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28 May 2025

LIST OF PUBLICATIONS[1]

A Peer reviewed scientific articles

A1 Journal Article (refereed), original research

1. Edwardsson Tajik B, Kvist J, Gauffin H, Cristiani R, Frobell R, **Nieminen MT**, Casula V, Englund M. Association between injury-related factors and cartilage T2 relaxation time in the subacute phase in patients after anterior cruciate ligament injury, Osteoarthritis Cartilage, accepted.
2. Kemppainen A, Tapio J, **Nieminen MT**, Saarakkala S, Nevalainen MT. Structural knee MRI findings are already frequent in a general population-based birth cohort at 33 years of age. Osteoarthritis Cartilage, accepted.
3. Konola V-M, Multanen J, Ihalainen JK, Hintikka JE, Jämsä T, Kautiainen H, **Nieminen MT**, Pekkala S, Valtonen M, Heinonen A. Effects of high impact exercise on systemic cytokines in women with mild knee osteoarthritis: a 12-month RCT, Osteoarthritis Cartilage Open, accepted.
4. Paakkari PV, Inkinen SI, Jäntti J, Tuppurainen J, Fugazzola MC, Joenathan A, Ylisiurua S, **Nieminen MT**, Kröger H, Mikkonen S, van Weeren R; Snyder BD, Töyräs J; Honkanen MKM, Matikka H, Grinstaff MW, Honkanen JTJ, Mäkelä JTA. Dual-Contrast Agent with Nanoparticle and Molecular Components in Photon-Counting Computed Tomography: Assessing Articular Cartilage Health, Annals of Biomedical Engineering, accepted.
5. Meaney A, Nrix M, **Nieminen MT**, Siltanen S. Image Reconstruction in Cone Beam Computed Tomography Using Controlled Gradient Sparsity. Applied Mathematics for Modern Challenge, accepted.
6. Panfilov E, Saarakkala S, **Nieminen MT**, Tiulpin A. End-To-End Prediction of Knee Osteoarthritis Progression with Multimodal Transformers. IEEE Journal of Biomedical and Health Informatics, accepted.
7. Zahradnik D, Hamill J, Blaschova D, Burda M, **Nieminen MT**, Casula V, Farana R, Irwin G, Uchytil J, Jandačka D. Association Between T2 Relaxation Time and Biomechanical Loading of the Anterior Cruciate Ligament in Healthy Individuals, Sports Biomechanics, accepted.

[1] *An up-to-date version of this list can always be found at* https://tinyurl.com/5n9bchp5

8. Aro O-P, Casula V, Hänninen NE, Karjalainen J, Nissi MJ, **Nieminen MT**, Henschel H. Effects of Collagen and Chondroitin Sulfate on Relaxation at Multiple Magnetic Field Strengths. Helyon, accepted.
9. Malus J, Casula V, Urbaczka J, Vilimek D, **Nieminen MT**, Hamill J, Uchytil J. Impact of different footwear on the knee joint: biomechanical analysis and acute T2 relaxation time changes following walking in minimalistic and neutral footwear, Orthopaedic Journal of Sports Medicine, accepted.
10. Akdemir B, Shahid HF, Brix M, Lääkkölä J, Islam J, Kumar T, Reponen J, **Nieminen MT**, Harjula E. From Technical Prerequisites to Improved Care: Distributed Edge AI for Tomographic Imaging, IEEE Access, accepted.
11. Paakkari P, Inkinen SI, Mohammadi A, **Nieminen MT**, Joenathan A, Grinstaff M, Töyräs J, Mäkelä JTA, Honkanen JTJ. Photon-Counting in Dual-Contrast-Enhanced Computed Tomography: A Proof-of-Concept Quantitative Biomechanical Assessment of Articular Cartilage. Nature Scientific Reports 2024, DOI: s41598-024-78237-1.
12. Mustonen H, Isosalo A, Nortunen M, **Nieminen MT**, Nevalainen MT, Huhta H. DLLabelsCT: Annotation tool using deep transfer learning to assist in creating new datasets from abdominal computed tomography scans, case study: pancreas. PLOS ONE, Dec 3;19(12):e0313126. doi: 10.1371/journal.pone.0313126
13. Monte A, Vilimek D, Uchytil J, Skypala J, Cipryan L, Casula V, Jandačka D, **Nieminen MT**. High levels of glycated haemoglobin (HbA1c) are associated with lower knee joint cartilage quality and higher knee joint symptoms in healthy individuals. European Journal of Applied Physiology 2024, doi: 10.1007/s00421-024-05646-5
14. Isosalo A, Inkinen SI, Prostredná L, Heino H, Ipatti PS, Reponen J, **Nieminen MT**. Imaging phenotype evaluation from digital breast tomosynthesis data: A preliminary study. Computers in Biology and Medicine, 2024, https://doi.org/10.1016/j.compbiomed.2024.109285
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16. Tuppurainen J, Paakkari P, Jäntti J, Nissinen MT, Fugazzola MC, van Weeren R, Ylisiurua S, **Nieminen MT**, Kröger H, Snyder BD, Joenathan A, Grinstaff M, Matikka H, Korhonen RK, Mäkelä JTA. Revealing Detailed Cartilage Function Through Nanoparticle Diffusion Imaging - A Computed Tomography & Finite Element Study. Annals of Biomedical Engineering, 2024 Sep;52(9):2584-2595. doi: 10.1007/s10439-024-03552-7
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23. Jandacka D, Casula V, Hamill J, Vilimek D, Jandackova VK, Elavsky S, Uchytil J, Plesek J, Skypala J, Golian M, Burda M, **Nieminen** MT. Regular Running Is Related to the Knee Joint Cartilage Structure in Healthy Adults, Medicine and Science in Sports and Exercise, 56: 1026-1035, 2024
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29. Casula V, Karjalainen J, Mlynarik V, Liimatainen T, Hanni M, Oei EHG, Nissi MJ, **Nieminen MT**. Does T1ϱ Measure Proteoglycan Concentration in Cartilage? Letter to Editor. J Magn Reson Imaging 9:1, 2023
30. Surazynski L, Nieminen HJ, Mäkinen M, **Nieminen MT**, Myllylä T. A method to detect thermal damage in bovine liver utilising diffuse reflectance spectroscopy, Biomedical Spectroscopy and Imaging, 10:99-112, 2023.
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36. Nykänen O, Isosalo A, Inkinen S, Casula V, Nevalainen M, Lattanzi R, Cloos M, Nissi MJ, **Nieminen MT**. Deep-Learning-based Contrast Synthesis from MRF Parameter Maps in the Knee Joint: A

Preliminary Study. Journal of Magnetic Resonance Imaging 58:559-568, 2023, http://dx.doi.org/10.1002/jmri.28573
37. Hirvasniemi J, Runhaar J, van der Heijden RA, Zokaeinikoo M, Yang M, Li X, Tan J, Rajamohan HR, Zhou Y, Deniz CM, Caliva F, Iriondo C, Lee JJ, Liu F, Martinez AM, Namiri N, Pedoia V, Panfilov E, Bayramoglu NY, Nguyen HH, **Nieminen MT**, Saarakkala S, Tiulpin A, Lin E, Li A, Li V, Dam EB, Chaudhari AS, Kijowski R, Bierma-Zeinstra S, Oei EHG, Klein S. The KNee OsteoArthritis Prediction (KNOAP2020) Challenge: An image analysis challenge to predict incident symptomatic radiographic knee osteoarthritis from MRI and X-ray images. Osteoarthritis Cartilage, 31:115-125, 2023 https://doi.org/10.1016/j.joca.2022.10.001
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41. Mirmojarabian SA, Lammentausta E, Liukkonen E, Ahvenjärvi L, Junttila J, **Nieminen MT**, Liimatainen T. Myocardium Assessment by Relaxation along Fictitious Field, Extracellular Volume, Feature Tracking, and Myocardial Strain in Hypertensive Patients with Left Ventricular Hypertrophy. International Journal of Biomedical Imaging 9198691, 2022. https://doi.org/10.1155/2022/9198691
42. Casula V, Edwardsson Tajik B, Kvist J, Frobell R, Haapea M, M, **Nieminen MT**, Gauffin H, Englund M. Quantitative evaluation of the tibiofemoral joint cartilage by T2 mapping in patients with acute anterior cruciate ligament injury vs contralateral knees: Results from the subacute phase using data from the NACOX study cohort. Osteoarthritis and Cartilage 30:987-997, 2022. https://doi.org/10.1016/j.joca.2022.02.623
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A2 Review articles

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B Non-refereed scientific articles

B1 Non-refereed journal articles

1. Bayramoglu N, **Nieminen MT**, Saarakkala S. Machine Learning Based Texture Analysis of Patella from X-Rays for Detecting Patellofemoral Osteoarthritis. arXiv:2106.01700, 2021.

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4. Panfilov E, Tiulpin A, Klein S, **Nieminen MT**, Saarakkala S. Improving robustness of deep learning based knee MRI segmentation: Mixup and adversarial domain adaptation. arXiv 1908.04126, 2019

D Publications intended for professional communities

D5 Textbook, professional manual or guide, dictionary

1. Heikkilä J, Hippeläinen E, Kallio-Pulkkinen S, Lajunen A, Lepola P, Liukkonen E, **Nieminen M**, Peuna A, Sierpowska J, Vitikainen A-M. Suositus kuvankatselunäytöille ja niiden laadunvalvontaan. Säteilyturvakeskus; 2022. pp.33. ISBN 978-952-309-546-5.

2. **Nieminen M,** Oikarinen H, Autti T. Säteilysuojelu ja turvallisuus. In: Blanco Sequeiros R, Koskinen SK, Aronen H, Lundbom N, Vanninen O, Tervonen O (ed.): Kliininen Radiologia. Duodecim; 2016 ISBN 978-951-656-534-0

3. **Nieminen M,** Saarakkala S, Lammentausta E. Radiologisen kuvantamisen fysiikka ja tekniikka. In: Blanco Sequeiros R, Koskinen SK, Aronen H, Lundbom N, Vanninen O, Tervonen O (ed.): Kliininen Radiologia. Duodecim; 2016 ISBN 978-951-656-534-0

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E. Publications intended for the general public, linked to the applicant's research

E1 Popularised article, newspaper article

Nieminen M. Kuvantamisen arvoketjua muovaavat uudet teknologiat. Blog text, 2021. https://aidmei.blogspot.com/2021/05/kuvantamisen-arvoketjua-muovaavat-uudet.html http://jultika.oulu.fi/Record/nbnfi-fe2021120859511

Paalimäki-Paakki K, Schroderus-Salo T, **Nieminen M**. A Unique Medical Imaging Test Laboratory to Be Built in Oulu. Blog text, 2021. https://smartcampus.fi/unique-medical-imaging-test-laboratory/ or https://urn.fi/URN:NBN:fi-fe2021112557128

Nieminen MT. Uudet magneettikuvausmenetelmät nivelrikkotutkimuksen avuksi. Niveltieto 26th May, 2018

Nieminen MT, Rissanen T, Lammentausta E, Liukkonen E. Kuvantamismenetelmien uudet mahdollisuudet - radiologian tekniikan kehittyminen parantaa diagnostiikkaa. Mediuutiset 23th November 2012

G Theses

G1 Bachelor's thesis

Nieminen MT. Investigation of absolute pitch using auditive event related potentials, University of Kuopio, 1998

G2 Master's thesis

Nieminen MT. Quantitative MRI of enzymatically treated articular cartilage, University of Kuopio, 1999

G5 Doctoral dissertation (article)

Nieminen MT. Quantitative Magnetic Resonance Imaging of Articular Cartilage: Structural, Compositional and Functional Characterization of Normal, Degraded and Engineered Tissue, University of Kuopio, 2002.

H. Patents and invention disclosures

H1 Patents

Nieminen M, Juntunen M, Ketola J, Inkinen S, Apparatus, method and computer program for processing computed tomography (CT) scan data, Granted patent, 2022 (Finland), 2023 (Europe) https://tinyurl.com/2aweazcp

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H2 Invention disclosures

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Surazynski L, Hassinen V, Zhao Z, Myllylä T, Mäkinen M, Nieminen HJ, **Nieminen MT**. Biopsy assisting measurement system, invention disclosure, University of Oulu, 2021.

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