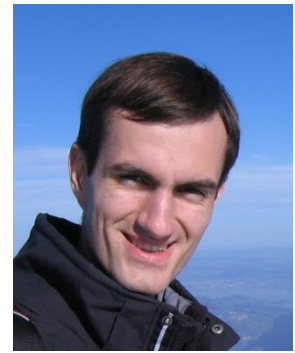


Curriculum Vitae

Personal information

First name / Surname **Dipl.-Ing. Ladislav VALKOVIČ, PhD.**
Address 87a Wilkins Road, OX4 2JB, Oxford, United Kingdom
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ladislav.valkovic@cardiov.ox.ac.uk
Nationality Slovak
Date of birth 08.August 1986



Education and training

Dates 2009 – 2012
Title of qualification awarded PhD.
Principal occupational skills covered MR Image analysis, BOLD, Measurement technology, Low-field MRI
Dissertation thesis New MR techniques for measurement and monitoring of the physiological functions
Name of educational organization Slovak Academy of Sciences (Slovak University of Technology)
Institute of Measurement Science (Faculty of Electro-technology and Informatics)

Dates 2004 – 2009
Title of qualification awarded Ing. (equal to Dipl.-Ing. or MSc.)
Principal subjects Signal analysis, image analysis, human anatomy & physiology, radiology
Diploma thesis Distortion correction in fMRI
Name of educational organization University of Zilina (University)
Faculty of Electro-technology
Biomedical Engineering

Dates 1996 – 2004
Principal subjects Mathematics, Physics, Informatics, English, German
A-levels Slovak, Mathematics, Informatics, German, English; passed on 24.05.2004
Name of educational organization 8 – year Gymnasium Varsavska cesta, Zilina (Gymnasium)

Work experience

Dates September 2015 – October 2017 (exp.)
Occupation Post-Doctoral Research Assistant
Main activities and responsibilities New MR Methods development, heart and liver Multinuclear - MR spectroscopy
Name and address of employer University of Oxford Centre for Clinical MR Research (OCMR), Department of Cardiovascular Medicine, University of Oxford, United Kingdom
Head Prof. Dr. Stefan Neubauer, Dr. Christopher T. Rodgers
Sector MR Research

Dates April 2011 – September 2015
Occupation MR researcher (from September 2012 as a Postdoc)
Main activities and responsibilities New MR Methods development, dynamic muscle und liver Multinuclear - MR spectroscopy
Name and address of employer High-field MR Centre, Department of Imaging Methods and Image-guided Therapy, Medical University of Vienna, Austria
Head Prof. Dr. Siegfried Trattnig
Sector MR Research

Dates September 2010 – December 2010
Occupation Academic guest
Main activities and responsibilities Navigator sequence implementation in the measurement- and preparation phases of the liver MR spectroscopy at 3T
Name and address of employer University hospital Zürich & ETH (Institute for biomedical engineering) Zürich, Switzerland
Head Prof. Dr. med. Spyros S. Kollias, Dr. Anke Henning
Sector MR Research

Dates January 2009 – March 2009
 Occupation External student
 Main activities and responsibilities Implementation of program for geometric distortion correction in fMRI
 Name and address of employer MR Center of Excellence, Medical University of Vienna, Austria
 Sector MR Research

Personal skills

Mother tongue Slovak

Other languages
 Self-assessment

		Understanding		Speaking				Writing		
		Listening		Reading		Spoken interaction		Spoken production		
English	C1	expert	C1	expert	B2	advanced	C1	expert	B2	advanced
German	B2	advanced	B1	advanced	B1	advanced	B1	advanced	B1	advanced
Russian	A1	basic	A2	basic	A1	basic	A1	basic	A2	basic

English State exam passed (2003)

Social skills and competences Team player, good fit in multicultural environment gained through foreign work experience
 Technical skills and competences Advanced user of Siemens and Philips High-field (3T, 7T) MR systems
 Certified safety-course for high-field MR systems passed in November 2010 in Zurich
 Computer skills Advanced user of MS Office, jMRUI, SPSS, Corel Draw, ImageJ, JiveX,
 Programming skills Siemens Pulse/Sequence development environment (IDEA)
 Philips Pulse/Sequence development environment
 Matlab, C++
 Driving license B
 Sport skills Ballroom dancing (Standard B category, Latin B category)

Additional information

Memberships in organizations

Member of the "International Society for Magnetic Resonance in Medicine" (ISMRM)
 Member of the "European Society for Magnetic Resonance in Medicine and Biology" (ESMRMB)

Review-competences (Journals)

Investigative Radiology
 European Radiology

Awards

- 2015 Award of the Department of Biomedical Imaging and Image-guided Therapy of the Medical University of Vienna for an excellent scientific performance in year 2014
 Young Scientist of the Slovak Academy of Sciences (Competition – 3.Place)
 Award of the Slovak Academy of Sciences for an excellent young scientific team
- 2013 Young Investigator Award for best oral presentation at the Int. Conference „Measurement“
- 2012 Magna Cum Laude Merit Award von ISMRM
- 2009 Chancellor of the University in Zilina award (for the best absolvent of the faculty in 2009)

Research Projects & Grants

Dates October 2013 – July 2017 (exp.)
 Grant Program Jubiläumsfonds of the Austrian National Bank
 Project number and title #15455 – Muscle-specific oxidative metabolism of patients with peripheral arterial disease. Dynamic 31P Magnetic Resonance Spectroscopy at 7 Tesla
 Total budget €196.960,-
 Dates January 2014 – June 2015
 Grant Program Action Austria – Slovak Republic
 Project number and title #2013-10-15-0004 – Effect of exercise on pathophysiology of type 2 diabetes: Focus on magnetic resonance imaging and spectroscopy in skeletal muscle
 Total budget €3.684,50

Dates February 2013 – December 2013
Grant Program Action Austria – Czech Republic
Project number and title #66p3 – Dynamic ³¹P MR spectroscopy using MR ergometers
Total budget €3.420,- + CZK43.000,-

Dates September 2010 – December 2010
Grant Program SPP foundation
Project purpose Scholarship for research stay in Zurich Switzerland
Total budget €1.200,-

Dates January 2009 – March 2009
Grant Program Tatra Bank foundation
Project purpose Scholarship for research stay in Vienna Austria
Total budget €1.500,-

Teaching

Dates Summer semester 2015
Name of teaching session, type, portion PS Advanced MR neuroimaging: Magnetic Resonance Spectroscopy; seminar; 0.5
University and Study program Medical University of Vienna, PhD Program - Clinical Neurosciences (CLINS)

Supervision

Dates December 2013 – ongoing
Name Marjeta Tušek Jelenc MSc. (PhD study supervision)
University and Study program Medical University of Vienna/AT, Medical Physics

Dates June 2015 – ongoing
Name Ján Ivančík (Bachelor Thesis supervision)
University and Study program Comenius University Bratislava/SVK, Biomedical Physics

Dates October 2013 – May 2014
Name Monika Christina Kipfelsberger BSc. (Master Thesis supervision)
University and Study program Technical University of Vienna/AT, Biomedical Engineering

Publications in journals

In preparation/Under review **L.Valkovič**, M.Chmelík, M.Krššák; In vivo phosphorus MRS of the human skeletal muscle and liver: a way for non-invasive assessment of their energy metabolism (Review). *Anal Biochem*, in preparation

L.Valkovič, M.Chmelík, M.Meyerspeer, B.Gagoski, M.Krššák, O.C.Andronesi, S.Trattnig, W.Bogner; Dynamic ³¹P-MRSI sequence with spiral trajectory readout for quantification of mitochondrial capacity in muscles of the human calf during plantar flexion exercise at 7T. *Magnetic Resonance in Medicine*, under review

S.Traussnigg, C.Kienbacher, M.Gajdošík, **L.Valkovič**, E.Halilbasic, J.Stift, C.Rechling, H.Hofer, P.Steindl-Munda, P.Ferenci, F.Wrba, S.Trattnig, M.Krššák, M.Trauner; Ultra-high-field MR-spectroscopy in NAFLD: novel mechanistic and diagnostic insights of energy metabolism in NASH and advanced fibrosis. *Journal of Hepatology*, under review

L.Mináriková, W.Bogner, K.Pinker, **L.Valkovič**, Z.Bago-Horvath, R.Bartsch, T.H.Helbich, S.Trattnig, S.Gruber; Prediction and monitoring of response to neoadjuvant chemotherapy in breast cancer via multiparametric magnetic resonance imaging at 3T. *Journal of Magnetic Resonance Imaging*, under review

Accepted B.de Courten, M.Jakubová, M.P.J.de Courten, I.Just Kukurová, **L.Valkovič**, S.Vallová, P.Krumpolec, T.Kurdiová, D.Garzon, S.Barbatesi, H.J.Teede, W.Derave, M.Krššák, G.Aldini, J.Ukropec, B.Ukropcová; Effects of 3-months carnosine supplementation on insulin resistance and glucose intolerance in overweight and obese sedentary individuals: Pilot Clinical Trial. *Obesity*, accepted for publication

Early View A.I.Schmid, M.Meyerspeer, S.D.Robinson, S.Goluch, M.Wolzt, G.B.Fiedler, W.Bogner, E.Laistler, M.Krššák, E.Moser, S.Trattnig, **L.Valkovič**; Dynamic PCr and pH imaging of human calf muscles during exercise and recovery using ³¹P gradient-echo MRI at 7 T. *Magnetic Resonance in Medicine*, DOI 10.1002/mrm.25822

- 2016** **L.Valkovič**, M.Chmelík, B.Ukropcová, T.Heckmann, W.Bogner, I.Frollo, H.Tschan, M.Krebs, N.Bachl, J.Ukropec, S.Trattinig, M.Krššák; Skeletal muscle alkaline Pi pool is decreased in overweight-to-obese sedentary subjects and relates to mitochondrial capacity and phosphodiester content. *Scientific Reports*, Volume 6, Article Number 20087, pp.1-9
- M.Tušek Jelenc, M.Chmelík, W.Bogner, M.Krššák, S.Trattinig, **L.Valkovič**; Feasibility and repeatability of localized 31P-MRS four-angle saturation transfer (FAST) of the human gastrocnemius muscle using surface coil at 7T. *NMR in Biomedicine*, Volume 29, Issue 1, pp. 57-65
- I.Just Kukurová, **L.Valkovič**, J.Ukropec, B.de Courten, M.Chmelík, B.Ukropcová, S.Trattinig, M.Krššák; Improved spectral resolution and high reliability of in vivo ¹H MRS at 7T allow the characterization of the effect of acute exercise on carnosine in skeletal muscle. *NMR in Biomedicine*, Volume 29, Issue 1, pp. 24-32
- 2015** F.Aboulenein-Djamshidian, M.Krššák, N.Serbecic, H.Rauschka, S.Beutelspacher, I.Just Kukurová, **L.Valkovič**, A.Khan, D.Prayer, W.Kristoferitsch; CROP – The Clinico-Radiologico-Ophthalmological Paradox in Multiple Sclerosis: Are patterns of retinal and MRI changes heterogeneous and thus not predictable? *PLoS One*, Volume 10, Issue 11, pp. e0142272
- M.Gajdošík, G.Chadzynski, G.Hangel, V.Mlynárik, M.Chmelík, **L.Valkovič**, W.Bogner, R.Pohmann, K.Scheffler, S.Trattinig, M.Krššák; Ultra-short TE STEAM improves quantification of lipids, choline-containing compounds and detection of fatty acid chains unsaturation in liver at 7T. *NMR in Biomedicine*, Volume 28, Issue 10, pp. 1283-1293
- M.Chmelík, **L.Valkovič**, P.Wolf, W.Bogner, M.Gajdošík, S.Gruber, M.Trauner, M.Krebs, S.Trattinig, M.Krššák; Biliary phosphatidylcholine contributes to 31P MRS signal at 2.06 ppm in the human liver. *European Radiology*, Volume 25, Issue 7, pp. 2059-2066
- P.Šedivý, M.C.Kipfelsberger, M.Dezortová, M.Krššák, M.Drobný, M.Chmelík, J.Rydlo, S.Trattinig, M.Hájek, **L.Valkovič**; Dynamic 31P MR spectroscopy of plantar flexion: Influence of ergometer design, magnetic field strength (3 T and 7 T) and RF coil design. *Medical Physics*, Volume 42, Issue 4, pp. 1678-89
- 2014** **L.Valkovič**, W.Bogner, M.Gajdošík, M.Považan, I.Just Kukurová, M.Krššák, S.Gruber, I.Frollo, S.Trattinig, M.Chmelík; One-dimensional image-selected in vivo spectroscopy localized phosphorus saturation transfer at 7T. *Magnetic Resonance in Medicine*, Volume 72, Issue 6, pp. 1509-1515
- M.Gajdošík, M.Chmelík, I.Just Kukurová, W.Bogner, **L.Valkovič**, S.Trattinig, M.Krššák; In vivo relaxation behavior of liver compounds at 7T, measured by single-voxel proton magnetic resonance spectroscopy. *Journal of Magnetic Resonance Imaging*, Volume 40, Issue 6, pp. 1365-1374
- L.Valkovič**, M.Chmelík, I.Just Kukurová, M.Jakubová, M.C.Kipfelsberger, P.Krumpolec, M.Tušek, W.Bogner, M.Meyerspeer, J.Ukropec, I.Frollo, B.Ukropcová, S.Trattinig, M.Krššák; DRESS-localized dynamic 31P-MRS of the exercising human gastrocnemius muscle at 7T. *NMR in Biomedicine*, Volume 27, Issue 11, pp. 1346-1352
- I.Just Kukurová, **L.Valkovič**, W.Bogner, M.Gajdošík, M.Krššák, S.Gruber, S.Trattinig, M.Chmelík; Two-dimensional spectroscopic imaging with combined FID and long-TE acquisition (FID echo spectroscopic imaging, FIDESI) for the detection of intramyocellular lipids in calf muscle at 7T. *NMR in Biomedicine*, Volume 27, Issue 8, pp. 980-987
- M.Chmelík, M.Považan, F.Jirů, I.Just Kukurová, M.Dezortová, M.Krššák, W.Bogner, M.Hájek, S.Trattinig, **L.Valkovič**; Flip-angle mapping of 31P coils by steady-state magnetic resonance spectroscopic imaging. *Journal of Magnetic Resonance Imaging*, Volume 40, Issue 2, pp. 391-397
- L.Valkovič**, M.Gajdošík, S.Traussnigg, P.Wolf, M.Chmelík, C.Kienbacher, W.Bogner, M.Krebs, M.Trauner, S.Trattinig, M.Krššák; Application of localized 31P MRS saturation transfer at 7T for measurement of ATP metabolism in the liver: reproducibility and initial clinical application in patients with non-alcoholic fatty liver disease. *European Radiology*, Volume 24, Issue 7, pp. 1602-1609
- A.Hock, **L.Valkovič**, A.Geier, T.Knutzen, P.Boesiger, A.Henning; Navigator based respiratory gating during acquisition and preparation phases for proton liver spectroscopy at 3T. *NMR in Biomedicine*, Volume 27, Issue 3, pp. 348-355
- T.Kurdiová, M.Bálaž, M.Vician, D.Maderová, M.Viček, **L.Valkovič**, M.Srbecký, R.Imrich, O.Kyselovičová, V.Belan, I.Jelok, C.Wolfrum, I.Klímeš, M.Krššák, E.Zemková, D.Gašperiková, J.Ukropec, B.Ukropcová; Effects of obesity, diabetes and exercise on Fndc5 gene expression and irisin release in human skeletal muscle and adipose tissue: in vivo and in vitro studies. *The Journal of Physiology*, Volume 592, Issue 5, pp. 1091-1107

- 2013** **L.Valkovič**, B.Ukropcová, M.Chmelík, M.Baláž, W.Bogner, A.I.Schmid, I.Frollo, E.Zemková, I.Klimeš, J.Ukropec, S.Trattnig, M.Krššák; Interrelation of 31P-MRS metabolism measurements in resting and exercised quadriceps muscle of overweight-to-obese sedentary individuals. *NMR in Biomedicine*, Volume 26, Issue 12, pp. 1714-1722
- L.Valkovič**, M.Chmelík, I.Just Kukurová, M.Krššák, S.Gruber, I.Frollo, S.Trattnig, W.Bogner; Time-resolved phosphorus magnetization transfer of the human calf muscle at 3T and 7T: a feasibility study. *European Journal of Radiology*, Volume 82, Issue 5, pp. 745-751
- M.Chmelík, I.Just Kukurová, S.Gruber, M.Krššák, **L.Valkovič**, S.Trattnig, W.Bogner; Fully adiabatic 31P 2D-CSI with reduced chemical shift displacement error at 7T – GOIA-1D-ISIS/2D-CSI – goSICS. *Magnetic Resonance in Medicine*, Volume 69, Issue 5, pp. 1233-1244
- 2012** V.Juráš, S.Zbýň, C.Pressl, **L.Valkovič**, P.Szomolányi, I.Frollo, S.Trattnig; Regional variations of T2* in healthy and pathologic Achilles tendon in vivo at 7 Tesla: Preliminary results. *Magnetic Resonance in Medicine*, Volume 68, Issue 5, pp. 1607-1613
- L.Valkovič**, V.Juráš, D.Gogola, I.Frollo; The early effect of alcohol and caffeine on a BOLD signal measured in human hand at low-field MRI. *Applied Magnetic Resonance*, Volume 42, Issue 4, pp. 463-471
- I.Frollo, P.Andris, D.Gogola, J.Přibíl, **L.Valkovič**, P.Szomolányi; Magnetic field variations near weak magnetic materials studied by magnetic resonance imaging techniques. *IEEE – Transactions on Magnetics*, Volume 48, Issue 8, pp. 2334-2339
- 2011** L.Vojtíšek, I.Frollo, **L.Valkovič**, D.Gogola, V.Juráš; Phased array receiving coils for low field lungs MRI: Design and optimization. *Measurement Science Review*, Volume 11, Issue 2, pp. 61-66
- 2010** **L.Valkovič**, C.Windischberger; Method for geometric distortion correction in fMRI based on three echo planar phase images. *Measurement Science Review*, Volume 10, Issue 4, pp. 116-119
- I.Frollo, P.Andris, J.Přibíl, L.Vojtíšek, T.Dermek, **L.Valkovič**; Measurement and imaging of planar electromagnetic phantoms based on NMR imaging methods. *Measurement Science Review*, Volume 10, Issue 3, pp. 97-101