

Snekkersten Research Retreat 2024



MUSKOS
Graduate PhD Programme



“Different groups – same programme: #MUSKOS”

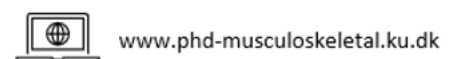
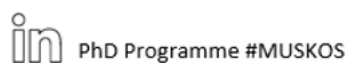
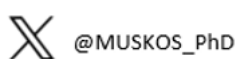
Basic and Clinical Research in Musculoskeletal Sciences

Graduate PhD Programme, Faculty of Health and Medical Sciences, University of
Copenhagen



Thursday 21st of November – Friday 22nd of November 2024

Comwell Borupgaard, Nørrevej 80, 3070 Snekkersten



Collaboration

The symposium “Basic and Clinical Aspects of Muscle Strains in Sports” is organized in collaboration with imPAct: Physical Activity and Sports in Clinical Medicine, and the symposium “Treatments for Knee Osteoarthritis” is organized in collaboration with ROAD: Research OsteoArthritis Denmark. Both are Clinical Academic Groups (CAGs) under Greater Copenhagen Health Sciences Partners. We appreciate the collaboration.

Acknowledgements

Snekkersten Research Retreats benefit greatly from people who contribute and help for the benefit of all. MUSKOS would like to thank the following people for their roles in organizing the 2024 Snekkersten Research Retreat: Secretary Lea Parmark, PhD-student Britt Stævnbo Pedersen, Research Assistant Lea Kromann Johansen, Research Assistant Sofie Tscherning Lindholm, Research Assistant Rasmus Hoxer Brødsgaard, Senior Researcher Chloé Yeung, Associate Professor Mette Merete Pedersen, Professor Kristian Thorborg, and Professor Abigail Mackey.

Thank you to the Snekkersten abstract committee: Associate Professor Lina Holm Ingelsrud, Associate Professor Tina Dysgaard, Associate Professor Mette Merete Pedersen, Professor Kristoffer Barfod, and Professor Marius Henriksen.

We also acknowledge the MUSKOS Best Papers committee and developers: Postdoc Anne-Sofie Agergaard, Professor Jørn Wulff Helge, Associate Professor Julien Ochala.

Our appreciation extends to the developers of the new poster presentation-format: Postdoc Grith Højfeldt, Postdoc Jasmin Bagge, Postdoc, Maria Swennergren Hansen, Postdoc Troels Mark-Christensen, Postdoc Lasse Ishøj, Postdoc Jonathan Bjerre-Bastos, Senior Researcher Jesper Løvind Andersen, and Senior Researcher Jakob Agergaard.

MUSKOS also thanks the MUSKOS steering committee for their inputs and perspectives on new developments throughout the year, along with contributions to the 2024 Snekkersten Research Retreat: PhD-student Tue Leth Nielsen, PhD-student Tazio Maleitzke, Professor Abigail Mackey, Professor Kristian Thorborg, Professor Stine Jacobsen, Associate Professor Mette Merete Pedersen, and Professor Bente Appel Esbensen.

Finally, appreciation to all speakers and session chairs. Your contributions form the core of our program, supporting both content and delivery.

Welcome to the 2024 Snekkersten Research Retreat.



Thomas Bandholm, Professor, PhD
Head of Programme

Thursday 21st of November

- 08.30 – 09.30 Breakfast and onboarding: informal meeting for PhD students
Mette Merete Pedersen, Tue Leth Nielsen, Tazio Maleitzke (Room C)
- 09.30 – 09.45 **Welcome (AUD A)**
Professor Thomas Bandholm, University of Copenhagen
- 09.45 – 10.45 **MUSKOS opening keynote lecture (AUD A)**
Imaging now and in the future: Implications for clinical practice and research
Professor Mikael Ploug Boesen, University of Copenhagen
Chair: Anders Troelsen
- 10.45 – 11.15 **Break**
- 11.15 – 12.15 **Poster presentations and walk (AUD A + B)**

Auditorium A	Auditorium B
<p>Abstract P7: Cecilie Moe Weinreich <i>"The effect of age and obesity on maximal fat oxidation and metabolic flexibility"</i></p> <p>Abstract P20: Michelle Andersen <i>"Hypermetabolism and muscle mitochondrial defects in individuals with pathogenic mitochondrial DNA mutations - A mechanistic link underlying obesity resistance?"</i></p> <p>Abstract P21: Andreas Toft Mikkelsen <i>"How do individuals with COPD respond to moderate-intensity oxygen kinetics test (VO₂-kinetic) compared to healthy matched controls? A case-control trial"</i></p> <p>Abstract P11: Magnus Sundberg Heilmann-Clausen <i>"Acute Exercise, Lactate, & Cognition"</i></p> <p>Abstract P13: Eline Baad-Hansen <i>"Current grip strength is related to long-term memory performance in older adults - A Bayesian approach"</i></p> <p>Abstract P24: Linda Kannuberg <i>"Normative Data for Intradermal Nervefiber Density in the Danish Population via AI"</i></p>	<p>Abstract P2: Grith Højfeldt <i>"Nicotinamide and Pyridoxine supplementation in humans stimulates Muscle Stem Cells, a randomized clinical trial on skeletal muscle repair in healthy volunteers"</i></p> <p>Abstract P3: Casper Soendenbroe <i>"Hematopoietic Stem Cell Transplantation Survivors have a preserved capacity for muscle adaptation to Heavy Resistance Exercise"</i></p> <p>Abstract P5: Anne Theil Gates <i>"The strength of aging: a 7 year long-term follow up of a resistance training intervention with heavy loads"</i></p> <p>Abstract P9: Kenneth Mertz <i>"Effects of weight cutting on physical and cognitive function in natural bodybuilders"</i></p> <p>Abstract P18: Asta S. Eriksen <i>"The Effect of Dynamic Loading and Unloading on Non-Myogenic Muscle Resident Cells in Vitro"</i></p> <p>Abstract P23: Alexandra Winant <i>"Towards a molecular understanding of critical illness myopathy: a single-cell functional and multi-omic approach"</i></p>
<p>Initial 3-minute presentations on-stage orally using a maximum of two PowerPoint slides and a subsequent 30-minute informal poster walk. Chairs: Jesper Løvind Andersen and Jonathan Jetsmark Bjerre-Bastos</p>	<p>Initial 3-minute presentations on-stage orally using a maximum of two PowerPoint slides and a subsequent 30-minute informal poster walk. Chairs: Jasmin Bagge and Maria Swennergren Hansen</p>

12.15 – 13.00

Lunch

13.00 – 15.00

Oral presentations from MUSKOS PhD students (AUD A + B)

Auditorium A	Auditorium B
<p>13.00 – 13.10 Abstract O19: Frederik Jager Bruun <i>“Independent diagnostic test accuracy study of CE marked Artificial Intelligence based solutions for estimating sensitivity and specificity for fracture detection support on radiographs”</i></p>	<p>13.00 – 13.10 Abstract O28: Nicolas Tekin Jones <i>“The effects of intravenous iron on mobility in elderly patients following hip fracture surgery: protocol for a multicentre, parallel group, randomised controlled trial”</i></p>
<p>13.11 – 13.21 Abstract O17: Camilla Toft Nielsen <i>“Knee Bone Shape from Computed Tomography is Associated with Subchondral Bone Attenuation and Marginal Cortical Bone Thickness”</i></p>	<p>13.11 – 13.21 Abstract O11: Tue Leth Nielsen <i>“Deciphering insulin resistance and mitochondrial dysfunction: preliminary results from a unique human genetic model”</i></p>
<p>13.22 – 13.32 Abstract O15: Zhe Lyu <i>“6-year follow-up on muscle affection in female carriers of Dystrophinopathy”</i></p>	<p>13.22 – 13.32 Abstract O3: Asbjørn Seenithamby Poulsen <i>“Effect of weight loss and liraglutide on neutrophil gelatinase-associated lipocalin levels among individuals with overweight and knee osteo-arthritis: Secondary analyses of a randomized controlled trial”</i></p>
<p>13.33 – 13.43 Abstract O9: Nanna Scharff Poulsen <i>“Muscle MRI phenotyping og patients with anoctaminopathy”</i></p>	<p>13.33 – 13.43 Abstract O20: Stine Bitsch-Olsen <i>“Feasibility and safety of exercise in patients with low-risk (or early-stage) myeloid cancers and precursor conditions (HemEx): a randomized controlled pilot trial”</i></p>
<p>13.44 – 13.54 Abstract O6: Britt Stævnso Pedersen <i>“Motivators and barriers to training in patients with polyneuropathy - Preliminary results from a qualitative study”</i></p>	<p>13.44 – 13.54 Abstract O14: Merete B. Speedtsberg <i>“Data-driven recommendations for assessing early-phase RTD: A Reliability study”</i></p>
<p>13.55 – 14.05 Abstract O26: Kathrine Højte Dahl <i>“Muscle function assessment in dogs with cranial cruciate ligament disease using acoustic myography and gait analysis”</i></p>	<p>13.55 – 14.05 Abstract O10: Bjørk Wulff Helge <i>“Three months of high-volume running results in decreased fat mass and explosive power but not lean body mass”</i></p>
<p>14.06 – 14.16 Abstract O22: Christian Hoegsbjerg <i>“Fibre type differences in the 3D Architecture of Nuclei at the Myotendinous Junction”</i></p>	<p>14.06 – 14.16 Abstract O4: Ann Damgaard <i>“Effect of Growth Hormone and Mechanical Loading on Protein Synthesis in Healthy Human Patellar Tendon - a randomized, controlled trial”</i></p>
<p>8-minute presentations + 2 minutes for questions. Chairs: Anne Theil Gates and Philip Hansen Comments on presentation technique: MA in rhetoric Hanne Smith Hansen (14.30 – 15:00, no audience)</p>	<p>8-minute presentations + 2 minutes for questions. Chairs: Camilla Koch Rysø and Morten Tange Kristensen Comments on presentation technique: MA in rhetoric Mads Højlyng (14.30 – 15:00, no audience)</p>

CAG ImPAct SYMPOSIUM (AUD A):

Basic and clinical aspects of muscle strains in sports

Chairs: Chloe Yeung and Flemming Dela

15.00 – 15.10	Introduction to topic Professor Flemming Dela, University of Copenhagen
15.10 – 15.30	Plasticity of human skeletal muscle and the myotendinous junction Professor Abigail Mackey, University of Copenhagen
15.30 – 15.50	Prevention and treatment of muscle strains – what works? Professor Kristian Thorborg, University of Copenhagen
15.50 – 16.00	Discussion

SYMPOSIUM (AUD B):

The future of scientific publishing: The editors' perspective

Chairs: Stine Jacobsen and Robin Christensen

15.00 – 15.10	Introduction to topic Professor Stine Jacobsen, University of Copenhagen
15.10 – 15.30	Publishing with Acta Orthopaedica now and in the future Professor Søren Overgaard, University of Copenhagen
15.30 – 15.50	Directory of Open Access Journals (DOAJ): staying clear of predator journals Managing Director at DOAJ Joanna Ball
15.50 – 16.00	Discussion
16.00 – 16.30	Break (coffee/tea)

MUSKOS BEST PAPERS SYMPOSIUM (AUD A):

MUSKOS best basic and clinical science papers 2024

Chairs: Anne-Sofie Agergaard and Jørn Wulff-Helge

- 16.30 – 16.35 Introduction
Anne-Sofie Agergaard and Jørn Wulff-Helge, University of Copenhagen
- 16.35 – 16.50 Presentation of MUSKOS best basic science paper 2024:
“Widespread Vascularization and Correlation of Glycosaminoglycan Accumulation to Tendon Pain in Human Plantar Fascia Tendinopathy”
MUSKOS PhD student Max Merkel
- 16.50 – 17.05 Behind the paper: What you cannot read in the paper
- 17.05 – 17.20 Presentation of MUSKOS best clinical science paper 2024:
“Validity and reliability of seismocardiography for the estimation of cardiorespiratory fitness”
MUSKOS PhD student Mikkel T Hansen
- 17.20 – 17.35 Behind the paper: What you cannot read in the paper
- 18.30 **Pre-dinner drink (fireside bar)**
- 19.00 **Dinner (including the Snekkersten PhD Cup and Quiz)**
(Chairs: Chloe Yeung, Thomas Bandholm, Jørn Wulff Helge)

Friday 22nd of November

- 07.00 – 08.00 **MUSKOS walk, talk, run, swim, or lift (Reception)**
Maria S Hansen, Britt S Pedersen, Sofie T Lindholm
- 09.00 – 11.00 **Oral presentations from MUSKOS PhD students (AUD A + B)**

Auditorium A	Auditorium B
09.00 – 09.10 Abstract O8: Kasper S. Madsen <i>“Metformin treatment for patients with hand osteoarthritis: protocol for the multicentre, randomised, placebo-controlled METRO trial”</i>	09.00 – 09.10 Abstract O18: Max FR Merkel <i>“Tendon Swelling Correlates to Pain Symptoms in Early and Chronic Patella Tendinopathy”</i>
09.11 – 09.21 Abstract O27: Saber Muthanna Aljuboori <i>“Characteristics of eligible patients with knee osteoarthritis accepting versus declining participation in a randomized trial investigating the effect of weight loss</i>	09.11 – 09.21 Abstract O24: Brian Sørensen <i>“Blood-flow restricted resistance exercise is superior to standard rehabilitation in improving functional performance and mechanical muscle function in adults with chronic knee osteoarthritis”</i>

<p><i>vs. knee arthroplasty to explore generalizability: A cross sectional study</i></p> <p>09.22 – 09.32 Abstract O7: Mathilde Espe Pedersen <i>“A randomized, open label, parallel group trial in patients with knee osteoarthritis to compare high-intensity aerobic exercise with neuromuscular exercise”</i></p> <p>09.33 – 09.43 Abstract O12: Louise Eggers Rasmussen <i>“Failure analysis of multiply revised knee arthroplasties”</i></p> <p>09.44 – 09.54 Abstract O13: Christian Bredgaard Jensen <i>“The effect of complications and reoperation on patient reported outcomes after medial unicompartamental knee arthroplasty”</i></p> <p>09.55 – 10.05 Abstract O25: Kristian R. L. Mortensen <i>“A bi-cruciate retaining knee arthroplasty design is not better than a singular cruciate retaining design - a five-year follow-up of a randomized controlled trial”</i></p> <p>10.06 – 10.16 Abstract O23: Birk Mygind Grønfeldt <i>“Investigating the feasibility of discharging patients with or without exercise-based rehabilitation after total knee replacement: The DRAW-TKA feasibility trial”</i></p> <p>8-minute presentations + 2 minutes for questions. Chairs: Lina Holm Ingelsrud and Rikke Høffner Comments on presentation technique: MA in rhetoric Mads Højlyng (10.30 – 11.00, no audience)</p>	<p>09.22 – 09.32 Abstract O21: Thomas Wagenblast Mayntzhusen <i>“ACL injury mechanism in football in elite and recreational players”</i></p> <p>09.33 – 09.43 Abstract O16: Charlotte Anker-Petersen <i>“Full-season Injury Epidemiology in TeamGym: A prospective cohort study involving 474 gymnasts using weekly text messaging”</i></p> <p>09.44 – 09.54 Abstract O5: Catarina Malmberg <i>“Intra- and Interrater Reliability of a Standardized Ultrasound Protocol for Measurements of Anterior-Posterior Glenohumeral Translation in Patients with Traumatic Anterior Shoulder Instability”</i></p> <p>09.55 – 10.05 Abstract O1: Mathias F Nielsen <i>“Pubic-related radiographic parameters in male football players with groin pain and asymptomatic controls”</i></p> <p>10.06 – 10.16 Abstract O2: Mathias F Nielsen <i>“Pain profiles, and psychological factors in male athletes with longstanding groin pain: a cross-sectional study with matched asymptomatic controls”</i></p> <p>8-minute presentations + 2 minutes for questions. Chairs: Mette Merete Pedersen and Christian Coupé Comments on presentation technique: MA in rhetoric Thea Feveile Sejr Hansen (10.30 – 11.00, no audience)</p>
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11.00 – 12.00

Poster presentations and walk (AUD A + B)

<p>Auditorium A</p> <p>Abstract P8: Estephani Zeballos Medeiros <i>“From hospital to home-treatment in patients with neuropathy”</i></p> <p>Abstract P4: Maria Swennergren Hansen <i>“Strategies used by patients when getting in and out of bed early after hip fracture surgery - the HIP-ME-UP cohort”</i></p> <p>Abstract P12: Niklas Grundt Hansen <i>“Feasibility of an outpatient high density sit-to-stand functional resistance exercise program in patients with hip fracture - Phase 1 of a non-randomized pilot trial”</i></p>	<p>Auditorium B</p> <p>Abstract P1: Danielle Steffen <i>“Single nucleus resolution of the human hamstring tendon response to acute heavy resistance exercise”</i></p> <p>Abstract P10: Kasper Krommes <i>“Patella tendon force profiles of adolescents with Osgood-Schlatter compared to healthy controls during sprint acceleration: An exploratory case-control study”</i></p> <p>Abstract P14: Ask Møbjerg <i>“An in vitro model to investigate the influence of mechanical loading on the mammalian tenocyte circadian rhythm”</i></p>
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<p>Abstract P22: Mathias F. Nielsen <i>"Intra- and inter-rater reliability of hip- and groin-related radiographic parameters in 86 male athletes"</i></p> <p>Abstract P15: Louise Hindsø <i>"Transarterial embolization of geniculate arteries reduces pain and improves physical function in knee osteoarthritis"</i></p> <p>Abstract P17: Anne Sofie Fruerskov Kirkegaard <i>"Patient reported outcome measures (PROM) from aseptic revision after total knee arthroplasty"</i></p> <p>Initial 3-minute presentations on-stage orally using a maximum of two PowerPoint slides and a subsequent 30-minute informal poster walk. Chairs: Lasse Ishøj and Troels Mark-Christensen</p>	<p>Abstract P6: Rikke Hoeffner <i>"Achilles tendon morphological changes following Achilles tendon rupture repair"</i></p> <p>Abstract P16: Birgitte Hougs Kjær <i>"Adherence to exercise intervention in the PASE trial, including pain monitoring, home exercise and physiotherapy appointments for patients with chronic rotator cuff tendinopathy"</i></p> <p>Abstract P19: Seyed Mohammad Mahdi Tabatabaei Majd <i>"Human Tendon Microvasculography using Fast Contrast-Free Super-Resolution Ultrasound Imaging"</i></p> <p>Initial 3-minute presentations on-stage orally using a maximum of two PowerPoint slides and a subsequent 30-minute informal poster walk. Chairs: Grith Stougaard Højfeldt and Jakob Agergaard</p>
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12.00 – 12.45

Lunch

12.45 – 13.15

MUSKOS keynote lecture (AUD A)

Treatments in knee OA: The power of contextual factors

Professor Martin Englund, Lund University

Chair: Per Hölmich

CAG ROAD SYMPOSIUM (AUD A):

Treatments for knee osteoarthritis

Chairs: Lise C Berg and Marius Henriksen

13.15 – 13.25

Outlining the continuum of treatment

Professor Marius Henriksen, University of Copenhagen

13.25 – 13.45

Stem cells and knee osteoarthritis

Postdoc Jasmin Bagge, Copenhagen University Hospital, Hvidovre

13.45 – 14.05

GLP-1-induced weight loss and knee osteoarthritis

Professor Henning Bliddal, University of Copenhagen

14.05 – 14.15

Discussion

SYMPOSIUM (AUD B):

The interplay between genetic variations, inflammation, and disease

Chairs: Tina Dysgaard and Michael Kjær

- 13.15 – 13.25 Introduction to topic
Associate Professor Tina Dysgaard, University of Copenhagen
- 13.25 – 13.45 The interplay between genetic variation and immunological factors
Associate Professor Thomas Folkmann Hansen, University of Copenhagen
- 13.45 – 14.05 Inflammation: Friend or foe?
Professor Claus Nielsen, University of Copenhagen
- 14.05 – 14.15 Discussion
- 14.15 – 14.30 **Short coffee/tea break**
- 14.30 – 15.00 **MUSKOS keynote lecture (AUD A)**
Cardiorespiratory fitness-testing in large study populations:
Why is it relevant and how do we do it?
Professor Mette Aadahl, University of Copenhagen
Chair: Christian Have Dall
- 15.00 – 15.30 **Debate:** Estimating cardiorespiratory fitness (VO_{2max}) at rest
in 45 seconds: really?
Professor Jørn Wulff-Helge and PhD Fellow Mikkel T Hansen, University
of Copenhagen
- 15.30 **End of meeting**
Professor Thomas Bandholm, University of Copenhagen



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