopy. *Magn.Reson.Med* **67**:310-316. (2012), (Epub 2011 Jun 14, doi: 10.1002/mrm.23024).
84. Stellingwerff T, Anwander H, Egger A, Buehler T, Kreis R, Decombaz J, Boesch C. Effect of two  $\beta$ -alanine dosing protocols on muscle carnosine synthesis and washout. *Amino Acids*. **42**:2461-2472 (2012), (Epub 2011 Aug 17, PMID:21847611)
85. Boss A, Kreis R, Saillen P, Zehnder M, Boesch C, Vermathen P. Skeletal muscle  $^1\text{H}$  MRSI before and after prolonged exercise II. Visibility of free carnitine. *Magn.Reson.Med*. **68**(5):1368-1375 (2012), (Epub 2012 Jan 27. doi: 10.1002/mrm.24167).
86. van Swam C#, Federspiel A#, Hubl D, Wiest R; Boesch C, Vermathen P, Kreis R, Strik W, Dierks T. Possible dysregulation of cortical plasticity in auditory verbal hallucinations - A cortical thickness study in schizophrenia. *J Psych Res* **46**:1015-1023 (2012), (Epub 2012 May 23. PMID:22626530)
87. Theytaz F, Noguchi Y, Egli L, Campos V, Buehler T, Hodson L, Patterson BW, Nishikata N, Kreis R, Mittendorfer B, Fielding B, Boesch C, Tappy L. Effects of a supplementation with essential amino acids on intrahepatic lipid concentrations during fructose overfeeding in humans. *Am J Clin Nutr* **96**(5):1008-1016 (2012). (Epub 2012 Oct 3. doi: 10.3945/ajcn.112.035139)<sup>2</sup>
88. Hock A#, MacMillan EL#, Fuchs A, Kreis R, Kollias S, Henning A. Non-water-suppressed proton MR spectroscopy improves spectral quality in the human spinal cord. *Magn.Reson.Med*. **69**(5):1253-1260 (2013) (Epub 2012 Jun 28. doi: 10.1002/mrm.24387).
89. MacMillan EL, Boesch C, Kreis R. Magnetization exchange observed in human skeletal muscle by non-water-suppressed proton magnetic resonance spectroscopy. *Magn Reson Med* **70**(4):916-924 (2013) (Epub 2012 Nov 21. doi: 10.1002/mrm.24537).
90. Cariou B, Langhi C, Le Bras M, Bortolotti M, Lê K-A, Theytaz F, Le May C, Guyomarc'h-Delasalle B, Zaïr Y, Kreis R, Boesch C, Krempf M, Tappy L, Costet P. Plasma PCSK9 concentrations during an oral fat load and after short term high-fat, high-fat high-protein and high-fructose diets. *Nutrition & Metabolism* **10**:4 (2013) (Epub 2013 Jan 8. doi:10.1186/1743-7075-10-4).
91. Lecoultre V, Egli L, Carrel G, Theytaz F, Kreis R, Schneiter P, Boss A, Zwyzgart K, Lê KA, Bortolotti M, Boesch C, Tappy L. Effects of fructose and glucose overfeeding on hepatic insulin sensitivity and intrahepatic lipids in healthy humans. *Obesity*.**21**(4):782-785 (2013) (Epub 2013 Mar 20. doi: 10.1002/oby.20377)
92. Egger A, Kreis R, Allemann S, Stettler C, Diem P, Buehler T, Boesch C, Christ ER. The effect of aerobic exercise on intrahepatocellular and intramyocellular lipids in healthy subjects. *PLOS One* **8**:e70865 (2013) (doi: 10.1371/journal.pone.0070865)

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<sup>2</sup> See also: Marc K Hellerstein. Mitigating factors and metabolic mechanisms in fructose-induced nonalcoholic fatty liver disease: the next challenge. (editorial) *Am J Clin Nutr* **96**(5):951-952 (2012).

93. Bolliger CS, Boesch C, Kreis R. On the Use of Cramér-Rao minimum variance bounds for the design of magnetic resonance spectroscopy experiments. *Neuroimage* **83**:1031-1040 (2013) (Epub 2013 Aug 8. doi: /10.1016/j.neuroimage.2013.07.062)
94. Lecoultre V#, Carrel G#, Egli L#, Binnert C, Boss A, MacMillan EL, Kreis R, Boesch C, Darimont C, Tappy L. Coffee consumption attenuates short-term fructose-induced liver insulin resistance in healthy male subjects. *Am J Clin Nutr* **99**(2):268-75 (2014) (Epub 2013 Nov 20 doi: 10.3945/ajcn.113.069526)
95. The MRS Consensus Group: Öz G, Alger JR, Barker, Bartha R, Bizzi A, Boesch C, Bolan PJ, Brindle KM, Cudalbu C, Dincer A, Dydak U, Emir UE, Frahm J, González RG, Gruber S, Gruetter R, Gupta RK, Heerschap A, Henning A, Hetherington HP, Howe FA, Hüppi PS, Hurd RE, Kantarci K, Klomp DWJ, Kreis R, Kruiskamp MJ, Leach MO, Lin AP, Luijten PR, Marjańska M, Maudsley AA, Meyerhoff DJ, Mountford CE, Nelson SJ, Pamir MN, Pan JW, Peet AC, Poptani H, Posse S, Pouwels PJW, Ratai EM, Ross BD, Scheenen TWJ, Schuster C, Smith ICP, Soher BJ, Tkáč I, Vigneron DB, Kauppinen RA. Clinical proton MR spectroscopy in central nervous system disorders. *Radiology* **270**(3): 658-679 (2014)
96. Desplanches D, Amami M, Dupré-Aucouturier S, Valdivieso P, Schmutz S, Mueller M, Hoppeler H, Kreis R, Flück M. Hypoxia refines plasticity of mitochondrial respiration to repeated muscle work. *Eur J Appl Physiol* **114**(2):405-417 (2014) (Epub 2013 Dec 11. PMID:24327174)
97. Broskey NT, Greggio C, Boss A, Boutant M, Dwyer A, Schlueter L, Hans D, Gremion G, Kreis R, Boesch C, Canto C, Amati F. Skeletal muscle mitochondria in the elderly: effects of physical fitness and exercise training. *Journal of Clinical Endocrinology & Metabolism* **99**:1852-1861 (2014) (Epub 2014 Jan 17. doi: 10.1210/jc.2013-3983)  
Erratum in *Journal of Clinical Endocrinology & Metabolism* **99**:2619.
98. Brandejsky V, Boesch C, Kreis R. Proton diffusion tensor spectroscopy of metabolites in human muscle in vivo. *Magn.Reson.Med* **73**:481–487 (2015) (Epub 2014 Feb 14. doi: 10.1002/mrm.25139)
99. Bucher J\*, Kruesi M\*, Zueger T, Ith M, Stettler C, Diem P, Boesch C, Kreis R#, Christ ER#. The effect of a single 2 h bout of aerobic exercise on ectopic lipids in skeletal muscle, liver and the myocardium. *Diabetologia* **57**:1001-1005 (2014) (Epub 2014 Feb 24. PMID:24563325)
100. Homan P\*, Vermathen P\*, Van Swam C, Federspiel A, Boesch C, Strik W, Dierks T, Hubl D, Kreis R. Magnetic resonance spectroscopy investigations of functionally defined language areas in schizophrenia patients with and without auditory hallucinations. *Neuroimage* **94**:23-32 (2014).
101. Ith M\*, Stettler C\*, Xu J, Boesch C, Kreis R. Cardiac lipid levels show diurnal changes and long-term variations in healthy human subjects. *NMR Biomed* **27**(11):1285-1292 (2014) (Epub 2014 Sep 2, doi: 10.1002/nbm.3186)
102. Buehler T, Kreis R, Boesch C. Comparison of <sup>31</sup>P saturation and inversion magnetization transfer in human liver and skeletal muscle using a clinical MR-system and surface coils. *NMR Biomed* **28**(2):188-199 (2015) (Epub 2014 Dec 7, doi: 10.1002/nbm.3242)
103. Broskey NT, Boss A, Fares EJ, Greggio C, Gremion G, Schlueter L, Hans D, Kreis R, Boesch C, Amati F. Exercise efficiency relates with mitochondrial content and function in older adults. *Physiol Rep* **3**(6):e12418 (2015) (doi: 10.14814/phy2.12418)
104. Campos V, Despland C, Brandejsky V, Kreis R, Schneiter P, Chiolero A, Boesch C, Tappy L. Sugar- and artificially sweetened beverages and intrahepatic fat: a randomized controlled trial. *Obesity* **23**:2335-2339 (2015). (Epub 2015 Nov 24. doi: 10.1002/oby.21310)
105. Kyathanahally SP, Fichtner ND, Adalid V, Kreis R. Does superficial fat affect metabolite concentrations determined by MR spectroscopy with water referencing? *NMR Biomed* **28**:1543-1549 (2015) (Epub 2015 Oct 1. doi: 10.1002/nbm.3419)

106. Dokumaci AS, Pouymayou B, Kreis R, Boesch C. Motion-insensitive determination of  $B_1^+$  amplitudes based on the Bloch-Siegert shift in single voxels of moving organs including the human heart. *Magn Reson Med* **75**(5):1867-1874 (2016) (Epub 2015 June 23. doi: 10.1002/mrm.25763)
107. Kreis R. The trouble with quality filtering based on relative Cramér-Rao lower bounds. *Magn Reson Med* **75**:15-18 (2016) (Epub 2015 Mar 6. doi: 10.1002/mrm.25568)
108. MacMillan EL, Bolliger CS, Kreis R. Influence of muscle fiber orientation on water and metabolite relaxation times, magnetization transfer, and visibility in human skeletal muscle. *Magn Reson Med* **75**(4):1764-1770 (2016) (Epub 2015 May 18. doi: 10.1002/mrm.25778)
109. Christ ER, Egger A, Allemann S, Buehler T, Kreis R, Boesch C. Effects of aerobic exercise on intramyocellular and intrahepatocellular lipids in patients with growth hormone deficiency before and after growth hormone replacement therapy. *Sci Rep.* **6**:19310 (2016) (doi: 10.1038/srep19310)
110. Loher H, Kreis R, Boesch C, Christ E. The flexibility of ectopic lipids. *Int. J. Mol. Sci* **17**(9):1554 (2016) (doi: 10.3390/ijms17091554)
111. Pouymayou B, Buehler T, Kreis R, Boesch C. Test-retest analysis of multiple 31 P magnetization exchange pathways using asymmetric adiabatic inversion. *Magn Reson Med* **78**:33-39 (2017) (epub 2016 Jul 25. doi: 10.1002/mrm.26337)
112. Fichtner ND, Henning A, Zoelch N, Boesch C, Kreis R. Elucidation of the downfield spectrum of human brain at 7T using multiple inversion recovery delays and echo times. *Magn Reson Med* **78**:11-19 (2017) (epub 2016 Jul 25. doi: 10.1002/mrm. 26343)
113. Kyathanahally SP, Kreis R. Forecasting the quality of water-suppressed  $^1\text{H}$  MR spectra based on a single-shot water scan. *Magn Reson Med* **78**:441-451 (2017) (epub 2016 Sep 8. doi: 10.1002/mrm.26389)
114. Rosset R, Lecoultre V, Egli L, Cros J, Dokumaci AS, Zwygart K, Boesch C, Kreis R, Schneiter P, Tappy L. Postexercise repletion of muscle energy stores with fructose or glucose. *Am J Clin Nutr* **105**:609-617 (2017) (epub 2017 Jan 18, doi:10.3945/ajcn.116.138214)
115. Campos V, Despland C, Brandejsky V, Kreis R, Schneiter P, Boesch C, Tappy L. Metabolic effects of replacing sugar-sweetened- by artificially sweetened- beverages in overweight subjects with or without hepatic steatosis: a randomized control clinical trial. *Nutrients* **9**:202 (2017) (doi:10.3390/nu9030202)
116. Adalid V, Döring A, Kyathanahally SP, Bolliger CS, Boesch C, Kreis R. Fitting interrelated datasets: Metabolite diffusion and general lineshapes *Magn Reson Mater Phy* **30**:429-448 (2017) (epub 2017 Apr 5, doi: 10.1007/s10334-017-0618-z)
117. Giapitzakis IA, Shao T, Avdievitch N, Mekle R, Kreis R, Henning A. Metabolite-cycled STEAM and semi-LASER localization for MR spectroscopy of the human brain at 9.4 T. *Magn Reson Med* **79**:1841-1850 (2018) (epub 2017 Aug 15. doi: 10.1002/mrm.26873)
118. Kyathanahally SP, Mocioiu V, Pedrosa de Barros N, Slotboom J, Wright AJ, Julià-Sapé M, Arús C, Kreis R. Quality of clinical brain tumor MR spectra judged by humans and machine learning tools. *Magn Reson Med* **79**:2000-2010 (2018) (epub 2017 Oct 10. doi: 10.1002/mrm.26948)
119. Fichtner ND, Giapitzakis IA, Avdievitch N, Mekle R, Zaldivar D, Henning A, Kreis R. In vivo characterization of the downfield part of  $^1\text{H}$  MR spectra of human brain at 9.4T: Magnetization exchange with water and relation to conventionally determined metabolite content. *Magn Reson Med* **79**:2863-2873 (2018) (epub 2017 Oct 16. doi: 10.1002/mrm.26968)
120. Kyathanahally SP, Döring A, Kreis R. Deep learning approaches for detection and removal of ghosting artifacts in MR spectroscopy. *Magn Reson Med* **80**:851-863 (2018) (epub 2018 Feb 1. doi: 10.1002/mrm.27096)



121. Döring A, Adalid V, Boesch C, Kreis R. Diffusion-weighted magnetic resonance spectroscopy boosted by simultaneously acquired water reference signals. *Magn Reson Med* **80**:2326-2338 (2018) (epub 2018 Apr 24. doi: 10.1002/mrm.27222)
122. Obmann VC, Mertineit N, Berzigotti A, Marx C, Ebner L, Kreis R, Vermathen P, Heverhagen JT, Christe A, Huber AT. CT predicts liver fibrosis: prospective evaluation of morphology- and attenuation-based quantitative scores in routine portal venous abdominal scans. *Plos One* **13**:e0199611. (2018) (epub Jul 10. doi: 10.1371/journal.pone.0199611)
123. Loher H, Jenni S, Bucher J, Krüsi M, James R, Kreis R, Boesch C, Christ E. Impaired repletion of intramyocellular lipids in patients with growth hormone deficiency after a bout of aerobic exercise. *Growth Hormone & IGF Research* **42-43**:32-39. (2018) (epub 2018 Aug 17. doi: 10.1016/j.ghir.2018.08.001)
124. Cros J, Pianezzi E, Rosset R, Egli L, Schneiter P, Cornette F, Pouymayou B, Heinzer R, Tappy L, Kreis R, Boesch C, Haba-Rubio J, Lecoultré V. Impact of sleep restriction on metabolic outcomes induced by overfeeding: a randomized controlled trial in healthy individuals. *Am J Clin Nutr* **109**:17-28 (2019) (epub 2019 Jan 1. doi: 10.1093/ajcn/nqy215)
125. Surowska A, Jegatheesan P, Campos V, Marques A-S, Egli L, Cros J, Rosset R, Lecoultré V, Kreis R, Boesch C, Pouymayou B, Stefanoni N, Rey V, Schneiter P, Tappy L. Effects of Dietary Protein and Fat Content on Intrahepatocellular and Intramyocellular Lipids during a 6-Day Hypercaloric, High Sucrose Diet: A Randomized Controlled Trial in Normal Weight Healthy Subjects. *Nutrients* **11**:209 (2019) (epub 2019 Jan 21; doi: 10.3390/nu11010209)
126. Wilson M, Andronesi O, Barker PB, Bartha R, Bizzi A, Bolan PJ, Brindle KM, Choi IY, Cudalbu C, Dydak U, Emir UE, Gonzalez RG, Gruber S, Gruetter R, Gupta RK, Heerschap A, Henning A, Hetherington HP, Huppi PS, Hurd RE, Kantarci K, Kauppinen RA, Klomp DWJ, Kreis R, Kruiskamp MJ, Leach MO, Lin AP, Luijten PR, Marjańska M, Maudsley AA, Meyerhoff DJ, Mountford CE, Mullins PG, Murdoch JB, Nelson SJ, Noeske R, Öz G, Pan JW, Peet AC, Poptani H, Posse S, Ratai EM, Salibi N, Scheenen TWJ, Smith ICP, Soher BJ, Tkáč I, Vigneron DB, Howe FA. A methodological consensus on clinical proton MR spectroscopy of the brain: Review and recommendations. *Magn Reson Med* **82**:527-550 (2019) (epub Mar 28. doi: 10.1002/mrm.27742)
127. Hoefemann M, Adalid V, Kreis R. Optimizing acquisition and fitting conditions for 1H MR spectroscopy investigations for global brain pathology. *NMR Biomed* **32**:e4161 (2019) (epub 2019 Aug 14. doi: 10.1002/nbm.4161.)
128. Döring A, Kreis R. Magnetic resonance spectroscopy extended by oscillating diffusion gradients as a probe for investigation of cell-specific human brain tissue microstructure. *Neuroimage* **202**:116075(2019) (epub 2019 Aug 6. doi:10.1016/j.neuroimage.2019.116075)
129. Meienberg F, Loher H, Bucher J, Jenni S, Krüsi M, Kreis R, Boesch C, Betz M, Christ E. The effect of exercise on intramyocellular acetylcarnitine (AcCtn) concentration in adult growth hormone deficiency (GHD). *Sci Rep.* **9**:19431 (2019) (epub 2019 Dec 19. doi: 10.1038/s41598-019-55942-w.)
130. Krssak M, Lindeboom L, Schrauwen-Hinderling V, Szczepaniak L, Derave W, Befroy D, Lundbom J, Schick F, Machann J, Kreis R, Boesch C. Proton magnetic resonance spectroscopy in skeletal muscle: experts' recommendations. *NMR Biomed* **34**(5): e4266 (2021) (epub 2020 Feb 5. doi: 10.1002/nbm.4266)
131. Trepp R, Muri R, Abgottspon S, Bosanska L, Hochuli M, Slotboom J, Rummel V, Kreis R, Everts R. Impact of phenylalanine on cognitive, cerebral, and neurometabolic parameters in adult patients with phenylketonuria (the PICO study): a randomized, placebo-controlled, crossover, noninferiority trial. *Trials* **21**:178 (2020) (epub 2020 Feb 13; doi:10.1186/s13063-019-4022-z)

132. Near J, Harris AD, Juchem C, Kreis R, Marjańska M, Öz G, Slotboom J, Wilson M, Gasparovic C. Preprocessing, analysis and quantification in single-voxel magnetic resonance spectroscopy: Experts' consensus recommendations. *NMR Biomed* **34**(5): e4257 (2021) (epub 2020 Feb 21. doi: 10.1002/nbm.4257)
133. Dziadosz M, Bogner W, Kreis R. Non-water-excitation MR spectroscopy techniques to explore exchanging protons in human brain at 3 T. *Magn Reson Med* **84**:2352–2363 (2020) (epub 2020 June 30. doi: 10.1002/mrm.28322)
134. Hoefemann M, Bolliger C, van der Veen JW, Kreis R. Parameterization of metabolite and macromolecule contributions in interrelated MR spectra of human brain using multidimensional modeling. *NMR Biomed* **33**: e4328 (2020) (epub 2020 Jun 15. doi: 10.1002/nbm.4328)
135. Kreis R, Boer V, Choi I-Y, Cudalbu C, de Graaf RA, Gasparovic C, Heerschap A, Krššák M, Lanz B, Maudsley AA, Meyerspeer M, Near J, Öz G, Posse S, Slotboom J, Terpstra M, Tkáč I, Wilson M, Bogner W and the Experts' Working Group on Terminology for MR spectroscopy. Terminology and concepts for the characterization of in vivo MR spectroscopy methods and MR spectra: Background and experts' consensus recommendations. *NMR Biomed* **34**(5):e4347 (2021) (epub 2020 Aug 17. doi: 10.1002/nbm.4347)
136. Cudalbu C, Behar KL, Bhattacharyya PK, Bogner W, Borbath T, de Graaf RA, Gruetter R, Henning A, Juchem C, Kreis R, Lee P, Lei H, Marjańska M, Mekle R, Murali-Manohar S, Považan M, Rackayová V, Wright AM, Simicic D, Slotboom J, Starčuk Z Jr, Starčuková J, Soher BJ, Tkáč I, Williams S, Wilson M, Xin L, Mlynárik V, and the experts collaborators group on contribution of macromolecules to brain <sup>1</sup>H MR spectra. Contribution of macromolecules to brain <sup>1</sup>H MR spectra: Experts' consensus recommendations. *NMR Biomed* **34**(5):e4393 (2021) (epub 2020 Nov 25. doi: 10.1002/nbm.4393)
137. Hoefemann M, Döring A, Fichtner ND, Kreis R. Combining Chemical Exchange Saturation Transfer and <sup>1</sup>H Magnetic Resonance Spectroscopy for simultaneous determination of metabolite concentrations and effects of magnetization exchange. *Magn Reson Med* **85**(4):1766-1782 (2021) (epub 2020 Nov 5. doi: 10.1002/mrm.28574)
138. Tkáč I, Deelchand D, Dreher W, Hetherington H, Kreis R, Kumaragamage C, Považan M, Spielman D, Strasser B, de Graaf R. Water and lipid suppression techniques for advanced <sup>1</sup>H MRS and MRSI: Experts' consensus recommendations. *NMR Biomed* **34**(5):e4459 (2021) (epub 2020 Dec 16. doi: 10.1002/nbm.4459)
139. Lin A, Andronesi O, Bogner W, Choi I-Y, Coello E, Cudalbu C, Juchem C, Kemp GJ, Kreis R, Krššák M, Lee P, Maudsley AA, Meyerspeer M, Mlynarik V, Near J, Öz G, Peek AL, Puts NA, Ratai EM, Tkáč I, Mullins PG, and the Experts' Working Group on Reporting Standards for MR spectroscopy. Minimum Reporting Standards for In Vivo Magnetic Resonance Spectroscopy (MRSinMRS): Experts' consensus recommendations. *NMR Biomed* **34**(5):e4484 (2021) (epub 2021 Feb 9. doi: 10.1002/nbm.4484)
140. Marjańska M, Deelchand DK, Kreis R and the 2016 ISMRM MRS Study Group Fitting Challenge Team. Results and interpretation of a fitting challenge for magnetic resonance spectroscopy set up by the MRS study group of ISMRM. *Magn Reson Med*. **87**(1):11-32 (2022) (epub 2021 Aug 2. doi: 10.1002/mrm.28942)
141. Dziadosz M<sup>#</sup>, Hoefemann M<sup>#</sup>, Döring A, Marjańska M, Auerbach EJ, Kreis R. Quantification of NAD<sup>+</sup> in human brain with <sup>1</sup>H MR spectroscopy at 3 T. *Magn Reson Med*. **88**(3):1027-1038 (2022) (epub 2022 May 8. doi: 10.1002/mrm.29267)
142. Şimşek K, Döring A, Pampel A, Möller HE, Kreis R. Macromolecular background signal and non-Gaussian metabolite diffusion determined in human brain using ultra-high diffusion weighting. *Magn Reson Med*. **88**(5):1962-1977 (2022) (epub 2022, Jul 8. doi: 10.1002/mrm.29367).

143. Rizzo R, Dziadosz M, Kyathanahally SP, Reyes M, Kreis R. Reliability of quantification estimates in MR Spectroscopy: CNNs vs. traditional model fitting. *Medical Image Computing and Computer Assisted Intervention – MICCAI 2022, Lecture Notes in Computer Science* **13438**
144. Mosso J, Simicic D, Şimşek K, Kreis R, Cudalbu C<sup>#</sup>, Jelescu IO<sup>#</sup>. MP-PCA denoising for diffusion MRS data: promises and pitfalls. *Neuroimage* **119634** (2022) (epub 2022, Sept 20. doi: 10.1016/j.neuroimage.2022.119634)
145. Rizzo R, Dziadosz M, Kyathanahally SP, Shamaei A, Kreis R. Quantification of MR spectra by deep learning in an idealized setting: Investigation of forms of input, network architectures, optimization by ensembles of networks, and training bias. *Magn Reson Med* **89**(5):1707-1727 (2023) (epub 2022, Dec 19. 10.1002/mrm.29561).
146. Pfyffer D, Zimmermann S, Şimşek K, Kreis R, Freund P, Seif M. Magnetic resonance spectroscopy investigation in the right human hippocampus following spinal cord injury. *Frontiers in Neurology* **14**:1120227 (2023) (epub 2023, May 12, doi: 10.3389/fneur.2023.1120227)
147. Muri R, Maissen-Abgottspon S, Reed M, Kreis R, Hoefemann M, Radojewski P, Pospieszny K, Hochuli M, Wiest R, Lanzenberger R, Trepp, R, Everts R. Compromised white matter is related to lower cognitive performance in adults with phenylketonuria. *Brain Communications* **fcad155** (epub 2023, May 15, doi: 10.1093/braincomms/fcad155)
148. Dziadosz M, Rizzo R, Kyathanahally SP, Kreis R. Denoising single MR spectra by deep learning: Miracle or mirage? *Magn Reson Med* **90**:1749-1761 (2023) (epub 2023, June 18, doi: 10.1002/mrm.29762)
149. Rizzo R, Kreis R. Multi-echo single-shot spectroscopy combined with simultaneous 2D model fitting for fast and accurate measurement of metabolite-specific concentrations and T<sub>2</sub> relaxation times. *NMR Biomed* **e5016** (2023) (epub 2023, August 16, doi.org/10.1002/nbm.5016)
150. Ligneul C<sup>#</sup>, Najac C<sup>#</sup>, Döring A, Branzoli F, Clarke WT, Cudalbu C, Genovese G, Jbabdi S, Jelescu I, Kreis R, Lundell H, Marjanska G, Moeller H, Mosso J, Mougél E, Ruschke S, Simsek K, Szczepankiewicz F, Oeltzschner G, Palombo M, Ronen I, Valette J. Diffusion-weighted MR spectroscopy: consensus, recommendations and resources from acquisition to modeling. *Magn Reson Med* (epub 2023; Nov 0; doi: 10.1002/mrm.29877)

## Conference Abstracts

1. Kreis R, and Schweiger A. Orientation-modulated ESR and ENDOR spectroscopy. *XXII<sup>nd</sup> Congress Ampere on Magnetic Resonance*, Zurich, Switzerland, 1984; p621-622.
2. Kreis R, Thomas MA, Radloff C, and Ernst RR. Time domain zero field magnetic resonance with DC and RF pulse excitation. *XXIII<sup>rd</sup> Congress Ampere on Magnetic Resonance*, Rome, Italy, 1986; p590
3. Kreis R, Thomas MA, and Ernst RR. Time domain zero field NMR and NQR with RF and DC pulses. *The Royal Society of Chemistry, 8th International Meeting on NMR Spectroscopy*, Kent, England, 1987.
4. Kreis R, Freeman DM, Ross BD, Farrow N, and Ingram M. Monitoring adoptive immunotherapy (IT) in patients with malignant glioma. *9th annual meeting of the Society of Magnetic Resonance in Medicine*. New York, 1990; WIP p1219
5. Ross BD, Farrow NA, Kanamori K, Kreis R, and Parivar F. Magnetic resonance techniques in hepatic encephalopathy (HE). *Seventh International Symposium on Ammonia*, Lund (Sweden), 1990, 75-82.
6. Ross BD, Kreis R, Ackerman Z, and Farrow NA. Image guided proton magnetic resonance spectroscopy of the brain: A new diagnostic test for clinical and preclinical portal systemic encephalopathy (PSE). *42nd annual meeting of the American Association for the Study of liver Diseases*. Chicago, 1991.
7. Kreis R, Farrow NA, Ackerman Z, and Ross BD. Diagnosis of clinical and preclinical portalsystemic encephalopathy (PSE) by proton magnetic resonance spectroscopy. *Digestive Disease Week: American Gastroenterological Association*. 1991; p A210.
8. Kreis R. Post-acquisition water suppression with digital low frequency filters for <sup>1</sup>H-MRS in man. *European Society of Magnetic Resonance in Medicine and Biology*. Zurich, Switzerland, 1991; p 205.
9. Kreis R, Farrow NA, Ackerman Z, and Ross BD. Cerebral metabolic disorders in chronic hepatic encephalopathy detected by <sup>1</sup>H MRS. *European Society of Magnetic Resonance In Medicine and Biology*, Zurich, Switzerland, 1991; p 131.
10. Kreis R. Post-acquisition water suppression with digital low frequency filters for in vivo <sup>1</sup>H-NMR spectroscopy in man. *32nd Experimental NMR Spectroscopy Conference*, St Louis, 1991, p100.
11. Kreis R, Farrow NA, Ackerman Z, and Ross BD. Chronic hepatic encephalopathy: cerebral metabolic disorders detected by <sup>1</sup>H MRS. *10th annual Meeting of the Society of Magnetic Resonance in Medicine*, San Francisco, 1991; WIP p195
12. Kreis R, and Ross BD. Diabetes mellitus: cerebral metabolic abnormalities detected by localized <sup>1</sup>H MRS. *10th annual Meeting of the Society of Magnetic Resonance in Medicine*, San Francisco, 1991; p401
13. Kreis R, Ernst T, Arcinue E, Liberman R, and Ross BD. Myo-inositol in short TE <sup>1</sup>H MRS: A new indicator of neonatal brain development and pathology. *10th annual Meeting of the Society of Magnetic Resonance in Medicine*, San Francisco, 1991; WIP p1007
14. Ernst T, Kreis R, Farrow N, and Ross BD. Towards absolute quantitation in <sup>1</sup>H MRS: Internal versus external reference and the need to correct for CSF. *10th annual Meeting of the Society of Magnetic Resonance in Medicine*, San Francisco, 1991; WIP p1059.
15. Ernst T, Ross BD, and Kreis R. Metabolite specific imaging of human brain and limbs: Phosphocreatine. *10th annual Meeting of the Society of Magnetic Resonance In Medicine*, San Francisco, 1991; WIP p1087.
16. Ernst T, Kreis R, and Ross BD. Absolute quantitation in <sup>1</sup>H spectroscopy of the human brain: problems and solutions. *33rd Experimental NMR Spectroscopy Conference*, Asilomar, 1992
17. Farrow NA, Korula J, Kreis R, Ernst T, Villamil F, Shonk T, and Ross BD. Does TIPSS induce hepatic encephalopathy? *78th Annual Meeting of the Radiological Society of North America*, Chicago, 1992
18. Ross BD, Kreis R, and Ernst T. Proton spectroscopy brain exam (PSBE): A logical extension of MRI. *78th Annual Meeting of the Radiological Society of North America*, Chicago, 1992

19. Ross BD, Flores R, Kreis R, Farrow NA, Liberman R, Arcinue E, and Ernst T. Unequivocal diagnosis of Reye's syndrome by  $^1\text{H}$ -MRS. *10th Annual Meeting of the Society for Magnetic Resonance Imaging*, New York, 1992
20. Kreis R, Ernst T, Arcinue E, Flores R, and Ross BD. Proton MRS in children resuscitated after near-drowning: a possible prognostic indicator? *11th annual Meeting of the Society of Magnetic Resonance in Medicine*, Berlin, 1992; p237
21. Kreis R, Ernst T, and Ross BD. Quantitative proton MRS in the human brain: biochemical and clinical benefits. *11th annual Meeting of the Society of Magnetic Resonance in Medicine*, Berlin, 1992; p1920
22. Kreis R, Fusch C, and Boesch C. In vivo characterization of three water compartments in human white matter using a single voxel technique with short TE. *11th annual Meeting of the Society of Magnetic Resonance In Medicine*, Berlin, 1992; p1963
23. Ernst T, Kreis R, and Ross BD. Precise measurement of the water content in the human brain using spectroscopic methods. *11th annual Meeting of the Society of Magnetic Resonance in Medicine*, Berlin, 1992; p2133.
24. Geissler A, Farrow NA, Villamil F, Makowka L, Ernst T, Kreis R, and Ross BD. Is hepatic encephalopathy reversed by liver transplantation? *11th annual Meeting of the Society of Magnetic Resonance In Medicine*, Berlin, 1992; p647
25. Ross BD, Kreis R, Ernst T, Gangitano E, and Liberman R. Symmetrical and normal cortical metabolism in infants after ECMO treatment. *11th annual Meeting of the Society of Magnetic Resonance In Medicine*, Berlin, 1992; p2003
26. Kreis R, Ernst T, Arcinue E, Liberman R, and Ross BD. Pediatric hypoxia: Contributions of proton MRS to the diagnosis and prognosis. *Society for Pediatric Radiology*, Orlando, 1992
27. Ross BD, Kreis R, Ernst T, Flores R, and Arcinue E. Predictive value of  $^1\text{H}$ -MRS of the brain in pediatric patients after near drowning. *Society for Pediatric Radiology*, Orlando, 1992
28. Kreis R, Geissler A, Ernst T, Villamil F, and Ross BD. Reversal of chronic hepatic encephalopathy (CHE) by liver transplantation, as defined by proton magnetic resonance spectroscopy. *IXth International Liversymposium. Extrahepatic manifestations of liver disease*. Basle, Switzerland, 1992; p100
29. Kreis R. Proton magnetic resonance spectroscopy ( $^1\text{H}$ -MRS) in children resuscitated after near drowning: a possible prognostic indicator of outcome? *Tag der Forschung in der Schweizer Pädiatrie*. Bern, 1992
30. Kreis R, Ernst T, and Ross BD. Pitfalls of non-quantitative clinical  $^1\text{H}$ -MR spectroscopy. *SMRM and SMRMB Workshop on: Advances in proton magnetic resonance spectroscopy of the brain*. Oxford, England, 1992
31. Ross BD, Kreis R, Ernst T, and Reynolds T. Hepatic encephalopathy by  $^1\text{H}$ -MRS. *SMRM and SMRMB Workshop on : Advances in proton magnetic resonance spectroscopy of the brain*. Oxford, England, 1992
32. Ernst T, Kreis R, Shonk T, Moates R, Lee JH, Ross BD, Raidy T, Brucato S, Li A, Gurr D, Wedmid Y, Hurd R, Kohler S, Sailasuta P, Webb P, and Tropp J. Early clinical experience with an automated single voxel  $^1\text{H}$ -MRS procedure (PROBE). *SMRM and SMRMB Workshop on : Advances in proton magnetic resonance spectroscopy of the brain*. Oxford, England, 1992; #13
33. Ernst T, Ross BD, Shonk T, and Kreis R. Neurochemistry of coma:  $^1\text{H}$ -MRS in post traumatic encephalopathy. *SMRM and SMRMB Workshop on: Advances in proton magnetic resonance spectroscopy of the brain*. Oxford, England, 1992; #22
34. Geissler A, Ernst T, Ross BD, Kreis R, Moats R, Shonk T, and Villamil F. Reversal of hepatic encephalopathy after liver transplantation: A proton MRS study, *8th International Symposium on Ammonia, Frascati, in Hepato-Gastroenterology*, **40**, p X, # 37 (1993)
35. Shonk T, Moats R, Lee JH, Korula J, Ernst T, Kreis R, and Ross BD. Increased incidence of subclinical hepatic encephalopathy associated with TIPS procedure, *8th International Symposium on Ammonia, Frascati, in Hepato-Gastroenterology*, **40**, p XXVI, # 98 (1993)
36. Kreis R, Ernst T, and Ross BD. Development of the human brain: *In vivo* quantification of metabolite and water content with  $^1\text{H}$  MRS. *12th annual Meeting of the Society of Magnetic Resonance In Medicine*, New York, 1993; p126

37. Kreis R, Pfaeffli T, Suter E, Hoppeler H, and Boesch C. Quantitative <sup>1</sup>H MRS of human muscle: in vivo metabolite concentrations, muscle specific spectral patterns ... and a puzzle with shifting peaks. *12th annual Meeting of the Society of Magnetic Resonance In Medicine*, New York, 1993; p402
38. Ross BD, Shonk T, Moats R.A, Jacobson S, Draguesku J, Ernst T, Lee JH, and Kreis R. <sup>1</sup>H MRS for the diagnosis of Subclinical Hepatic Encephalopathy (SCHE). *12th annual Meeting of the Society of Magnetic Resonance In Medicine*, New York, 1993; p131
39. Ernst T, Ross BD, Shonk T, Kreis R, Caton W, Clark C. Quantitative <sup>1</sup>H MRS for prognosis after closed head injury. *12th annual Meeting of the Society of Magnetic Resonance In Medicine*, New York, 1993; p323
40. Boesch C, Hoppeler H, Pfaeffli T, Suter E, and Kreis R. <sup>1</sup>H MR spectroscopy of human muscles: Significant variations between different muscle groups, *79th Meeting of RSNA in Supplement to Radiology*, 189 p321, #1252 (1993)
41. Maloca P, Kreis R, Fusch C, and Boesch C. Regional and interindividual variability of metabolites in the human brain determined by localized proton Magnetic Resonance Spectroscopy (MRS), *First Swiss Poster Meeting on Basic and Clinical Neuroscience*, Basel, 1994
42. Felblinger J, Gruetter R, Kreis R, and Boesch C. Spectroscopie C13 par decouplage H1 sur Systeme Corps Entier Aspects Techniques. *VIème, Congrès de GRAMM*, Grenoble, 1994; p151
43. Maloca P, Kreis R, Fusch C, and Boesch C. Localized proton Magnetic Resonance Spectroscopy (MRS) in the human brain: Regional and interindividual variations of metabolite concentrations. *Seventh Swiss Brain Mapping Meeting*, Zurich, 1994
44. Kreis R, Pietz J, Penzien J, Herschkowitz N, and Boesch C. Methods for unequivocal identification and quantitation of phenylalanine in localized cerebral proton mr spectra of patients with phenylketonuria, *11th Annual Meeting of ESRMB*, Vienna, 1994
45. Gruetter R, Felblinger J, Kreis R, and Boesch C. Proton decoupled C13 MR spectroscopy on a clinical whole body scanner, *11th Annual Meeting of ESRMB*, Vienna, 1994
46. Pietz J, Kreis R, Penzien J, Boesch C, Herschkowitz N, and Rating D. Cerebral phenylalanine concentrations in patients with phenylketonuria determined in vivo by <sup>1</sup>H magnetic resonance spectroscopy. *Pediatric Week*, Holland, 1994, in *Pediatr Res* **36**,34A (1994)
47. Fusch C, Kreis R, and Boesch C. <sup>1</sup>H-MR-spectroscopy of the brain:In-vivo measurement of water compartments and detection of water within myelin layers. *Pediatric Week*, Holland, 1994, in *Pediatr Res* **36**,14A (1994)
48. Pietz J, Kreis R, Penzien J, Boesch C, Herschkowitz N, and Rating D. Magnetic resonance imaging and <sup>1</sup>H MR in patients with phenylketonuria. *VI International Congress Inborn Errors of Metabolism*, Milano, 1994
49. Kreis R, and Boesch C. Multiplet splitting due to dipolar interaction observed in "liquids"! *12th European Experimental NMR Conference*, Oulu, 1994, p33
50. Kreis R, and Boesch C. Human muscle contains a liquid-crystal-like molecular system rendering direct dipolar couplings observable by localized proton MRS. *Workshop of SMR and ESRMB on MRI and MRS of Muscle*, Liverpool, 1994
51. Kreis R, Fusch C, Maloca P, Felblinger J, and Boesch C. Supposed pathology may be individuality: Interindividual and regional differences of brain metabolite concentrations determined by <sup>1</sup>H MRS. *2nd Annual Meeting of the Society of Magnetic Resonance*, San Francisco, 1994; p45
52. Boesch C, and Kreis R. Dipolar coupling contributes to localized <sup>1</sup>H spectra in human muscle. *2nd Annual Meeting of the Society of Magnetic Resonance*, San Francisco, 1994; p162
53. Kreis R, Pietz J, Penzien J, Herschkowitz N, and Boesch C. Unequivocal identification and quantitation of phenylalanine in the brain of patients with phenylketonuria by means of localized in vivo <sup>1</sup>H MRS. *2nd Annual Meeting of the Society of Magnetic Resonance*, San Francisco, 1994; p308
54. Hüppi PS, Schuknecht B, Boesch C, Kreis R, Fusch C, Bossi E, and Herschkowitz N. Brain development in infants at risk for SIDS assessed by MRI and MRS in brainstem. *2nd Annual Meeting of the Society of Magnetic Resonance*, San Francisco, 1994; p532

55. Gruetter R, Fusch C, Schüpbach D, Kreis R, Felblinger J, Merlo M, and Boesch C. <sup>1</sup>H-NMR spectroscopy of the normal human hippocampus *in vivo*. *2nd Annual Meeting of the Society of Magnetic Resonance*, San Francisco, 1994; p607
56. Kreis R, and Boesch C. One- and two-dimensional multi-spin and multi-quantum techniques for the elucidation of dipolar-coupled spin-systems observed in human muscle. *2nd Annual Meeting of the Society of Magnetic Resonance*, San Francisco, 1994; p737
57. Boesch C, Slotboom J, Puntchart A, Hoppeler H, and Kreis R. Measurement of intra-myocellular lipid signals in <sup>1</sup>H-MR spectra of human muscle *in vivo*. *3rd Meeting of the Society of Magnetic Resonance*, Nice, 1995; p.426
58. Felblinger J, Kreis R, and Boesch C. The benefits of retro-gating for quantitative cerebral <sup>1</sup>H-MRS. *3rd Meeting of the Society of Magnetic Resonance*, Nice, 1995; p.257
59. Kreis R, Koster M, Kamber M, Hoppeler H, and Boesch C. *In vivo* spectroscopy at the magic angle and creatine supplementation for the elucidation of <sup>1</sup>H-MR spectra of human muscle. *3rd Meeting of the Society of Magnetic Resonance*, Nice, France, 1995; p.430
60. Michaelis T, Cooper K, Kreis R, Veech RL, and Ross BD. Propylene glycol: a source of D-lactic acid in pediatric encephalopathy. *3rd Meeting of the Society of Magnetic Resonance*, Nice, 1995; p.1834
61. Kreis R, Arciniegua E, Ernst T, Shonk T, and Ross BD. Secondary hypoxic encephalopathy after near-drowning studied by quantitative <sup>1</sup>H MRS: Metabolic changes and their prognostic value. *3rd Meeting of the Society of Magnetic Resonance*, Nice, 1995; p.380
62. Schuepbach D, Merlo MCG, Gruetter R, Fusch C, Kreis R, Felblinger J, and Boesch C. <sup>1</sup>H NMR spectroscopy of the human brain *in vivo*: the hippocampus in schizophrenic patients and normals. *Schizophrenia Research* 15:98, 1995. (Abstract, Vth International Congress on Schizophrenia Research. Wormsring, Virginia, 6-12 April)
63. Felblinger J, Kreis R, and Boesch C. Apport de la synchronisation cardiaque en SRM-H1 localisee du cerveau. 7è congrès du GRAMM, St.Malo, 1996;
64. Felblinger J, Kreis R, Slotboom J, and Boesch C. Signal de compensation respiratoire obtenu par demodulation de l'ECG. 7è congrès du GRAMM, St.Malo, 1996;
65. Kreis R, Koster M, Kamber M, Felblinger J, Slotboom J, Walker G, Hoppeler H, and Boesch C. Effect of creatine supplementation upon muscle metabolism studied by <sup>1</sup>H- and <sup>31</sup>P-MRS, MRI, exercise performance testing and clinical chemistry. *4th Meeting of the International Society of Magnetic Resonance in Medicine*, New York, 1996; p.25
66. Slotboom J, Kreis R, and Boesch C. Frequency domain fitting using time domain models and prior knowledge. *4th Meeting of the International Society of Magnetic Resonance in Medicine*, New York, 1996; p.1188
67. Felblinger J, Kreis R, Slotboom J, and Boesch C. Detection of respiratory motion of thorax and heart using ECG-demodulation. *4th Meeting of the International Society of Magnetic Resonance in Medicine*, New York, 1996; p.140
68. Boesch C, Slotboom J, Hoppeler H, and Kreis R. Observation of mobilization and recovery of intra-myocellular lipids using <sup>1</sup>H-MRS. *4th Meeting of the International Society of Magnetic Resonance in Medicine*, New York, 1996; p.31
69. Ntziachristos V, Boesch C, Kreis R, and Quistorff B. Dipolar coupling contributions to <sup>1</sup>H MRS spectra from rat skeletal muscle. *4th Meeting of the International Society of Magnetic Resonance in Medicine*, New York, 1996; p.1087
70. Kreis R, Pfenninger J, and Boesch C. Reduction of myo-inositol in hyper-ammonemia: just a matter of osmotic balance? *Ninth International Symposium on Ammonia*, Newcastle upon Tyne, 1996; 41.O
71. Kreis R, Slotboom J, Felblinger J, and Boesch C. <sup>1</sup>H-Localized <sup>13</sup>C-MR spectroscopy on a 1.5T scanner with PRESS localization, INEPT polarization transfer and adiabatic pulses. *13th Meeting of ESMRMB*, Prague, 1996; p.280
72. Felblinger J, Kreis R, Jung B, Slotboom J, and Boesch C. Reproducible quantitative <sup>1</sup>H-MR spectroscopy of the human heart using double triggering. *13th Meeting of ESMRMB*, Prague, 1996; p.78

73. Slotboom J, Kreis R, Felblinger J, Jung B, and Boesch C. 1H-Decoupled 13C-spectroscopy using time-shifted WALTZ sequences compensating for imperfect decoupling. *13th Meeting of ESMRMB*, Prague, 1996; p.75
74. Slotboom J, Kreis R, and Boesch C. Frequency-domain fitting with non-analytical lineshape functions. *13th Meeting of ESMRMB*, Prague, 1996; p.317
75. Boos N, Dreier D, Hilfiker E, Schade V, Kreis R, Hora J, Aebi M, and Boesch C. Tissue characterization of symptomatic and asymptomatic disc herniations by quantitative MRI. *13th Meeting of ESMRMB*, Prague, 1996; p.193
76. Boesch C, Slotboom J, Kamber M, Koster M, Hoppeler H, and Kreis R. Activity-dependent distribution of intra-myocellular lipids determined by 1H-MRS. *13th Meeting of ESMRMB*, Prague, 1996; p.154
77. Kreis R, Jung B, Rotman S, Slotboom J, Felblinger J & Boesch C. Acetyl-group buffering in exercising human muscle observable by 1H-MRS? *5th Meeting of the International Society of Magnetic Resonance in Medicine*, Vancouver 1997; p.162
78. Kreis R, Slotboom J, Felblinger J, Jung B & Boesch C. Can proton MRS detect changes in phosphocreatine? *5th Meeting of the International Society of Magnetic Resonance in Medicine*, Vancouver 1997; p.1338
79. Kreis R, Slotboom J, Felblinger J, and Boesch C. 13C-MR Spectroscopy on a 1.5T Scanner with 1H-Localization using PRESS, INEPT Polarization Transfer, Adiabatic Pulses and WALTZ Decoupling. *5th Meeting of the International Society of Magnetic Resonance in Medicine*, Vancouver 1997; p.1438
80. Felblinger J, Kreis R, Jung B, Slotboom J, and Boesch C. Methodology for Reproducible 1H-MR Spectroscopy of the Human Heart. *5th Meeting of the International Society of Magnetic Resonance in Medicine*, Vancouver 1997; p.1292
81. Slotboom J, Kreis R, Felblinger J, Jung B, and Boesch C. A Simple Method for the Reduction of Decoupling Sidebands in Multipulse 1H Decoupled 13C Spectroscopy Applied to the Human Muscle. *5th Meeting of the International Society of Magnetic Resonance in Medicine*, Vancouver 1997; p.245
82. Kreis R, Jung B, Felblinger J, Slotboom J, and Boesch C. Creatine signals in localized <sup>1</sup>H-MR spectra of human skeletal muscle apparently depend on the muscular phosphocreatine content. *14th Meeting of ESMRMB*, Brussels, **MAGMA 5 (suppl)**, 27 (1997)
83. Hofmann L, Slotboom J, Boesch C, and Kreis R. Improved separation of baseline and components of interest in localized <sup>1</sup>H-MRS based on T<sub>1</sub>. *14th Meeting of ESMRMB*, Brussels, **MAGMA 5 (suppl)**, 72 (1997)
84. Felblinger J, Kreis R, Jung B, Slotboom J, and Boesch C. New approach to cardiac and respiratory triggering and application to <sup>1</sup>H-MRS of the human heart. *14th Meeting of ESMRMB*, Brussels, **MAGMA 5 (suppl)**, 43 (1997)
85. Kreis R, Jung B, Felblinger J, Slotboom J, and Boesch C. Creatine signals in localized 1H-MR spectra of human skeletal muscle vary linearly with muscular phosphocreatine content. *6th Meeting of the International Society of Magnetic Resonance in Medicine*, Sydney, 1998; p.385
86. Kreis R and Boesch C. Localized 1H-MRS without water saturation: Techniques and initial results for human brain and muscle. *6th Meeting of the International Society of Magnetic Resonance in Medicine*, Sydney, 1998; p.24
87. Kreis R, Bigler P, Gottstein B, and Boesch C. <sup>1</sup>H-MRS of Ecchinococcus granulosus cysts: Succinate, not pyruvate is the characteristic marker substance. *6th Meeting of the International Society of Magnetic Resonance in Medicine*, Sydney, 1998; p.1701
88. Boesch C, Kreis R, Howald H, Matter S, Billeter R, Essen-Gustavsson B, and Hoppeler H. Validation of intra-myocellular lipid (IMCL) levels determined by 1H-MRS, using morphometry and chemical analysis in human biopsy samples. *6th Meeting of the International Society of Magnetic Resonance in Medicine*, Sydney, 1998; p.1785
89. Hofmann L, Slotboom J, Boesch C, and Kreis R. Improved definition of baseline in localized <sup>1</sup>H-MRS based on T<sub>1</sub>-differences. *6th Meeting of the International Society of Magnetic Resonance in Medicine*, Sydney, 1998; p.1853



90. Slotboom J, Hofmann L, Boesch C, and Kreis R. Spectral fitting in a constrained parameter space using a random search strategy and prior knowledge. *6th Meeting of the International Society of Magnetic Resonance in Medicine*, Sydney, 1998; p.26
91. Kreis R, Pietz J, Rupp A, Mayatepek E, Rating D, Bremer HJ, and Boesch C. Blocked cerebral uptake of phenylalanine in patients with phenylketonuria observed by 1H MR spectroscopy and EEG. *15th Meeting of ESMRMB*, Geneva, **MAGMA 6 (suppl)**, 39-40 (1998)
92. Hofmann L, Slotboom J, Boesch C, and Kreis R. Fitting MR spectra with incomplete or improper models: Potential benefit of frequency-selective, frequency-domain, absorption mode model fitting. *15th Meeting of ESMRMB*, Geneva, **MAGMA 6 (suppl)**, 12(1998)
93. Felblinger J, Slotboom J, Kreis R, Jung B, and Boesch C. Suppression of gradient noise in electrophysiological signals recorded during MR sequences. *15th Meeting of ESMRMB*, Geneva, **MAGMA 6 (suppl)**, 88(1998)
94. Hüppi PS, Inder TE, Kreis R, Zientara GP, Maier S, Volpe JJ, Boesch C, and Jolesz FA. Perinatal ischemic brain injury in preterm infants and subsequent alteration of structural and metabolic brain development assessed by 3D-MRI, DWI and 1H-MRS. *15th Meeting of ESMRMB*, Geneva, **MAGMA 6 (suppl)**, 93(1998)
95. Slotboom J, Flück C, Kreis R, Jung B, Nuoffer JM, Mullis P, and Boesch C. A graphic user interface to match spatial RF coil sensitivity maps to MR images for absolute quantitation of in vivo 13C NMR spectra of the liver. *15th Meeting of ESMRMB*, Geneva, **MAGMA 6 (suppl)**, 209(1998)
96. Slotboom J, Kreis R, Jung B, and Boesch C. Gradient switching related artifacts, 13C liver MRS and a gradient cycling strategy for improvement. *15th Meeting of ESMRMB*, Geneva, **MAGMA 6 (suppl)**, 216-217 (1998)
97. Boesch C, Kreis R, Howald H, Matther S, Billeter R, Essen-Gustavsson B, and Hoppeler H. Comparison of three methods to determine intra-myocellular lipid (IMCL) levels: 1H-MRS, morphometry and chemical analysis. *15th Meeting of ESMRMB*, Geneva, **MAGMA 6 (suppl)**, 219-220 (1998)
98. Jung B, Lehmann C, Kreis R, and Boesch C. Development of a versatile computer-controlled, MR-compatible ergometer for various thigh and calf muscle groups in humans. *15th Meeting of ESMRMB*, Geneva, **MAGMA 6 (suppl)**, 221(1998)
99. Pietz J, Kreis R, Rupp A, Mayatepek E, Slotboom J, Boesch C, Rating D, and Bremer HJ. Große neutrale Aminosäuren blockieren den Influx von Phenylalanin in das Gehirngewebe von Patienten mit Phenylketonurie: Ergebnisse einer 1H MR spektroskopischen Studie. *13. Jahrestagung der Arbeitsgemeinschaft für Pädiatrische Stoffwechselstörungen*, Fulda, (1999)
100. Kreis R, Pietz J, Slotboom J, Rupp A, Mayatepek E, Rating D, Bremer HJ, and Boesch C. Competitive blood-brain-barrier dynamics observed by 1H MR spectroscopy and EEG in patients with phenylketonuria. *7th Meeting of the International Society of Magnetic Resonance in Medicine*, Philadelphia, 1999; p.1452
101. Boesch C, Kreis R, Slotboom J, and Decombaz J. Diet-dependent recovery of intramyocellular lipids (IMCL) in different muscle groups following endurance sports. *7th Meeting of the International Society of Magnetic Resonance in Medicine*, Philadelphia, 1999; p.703
102. Kreis R, Felblinger J, Jung B, and Boesch C. Intra- and inter-individual reproducibility of double-triggered 1H-MR spectroscopy (1H-MRS) of the human heart. *7th Meeting of the International Society of Magnetic Resonance in Medicine*, Philadelphia, 1999; p.1486
103. Hofmann L, Slotboom J, Boesch C, and Kreis R. Model fitting of 1H-MR spectra of the human brain: Incorporation of short-T1 components and evaluation of parameterized vs. non-parameterized models. *7th Meeting of the International Society of Magnetic Resonance in Medicine*, Philadelphia, 1999; p.586
104. Slotboom J, Hofmann L, Boesch C, and Kreis R. Two-dimensional fitting with prior knowledge constraints: The solution for glutamate/glutamine quantitation at 1.5T? *7th Meeting of the International Society of Magnetic Resonance in Medicine*, Philadelphia, 1999; p.1561
105. Kreis R, Jung B, Ith M, Zwicky S, Baumgartner I, and Boesch C. 1H-MR spectroscopy of deoxy-myoglobin as a tool to quantitatively evaluate tissue perfusion in healthy subjects and patients with peripheral arterial occlusive disease. *16th Meeting of ESMRMB, Sevilla, MAGMA 8 (suppl 1)*; 149 (1999)

106. Slotboom J, Flück C, Kreis R, Mullis P, and Boesch C. Hepatic glycogen metabolism in children and adolescents with IDDM compared to normals: a  $^{13}\text{C}$  magnetic resonance study. *16th Meeting of ESMRMB, Sevilla, MAGMA 8 (suppl 1)*; 577 (1999)
107. Boesch C, Decombaz J, Slotboom J, and Kreis R. Large muscle specific variations in the absolute concentrations of intra-myocellular lipids (IMCL) during and after marathon runs. *16th Meeting of ESMRMB, Sevilla, MAGMA 8 (suppl 1)*; 580 (1999)
108. Thöny H, Tönnies K, Lövblad K, Ozdoba C, Hüppi PS, Kreis R, Boesch C, Kikinis R, Bossi E, and Schroth G. Semi-automatic MR segmentation of cerebral myelination in term and preterm neonates: correlation with MR imaging. *16th Meeting of ESMRMB, Sevilla, MAGMA 8 (suppl 1)*; 308 (1999)
109. Hofmann L, Slotboom J, Boesch C, and Kreis R. Effect of inclusion of short  $T_1$  components into model fitting of  $^1\text{H}$ -MR spectra of human white and gray matter. *16th Meeting of ESMRMB, Sevilla, MAGMA 8 (suppl 1)*; 180 (1999)
110. Pietz J, Kreis R, Rupp A, Mayatepek E, Slotboom J, Boesch C, Rating D, and Bremer HJ. Große neutrale Aminosäuren blockieren den Influx von Phenylalanin in das Gehirngewebe von Patienten mit Phenylketonurie: Ergebnisse einer  $^1\text{H}$  MR spektroskopischen Studie. *35. Jahrestagung für Pädiatrische Forschung*, Goettingen, 1999
111. Kreis R, Hofmann L, Kuhlmann B, Hüppi PS, Bossi E, and Boesch C. Quantitation of standard and less prominent metabolites in neonatal brain using short TE  $^1\text{H}$ -MR spectroscopy and advanced model fitting. *8th Meeting of the International Society of Magnetic Resonance in Medicine*, Denver, 2000; p.587
112. Boesch C, Kreis R, and Decombaz J. Sequential  $^{13}\text{C}$ - and  $^1\text{H}$ -MRS measurements in human skeletal muscle: Influence of diet on recovery rates of glycogen and intramyocellular lipids (IMCL). *8th Meeting of the International Society of Magnetic Resonance in Medicine*, Denver, 2000; p.29
113. Kreis R and Boesch C. Orientation dependence is the rule, not the exception in  $^1\text{H}$ -MR spectra of skeletal muscle: the case of carnosine. *8th Meeting of the International Society of Magnetic Resonance in Medicine*, Denver, 2000; p.31
114. Kreis R, Hofmann L, and Boesch C. Visibility of the methylene signals of ethanol in  $^1\text{H}$ -MR spectra of the human brain and implications for model fitting. *8th Meeting of the International Society of Magnetic Resonance in Medicine*, Denver, 2000; p.426
115. Hüppi PS, Zientara GP, Hofmann L, Kreis R, Boesch C, Jolesz FA, and Volpe JJ. Quantitative  $^1\text{H}$ -MRS in early human brain development and metabolic changes after perinatal brain injury. *8th Meeting of the International Society of Magnetic Resonance in Medicine*, Denver, 2000; p.590
116. Ith M, Décombaz J, Schmitt B, Kreis R, Fleith M, Decarli B, Hoppeler H, and Boesch C. Sequential acquisition of  $^{13}\text{C}$ - and  $^1\text{H}$ -MR-spectra in the m. tibialis anterior: Post-exercise recovery of glycogen and intramyocellular lipids (IMCL). *MAGMA 11 (Suppl 1)*; p 54 (2000)
117. Vermathen P, Maudsley AA, Kreis R, and Boesch C. In vivo histidine detection and brain pH mapping using  $^1\text{H}$ -MR spectroscopic imaging. *MAGMA 11 (Suppl 1)*; pp 177-178 (2000)
118. Hofmann L, Slotboom J, Boesch C, and Kreis R. Quantitative characterization of the macromolecule baseline in cerebral  $^1\text{H}$ -MR spectra determined by saturation and inversion recovery methods. *MAGMA 11 (Suppl 1)*; pp 196-197 (2000)
119. Kreis R, Hofmann L, Kuhlmann B, Hüppi PS, Bossi E, and Boesch C. Determination of phospho-ethanolamine and other 'unusual' metabolites in neonatal brain using short TE proton MR spectroscopy and constrained model fitting. *MAGMA 11 (Suppl 1)*; pp 216-217 (2000)
120. Ith M, Kreis R, Scheurer E, Schweitzer W, Dirnhofer R, and Boesch C.  $^1\text{H}$ -MR Spectroscopy in forensic medicine: Towards estimation of the post-mortem interval in animal and human Brains. *MAGMA 11 (Suppl 1)*; pp 219-220 (2000)
121. Boesch C, Ith M, Jung B, Bruegger K, Erban S, Diamantis I, Kreis R, Bär A. Effect of oral D-tagatose on liver volume and hepatic glycogen accumulation in healthy male volunteers. *9th Meeting of the International Society of Magnetic Resonance in Medicine*, Glasgow, 2001; p.1049.
122. Ith M, Kreis R, Scheurer E, Dirnhofer R, Boesch C. Using  $^1\text{H}$ -MR spectroscopy in forensic medicine to estimate the post-mortem interval: A pilot study in an animal model and its application to human brain. *9th Meeting of the International Society of Magnetic Resonance in Medicine*, Glasgow, 2001; p.388.

123. Kreis R, Decombaz J, Jung B, Diem P, Ith M, Schmitt B, Hoppeler H, Boesch C. Determinants of intramyocellular lipid levels are multifactorial. *9th Meeting of the International Society of Magnetic Resonance in Medicine*, Glasgow, 2001; p.330.
124. Kreis R, Ith M, Baumgartner I, Bruegger K, Skjelsvik C, Jung B, Boesch C. Quantitation of deoxy-myoglobin in skeletal muscle: Reproducibility and effects of location and disease. *9th Meeting of the International Society of Magnetic Resonance in Medicine*, Glasgow, 2001; p.1655.
125. Kreis R, Slotboom J, Pietz J, Jung B, Boesch C. Quantitation of localized <sup>31</sup>P magnetic resonance spectra based on the reciprocity principle. *9th Meeting of the International Society of Magnetic Resonance in Medicine*, Glasgow, 2001; p.1669.
126. Vermathen P, Kreis R, Boesch C. Mapping fiber orientation in muscle by short TE MRSI. Regional variations of <sup>1</sup>H spectra of human muscle due to orientation dependent dipolar splittings. *9th Meeting of the International Society of Magnetic Resonance in Medicine*, Glasgow, 2001; p.328.
127. Vermathen P, Kreis R, Jung B, Boesch C. <sup>1</sup>H MR Spectroscopic imaging in human muscle: Removal of extra-myocellular lipid artifacts and determination of the spatial distribution of intra-myocellular lipids. *9th Meeting of the International Society of Magnetic Resonance in Medicine*, Glasgow, 2001; p.624.
128. Lövblad KO, Federspiel A, Kiefer C, EL-Koussy M, Stein P, Oswald H, Bürki M, Maier S, Kreis R, Dierks T, Schroth G. Diffusion-weighted MR imaging in neuroscience. Vith World Congress of the International Society for Neuroimaging in Psychiatry, Bern, August 2001.
129. Ith M, Scheurer E, Kreis R, Yen K, Thali MJ, Schweitzer W, Dirnhofer R, Boesch C. 1H-MR-Spektroskopie in der forensischen Medizin I: Eine neue Methode zur Schätzung der postmortalen Liegezeit. 80. Tagung der deutschen Gesellschaft für Rechtsmedizin. Interlaken, 2001. V-085.
130. Scheurer E, Ith M, Kreis R, Yen K, Thali MJ, Schweitzer W, Boesch C, Dirnhofer R. 1H-MR-Spektroskopie in der forensischen Medizin II: Eine Pilotstudie zur Todeszeitschätzung am Gehirn von Schafen und Menschen. 80. Tagung der deutschen Gesellschaft für Rechtsmedizin. Interlaken, 2001. V-086
131. Vermathen P, Kreis R, Boesch C. Mapping fiber orientation in human muscle by short TE MRSI based on orientation-dependent dipolar couplings. International workshop on non-invasive investigation of muscle function, International Workshop on "Non-invasive Investigation of Muscle Function", Marseille, October,2001
132. Hofmann L, Boesch C, Kreis R. Influence of composition of the basis set in linear combination model fitting of <sup>1</sup>H-MR spectra of human brain. *10th Meeting of the International Society of Magnetic Resonance in Medicine*, Honolulu, 2002; p.527
133. Ith M, Bigler P, Scheurer E, Kreis R, Hofmann L, Dirnhofer R, Boesch C. Identification of metabolites emerging during autolysis and bacterial heterolysis of decomposing brain tissue by <sup>1</sup>H-MRS *in situ* and *in vitro*. *9th Meeting of the International Society of Magnetic Resonance in Medicine*, Honolulu, 2002; p.580
134. Ith M, Scheurer E, Kreis R, Bigler P, Dirnhofer R, Boesch C. Estimation of the post-mortem interval by means of 1H-MRS of decomposing brain tissue. *10th Meeting of the International Society of Magnetic Resonance in Medicine*, Honolulu, 2002; p.228
135. Kreis R, Boesch C, Rupp A, Ebinger F, Rating D, Mayatepek E, Pietz J. Cerebral energy metabolism in phenylketonuria investigated by quantitative *in vivo* <sup>31</sup>P-MR spectroscopy. *9th Meeting of the International Society of Magnetic Resonance in Medicine*, Honolulu, 2002; p.802
136. Vermathen P, Boesch C, Maier S, Kreis R. Comparison of fiber orientation in human muscle by short TE MRSI and diffusion weighted imaging. *10th Meeting of the International Society of Magnetic Resonance in Medicine*, Honolulu, 2002; p.173
137. Vermathen P, Kreis R, Boesch C. Mapping and distribution analysis of intra-myocellular lipids in human calf muscle. *10th Meeting of the International Society of Magnetic Resonance in Medicine*, Honolulu, 2002; p.1871
138. Zehnder M, Ith M, Jung B, Kreis R, Saris W, Boutellier U, Boesch C. Evaluation of gender differences in the consumption of intramyocellular lipids (IMCL) and glycogen during endurance exercise, measured by <sup>1</sup>H- and <sup>13</sup>C-MRS. *10th Meeting of the International Society of Magnetic Resonance in Medicine*, Honolulu, 2002; p.167

139. Pietz J, Kreis R, Rupp A, Mayatepek E, Rating D, Bremer HJ, & C. Boesch. Large neutral amino acids block cerebral uptake of phenylalanine (PHE) in patients with phenylketonuria (PKU): an alternative treatment approach for PKU? The 2<sup>nd</sup> Elsinore meeting "Phenylketonuria: Present Knowledge and Future Challenges" Elsinore (DK), *J Inher Metab Dis* **25**, p 611 (2002)
140. Hofmann L, Boesch C, Kreis R. Which metabolites should be included as basis spectra for linear combination model fitting of <sup>1</sup>H-MR spectra of human brain? *MAGMA* **15 (Suppl 1)**, pp 128-129 (2002)
141. Vermathen P, Boesch C, Maier S, Kreis R. Mapping fiber orientation in human muscle. Comparison of short TE MRSI and diffusion weighted imaging. *MAGMA* **15 (Suppl 1)**, p 56 (2002)
142. Ith M, Scheurer E, Kreis R, Bigler P, Dirnhofer R, Boesch C. Postmortem brain tissue decomposition investigated by <sup>1</sup>H-MRS: A potential application in forensic sciences for the estimation of the postmortem interval. *MAGMA* **15 (Suppl 1)**, p 129 (2002)
143. Zehnder M, Ith M, Jung B, Kreis R, Saris W, Boutellier U, Boesch C. <sup>1</sup>H-MRS of intramyocellular lipids (IMCL) and <sup>13</sup>C-MRS of glycogen before and after endurance exercise: Observation of Gender Differences. *MAGMA* **15 (Suppl 1)**, pp 55-56 (2002)
144. Vermathen P, Kreis R, Boesch C. <sup>1</sup>H MR spectroscopic imaging in human muscle: Distribution analysis of intra-myocellular lipids. *MAGMA* **15 (Suppl 1)**, p 271 (2002)
145. Hubl D, Koenig T, Federspiel A, Lovblad KO, Kreis R, Boesch C, Dierks T. Veränderungen in den Faserverbindungen der weißen Substanz bei auditorischen Halluzinationen. *Der Nervenarzt* **73 (Suppl 1)**, p 128 (2002)
146. Pietz J, Ebinger F, Rating D, Mayatepek E, Rupp A, Boesch C, Kreis R. Impairments of cerebral energy metabolism in phenylketonuria. Results of a study using in vivo <sup>31</sup>P MR spectroscopy. 29. Jahrestagung der Gesellschaft für Neuropädiatrie, Wien 2003. *Neuropediatrics* **34**, A43, (2002)
147. Ith M, Jung B, Zehnder M, Zwygart K, Kreis R, Boesch C. Absolute quantitation of glycogen by means of <sup>13</sup>C-MRS: A comparison of two different approaches. *11th Meeting of the International Society of Magnetic Resonance in Medicine*, Toronto, 2003; p. 261
148. Kreis R, Slotboom J, Hofmann L, Boesch C. Towards absolute quantitation including information on the macromolecular baseline, T<sub>1</sub> and T<sub>2</sub> from individual <sup>1</sup>H-MR spectra. *11th Meeting of the International Society of Magnetic Resonance in Medicine*, Toronto, 2003; p. 266
149. Scheurer E, Ith M, Dietrich D, Kreis R, Huesler J, Dirnhofer R, Boesch C. Statistical evaluation of <sup>1</sup>H-MR spectra of the brain in situ for quantitative determination of postmortem intervals (PMI). *11th Meeting of the International Society of Magnetic Resonance in Medicine*, Toronto, 2003; p. 568
150. Vermathen P, Kreis R, Ith M, Zehnder M, Boesch C. Muscle-specific differences in the usage of intra-myocellular lipids (IMCL) during long-term exercise detected by <sup>1</sup>H MR spectroscopic imaging: A feasibility study. *11th Meeting of the International Society of Magnetic Resonance in Medicine*, Toronto, 2003; p. 786
151. Vermathen P, Schmitt B, Decombaz J, Hoppeler H, Boesch C, Kreis R. Correlation of muscle fiber type composition with intra-myocellular lipids by <sup>1</sup>H MR spectroscopic imaging and single voxel MRS. *11th Meeting of the International Society of Magnetic Resonance in Medicine*, Toronto, 2003; p. 1535
152. Vermathen P, Kreis R, Boesch C. Metabolite quantitation in muscles using <sup>1</sup>H MR spectroscopic imaging and validation by single voxel MR spectroscopy. *11th Meeting of the International Society of Magnetic Resonance in Medicine*, Toronto, 2003; p. 1152
153. Kreis R, Boesch C. Bad spectra can be better than good spectra. *11th Meeting of the International Society of Magnetic Resonance in Medicine*, Toronto, 2003; p. 264
154. Kreis R, Lutz T, Zwygart K, Hoffmann GF, Boesch C, Rating D, Pietz J. Detection and quantitation of brain phenylalanine in healthy subjects by <sup>1</sup>H-MRS: a feasibility study. *20<sup>th</sup> Annual Meeting European Society for Magnetic Resonance in Medicine and Biology (ESMRMB)*, Rotterdam, 2003, p. 47
155. Scheurer E, Ith M, Dietrich D, Kreis R, Hüsler J, Dirnhofer R, Boesch C. Statistical analysis of in situ <sup>1</sup>H-MR spectra of the brain leading to a quantitative determination of postmortem intervals (PMI). *20<sup>th</sup> Annual Meeting ESMRMB*, Rotterdam, 2003, p. 52
156. Vermathen P, Boesch C, Pietz J, Kreis R. Mapping human cerebral water compartments based on simultaneously acquired T<sub>1</sub> and T<sub>2</sub> data. *20<sup>th</sup> Annual Meeting ESMRMB*, Rotterdam, 2003, p. 447

157. Vermathen P, Boesch C, Kreis R. A novel tissue segmentation method for metabolite quantitation from MRSI data. *20<sup>th</sup> Annual Meeting ESMRMB*, Rotterdam, 2003, p. 330
158. Vermathen P, Kreis R, Boesch C. IMCL levels correlate with fiber orientation in human calf muscles. A <sup>1</sup>H-MRSI study. *20<sup>th</sup> Annual Meeting ESMRMB*, Rotterdam, 2003, p. 110
159. Ith M, Jung B, Zehnder M, Zwygart K, Kreis R, Boesch C. Evaluation of two different methods for absolute quantitation of glycogen in <sup>13</sup>C MR spectra. *20<sup>th</sup> Annual Meeting ESMRMB*, Rotterdam, 2003, p. 332
160. Scheurer E, Ith M, Yen K, Thali M, Vermathen P, Kreis R, Dirnhofer R, Boesch C. Quantitative determination of postmortem intervals: in situ <sup>1</sup>H-MR spectroscopy of human brain compared to traditional forensic methods. *12th Meeting of the International Society of Magnetic Resonance in Medicine*, Kyoto, 2004; p. 2283
161. Ith M, Thali M, Scheurer E, Kreis R, Dirnhofer R, Boesch C. Clues for the differentiation between autolytic and bacterial products in decomposing brain. *12th Meeting of the International Society of Magnetic Resonance in Medicine*, Kyoto, 2004; p. 2284
162. Ith M, Zehnder M, Christ ER, Acheson K, Kreis R, Decombaz J, Boesch C. Can larger intramyocellular lipid (IMCL) content conserve glycogen during endurance activity and increase maximal performance? *12th Meeting of the International Society of Magnetic Resonance in Medicine*, Kyoto, 2004; p. 2403
163. Kreis R, Thoeny HC, Kummer O, Roefke C, Skjelsvik C, Boesch C, Baumgartner I. MR angiography and MR spectroscopy of deoxymyoglobin for efficacy assessment of gene therapy in critical limb ischemia *12th Meeting of the International Society of Magnetic Resonance in Medicine*, Kyoto, 2004; p. 2358
164. Vermathen P, Kreis R, Boesch C. Correlation between intra-myocellular lipids and a structural parameter in human calf muscles by <sup>1</sup>H MRSI. *12th Meeting of the International Society of Magnetic Resonance in Medicine*, Kyoto, 2004; p. 2404
165. Kreis R, Vermathen P, Boesch C. Metabolite and baseline characterization in the downfield region of the human cerebral <sup>1</sup>H-MR spectrum in healthy subjects and patients with phenylketonuria. *12th Meeting of the International Society of Magnetic Resonance in Medicine*, Kyoto, 2004; p. 303
166. Vermathen P, Boesch C, Kreis R. Metabolite quantitation from MRSI data employing a novel tissue segmentation method. *12th Meeting of the International Society of Magnetic Resonance in Medicine*, Kyoto, 2004; p. 2270
167. Vermathen P, Pietz J, Boesch C, Kreis R. Mapping human cerebral water compartments based on simultaneously acquired T1 and T2 data – Evidence of dysmyelination in phenylketonuria. *12th Meeting of the International Society of Magnetic Resonance in Medicine*, Kyoto, 2004; p. 257
168. Slotboom J, Brekenfeld C, Kiefer C, Kreis R, Remonda L, Schroth G. A graphic tool for fast interactive spectroscopic prior knowledge modeling and prior knowledge database management. *12th Meeting of the International Society of Magnetic Resonance in Medicine*, Kyoto, 2004; p. 2263
169. Zehnder M, Christ ER, Ith M, Kreis R, Boesch C, Decombaz J. Effect of two different intramyocellular lipid contents on substrate utilization during endurance exercise and performance. *51st Annual Meeting American College of Sports Medicine (ACSM), Indianapolis IN, USA, 2004*. *Medicine and Science In Sports and Exercise* 36 S218 (suppl): 1494 (2004)
170. Ith M, Thali M, Scheurer E, Kreis R, Dirnhofer R, Boesch C. An attempt to differentiate autolytic and bacterial products in decomposing brain. *21<sup>st</sup> Annual Meeting ESMRMB*, Copenhagen, 2004, p. 306
171. Vermathen P, Kreis R, Boesch C. Intra-myocellular Lipids (IMCL) in thigh muscles - determination of distribution and measurement of reproducibility by MRSI. *21<sup>st</sup> Annual Meeting ESMRMB*, Copenhagen, 2004, p. 37
172. Vermathen P, Schmid JP, Kreis R, Boesch C. Measurement of intra-myocellular lipids (IMCL) in obese subjects using magnetic resonance spectroscopic imaging (MRSI) - a feasibility study. *21<sup>st</sup> Annual Meeting ESMRMB*, Copenhagen, 2004, p. 38
173. Ith M, Zehnder M, Christ ER, Acheson K, Kreis R, Decombaz J, Boesch C. Can larger intramyocellular lipid (IMCL) content conserve glycogen during endurance activity and increase maximal performance? *21<sup>st</sup> Annual Meeting ESMRMB*, Copenhagen, 2004, p. 40

174. Scheuer E, Ith M, Yen K, Thali M, Vermathen P, Kreis R, Dirnhofer R, Boesch C. Determination of postmortem intervals in forensic medicine: in situ <sup>1</sup>H-MR spectroscopy of human brain compared to traditional methods. *21<sup>st</sup> Annual Meeting ESMRMB*, Copenhagen, 2004, p. 132
175. Strozzi S, Kreis R, Giger E, Vermathen P, Kaufmann F, Boesch C, Steinlin M. Abnormalities of brain metabolites found by quantitative <sup>1</sup>H magnetic resonance spectroscopy in boys with Duchenne muscular dystrophy. *Meeting of the European Society of Magnetic Resonance Imaging in Neuropediatrics*, Genoa, Italy, 2004
176. Vermathen P, Kreis R, Boesch C. <sup>1</sup>H-MRSI measurements in human thigh muscles – Measurement of metabolite distribution and fiber orientation and determination of reproducibility. *13th Meeting of the International Society of Magnetic Resonance in Medicine*, Miami Beach, 2005; p. 62
177. Yen K, Kreis R, Weis J, Ozdoba C, Maier S, Dirnhofer R, Lovblad KO. DWI and DTI of the post-mortem brain: imaging, autopsy and histopathologic findings. *13th Meeting of the International Society of Magnetic Resonance in Medicine*, Miami Beach, 2005; p. 658
178. Zehnder M, Saillen P, Kreis R, Boesch C, Vermathen P. Evaluation of intramyocellular lipid concentration in the different thigh and calf muscles before and after endurance exercise. *13th Meeting of the International Society of Magnetic Resonance in Medicine*, Miami Beach, 2005; p. 798
179. Ith M, Stettler R, Acheson KJ, Décombaz J, Binnert C, Kreis R, Tappy L, Boesch C. Combined influence of diet and physical activity on intramyocellular lipids (IMCL), glycogen, and insulin resistance. *13th Meeting of the International Society of Magnetic Resonance in Medicine*, Miami Beach, 2005; p. 801
180. Kreis R, Giger E, Vermathen P, Strozzi S, Kaufmann F, Boesch C, Steinlin M. Quantitative <sup>1</sup>H magnetic resonance spectroscopy in boys with Duchenne muscular dystrophy. *13th Meeting of the International Society of Magnetic Resonance in Medicine*, Miami Beach, 2005; p. 1251
181. Kreis R, Salvisberg, C, Lutz T, Boesch C, Pietz J. MR visibility of vascular metabolites in dynamic uptake studies using MR spectroscopy. *13th Meeting of the International Society of Magnetic Resonance in Medicine*, Miami Beach, 2005; p. 2769
182. Kreis R, Slotboom J, Hofmann L, Boesch C. Transverse and longitudinal relaxation times of brain metabolites are age-dependent. *22<sup>nd</sup> Annual Meeting ESMRMB*, Basle, 2005, p. 265
183. Kreis R, Giger E, Vermathen P, Strozzi S, Kaufmann F, Boesch C, Steinlin M. Quantitative <sup>1</sup>H magnetic resonance spectroscopy and neuropsychologic testing in patients with Duchenne muscular dystrophy. *22<sup>nd</sup> Annual Meeting ESMRMB*, Basle, 2005, p. 170
184. Zehnder M, Saillen P, Kreis R, Boesch C, Vermathen P. Differences in utilization of intramyocellular lipids in thigh and calf muscles during endurance exercise determined by <sup>1</sup>H-MRSI. *22<sup>nd</sup> Annual Meeting ESMRMB*, Basle, 2005
185. Ith M, Stettler R, Acheson KJ, Décombaz J, Binnert C, Kreis R, Tappy L, Boesch C. Influence of dietary composition combined with physical inactivity on intramyocellular lipids (IMCL), glycogen, and insulin resistance in young healthy male volunteers. *22<sup>nd</sup> Annual Meeting ESMRMB*, Basle, 2005
186. Scheurer E, Ith M, Yen K, Bigler P, Kreis R, Vermathen P, Thali M, Dirnhofer R, Boesch C. Opportunities and limitations of magnetic resonance spectroscopy (MRS) in forensic medicine. *6th International Symposium on Advances In Legal Medicine*, Hamburg, Germany, 2005
187. Lê KA, Faeh D, Stettler R, Ith M, Kreis R, Vermathen P, Boesch C, Tappy L. Impact of four-week fructose overfeeding on insulin sensitivity, tissular lipids and plasma triglycerides in healthy men. *41<sup>st</sup> Annual Meeting of the European Association for the Study of Diabetes*, Athens, Greece, 2005, *Diabetologia* **48**[supp 1]:A273, #753 (2005)
188. Kreis R, Giger E, Vermathen P, Strozzi S, Kaufmann F, Boesch C, Steinlin M. Metabolic and neuropsychologic characterization of boys with Duchenne muscular dystrophy. *"Day of Clinical Research", Department of Clinical Research, University Berne*, Berne, #99, 2005.
189. Dierks T, Hubl D, Kreis R, Lovblad K, Strik W. Neural networks involved in hallucinations: Integrating structure and function. "13. Congress of the Association of European Psychiatrists (AEP) 2005, Munich, Germany", *European Psychiatry* **20**[Supp 1]:S53 (2005)

190. Kreis R, Giger E, Vermathen P, Strozzi, S, Kaufmann F, Boesch C, Steinlin M. Metabolic and neuropsychologic characterization of boys with Duchenne muscular dystrophy. 1<sup>st</sup> Meeting of Clinical Neuroscience Bern, Bern, 2005, #32.
191. Ehrlich C, Vermathen P, Hubl D, Federspiel A, Kiefer C, Dierks T, Boesch C, Kreis R. fMRI-guided spectroscopy for evaluation of speech-related brain areas in neuropsychiatry. *Joint Meeting of the Swiss Society for Neurosciences and the Swiss Society for Neuroradiology*, Basel, 2006. #119
192. Flück M, Trepp R, Boesch C, Ith M, Kreis R, Schmid JP, Diem P, Howald H, Hoppeler H, Christ ER. Effect of growth hormone replacement therapy (GHRT) on skeletal muscle in growth hormone-deficient (GHD) Patients: Quantitative and qualitative aspects. *88<sup>th</sup> Annual Meeting of the Endocrine Society*, Boston 2006.
193. Ith M, Benz T, Kreis R, Boesch C. "Real-time" detection of intramyocellular lipids (IMCL) during exercise by means of 1H-MRS. *14th Meeting of the International Society of Magnetic Resonance in Medicine*, Seattle, 2006; p. 480.
194. Kreis R, Boesch C, Vermathen P. Characterization of the downfield part of the human cerebral <sup>1</sup>H MR spectrum at 3 T. *14th Meeting of the International Society of Magnetic Resonance in Medicine*, Seattle, 2006; p. 2636.
195. Scheurer E, Kreis R, Thali M, Boesch C, Ith M. Decomposition characteristics of brain tissue investigated at two different temperatures by means of <sup>1</sup>H-MRS. *14th Meeting of the International Society of Magnetic Resonance in Medicine*, Seattle, 2006; p. 2524.
196. Kreis R, Vermathen P, Ith M, Lê KA, Tappy L, Boesch C. Cardiac / respiratory double triggering for <sup>1</sup>H MR spectroscopy of the liver. *14th Meeting of the International Society of Magnetic Resonance in Medicine*, Seattle, 2006; p. 2257.
197. Vermathen P, Ehrlich C, Hubl D, Federspiel A, Dierks T, Boesch C, Kreis R. fMRI-guided spectroscopy for evaluation of speech-related brain areas in neuropsychiatry. *14th Meeting of the International Society of Magnetic Resonance in Medicine*, Seattle, 2006; p. 2087.
198. Vermathen P, Kreis R, Boesch C. <sup>1</sup>H-MRSI in human calf muscles at 3T: Ordering effects and intramyocellular lipids. *14th Meeting of the International Society of Magnetic Resonance in Medicine*, Seattle, 2006; p. 1674.
199. Zehnder M, Saillen P, Kreis R, Boesch C, Vermathen P. Differences in intramyocellular lipids utilization in thigh and calf muscles during endurance exercise determined by <sup>1</sup>H-MR spectroscopic imaging. *11th ECSS (European College of Sport Science) Congress*, Lausanne, Switzerland, 2006
200. Ehrlich C, Kreis R, Hubl D, Federspiel A, Kiefer, C, Dierks T, Vermathen P. Spectroscopy of speech-related brain areas: fMRI Guided Evaluation. *26th Annual Meeting of the Swiss Society of Biological Psychiatry*, Lausanne, Switzerland, 2006, # 29, *Neuropsychobiology* **54** [Suppl 1]:12 (2006)
201. Ehrlich C, Kreis R, Hubl D, Federspiel A, Kiefer, C, Dierks T, Boesch C, Vermathen P. fMRI-guided spectroscopy of speech-related brain areas. *12<sup>th</sup> Annual Meeting "Human Brain Mapping"*, Florence, Italy, 2006, # 146, *Neuroimage* **31**[Suppl 1]:130 (2006)
202. Kreis R, Zwygart K, Vermathen P, Boesch C, Pietz J, Nuoffer JM. Investigations of the blood brain barrier in phenylketonuria by <sup>1</sup>H-MR spectroscopy. 2<sup>nd</sup> Meeting of Clinical Neuroscience Bern, Bern, 2006, #PSB 13.
203. Lê KA, Faeh D, Ith M, Kreis R, Vermathen P, Boesch C, Tappy L. Effects of a 6-day high fructose diet on insulin sensitivity and ectopic lipids in healthy offspring of type 2 diabetic patients. "2<sup>nd</sup> International congress on Prediabetes & Metabolic Syndrome, Barcelona, 2007", *Diabetes & Vascular Disease Research* 2007; 4 (Suppl 1):S22
204. Chong DG, Slotboom J, Kreis R. Feasibility of using predicted Cramer Rao lower bounds for the design of optimized in vivo MR spectroscopy sequences targeting multiple metabolites. *15th Meeting of the International Society of Magnetic Resonance in Medicine*, Berlin, 2007; p. 1406.
205. Kreis R, Zwygart K, Boesch C, Pietz J, Nuoffer JM. Probing the blood/brain barrier in neonates: <sup>1</sup>H-MR spectroscopy shows low protection against high phenylalanine. *15th Meeting of the International Society of Magnetic Resonance in Medicine*, Berlin, 2007; p. 2309.

206. Ith M, Zwygart K, Stettler R, Lê KA, Christ E, Schmid JP, Kreis R, Vermathen P, Boesch C. Correlation of insulin sensitivity and replenishment of intramyocellular lipids (IMCL) as observed by 1H-MRS. *15th Meeting of the International Society of Magnetic Resonance in Medicine*, Berlin, 2007; p. 2604.
207. Bortolotti M, Faeh D, Kreis R, Ith M, Vermathen, P, Boesch C, Tappy L. A high protein intake reduces intrahepatic lipid deposition in response to a high fat diet in humans. *Diabetes* **56** [Suppl]:A366-A366 (2007).
208. Nuoffer JM, Trapp-Chiappini D, Zwygart K, Boesch C, Pietz J, Kreis R. The blood/brain barrier in neonates: H-1-MR spectroscopy shows low protection against high phenylalanine. *J Inherit Metab Dis* **30** [Suppl]:13 (2007).
209. Kreis R, Zwygart K, Boesch C, Nuoffer JM. Probing the blood / brain barrier in neonates: 1H-MR spectroscopy shows low protection against high phenylalanine. 3<sup>rd</sup> Meeting of Clinical Neuroscience Bern, Bern, 2007, #NP-4.
210. Kreis R, Zwygart K, Boesch C, Nuoffer JM. Astounding reproducibility of cerebral phenylalanine levels as determined by 1H-MR spectroscopy. 16th Meeting of the International Society of Magnetic Resonance in Medicine, Toronto, 2008; p. 686.
211. Kreis R, Zwygart K, Beutler V, Trapp D, Boesch C, Nuoffer JM. Age dependence of the downfield region of cerebral 1H MR spectra. 16th Meeting of the International Society of Magnetic Resonance in Medicine, Toronto, 2008; p. 782.
212. Kreis R, Zwygart K, Lutz T, Boesch C, Pietz J. Effect of standard oral aminoacid mixtures on cerebral phenylalanine content and the dynamics of blood-brain-barrier dynamics in PKU Patients. 16th Meeting of the International Society of Magnetic Resonance in Medicine, Toronto, 2008; p. 2064.
213. Henning A, Fuchs A, Boesch C, Boesiger P, Kreis R. Downfield spectra at ultrahigh field. 16th Meeting of the International Society of Magnetic Resonance in Medicine, Toronto, 2008; p. 777.
214. Ith M, Bachmann C, Scacchi P, Kreis R, Messerli-Buegry N, Zehnder M, Meyer K, Christ ER, Laederach-Hofmann K, Boesch C, Kreis R, Zwygart K, Lutz T, Boesch C, Pietz J. Effect of a physical exercise program on intrahepatic and visceral lipids in obese people - a pilot study. 16th Meeting of the International Society of Magnetic Resonance in Medicine, Toronto, 2008; p. 2701.
215. Boesch C, Egger A, Kreis R, Ith M, Krull I, Nuoffer JM, Diem P, Stettler C, Christ ER. Intrahepatocellular lipids (IHCL) increase during exercise together with serum free fatty acids (FFA) while intramyocellular lipids (IMCL) decrease. *25th Annual Meeting ESMRMB*, Valencia, 2008, # 271.
216. Kreis R, Zwygart K, Boesch C, Nuoffer JM. Reproducibility and individuality of the brain to blood ratio for phenylalanine (Phe) content measured by 1H MR spectroscopy in phenylketonuria (PKU). *25th Annual Meeting ESMRMB*, Valencia, 2008, # 303.
217. Ith M, Egger A, Huber PM, Krull I, Schmid JM, Kreis R, Christ ER, Boesch C. Standardized depletion of intramyocellular lipids (IMCL) in subjects with different degrees of insulin resistance and exercise capacity. *25th Annual Meeting ESMRMB*, Valencia, 2008, #335.
218. Chong DGQ, Kreis R, Boesch C, Slotboom J. Software for simultaneous fitting of general two-dimensional spectroscopy data. *25th Annual Meeting ESMRMB*, Valencia, 2008, # 936.
219. Egger A, Huber PM, Ith M, Krull I, Schmid JP, Kreis R, Christ ER, and Boesch C. Standardised depiction of intramyocellular lipids (IMCL) in subjects with different degree of insulin resistance and exercise capacity. *Diabetologia* 51:S270, 2008.
220. Le KA, Faeh D, Ith M, Kreis R, Vermathen P, Boesch C, Tappy L. Effects of a 6-day high fructose diet on insulin sensitivity and liver fat in healthy males with a family history of type 2 diabetes. *Diabetes* 2008;57:A11
221. Bortolotti M, Faeh D, Kreis R, Ith M, Vermathen P, Boesch C, Tappy L. A high protein intake reduces intrahepatic lipid deposition in response to a high fat diet in humans. *Fundamental & Clinical Pharmacology* 2008;22:37
222. Le KA, Faeh D, Ith M, Kreis R, Vermathen P, Boesch C, Tappy L. Effects of a 6-day high fructose diet on insulin sensitivity and liver fat in healthy males with a family history of type 2 diabetes. *International Journal of Obesity* 2008;32:S133



223. Trepp R, Fluck M, Stettler C, Boesch C, Ith M, Kreis R, Hoppeler H, Howald H, Schmid JP, Diem P, Christ ER. Effect of GH on human skeletal muscle lipid metabolism in GH deficiency. *American Journal of Physiology-Endocrinology and Metabolism* 2008;294:E1127-E1134
224. Le KA, Faeh D, Ith M, Kreis R, Vermathen P, Boesch C, Tappy L. Effects of a diet rich in fructose on insulin sensitivity and hepatic lipids in healthy men with a family history of diabetes. *Diabetes & Metabolism* 2008;34:A15
225. Bortolotti M, Faeh D, Kreis R, Ith M, Vermathen P, Boesch C, Tappy L. Preventive effect of proteins on the accumulation of hepatic triglyceride induced by foods rich in fat. *Diabetes & Metabolism* 2008;34:A15
226. Chong D, Vermathen P, Boesch C, Nuoffer J, Kreis R. Histidine transport dynamics across blood brain barrier: Initial magnetic resonance spectroscopy measurement. 4<sup>th</sup> Meeting of Clinical Neuroscience Bern, Bern, 2008, #PSM-05.
227. Boesch C, Egger A, Kreis R, Ith M, Krull I, Nuoffer J, Diem P, Stettler C, Christ E. Increase of intrahepatocellular lipids (IHCL) during exercise in healthy volunteers. 17th Meeting of the International Society of Magnetic Resonance in Medicine Honolulu 2009; p. 2146.
228. Chong D, Nuoffer J, Vermathen P, Slotboom J, Boesch C, Kreis R. Histidine transport dynamics across the healthy human blood-brain barrier investigated by 1H MRS. 17th Meeting of the International Society of Magnetic Resonance in Medicine Honolulu 2009; p. 2346.
229. Chong D, Slotboom J, Boesch C, Kreis R. Versatile fitting tool for simultaneous modeling of spectral arrays using prior knowledge restrictions in two dimensions. 17th Meeting of the International Society of Magnetic Resonance in Medicine Honolulu 2009; p. 240.
230. Ith M, Mattes-Schaub M, Kreis R, Le KA, Tappy L, Schmid J, Christ E, Boesch C. Effects of a 3-month training program on muscular lipid metabolism and physical health in sedentary non-insulin-dependant diabetes mellitus patients. 17th Meeting of the International Society of Magnetic Resonance in Medicine Honolulu 2009; p. 556.
231. Ith M, Scheurer E, Kreis R, Thali M, Dirnhofer R, Boesch C. Investigation of temperature dependence of time-of-death estimation based on 1H-MRS measurements in sheep heads. 17th Meeting of the International Society of Magnetic Resonance in Medicine Honolulu 2009; p. 1030.
232. Kreis R, Chong D. Outer-volume suppression pulses to improve in-vivo 2D MR spectroscopy. 17th Meeting of the International Society of Magnetic Resonance in Medicine Honolulu 2009; p. 2407.
233. Egger A, Boesch C, Kreis R, Nuoffer JM, Krull I, Diem P, Stettler C, Christ ER. The effect of exercise on intrahepatocellular (IHCL) and intramyocellular lipids (IMCL). 45<sup>th</sup> meeting of European Association for the Study of Diabetes (EASD), Vienna 2009.
234. Scheurer E, Kreis R, Yen K, Dirnhofer R, Boesch C, Ith M. Temperaturabhängigkeit der Todeszeit-schätzung basierend auf 1H-MR-Spektroskopie von Schafshirnen. 88. Jahrestagung der Deutschen Gesellschaft für Rechtsmedizin (DGRM), Basel 2009.
235. Flueck M, Boesch C, Ith M, Kreis R, Schmid JP, Christ ER, Hoppeler H. The system physiological relevance of muscle reprogramming in humans. 76th Annual Meeting of Society of Physiology, Marseille 2009, in *Fundamental & Clinical Pharmacology* **23S1**:80, #401, 2009.
236. Chong DGQ, Kreis R, Bolliger C, Boesch C, Slotboom J. Fitting tool for arrays of interrelated spectra. 26th Annual Meeting ESMRMB, Antalya (TR), 2009, # 749.
237. Chong D, Nuoffer J, Vermathen P, Slotboom J, Boesch C, Kreis R. Histidine transport dynamics across the healthy human blood-brain barrier investigated by 1H MR spectroscopy. 26th Annual Meeting ESMRMB, Antalya (TR), 2009, # 29.
238. Wingeier K, Giger E, Strozzi S, Kreis R, Joncourt F, Conrad B, Gallati S, Steinlin M. Duchenne muscular dystrophy: The impact of the dystrophin isoform Dp140 on cognitive functions. 5<sup>th</sup> Meeting of Clinical Neuroscience Bern, Bern, 2009, #PSP-04.
239. Jenni S, Boss A, Kreis R, Ith M, Christ ER, Boesch C, Stettler C. Exercise-related levels of acetylcarnitine in skeletal muscle of individuals with type 1 diabetes in eu- and hyperglycaemia assessed by 1H MR spectroscopy. 12th European Congress of Endocrinology, Prag, CZ, 2010. *Endocrine Abstracts* 22:P306 (2010) (Prize for best poster)

240. MacMillan E, Chong D, Dreher W, Henning A, Boesch C, Kreis R. MR Spectroscopy without water suppression for the determination of proton exchange rates in the human brain. 18th Meeting of ISMRM & 27th Annual Meeting ESMRMB, Stockholm, 2010; p. 316.
241. Buehler T, Stellingwerff T, Anwander H, Egger A, Kreis R, Boesch C. The effect of two  $\beta$ -alanine dosing protocols on muscle carnosine synthesis and washout measured by  $^1\text{H}$ -MR spectroscopy. 18th Meeting of ISMRM & 27th Annual Meeting ESMRMB, Stockholm, 2010; p. 417.
242. Bolliger C, Chong D, Slotboom J, Boesch C, Kreis R. Modeling of 3-dimensional MR spectra of human brain: simultaneous determination of  $T_1$ ,  $T_2$ , and concentrations based on combined 2DJ inversion-recovery spectroscopy. 18th Meeting of ISMRM & 27th Annual Meeting ESMRMB, Stockholm, 2010; p. 3325.
243. Boss A, Stettler C, Ith M, Jenni S, Boesch C, Kreis R. Assessment of acetylcarnitine in individuals with type 1 diabetes after exercise in eu- and hyperglycemia using  $^1\text{H}$  MR spectroscopy in skeletal muscle. 18th Meeting of ISMRM & 27th Annual Meeting ESMRMB, Stockholm, 2010; p. 3239.
244. Brandejsky V, Kreis R, Boesch C. Optimization of spectroscopy-based diffusion measurements of intramyocellular lipids. 18th Meeting of ISMRM & 27th Annual Meeting ESMRMB, Stockholm, 2010; p. 855.
245. Chong D, Nuoffer J, Bolliger C, Vermathen P, Boesch C, Kreis R. Determination of brain histidine concentrations and kinetic modeling of human blood brain barrier transport. 18th Meeting of ISMRM & 27th Annual Meeting ESMRMB, Stockholm, 2010; p. 938.
246. Heinzer-Schweizer S., Item F, Henning A, Denking J, Kreis R, Toigo M, Boutellier U, Boesiger P. Changes in oxidative metabolism of skeletal muscle induced by loaded vibration exercise under vascular occlusion. 18th Meeting of ISMRM & 27th Annual Meeting ESMRMB, Stockholm, 2010; p. 3229.
247. Stellingwerff T, Anwander H, Egger A, Buehler T, Kreis R, Boesch C, Decombaz J. The effect of two  $\beta$ -alanine dosing protocols on muscle carnosine synthesis and washout. 57<sup>th</sup> Annual Meeting ACSM, Baltimore MD, 2010, *Medicine & Science in Sports & Exercise*: **42**:108 (2010)
248. Jenni S, Boss A, Kreis R, Ith M, Christ E, Boesch C, Stettler C. Exercise-related levels of acetylcarnitine in skeletal muscle of individuals with type 1 diabetes in Eu- and hyperglycaemia assessed by  $^1\text{H}$ -MR spectroscopy. European Congress of Endocrinology, Prague, 2010, # P306. (Prize for best clinical poster)
249. MacMillan EL, Chong DGQ, Dreher W, Henning A, Boesch C, Kreis R. Proton exchange between water and metabolites in human brain observed in vivo by magnetic resonance spectroscopy. A tool to characterize brain tumor tissue? 6<sup>th</sup> Meeting of Clinical Neuroscience Bern, Bern, 2010, #MT-02.
250. van Swam C, Federspiel A, Hubl D, Wiest, R, Boesch C, Kreis R, Vermathen P, Strik W, Dierks T. Cortical thickness and intensity in auditory verbal hallucinations. 6<sup>th</sup> Meeting of Clinical Neuroscience Bern, Bern, 2010, #NB-04.
251. Chong D, Bolliger C, Slotboom J, Boesch C, Kreis R. Definition of the macromolecular baseline based on  $T_1$  as well as  $T_2$  properties. 19th Meeting of ISMRM, Montreal, 2011; p. 308.
252. Boss A, Kreis R, Saillen P, Boesch C, Vermathen P. Is free carnitine visible in  $^1\text{H}$ -MR spectra of skeletal muscle? 19th Meeting of ISMRM, Montreal, 2011; p. 1136.
253. Fuchs A, Henning A, Luttje MP, Versluis MJ, Kreis R, Boesiger P. Simultaneous up- and downfield spectroscopy using SPECIAL at 7T. 19th Meeting of ISMRM, Montreal, 2011; p. 1427.
254. Hock A, MacMillan A, Fuchs A, Kreis R, Kollias S, Henning A. Non-water suppressed proton MR spectroscopy allows spectral quality improvement in the human cervical spinal cord. 19th Meeting of ISMRM, Montreal, 2011; p. 406.
255. MacMillan E, Kreis R, Fuchs A, Versluis MJ, Boesch C, Boesiger P, Henning A. New technique for metabolite cycled non-water-suppressed proton spectroscopy in the human brain at 7T. 19th Meeting of ISMRM, Montreal, 2011; p. 1412
256. MacMillan E, Bortolotti M, Boss A, Boesch C, Kreis R. Metabolite cycled non-water-suppressed spectroscopy offers increased spectral quality in cases of physiologic and subject motion. 19th Meeting of ISMRM, Montreal, 2011; p.2996.

257. Buehler T, Boss A, Kreis R, Boesch C. Determination of ATP synthesis exchange rates in human liver and skeletal muscle using <sup>31</sup>P magnetization transfer. 19th Meeting of ISMRM, Montreal, 2011; p.3005.
258. Brandejsky V, Kreis R, Bolliger CS, Boesch C. Diffusion measurements reveal a difference in apparent diffusion coefficients of intra- and extramyocellular lipids. 19th Meeting of ISMRM, Montreal, 2011; p.268.
259. Bolliger CS, Boesch C, Kreis R. Generalizing the 2DJ experiment for optimal simultaneous detection of a set of metabolites. 28th Annual Meeting ESMRMB, Leipzig (D), 2011, # 243.
260. Brandejsky V, Boesch C, Kreis R. Differences in diffusion behavior of intra- and extramyocellular lipids and their verification using order-statistics filtering. 28th Annual Meeting ESMRMB, Leipzig (D), 2011, # 266.
261. Fuchs A, Henning A, Luttje MP, Versluis MJ, Kreis R, Boesiger P. Simultaneous up- and downfield spectroscopy using SPECIAL at 7T. 28th Annual Meeting ESMRMB, Leipzig (D), 2011, # 269.
262. Hock A, MacMillan A, Fuchs A, Kreis R, Boesiger P, Kollias S, Henning A. Metabolite cycled proton MR spectroscopy enables coherent signal averaging in the human spinal cord at 3T. 28th Annual Meeting ESMRMB, Leipzig (D), 2011, # 453.
263. Bolliger CS, Boesch C, Kreis R. Optimizing two-dimensional magnetic resonance spectroscopy experiments for the quantification of GABA and other metabolites in human brain. 7<sup>th</sup> Meeting of Clinical Neuroscience Bern, Bern, 2011, #MT-06.
264. Ith M, Stettler C, Kreis R. In vivo assessment of cardiac lipids by magnetic resonance spectroscopy: a pilot study investigating reproducibility and diurnal variation. Jahrestagung der Schweizerischen Gesellschaft für Endokrinologie und Diabetes (SGED), Bern, 2011, #17
265. Theytaz F, Egli L, Campos V, Schneiter P, Noguchi Y, Kreis R, Boesch C, Tappy L. Effets d'une supplémentation en acides aminés céto-formateurs sur la stéatose hépatique induite par le fructose chez l'homme sain. 9es Journées Francophones de Nutrition, Reims (F) 2011, O03, Cahiers de Nutrition et de Diététique 46:S22. doi:10.1016/S0007-9960(11)70024-4
266. Ith M, Stettler C, Xu J, Boesch C, Kreis R. Cardiac lipids show diurnal variations: An in-vivo <sup>1</sup>H-MR spectroscopy study in humans. 20th Meeting of ISMRM, Melbourne, 2012; p.394.
267. Hock A, Fuchs A, MacMillan EL, Kreis R, Kollias S, Boesiger P, Henning A. Scyllo-Inositol detection in the human spinal cord. 20th Annual Meeting of the International Society of Magnetic Resonance in Medicine. 20th Meeting of ISMRM, Melbourne, 2012; p.1815 2.
268. Bolliger CS, Boesch C, Kreis R. Optimizing 2DJ experiments using Cramer Rao minimum variance bounds. 20th Meeting of ISMRM, Melbourne, 2012; p.1752.
269. Brandejsky V, Kreis R, Boesch C. Identification of over-estimated diffusion coefficients obtained with very high b-values in diffusion MRS. 20th Meeting of ISMRM, Melbourne, 2012; p.2423.
270. Hock A, Petrou N, Zweers P, MacMillan EL, Kreis R, Boesiger P, Henning A. MR spectroscopy in the spinal cord of patients with traumatic injuries. 20th Meeting of ISMRM, Melbourne, 2012; p.1047.
271. Kreis R, Bolliger CS, MacMillan EL, Boettcher U, Boesch C. GABA editing without water suppression. 20th Meeting of ISMRM, Melbourne, 2012; p.1745.
272. MacMillan EL, Boesch C, and Kreis R. Magnetization transfer effects from water to metabolites in human skeletal muscle observed by non-water-suppressed MR spectroscopy. 20th Meeting of ISMRM, Melbourne, 2012; p.1438.
273. Egli L, Carrel G, Macharia H, Binnert C, Boss A, MacMillan EL, Kreis R, Boesch C, Darimont C, Tappy L. Coffee consumption blunts the increase in fasting hepatic glucose output in fructose-overfed healthy volunteers. American Diabetes Association's 72nd Scientific Sessions, Philadelphia, 762-P (2012).
274. Buehler T, Kreis R, Boesch C. Applying <sup>31</sup>P saturation and inversion transfer in human liver and skeletal muscle to measure ATP synthesis exchange rate constants. 29th Annual Meeting ESMRMB, Lisbon (P), 2012, # 90.
275. Hock A, MacMillan EL, Kreis R, Kollias S, Boesiger P, Henning A. High spectral quality for a reliable detection of an extended metabolite profile in the human spinal cord. 29th Annual Meeting ESMRMB, Lisbon (P), 2012, # 360.

276. Kreis R, Stettler C, Xu J, Boesch C, Ith M. Intra-CardiomyoCellular Lipid (ICCL) levels change in healthy lean subjects during the day and between days as observed by in-vivo <sup>1</sup>H-MR spectroscopy. 29th Annual Meeting ESMRMB, Lisbon (P), 2012, # 659. (*Certificate of Merit Award*)
277. Boss A, Kreis R, Züger T, Bucher J, Stettler C, Boesch C, Vermathen P. Production of acetylcarnitine and utilization of IMCL at different exercise intensities – A pilot-study applying SVS and MRSI. 29th Annual Meeting ESMRMB, Lisbon (P), 2012, # 660.
278. Bucher J, Zueger T, Kreis R, Ith M, Diem P, Stettler C, Boesch C, Christ E. The effect of endurance exercise on ectopic lipids [intramyocellular (IMCL), intrahepatocellular lipids (IHCL) and intracardiomyocellular lipids (ICCL)] in endurance trained athletes. 7. Jahrestagung der Schweiz. Arbeitsgruppe Metabolismus und Obesitas (ASEMO), Bern, 2012, #13.
279. Boss A, Broskey NT, Kreis R, Amati F, Boesch C. In vivo oxidative capacity vs. mitochondrial volume density in skeletal muscle of age-matched, elderly athletes and sedentary subjects – a matter of function and content. 21st Meeting of ISMRM, Salt Lake City, 2013; p. 362.
280. Boss A, Dokumaci AS, Buehler T, Kreis R, Boesch C. Comprehensive spectroscopic investigation of liver metabolism – a feasibility study. 21st Meeting of ISMRM, Salt Lake City, 2013; p. 4031.
281. Hock A, Wilm BJ, MacMillan EL, Kreis R, Kollias SS, Boesiger P, Henning A. Extended metabolite profile of the human spinal cord. 21st Meeting of ISMRM, Salt Lake City, 2013; p. 1113.
282. MacMillan EL, Bolliger CS, Boesch C, and Kreis R. Water proton relaxation times exhibit muscle fibre orientation dependence, while water to creatine magnetization transfer rates do not. 21st Meeting of ISMRM, Salt Lake City, 2013; p. 1630.
283. Broskey NT, Boss A, Fares E-J, Kreis R, Gremion G, Boesch C, Amati F. Exercise capacity in older adults: a matter of mitochondrial function, content or efficiency? 60th Annual Meeting American College of Sports Medicine (ACSM), Indianapolis IN, USA, 2013. *Medicine and Science In Sports and Exercise* 45:5 (suppl): (2013)
284. Krüsi M, Bucher J, Kreis R, Zueger T, Ith M, Stettler C, Boesch C, Christ E. The effect of aerobic exercise on ectopic lipids [intramyocellular (IMCL), intrahepatocellular (IHCL) and intracardiomyocellular (ICCL) lipids] in physically active, healthy individuals. 15<sup>th</sup> Europ. Congress of Endocrinology, Copenhagen (DK), P180. *Endocrine Abstracts* 32 P180 | doi:10.1530/endoabs.32.P180 (2013)
285. Brandejsky V, Boesch C, Kreis R. Diffusion characteristics of metabolites in human muscle investigated by <sup>1</sup>H diffusion tensor spectroscopy in vivo. 30th Annual Meeting ESMRMB, Toulouse (F), 2013, # 19.
286. Kreis R, Stettler C, Xu J, Boesch C, Ith M. Cardiac lipids show diurnal variations: an in-vivo <sup>1</sup>H-MR spectroscopy study in humans. *Tag der Klinischen Forschung*. University Bern, Nov. 2013, # 74
287. Bucher J, Krüsi M, Kreis R, Zueger T, Ith M, Stettler C, Boesch C, Christ E. Flexibility of ectopic lipids [intramyocellular (IMCL), intrahepatocellular (IHCL) and intracardiomyocellular (ICCL) lipids] in physically active, healthy individuals. *Jahrestagung der Schweizerischen Gesellschaft für Endokrinologie und Diabetes (SGED)*, Bern, 2013, #04
288. Broskey NT, Boss A, Kreis R, Boesch C, Amati F. In vivo oxidative capacity vs. mitochondrial volume density in skeletal muscle of age-matched, elderly athletes and sedentary subjects. 8. Jahrestagung der Schweiz. Arbeitsgruppe Metabolismus und Obesitas (ASEMO), Bern, 2013, #52.
289. Broskey NT, Boss A, Kreis R, Boesch C, Amati F. Do skeletal muscle mitochondria play a role In making us more efficient for endurance exercise? 61st Annual Meeting American College of Sports Medicine (ACSM), Orlando FL, USA, 2014. *Medicine and Science In Sports and Exercise* (suppl): (2014)
290. Homan P, Vermathen P, Van Swam C, Federspiel A, Boesch C, Strik W, Dierks T, Hubl D, Kreis R Magnetic resonance spectroscopy investigations of functionally defined language areas in schizophrenia. Joint Meeting of the Swiss Society for Neuroscience and the Clinical Neuroscience Bern, Bern, 2014, # I21.
291. Kreis R, Bolliger CS, MacMillan EL, Boettcher U, Boesch C. Improving robustness of brain GABA measurements in human brain. Joint Meeting of the Swiss Society for Neuroscience and the Clinical Neuroscience Bern, Bern, 2014, # K8.

292. Giapitzakis IA, Shao T, Avdievich N, Kreis R, Henning A. Optimisation of asymmetric adiabatic pulses for single voxel metabolite cycled 1H-MRS in the human brain at 9.4 Tesla. 22<sup>nd</sup> Meeting of ISMRM, Milan, 2014; p. 2895.
293. Brandejsky V, Boesch C, Kreis R. Proton diffusion tensor spectroscopy of metabolites in human muscle in vivo. 22<sup>nd</sup> Meeting of ISMRM, Milan, 2014; p. 826.
294. Kyathanahally SP, Fichtner ND, Adalid V, Kreis R. Potential effects of superficial fat on metabolite concentrations determined by water referencing. 2nd TRANSACT Workshop on "Quality Issues in Clinical MR Spectroscopy", Bern, CH, 2014.
295. Rosset R, Lecoultre V, Zwiygart K, Dokumaci S, Boesch C, Kreis R, Schneiter P, Tappy L. Fructose-induced hypertriglyceridemia does not enhance post-exercise resynthesis of intramyocellular lipid stores. 20<sup>th</sup> ECSS (European College of Sport Science) Congress, Malmö, Sweden, 2015
296. Kreis R, Kyathanahally SP. Don't use relative Cramer Rao lower bounds for elimination of low quality data! 23<sup>rd</sup> Meeting of ISMRM, Toronto, 2015; p. 1976.
297. Adalid, VJ, Bolliger, CS, Boesch C, Kreis R. Lineshape compensation methods for modeling of 2DJ spectra. 23<sup>rd</sup> Meeting of ISMRM, Toronto, 2015; p. 4724.
298. Giapitzakis IA, Nassirpour S, Avdievich N, Kreis R, Henning A. Metabolite cycled single voxel 1H spectroscopy at 9.4T. 23<sup>rd</sup> Meeting of ISMRM, Toronto, 2015; p. 4696.
299. Dokumaci AS, Pouymayou B, Kreis R, Boesch C. Motion-insensitive sequence for single-voxel determination of B1+ by Bloch-Siegert shift in moving organs including the human heart. 23<sup>rd</sup> Meeting of ISMRM, Toronto, 2015; p. 4724.
300. Kyathanahally SP, Fichtner ND, Adalid, VJ, Kreis R. Potential effects of superficial fat on metabolite concentrations determined by water referencing studied with various acquisition settings! 23<sup>rd</sup> Meeting of ISMRM, Toronto, 2015; p. 4706.
301. Kyathanahally SP, Kreis R. Real-time tool to forecast the adequacy of shim and to define the number of acquisitions needed to answer the clinical question at hand with the prescribed 1H MR spectroscopy exam! 23<sup>rd</sup> Meeting of ISMRM, Toronto, 2015; p. 208.
302. Fichtner ND, Henning A, Zoelch N, Boesch C, Kreis R. T2 estimation of downfield metabolites in human brain at 7 T! 23<sup>rd</sup> Meeting of ISMRM, Toronto, 2015; p. 1313.
303. Kreis LA, Vermathen M, Vermathen P, Kreis R. MRI goes BANANAS. 32<sup>nd</sup> Annual Meeting ESMRMB, Edinburgh (GB), 2015, # 266.
304. Pouymayou B, Buehler T, Kreis R, Boesch C. Simultaneous observation and analysis of multiple 31P magnetization exchange pathways using asymmetric adiabatic inversion. 32<sup>nd</sup> Annual Meeting ESMRMB, Edinburgh (GB), 2015, # 271.
305. Giapitzakis IA, Nassirpour S, Avdievich NI, Kreis R, Henning A. <sup>1</sup>H single voxel spectroscopy at occipital lobe of human brain at 9.4 T. 32<sup>nd</sup> Annual Meeting ESMRMB, Edinburgh (GB), 2015, # 273.
306. Kyathanahally SP, Fichtner ND, Adalid, VJ, Kreis R. Does superficial fat bias cerebral metabolite content determined by MRS? 32<sup>nd</sup> Annual Meeting ESMRMB, Edinburgh (GB), 2015, # 395.
307. Campos V, Despland C, Schneiter P, Brandejsky V, Kreis R, Boesch C, Tappy L. A randomized control trial of sugar-sweetened and artificially sweetened beverages and intrahepatic fat in overweight subjects. World Obesity. Hot Top Conference: Dietary Sugars, Obesity & Metabolic Disease Risk, Berlin (D), 2015, FASEB 29(S1) 602.5.
308. Lohrer H, Bucher J, Kruesi M, Jenni S, Ith M, Boesch C, Kreis R, Christ ER. Repletion of intramyocellular lipids (IMCL) is different in GHD patients with growth hormone deficiency (GHD) compared to control subjects (CS) 24h after a 2h aerobic exercise. ENDO 2016, Boston (USA), 2016.
309. Giapitzakis I, Kreis R, Henning A. Characterization of the macromolecular baseline with a metabolite-cycled double-inversion recovery sequence in the human brain at 9.4T. 24<sup>th</sup> Meeting of ISMRM, Singapore, 2016; p. 16.
310. Kyathanahally SP, Mocioiu V, Pedrosa de Barros NM, Slotboom J, Wright AJ, Julià-Sapé M, Arús C, Kreis R. Investigating machine learning approaches for quality control of brain tumor spectra. 24<sup>th</sup> Meeting of ISMRM, Singapore, 2016; p. 21.

311. Pouymayou B, Buehler T, Kreis R, Boesch C. Observation of <sup>31</sup>P magnetization transfer at 3 tesla using asymmetric adiabatic inversion and two different fitting strategies. 24th Meeting of ISMRM, Singapore, 2016; p. 1105.
312. Adalid Lopez VJ, Doering A, Kyathanahally SP, Bolliger CS, Kreis R. Simultaneous modeling of spectra and apparent diffusion coefficients. 24<sup>th</sup> Meeting of ISMRM, Singapore, 2016; p. 2369.
313. Fichtner ND, Henning A, Zoelch N, Boesch C, Kreis R. Elucidation of the downfield spectrum of human brain at 7T using multiple inversion recovery delays and echo times. 24th Meeting of ISMRM, Singapore, 2016; p. 2376.
314. Döring A, Adalid Lopez VJ, Brandejsky V, Boesch C, Kreis R. Diffusion weighted MR spectroscopy without water suppression allows to use water as inherent reference signal to correct for motion-related signal drop. 24th Meeting of ISMRM, Singapore, 2016; p. 2395.
315. Fichtner ND, Giapitzakis I, Avdievich N, Henning A, Kreis R. Downfield spectra of human brain obtained with and without water suppression at 9.4T. 24th Meeting of ISMRM, Singapore, 2016; p. 4010.
316. Kyathanahally SP, Mocioiu V, Pedrosa de Barros NM, Slotboom J, Wright AJ, Julià-Sapé M, Arús C, Kreis R. Assessing spectral quality: of man & machine. ISMRM Workshop on "MR Spectroscopy: From Current Best Practice to Latest Frontiers" Lake of Constance (DE), 2016.
317. Fichtner ND, Giapitzakis I, Henning A, Avdievich N, Zoelch N, Boesch C, Kreis R. Elucidation of the downfield spectrum of human brain at 7 T and at 9.4 T. ISMRM Workshop on "MR Spectroscopy: From Current Best Practice to Latest Frontiers" Lake of Constance (DE), 2016.
318. Döring A, Adalid V, Brandejsky V, Boesch C, Kreis R. Optimized estimation of apparent diffusion coefficients of metabolites. ISMRM Workshop on "MR Spectroscopy: From Current Best Practice to Latest Frontiers" Lake of Constance (DE), 2016.
319. Pouymayou B, Kreis R, Boesch C. Towards a model free estimation of treatment effects in cohort studies of intra-myocellular lipids (IMCL). ISMRM Workshop on "MR Spectroscopy: From Current Best Practice to Latest Frontiers" Lake of Constance (DE), 2016.
320. Giapitzakis I, Shao T, Avdievich N, Kreis R, Henning A. Metabolite cycled semi-LASER in human brain at 9.4T: In-vivo results. ISMRM Workshop on "MR Spectroscopy: From Current Best Practice to Latest Frontiers" Lake of Constance (DE), 2016.
321. Pouymayou B, Kreis R, Amati F, Boesch C, Towards a model-free separation of intra- and extra-myocellular lipids (IMCL/EMCL). 33rd Annual Meeting ESMRMB, Vienna (A), 2016; #507.
322. Adalid Lopez VJ, Doering A, Kyathanahally SP, Bolliger CS, Kreis R. Optimizing diffusion-weighted MR spectroscopy of the brain: Simultaneous modeling and correction for motion-related signal distortions. 33rd Annual Meeting ESMRMB, Vienna (A), 2016; #219.
323. Giapitzakis I, Avdievich N, Murali MS, Fichtner ND, Kreis R, Henning A. Functional Magnetic Resonance Spectroscopy (FMRS) using metabolite cycled semi-LASER at 9.4T: A Pilot Study. 25th Meeting of ISMRM, Honolulu (USA), 2017; p. 402.
324. Kyathanahally SP, Döring A, Kreis R. Ghostbusters for MRS: Automatic detection of ghosting artifacts using deep learning: A Pilot Study. 25th Meeting of ISMRM, Honolulu (USA), 2017; p. 5479.
325. Fichtner ND, Giapitzakis I, Avdievich N, Meckle R, Zaldivar D, Henning A, Kreis R. Magnetization exchange between water and downfield metabolites in human brain at 9.4T. 25th Meeting of ISMRM, Honolulu (USA), 2017; p. 5466.
326. Giapitzakis I, Shao T, Avdievich N, Fichtner ND, Meckle R, Kreis R, Henning A. Metabolite-cycled Semi-LASER and STEAM at 9.4T. Comparison and in vivo results. 25th Meeting of ISMRM, Honolulu (USA), 2017; p. 1061.
327. Döring A, Adalid V, Boesch C, Kreis R. Pinpointing differences in diffusion characteristics of metabolites determined in human gray matter using simultaneous spectral and diffusion modeling. 25th Meeting of ISMRM, Honolulu (USA), 2017; p. 2998.
328. Diserens G, Kreis R, Kroell D, Nett P, Stirnimann G, Vermathen P, Wiest R. Reliable determination of bile acids from human gallbladder by <sup>1</sup>H MRS - Protocol optimization and estimation of reproducibility. 25th Meeting of ISMRM, Honolulu (USA), 2017; p. 3549.

329. Hoefemann M, Doering A, Kreis R. Optimizing acquisition and fitting conditions for 1H-MRS investigations of global brain pathology. 34th Annual Meeting ESMRMB, Barcelona (E), 2017; #503.
330. Giapitzakis I, Fichtner ND, Zaldivar D, Avdievich N, Manohar S, Kreis R, Henning A. Simultaneous detection of water and metabolites alternations under visual stimulation in human visual cortex utilizing metabolite-cycled semi-LASER at 9.4T: preliminary results. 34th Annual Meeting ESMRMB, Barcelona (E), 2017; #258.
331. Surowska A,, Jegatheesan P, Campos V, Cros J, Zwygart K, Kreis R, Boesch C, Tappy L. Effects of dietary protein content on metabolic responses to sucrose overfeeding in healthy humans. 24<sup>th</sup> European Congress on Obesity, Porto (P), 2017, T3P69
332. Campos V, Despland C, Kreis R, Schneiter P, Boesch C, Tappy L. Metabolic effects of replacing sugar-sweetened- by artificially sweetened- beverages in overweight subjects with or without hepatic steatosis: a randomized control clinical trial. 24<sup>th</sup> European Congress on Obesity, Porto (P), 2017, T3P129
333. Cros J, Rosset R, Cornette F, Haba-Rubio J, Heinzer R, Pouymayou B, Buhler T, Kreis R, Boesch C, Schneiter P, Tappy L, Lecoultre V. Six days of sleep restriction do not potentiate the metabolic effects of mixed sugar-fat overfeeding. 24<sup>th</sup> European Congress on Obesity, Porto (P), 2017, T3P176
334. Döring A, Adalid V, Kreis R. Metabolite diffusion measured by MR spectroscopy without water suppression reveals microstructural information in human gray matter. Jahrestagung der biomedizinischen Technik und Dreiländertagung der Medizinischen Physik, Dresden (DE), 2017; #P4.
335. Kyathanahally SP, Döring A, Kreis R. Automatic removal of ghosting artifacts from mr spectra using deep learning. Joint 26<sup>th</sup> Meeting of ISMRM and 35<sup>th</sup> Meeting of the ESMRMB, Paris (F), 2018; p. 157.
336. Manohar S, Borbath T, Fichtner ND, Giapitzakis I, Zaldivar D, Kreis R, Henning A. Estimation of T2 Relaxation Times of Downfield Peaks in Human Brain at 9.4 T. Joint 26<sup>th</sup> Meeting of ISMRM and 35<sup>th</sup> Meeting of the ESMRMB, Paris (F), 2018; p. 1330.
337. Döring A, Adalid V, Boesch C, Kreis R. On the exploitation of slow macromolecular diffusion for baseline estimation in MR spectroscopy using 2D simultaneous fitting. Joint 26<sup>th</sup> Meeting of ISMRM and 35<sup>th</sup> Meeting of the ESMRMB, Paris (F), 2018; p. 1315.
338. Hoefemann M, van der Veen JW, Kreis R. Quantitative evaluation of systematic bias in clinical MRS introduced by the use of metabolite basis sets simulated with ideal RF pulses. Joint 26<sup>th</sup> Meeting of ISMRM and 35<sup>th</sup> Meeting of the ESMRMB, Paris (F), 2018; p. 1313..
339. Hoefemann M, Adalid V, Kreis R. What is the optimal ROI size for single voxel MRS in global brain pathology? Joint 26<sup>th</sup> Meeting of ISMRM and 35<sup>th</sup> Meeting of the ESMRMB, Paris (F), 2018; p. 1278.
340. Hoefemann M, Kreis R. Simultaneous fitting of the individual spectra recorded by multichannel receive arrays in <sup>1</sup>H MRS investigations of global brain pathology. MRS Workshop 2018: Metabolic Imaging, Utrecht (NL), 2018.
341. Hoefemann M, Bolliger C, van der Veen JW, Kreis R. About the need for a comprehensive description of the macromolecular baseline signal for MR fingerprinting and multidimensional fitting of MR spectra. 27th Meeting of ISMRM, Montreal (Canada), 2019; p. 1069.
342. Hoefemann M, Marjanska M, Auerbach E, Kreis R. Detection of NAD<sup>+</sup> in human brain is possible even at 3T and in spite of water pre-saturation when using a large voxel size. 27th Meeting of ISMRM, Montreal (Canada), 2019; p. 2259
343. Döring A, Kreis R. MRS extended by oscillating diffusion gradients as a probe for investigation of human brain tissue microstructure. 27th Meeting of ISMRM, Montreal (Canada), 2019; p. 57
344. Dziadosz M, Bogner W, Döring A, Kreis R. Novel methods to record MR spectra in human brain without suppressing or exciting the water signal to investigate exchange-sensitive protons. 27th Meeting of ISMRM, Montreal (Canada), 2019; p. 46.
345. Simsek, K. Döring A, Kreis R. Towards probing diffusion barriers for water and metabolites in skeletal muscle by MR spectroscopy using oscillating and pulsed diffusion gradients with a large range of diffusion times. 27th Meeting of ISMRM, Montreal (Canada), 2019; p. 4231
346. Hoefemann M, Muri R, Abgottspon S, Slotboom J, Everts R, Trepp R, Kreis R. Quantification of phenylalanine with 1H MRS using optimized acquisition conditions and downfield background modelling. 28th Meeting of ISMRM, Virtual Meeting, 2020; p. 374

347. Hoefemann M, Döring A, Kreis R. Combining CEST and 1H MR Spectroscopy for simultaneous determination of metabolite concentrations and effects of magnetization exchange. 28th Meeting of ISMRM, Virtual Meeting, 2020; p. 490
348. Döring A, Rummel C, Röthlisberger SC, Duss S, Roth C, Bassetti C, Kreis R. Investigation of potential effects of sleep on diffusion characteristics of metabolites and water: initial results. 28th Meeting of ISMRM, Virtual Meeting, 2020; p.860
349. Dziadosz M, Bogner W, Kreis R. A non-water-excitation MRS sequence with zero-echo time to investigate exchangeable moieties in the human brain at 3T. 28th Meeting of ISMRM, Virtual Meeting, 2020; p.2864
350. Rizzo R, Kreis R. Potential benefits from Multi-Echo Single-Shot Spectroscopy with a combined fitting process. 28th Meeting of ISMRM, Virtual Meeting, 2020; p.2904
351. Poli P, Bally L, Wiest R, Kreis R. Theoretical evaluation of the feasibility to detect label-exchange by proton MRS at 7 T in human brain after administration of deuterated glucose. 29th Meeting of ISMRM, Virtual Meeting, 2021; #1258
352. Rizzo R, Kreis R. Accounting for bias in estimated metabolite concentrations from cohort studies as caused by limiting the fitting parameter space. 29th Meeting of ISMRM, Virtual Meeting, 2021; #2011
353. Dziadosz M, Hoefemann M, Döring A, Marjanska M, Auerbach E, Kreis R. Detection and quantification of NAD+ in the human brain at 3 T: Comparison of three different localization techniques. 29th Meeting of ISMRM, Virtual Meeting, 2021; #1993
354. Döring A, Afzali M, Kleban E, Kreis R, Jones DK. Realistic simulations of diffusion MR spectroscopy: The effect of glial cell swelling on non-Gaussian and anomalous diffusion. 29th Meeting of ISMRM, Virtual Meeting, 2021; #3401
355. Simsek, K. Döring A, Pampel A, Möller HE, Kreis R. Simultaneous spectral and bi-exponential diffusion modeling of doubly motion-corrected human brain spectra with very high b-values. 29th Meeting of ISMRM, Virtual Meeting, 2021; #2205
356. Dziadosz M, Rizzo R, Kyathanahally SP, Kreis R. Denoising 1H MR spectra in a time–frequency representation by deep learning. 38rd Annual Meeting ESMRMB, 2021; #S6.P2. in Magn Reson Mater Phy (2021) 34 (Suppl 1):S175.
357. Rizzo R, Dziadosz M, Kyathanahally SP, Kreis R. Uncertainties in metabolite quantitation: CNN vs. traditional modeling. 38rd Annual Meeting ESMRMB, 2021; #S6.P3. in Magn Reson Mater Phy (2021) 34 (Suppl 1):S177.
358. Simsek, K. Döring A, Pampel A, Möller HE, Kreis R. Macromolecular background signals for gray and white matter locations in the human brain as defined from strong diffusion-weighted MR spectroscopy. Joint 30th Meeting of ISMRM and 39th Meeting of ESMRMB, London, 2022; #2533
359. Dziadosz M, Rizzo R, Kyathanahally SP, Kreis R. Denoising MR spectra by deep learning: miracle or mirage? Joint 30th Meeting of ISMRM and 39th Meeting of ESMRMB, London, 2022; #2541
360. Poli P, Emara A, Ballabani E, Buser A, Tappy L, Bally L, Kreis R. Interleaved <sup>1</sup>H-MRI, <sup>2</sup>H-MRSI and <sup>13</sup>C-MRS for time-resolved in vivo elucidation of glucose metabolism in human liver at 7 T. Joint 30th Meeting of ISMRM and 39th Meeting of ESMRMB, London, 2022; #57
361. Poli P, Emara A, Ballabani E, Buser A, Schiavon M, Herzig D, Dalla Man C, Tappy L, Kreis R, Bally L. Real-time observation of postprandial hepatic glucose metabolism with interleaved <sup>2</sup>H metabolic imaging and <sup>13</sup>C-MRS at 7 T. Joint 30th Meeting of ISMRM and 39th Meeting of ESMRMB, London, 2022; #628
362. Rizzo R, Dziadosz M, Kyathanahally SP, Kreis R. Uncertainties and bias in quantification by deep learning in magnetic resonance spectroscopy. Joint 30th Meeting of ISMRM and 39th Meeting of ESMRMB, London, 2022; #2617
363. Döring A, Jones DK, Kreis R. Improved motion compensation for water-suppressed diffusion MR spectroscopy evaluated using synthetic data. Joint 30th Meeting of ISMRM and 39th Meeting of ESMRMB, London, 2022; #1078



364. Zimmerman S, Pfyffer D, [Kreis R](#), Freund P, Seif M. Investigation of metabolic changes in the hippocampus following spinal cord injury applying a metabolite-cycling semi-LASER technique. Joint 30th Meeting of ISMRM and 39th Meeting of ESMRMB, London, 2022; #2620
365. Rizzo R, [Kreis R](#). Multi-Parametric Single-Shot Magnetic Resonance Spectroscopy for fast metabolite-specific concentration and T<sub>2</sub> determination. Joint 30th Meeting of ISMRM and 39th Meeting of ESMRMB, London, 2022; #311
366. Najac C, Döring A, Clarke W, Genovese G, Just N, [Kreis R](#), Lundell H, Mosso J, Mougél E, Oeltzschner G, Palombo M, Ligneul C. Differences in diffusion-weighted MRS processing and fitting pipelines, and their effect on tissue modeling: Results from a workshop challenge. Joint 30th Meeting of ISMRM and 39th Meeting of ESMRMB, London, 2022; #2616
367. Rizzo R, Dziadosz M, Kyathanahally SP, [Kreis R](#). Uncertainties for quantification of metabolites in Magnetic Resonance Spectroscopy: deep learning vs. model fitting. LS<sup>2</sup> Annual Meeting, Zurich, 2022
368. Poli P, Emara A, Ballabani E, Buser A, Herzig D, Tappy L, Bally L, [Kreis R](#). Time-resolved elucidation of glucose metabolism in human liver with interleaved <sup>2</sup>H-MRSI and <sup>13</sup>C-MRS at 7 tesla. ISMRM Workshop on Ultra-High Field MR, Lisboa, PT, 2022
369. Rizzo R, Stamatelatos A, Heerschap A, Scheenen T, [Kreis R](#). Towards simultaneous concentration and T<sub>2</sub> mapping of brain metabolites by multi-echo spectroscopic imaging. International MRS Workshop "MRS 2022: Overcoming the Barriers to Clinical Use", EPFL, Lausanne, Switzerland, 2022. #S3A2
370. Poli S, Emara AF, Ballabani E, Lange N, Melmer A, Herzig D, Tappy L, Bally L, [Kreis R](#). DMI using different doses of [6,6'-<sup>2</sup>H<sub>2</sub>]-glucose for real-time in vivo liver glucose mapping at 7 T. International MRS Workshop "MRS 2022: Overcoming the Barriers to Clinical Use", EPFL, Lausanne, Switzerland, 2022. #S9A4
371. Heerschap A, van Heijster F, Stamatelatos A, Simsek K, van Asten J, Rizzo R, [Kreis R](#), Scheenen T. The association of citrate and spermine in prostatic fluid in phantoms and in humans. European Molecular Imaging Meeting (EMIM), Thessaloniki, 2023, #D 703
372. Poli S, Emara AF, Ballabani E, Lange N, Melmer A, Herzig D, Tappy L, Bally L, [Kreis R](#). Evaluation of minimal dosage of deuterated glucose for mapping of hepatic metabolism by DMI and natural abundance carbon-13 spectroscopy at 7 T. 31<sup>st</sup> Meeting of ISMRM, Toronto, 2023, #0012
373. Rizzo R, Stamatelatos A, Heerschap A, Scheenen TWJ, [Kreis R](#). Simultaneous concentration and T<sub>2</sub> mapping of brain metabolites by multi-echo spectroscopic imaging. 31<sup>st</sup> Meeting of ISMRM, Toronto, 2023, #490
374. Rizzo R, Stamatelatos A, Simsek K, Van Asten JJA, [Kreis R](#), Heerschap A, Scheenen TWJ. Initial exploration of the potential of diffusion-weighted MRS for the evaluation of prostate pathology. 31<sup>st</sup> Meeting of ISMRM, Toronto, 2023, #1871
375. Stamatelatos A, Rizzo R, Simsek K, Van Asten JJA, Heerschap A, Scheenen TWJ, [Kreis R](#). Diffusion-weighted MR spectroscopy of the prostate. 31<sup>st</sup> Meeting of ISMRM, Toronto, 2023, #3698
376. Weinstein JJ, Dalton A, Kaufman J, Choi IY, [Kreis R](#), Juchem C. Toward the use of MRS methodological consensus by the clinical research community - an early assessment of dissemination results. 31<sup>st</sup> Meeting of ISMRM, Toronto, 2023, #0500
377. Döring A, Rösler F, Şimşek K, Landheer K, [Kreis R](#), Bogner W, Jones DK. Chasing the dot: Diffusion-weighted MR spectroscopy with spherical tensor encoding. 31<sup>st</sup> Meeting of ISMRM, Toronto, 2023, #3546
378. Döring A, Rösler F, Şimşek K, Afzali M, [Kreis R](#), Jones DK, Valette J, Palombo M. Time-dependent diffusion and kurtosis of human brain metabolites. 31<sup>st</sup> Meeting of ISMRM, Toronto, 2023, #3555