

Mgr. IVICA JUST, PhD.

Researcher

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RESEARCH FOCUS & EXPERIENCE

- In vivo magnetic resonance spectroscopy (MRS) and imaging for metabolic and physiological studies
- Assessment of ectopic lipid content and investigation of lipid and energy metabolism, particularly in the heart, liver, pancreas, and skeletal muscle
- Spectroscopy and imaging of adipose tissue for metabolic characterization
- Development and implementation of MR-based methods, experimental protocols, and biomarkers for translational research in integrative physiology and diabetes
- Extensive experience with clinical, preclinical, and whole-body experimental MR systems, including 1.5T, 3T, 4.7T, and 7T field strengths
- Spectroscopic data analysis using tools such as jMRUI and LCModel
- Post-processing and quantitative analysis of imaging data using 3D Slicer, ImageJ (FIJI), and other medical imaging software
- Proficient in manual and semi-automated segmentation of anatomical structures, with a focus on skeletal muscle

WORK HISTORY

April 2011 - present	MR Researcher Department of Medicine III High Field MR Center, Department of Biomedical Imaging and Image-guided Therapy Medical University of Vienna Mar 2015- Feb 2018 Maternity leave
Apr 2010 - Aug 2014	MR Researcher, In Vivo NMR Laboratory Slovak University of Technology in Bratislava, Slovakia
Mar 2009 - Mar 2011	Researcher/Technician, microPET Department BIONT, a.s., Slovakia
Jun 2006 - Sep 2008	Brand Manager Marketing Department, Tatra banka, Member of Raiffeisen Group, Slovakia
Nov 2004 - May 2006	Junior Consultant , United Consultants, branding and consulting agency, SVK

Oct 2004 **Consultant,** Monitoring and assessment of hospitals, Sanigest, Slovakia

EDUCATION

2009 **PhD in Physical Chemistry**
-2018 Slovak University of Technology, Faculty of Chemical and Food Technology,
Bratislava, Slovakia
Thesis: Optimal use of in vivo proton spectroscopy methods for assessment of metabolic
condition of biological tissues at high magnetic fields

1999 **Master of Biomedical Physics**
-2004 Comenius University of Bratislava, Faculty of Mathematics, Physics and Informatics,
Slovakia

1999 **Master of Psychology**
-2006 Comenius University of Bratislava, Faculty of Philosophy, Slovakia

OTHER EDUCATION

May 2014 jMRUI Training, Milan, Italy

Dec 2013 Scientific stay at Cedars-Sinai Medical Center, Los Angeles, USA at Lidia S. Szczepaniak, PhD
Focus on navigated proton MR spectroscopy of pancreas

Oct 2011 jMRUI Training, Leipzig, Germany

Nov 2009 microPET/MR Imaging Science intensive training, University of Cambridge and European
Network of Excellence Diagnostic Molecular Imaging, Cambridge, UK

Nov 2009 Good Laboratory Practice – Quality Assurance, Slovak Institute of Metrology Bratislava,
Slovakia

May 2009 Animal Handling and animal protection against cruelty, University of Veterinary and
Pharmaceutical Sciences Brno, Czech Republic

Jul 2003 Schola Ludus 2003, Institute of Physical Biology of the Univ. of South Bohemia, Nove Hrad,
Czech Republic

Jun 2001 International Summer School – JINR, Nuclear physics methods and accelerators in biology and
medicine, Dubna, Russia

LANGUAGES

- English (fluent), Czech (fluent), French (basics), German (basics), Slovak (native)

Vienna, 3.9.2025



MAIN CONFERENCE PARTICIPATION

- ISMRM Annual Meeting, Singapore** **May 2024**
I. Just, P. Hnilicová, R. Klepochová, Siegfried Trattnig, M. Turčanová Koprušáková, M. Kolísek, M. Krššák
Progression of Miyoshi muscular dystrophy monitored by quantitative MRI
- Myo MRI+ Imaging in Neuromuscular Disease Conference, Berlin, Germany** **Nov 2023**
I. Just, P. Hnilicová, R. Klepochová, Siegfried Trattnig, M. Turčanová Koprušáková, M. Kolísek, M. Krššák
Muscle specific assessment of calf in Miyoshi muscular dystrophy by quantitative MRI
- Joint Annual ISMRM-ESMRMB Annual Meeting, London, UK** **May 2022**
I. Just, M. Leutner, S. Wampl, R. Klepochová, S. Trattnig, A. Kautzky-Willer, M. Krššák:
In vivo measurement of bile metabolite concentrations at 3T by 1H single voxel STEAM MRS
- ESMRMB Annual Meeting, Wien, Austria** **Oct 2016**
I. Just Kukurova, J. Harreiter, S. Trattnig, A. Luger, A. Kautzky-Willer, M. Krššák: *Comparison of PACE-navigated and breath-hold triggered 1H MRS for the assessment of pancreatic fat fraction*
- ISMRM annual Meeting, Toronto, Canada** **May 2015**
I. Just Kukurova, B. Ukropcová, M. Tušek Jelenc, M. Sedliak, M. Chmelík, J. Ukropec, M. Krššák, S. Trattnig, L. Valkovič: *Repeatability of carnosine quantification in the calf muscle by 1H at 7T & detection of its level changes following acute physical activity*
- Joint annual ISMRM -ESMRMB Annual Meeting, Milan, Italy** **May 2014**
I. Just Kukurova, M. Krššák, M. Chmelík, M. Gajdošík, S. Trattnig, L. Valkovič;
Carnosine at 7T: quantification and relaxation times in m. gastrocnemius.
- ISMRM Annual Meeting, Salt Lake City, Utah, USA** **Apr 2013**
I. Just Kukurova, L. Valkovič, M. Gajdošík, M. Krššák, S. Gruber, T. Liptaj, S. Trattnig, M. Chmelík: *Detection of lipids in various tissues in calf in one measurement by 2D CSI with FID and long echo time acquisition at 7T.*
- ESMRM Annual Meeting, Lisbon, Portugal** **Oct 2012**
I. Just Kukurova, W. Bogner, M. Gajdošík, L. Valkovič, M. Krššák, S. Gruber, S. Trattnig, M. Chmelík: *2D CSI with FID and long echo time acquisition of IMCL at 7T.*

PUBLICATIONS

- J. Harreiter*, I. Just*, M. Weber, R. Klepochová, M. Bastian, Y. Winhofer, P. Wolf, T. Scherer, L. Kosi-Trebotic, C. Deischinger, M. Chmelík, M. Krebs, S. Trattnig, M. Krššák, A. Kautzky-Willer: *Sex differences in ectopic lipid deposits and cardiac function across a wide range of glycemic control: a secondary analysis*, **Obesity (Silver Spring)**. **2024;32:2299–2309.**
- I. Just, M. Krššák. *Skeletal muscle fat*, Chapter in **Visceral and Ectopic Fat, Risk Factors for Type 2 Diabetes, Atherosclerosis, and Cardiovascular Disease**. Edited by H.J. Lamb, Elsevier, **2023: 149-161.**
- I. Just Kukurova, L. Valkovič, J. Ukropec, B. De Courten, M. Chmelík, B. Ukropcová, S. Trattnig, M. Krššák: *Improved spectral resolution and high reliability of in vivo 1 H MRS at 7 T allow the characterization of the effect of acute exercise on carnosine in skeletal muscle*, **NMR Biomed.** **2016 Nov; 29:24–32**
- I. Just Kukurova, L. Valkovič, W. Bogner, M. Gajdošík, M. Krššák, S. Gruber, S. Trattnig, M. Chmelík: *Two-dimensional spectroscopic imaging with combined free induction decay and long-TE acquisition (FID echo spectroscopic imaging, FIDESI) for the detection of intramyocellular lipids in calf muscle at 7 T*; **NMR Biomed.** **2014 Aug;27(8):980-7**

C. Deischinger, D. Slukova, L. Kosi-Trebotic, J. Harreiter, S. Nopp, **I. Just**, R. Klepochova, M. Krššák, S. Trattinig, U. Kaufmann, A. Kautzky-Willer, *Gender-affirming hormone therapy and its impact on myocardial mass and cardiac function: a prospective magnetic resonance cohort study on transgender men and women*, **European Journal of Endocrinology**, Volume 192, Issue 4, April 2025, Pages 429–436

D. Slukova, C. Deischinger, **I. Just**, U. Kaufmann, S. Trattinig, M. Krššák, L. Kosi-Trebotis, J. Harreiter, A. Kautzky-Willer. *The effects of gender-affirming hormone therapy on myocardial, hepatic, pancreatic lipid content, body fat distribution and other cardiometabolic risk factors: A magnetic resonance-based study in transgender individuals*, **Journal of Clinical & Translational Endocrinology** 39 (2025) 100379.

P. Hnilicová, M. Grendár, M. Koprušáková Turčanová, A. Trančíková Králová, J. Harsányiová, M. Krššák, **I. Just**, N. Mišovičová, J. Grossman, P. Spalek, I. Mečiarová, E. Kurča, N. Žilka, K. Zeleňák, W.-. Bogner, M. Kolísek. *Brain of miyoshi myopathy/dysferlinopathy patients presents with structural and metabolic anomalies*. **Scientific Reports** 14, 2024: 19267.

Klepochová R, Niess F, Meyerspeer M, Slukova D, **Just I**, Trattinig S, Ukropec J, Ukropcová B, Kautzky-Willer A, Leutner M, Krššák M. *Correlation between skeletal muscle acetylcarnitine and phosphocreatine metabolism during submaximal exercise and recovery: interleaved 1H/31P MRS 7 T study*. **Scientific Reports**. 2024 Feb 8;14(1):3254.

M. Schon, **I. Just**, P. Krumpolec, P. Blažiček, L. Valkovič, G. Aldini, C-L. Tsai, B. De Courten, M. Krššák, B. Ukropcová J. Ukropec. *Supplementation-Induced Change in Muscle Carnosine is Paralleled by Changes in Muscle Metabolism, Protein Glycation and Reactive Carbonyl Species Sequestering* **Physiological Research** 72: 87-97, 2023.

C. Deischinger, D. Slukova, **I. Just**, U. Kaufmann, J. Harreiter, M. Van Trotsenburg, S. Trattinig, M. Krššák, A. Kautzky-Willer, R. Klepochová, L. Kosi. *Effects of gender-affirming hormone therapy on cardiovascular risk factors focusing on glucose metabolism in an Austrian transgender cohort*. **International Journal of Transgender Health**. 2022 Oct, 24 (3).

J. Harreiter, **I. Just**, M. Leutner, M. Bastian, H. Brath, C. Schelkshorn, R. Klepochova, M. Krššák, A. Kautzky-Willer. *Combined EXENatide and Dapagliflozin has no additive effects on reduction of hepatocellular lipids despite better glycemic control in patients with type 2 diabetes mellitus treated with metformin – EXENDA , a 24 week, prospective, randomized, placebo-controlled pilot trial*. **Diabetes Obesity and Metabolism**. 2021 Jan; 23 (4)

Krumpolec P. [†], Klepochová R. [†], **Just I.**, Tušek Jelenc M., Frollo I, Ukropec J, Ukropcová B, Trattinig S, Krššák M, Valkovič L. [†]Contributed equally: *Multinuclear MRS at 7T uncovers exercise driven differences in skeletal muscle energy metabolism between young and seniors*, **Frontiers in Physiology** 2020 Jun; 11: 644

Kosi Trebotic, L., Deischinger, C., Thomas, A., **Just-Kukurova, I.**, Trattinig, S., Kaufmann, U., Kautzky-Willer, A: *Cardiometabolic Effects of Cross-Sex Hormone Therapy in Transgender Patients*; **Journal of the Endocrine Society** 2020 May SUN-048.

M. Leutner, C. Göbl, P. Wolf, K. Maruszczak, L. Bozkurt, H. Steinbrecher, **I. Just-Kukurova**, J. Ott, C. Egarter, S. Trattinig and A. Kautzky-Willer: *Pericardial Fat Relates to Disturbances of Glucose Metabolism in Women with the Polycystic Ovary Syndrome, but Not in Healthy Control Subjects*, **International Journal of Endocrinology**. 2018 Aug 7

L. Kosi, J. Harreiter, M. Chmelík, A. Thomas, **I. Just Kukurova**, S. Trattinig, A. Kautzky-Willer: *Gliptin therapy reduces hepatic and myocardial fat in type 2 diabetic patients Gliptins and cardiometabolic risk*, **European Journal of Clinical Investigation**. 2017 Aug; 47 (11)

C. S Göbl, J. Ott, L. Bozkurt, M. Feichtinger, V. Rehmann, A. Cserjan, M. Heinisch, H. Steinbrecher, **I. Just Kukurova**, R. Tuskova, M. Leutner, E. Vytiska-Binstorfer, C. Kurz, A. Weghofer, A. Tura, C. Egarter, A. Kautzky-Willer: *To assess the association between glucose metabolism and ectopic lipid content in different clinical classifications of PCOS*, **Diabetologie und Stoffwechsel**, 2016 Jun; 11 (03)

B. de Courten, M. Jakubova, M. de Courten, **I. Just Kukurova**, S. Vallova, P. Krumpolec, L. Valkovič, T. Kurdiová, D. Garzon, S. Barbaresi, H. Teede, W. Derave, M. Krššák, G. Aldini, J. Ukropec, B. Ukropcová: *Effects of Carnosine*

Supplementation on Glucose Metabolism: Pilot Clinical Trial , **Obesity** **2016; 24(5)**

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** . **2015 Nov; 10(11):e014227**

Mária Jozefovičová, **Ivica Just**, Tibor Liptaj, Svatava Kašparová: *Comparison of two programs for quantification of ¹H MR spectra of rat brain using a vascular dementia model*, **Acta Chimica Slovaca**, **2015 Jun; 8(1): 11–16**

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**. **2014 Dec;72(6):1509-15**

Martin Gajdošík, Marek Chmelík, Ivica Just Kukurova, Wolfgang Bogner, Ladislav Valkovič, Siegfried trattinig, Martin Krššák: *In Vivo Relaxation Behavior of Liver Compounds at 7 Tesla, Measured by Single-Voxel Proton MR Spectroscopy*, **Journal of Magnetic Resonance Imaging**. **2014 Dec;40(6):1365-74**

L. Valkovič, M. Chmelík, **I. Just Kukurová**, M. Jakubová, M. Christina Kipfelsberger, P. Krumpolec, M. Tušek Jelenc, W. Bogner, M. Meyerspeer, J. Ukropec, I. Frollo, B. Ukropcová, S. Trattinig, M. Krššák: *Depth-resolved surface coil MRS (DRESS)-localized dynamic ³¹P-MRS of the exercising human gastrocnemius muscle at 7 T*, **NMR Biomedicine** **2014 Nov;27(11):1346-52**

Y. Winhofer, P. Wolf, M. Krššák, S. Wolsfberger, A.Tura, G. Pacini, A. Gessl, W. Raber, **I. Just Kukurova**, A. Kautzky-Willer, E. Knosp, S. Trattinig, M. Krebs, A. Luger: *No Evidence of Ectopic Lipid Accumulation in the Pathophysiology of the Acromegalic Cardiomyopathy*, **Journal of Clinical Endocrinology & Metabolism**. **2014 Nov;99(11):4299-306**

M. Chmelík, M. Považan, F. Jírů, **I. Just Kukurova**, M. Dezortová, M. Krššák, W. Bogner, M. Hájek, S. Trattinig, L. Valkovič: *Flip-angle mapping of ³¹P coils by steady-state MR spectroscopic imaging*, **Journal of Magnetic Resonance Imaging**. **2014 Aug;40(2):391-7**

P. Wolf, M. Krššák, Y. Winhofer, Ch. Anderwald, E. Zwettler, **I. Just Kukurová**, A. Gessl, S. Trattinig, A. Luger, S. Baumgartner-Parzer, M. Krebs: *Cardiometabolic Phenotyping of Patients With Familial Hypocalcemic Hypercalcemia*, **Journal of Clinical Endocrinology & Metabolism**. **2014 Sep;99(9):E1721-6**

A. Galisova, L. Bačiak, M. Jozefovičova, **I. Just Kukurova**, A. Kebis, K. Ambrušova, M. Dubovicky, C.Estera, I. Sadloňova, C. Kronnerwetter, A. Berg, M. Krššák, S. Kašparova: *Pathophysiological rat model of vascular dementia: Magnetic resonance spectroscopy, microimaging and behavioral study*, **Brain Research**. **2014 Jun 3;1568:10-20**

M. Chmelík, **I. Just Kukurová**, S. Gruber, M. Krššák, L. Valkovič L, S. Trattinig, W. Bogner : *Fully adiabatic ³¹P 2D-CSI with reduced chemical shift displacement error at 7 T - GOIA-1D-ISIS/2D-CSI* **Magnetic Resonance in Medicine**. **2013 May;69(5):1233-44.**

L. Valkovič, M. Chmelík, **I. Just Kukurova**, M. Krššák, S. Gruber, I. Frollo, S. Trattinig, W. Bogner : *Time-resolved phosphorous magnetization transfer of the human calf muscle at 3 T and 7 T: A feasibility study* **European Journal of Radiology**. **2013 May;82(5):745-51**

S. Štolc, L. Jakubíková, **I. Kukurová**: *Body distribution of C-methionine and FDG in rat measured by microPET* , **Interdisciplinary Toxicology**. **2011 Mar;4(1):52-5**