

# Snekkersten Research Retreat 2025



**MUSKOS**  
Graduate PhD Programme



UNIVERSITY OF  
COPENHAGEN

**“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 20<sup>th</sup> of November – Friday 21<sup>st</sup> of November 2025**

Comwell Borupgaard, Nørrevej 80, 3070 Snekkersten



## Collaboration

The symposium “Treatments for osteoarthritis” is organized in collaboration with ROAD: Research OsteoArthritis Denmark, and the symposium “Insulin sensitivity in health and disease: From muscle physiology to modern therapeutics” is organized in collaboration with imPAct: Physical Activity and Sports in Clinical Medicine. 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 key roles in organizing the 2025 Snekkersten Research Retreat: Secretary Lea Parmark, PhD-student Britt Stævnso Pedersen, Associate Professor Mette Merete Pedersen, Research Assistant Sofie Tscherning Lindholm, Postdoc Maria Swennergren Hansen and Professor Kristian Thorborg.

Thank you to the Snekkersten abstract committee: Professor Stine Jacobsen, Associate Professor Mette Merete Pedersen, Professor Kristoffer Barfod, Senior Researcher Jakob Agergaard, and Professor Mikael Boesen.

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 people involved in coordinating the poster sessions: Postdoc Grith Højfeldt and Postdoc, Maria Swennergren Hansen.

Thank you to Research Assistant Sofie Tscherning Lindholm and PhD-student Jens Holm Laigaard for helping promote MUSKOS Snekkersten and MUSKOS PhD-students on social media.

MUSKOS also thanks the MUSKOS steering committee for their inputs and perspectives on new developments throughout the year, along with contributions to the 2025 Snekkersten Research Retreat: PhD-student Tue Leth Nielsen, PhD-student Tazio Maleitzke, Associate Professor Tina Dysgaard, Professor Abigail Mackey, Professor Kristian Thorborg, Professor Stine Jacobsen, Associate Professor Mette Merete Pedersen, and Associate Professor Lina Holm Ingelsrud.

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

Welcome to the 2025 Snekkersten Research Retreat!

A handwritten signature in purple ink, appearing to read 'Thomas Bandholm', with a long horizontal flourish extending to the left.

Thomas Bandholm, Professor, PhD  
Head of Programme

## Thursday 20<sup>th</sup> of November

- 08.30 – 09.30                      Breakfast and onboarding: informal meeting for PhD students (Room M1)
- 09.30 – 09.45                      **Welcome (AUD A)**  
Professor Thomas Bandholm, University of Copenhagen
- 09.45 – 10.45                      **MUSKOS opening keynote lecture (AUD A)**  
The future of health care and health care research: creating an everyday revolution  
Professor Anders Perner, University of Copenhagen  
Chair: Kristian Thorborg
- 10.45 – 11.15                      **Break**
- 11.15 – 12.15                      **Poster presentations and walk (AUD A + B)**

Auditorium A	Auditorium B
<p><b>Abstract P6: Maziar J. Hamad</b> <i>"Acute Hip Strength is Most Affected by Intense Changes of Direction: Hip-Adduction Strength Training Demands in Youth Football"</i></p> <p><b>Abstract P9: Birgitte Hougs Kjær</b> <i>"Pain during shoulder exercises for patients with rotator cuff tendinopathy"</i></p> <p><b>Abstract P11: Anne Theil Gates</b> <i>"Beyond baseline: Examining long-term functional changes in pre-sarcopenic and non-sarcopenic older adults"</i></p> <p><b>Abstract P13: Tobias Holst-Christensen</b> <i>"Prevalence of injuries in elite swimmers: The role of discipline and training intensity"</i></p> <p><b>Abstract P20: Magnus Sundberg Heilmann-Clausen</b> <i>"Validation of Seismocardiography for Estimating Cardiovascular Fitness in Older Adults"</i></p> <p><b>Abstract P21: Kenneth Mertz</b> <i>"Effects of weight cutting and regain on physical and cognitive function in natural bodybuilders"</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: Rikke Høffner and Troels Mark-Christensen</p>	<p><b>Abstract P3: Annica B. Enegaard</b> <i>"Strength exercise in patients with Hypokalemic and Hyperkalemic periodic paralysis"</i></p> <p><b>Abstract P4: Maja Marta Olsen</b> <i>"Evaluation of 2-point, 3-point and 6-point Dixon MRI for Quantification of Muscle Fat Infiltration in Patients with Muscular Dystrophy"</i></p> <p><b>Abstract P5: Rie Skovly Thomsen</b> <i>"Interstitial fluid accumulation and alveolar-capillary membrane permeability after strenuous exercise in COPD and healthy controls"</i></p> <p><b>Abstract P8: Caroline Eismark</b> <i>"SuPAR levels as a prognostic biomarker for Charcot-Marie-Tooth disease"</i></p> <p><b>Abstract P10: Anna Louise Agerbæk</b> <i>"Pulmonary and total blood volume in COPD: a prospective matched comparative study"</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 Højfeldt and Monika Bayer</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 <b>Abstract O6: Kasper Madsen</b> <i>“Risk of Serious Adverse Events in Patients Treated Long Term With Metformin: Protocol for a Systematic Review and Network Meta-Analysis of Randomized Trials”</i></p>	<p>13.00 – 13.10 <b>Abstract O3: Bjørk Wulff Helge</b> <i>“High-volume running results in reduced fat mass and muscular performance”</i></p>
<p>13.11 – 13.21 <b>Abstract O7: Britt Stævnso Pedersen</b> <i>“Validity and Intra-rater reliability of outcome measures in Chronic Inflammatory Demyelinating Polyneuropathy (CIDP) - Preliminary Results”</i></p>	<p>13.11 – 13.21 <b>Abstract O9: Emma Bundgård Fals</b> <i>“FAXAge: Investigating the Effects of Fasting and Exercise on Human aging”</i></p>
<p>13.22 – 13.32 <b>Abstract O11: Nanna Scharff Poulsen</b> <i>“Assisted cycle exercise training in non-ambulant adults with cerebral palsy”</i></p>	<p>13.22 – 13.32 <b>Abstract O10: Thomas Wagenblast Mayntzhusen</b> <i>“ACL Injury Mechanism in Elite and Recreational Football Players”</i></p>
<p>13.33 – 13.43 <b>Abstract O12: Anja Løve Berger</b> <i>“Objectively measured physical activity patterns and the impact of motivational technology for patients and healthcare staff on physical activity in older patients during hospitalization and 3 months after discharge: A PhD project”</i></p>	<p>13.33 – 13.43 <b>Abstract O18: Mille Greve Knold</b> <i>“Study protocol for: Anterior Cruciate Ligament Reconstruction vs Structured Training in Young, Sports Active Individuals: A Multicenter Randomized Controlled Trial Applying a Stratified Medicine Approach in Scandinavia”</i></p>
<p>13.44 – 13.54 <b>Abstract O14: Valdemar Mendez</b> <i>“The impact of 12 months of aromatase inhibitors on body composition in postmenopausal women with early-stage breast cancer”</i></p>	<p>13.44 – 13.54 <b>Abstract O24: Frederik Marquard Nielsen</b> <i>“Effects of resistance training and rapamycin on bone and muscle health in older women (STRONGBONE)”</i></p>
<p>13.55 – 14.05 <b>Abstract O17: Niklas Grundt Hansen</b> <i>“Feasibility of High-Density Sit-to-Stand Functional Resistance Training in Patients With Hip Fracture: A Prospective Pilot Trial”</i></p>	<p>13.55 – 14.05 <b>Abstract O27: Jordi Monferrer-Marín</b> <i>“Beyond the HIIT effect: Temporal dynamics of Metabolic Flexibility and Autonomic Function”</i></p>
<p>14.06 – 14.16 <b>Abstract O20: Charlotte Anker-Petersen</b> <i>“High Prevalence of Apophyseal Tenderness in Gymnasts with Severe Lower-Extremity Overuse Injuries: A Prospective Clinical Examination Study involving 519 Gymnasts”</i></p>	<p>14.06 – 14.16 <b>Abstract O28: Thomas Wagenblast Mayntzhusen</b> <i>“ACL Injury Mechanism in Elite and Recreational Handball Players”</i></p>
<p>8-minute presentations + 2 minutes for questions. Chairs: Lina Holm Ingelsrud and Morten Tange Kristensen</p>	<p>8-minute presentations + 2 minutes for questions. Chairs: Kasper Krommes and Christian Have-Dall</p>
<p><b>Comments on presentation technique: MA in rhetoric Thea Sejv (14.30 – 15:00, no audience)</b></p>	<p><b>Comments on presentation technique: MA in rhetoric Mads Højlyng (14.30 – 15:00, no audience)</b></p>

14.30 – 15.00                      **Break (coffee/tea) while presenters have feedback in A&B**

## **SYMPOSIUM (AUD A):**

### **Inflammation and ageing**

Chairs: Chloe Yeung and Henning Bliddal

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|---------------|--|
| 15.00 – 15.25 | Systemic low-grade inflammation and accelerated aging<br>Senior Researcher Line Jee Hartmann Rasmussen, Copenhagen University Hospital, Amager and Hvidovre          |
| 15.25 – 15.50 | Exercise, immunity and aging: Mobilizing immune cells to modulate inflammation<br>Postdoc Gitte Holmen Olofsson, Copenhagen University Hospital, Herlev and Gentofte |
| 15.50 – 16.00 | Discussion   |

## **SYMPOSIUM (AUD B):**

### **Peak performance: An elite sports perspective**

Chairs: Jesper Løvind Andersen and Jørn Wulff Helge

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|---------------|--|
| 15.00 – 15.25 | Getting the elite-athlete ready for OL-performance<br>Professor Hans Christer Holmberg, Karolinska Institutet, Sweden  |
| 15.25 – 15.50 | Energy availability and its impact on elite performance: Balancing fuel, function, and fatigue<br>Researcher Ida Heikura, Norwegian School of Sport Sciences, Norway |
| 15.50 – 16.00 | Discussion   |
| 16.00 – 16.30 | <b>Break (coffee/tea)</b>  |

## MUSKOS BEST PAPERS SYMPOSIUM (AUD A):

### MUSKOS best basic and clinical science papers 2025

Chairs: Anne-Sofie Agergaard and Jørn Wulff-Helge

16.30 – 16.35	Introduction Chairs
16.35 – 16.50	Presentation of MUSKOS best basic science paper 2025 <i>"Data-Driven Recommendations for Assessing the Early-Phase Rate of Torque Development: An Intersession Reliability Study in Physically Active Men and Women"</i> MUSKOS PhD student Merete Brink Speedtsberg
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 2025 <i>"Full-Season Injury Epidemiology in TeamGym—A Prospective Cohort Study Involving 474 Gymnasts"</i> MUSKOS PhD student Charlotte Anker-Petersen
17.20 – 17.35	Behind the paper: What you cannot read in the paper
18.30	<b>Pre-dinner drink (fireside bar)</b>
19.00	<b>Dinner (including the Snekkersten PhD Cup and Quiz)</b> (Chairs: Chloe Yeung, Jonathan Bjerre-Bastos, Jørn Wulff Helge)

### Friday 21<sup>st</sup> of November

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

Auditorium A	Auditorium B
09.00 – 09.10 <b>Abstract 01: Julia Finnas Thomsen</b> <i>"Accuracy of iodine quantification with dual-energy computed tomography of equine joints: influence of patient size"</i>	09.00 – 09.10 <b>Abstract 02: Camilla Paludan Paulsen</b> <i>"A Cluster-Randomized Trial in Patients with Knee Osteoarthritis Comparing Self-Managed Exercise in 3 Fitness Centers with Physiotherapist-Supervised Exercise in primary care"</i>
09.11 – 09.21 <b>Abstract 05: Max FR. Merkel</b> <i>"Increased blood flow and tendon swelling precedes vascular expansion and tissue matrix changes in early human tendinopathy"</i>	09.11 – 09.21 <b>Abstract 04: Asbjørn Seenithamby Poulsen</b> <i>"Calcium Phosphate Crystals, Pain, and Inflammation in Knee Osteoarthritis: A Cross-Sectional Study"</i>

<p>09.22 – 09.32  <b>Abstract 08: Alexandra M. Winant</b>  <i>"Towards a molecular understanding of critical illness myopathy: a single-cell functional and multi-omic approach"</i></p> <p>09.33 – 09.43  <b>Abstract 013: Sara Dietz Pedersen</b>  <i>"TENDOTIME: A Randomized Controlled Trial Investigating the Effect of Exercise Timing in Chronic Patellar Tendinopathy"</i></p> <p>09.44 – 09.54  <b>Abstract 019: Tue Leth Nielsen</b>  <i>"Leveraging primary mitochondrial disorders to uncover mechanisms underlying constitutional leanness and obesity resistance in humans"</i></p> <p>09.55 – 10.05  <b>Abstract 025: Zhe Lyu</b>  <i>"Female carriers of BMD and DMD variants exhibit elevated levels of muscle injury proteins and progression of muscle loss is predicted by ART3 levels in plasma"</i></p> <p>10.06 – 10.16  <b>Abstract 026: Ask Møbjerg</b>  <i>"Identifying molecular pathways underlying the influence of mechanical loading on the tendon circadian rhythm"</i></p> <p>8-minute presentations + 2 minutes for questions.  Chairs: Abigail Mackey and Birgitte Hougs Kjær</p> <p><b>Comments on presentation technique: MA in rhetoric</b>  <b>Mads Højlyng (10.30 – 11.00, no audience)</b></p>	<p>09.22 – 09.32  <b>Abstract 015: Adam Gulmann</b>  <i>"The role of delayed neutrophil recruitment in initiation of implant-related infections"</i></p> <p>09.33 – 09.43  <b>Abstract 016: Julie Heegaard</b>  <i>"Analysing preferences for treatment in revision knee arthroplasty patients - a discrete choice experiment"</i></p> <p>09.44 – 09.54  <b>Abstract 021: Tommy K. Annfeldt</b>  <i>"Identifying Composite Outcome Measures that Successfully Differentiate Active Treatments from Placebo in Psoriatic Arthritis Trials: A GRAPPA-OMERACT Systematic Review and Network Meta-Analysis"</i></p> <p>09.55 – 10.05  <b>Abstract 022: Kristine Ifigenia Bunyoz</b>  <i>"Optimising outcomes in lateral unicompartamental knee arthroplasty: Analysing 25 years of registry data"</i></p> <p>10.06 – 10.16  <b>Abstract 023: Jens Laigaard</b>  <i>"Chronic pain after primary total and medial unicompartamental knee arthroplasty for osteoarthritis: A nationwide cross-sectional survey"</i></p> <p>8-minute presentations + 2 minutes for questions.  Chairs: Tanja Schjødt Jørgensen and Christian Bredgaard Jensen</p> <p><b>Comments on presentation technique: MA in rhetoric</b>  <b>Thea Feveile Sejr Hansen (10.30 – 11.00, no audience)</b></p>
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10.30 – 11.00                      **Break (coffee/tea) while presenters have feedback in A&B**

11.00 – 12.00                      **Poster presentations and walk (AUD A + B)**

<p><b>Auditorium A</b></p> <p><b>Abstract P2: Sofie Tscherning Lindholm</b>  <i>"Patient and caregiver voices - what influences levels of mobility, physical activity and exercise among patients hospitalized following hip fracture surgery - a qualitative study"</i></p> <p><b>Abstract P12: Rikke Høffner</b>  <i>"Individual suturing the Soleus and Gastrocnemius Subtendons Reduces Soleus Subtendon Elongation 1 and 26 weeks after Achilles Tendon Rupture Repair"</i></p>	<p><b>Auditorium B</b></p> <p><b>Abstract P1: Kristine Kjær Lange</b>  <i>"Muscle glycogen content influences peak fat oxidation but not mitochondrial coupling control and efficiency in healthy trained men"</i></p> <p><b>Abstract P7: Anna Hoelker</b>  <i>"Mitochondrial respiration in white adipose tissue across different age groups in fit women, unfit women, and women with obesity"</i></p>
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<p><b>Abstract P14: Louise Marie Helmbæk</b>  <i>"Treatment Injuries Following Patellofemoral Instability Surgery in Denmark: A Nationwide Analysis of Compensation Claims"</i></p> <p><b>Abstract P16: Birk Mygind Grønfeldt</b>  <i>"Registration and reporting characteristics of trials investigating exercise therapy following total knee arthroplasty: A systematic review"</i></p> <p><b>Abstract P18: Camilla Kampp Zilmer</b>  <i>"Large differences in monitored 24-hour physical activity during acute hospitalization and early post-discharge phase in older patients with hip fracture. A prospective cohort study of 53 patients"</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: Maria Swennergren Hansen and Kristoffer Barfod</p>	<p><b>Abstract P15: Asta Skovgaard Eriksen</b>  <i>"High-Density Electromyogenic Activity Shows Distinct Changes Following a Medial Gastrocnemius Strain Injury: A Case Study"</i></p> <p><b>Abstract P17: Jonas Osted Hvidemose</b>  <i>"Impact of interleukin-6 receptor blockade on systemic and organ-specific glucose metabolism and kinetics during an acute exercise bout in healthy males"</i></p> <p><b>Abstract P19: Estel Clua i Sánchez</b>  <i>"Semi-Supervised and Domain Adaptation Approaches for Cross-Disease Muscle MRI Segmentation"</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: Peter Schjerling and Philip Hansen</p>
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12.00 – 12.45

**Lunch**

12.45 – 13.15

**MUSKOS keynote lecture (AUD A)**

Preventing hospital-associated disability: From bedside mobility to Life-Space mobility in older adults

Associate Professor Mette Merete Pedersen, University of Copenhagen

Chair: Peter Schwarz

## **CAG ROAD SYMPOSIUM (AUD A):**

### **Treatments for osteoarthritis**

Chairs: Lise Berg and Søren Overgaard

13.15 – 13.30

Hip osteoarthritis: surgical or non-surgical treatment?

Professor Inger Mechlenburg, Aarhus University, DK

13.30 – 13.45

Knee osteoarthritis: surgical or non-surgical treatment?

Professor Søren Skou, University of Southern Denmark, DK

13.45 – 14.00

The future of OA treatment: A translational perspective

Associate Professor Tazio Maleitzke, University of Copenhagen, DK

14.00 – 14.15

Discussion



## **CAG imPAct SYMPOSIUM (AUD B):**

### **Insulin sensitivity in health and disease: From muscle physiology to modern therapeutics**

Chairs: Grit Elster Legård and Flemming Dela

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|---------------|---|
| 13.15 – 13.40 | Insulin sensitivity: A physiological perspective on regulation and impact of exercise<br>Professor Erik A Richter, University of Copenhagen                       |
| 13.40 – 14.05 | Insulin sensitivity and weight loss: clinical effects of GLP-1-based and other therapies<br>Associate Professor, Kirstine Bojsen-Møller, University of Copenhagen |
| 14.05 – 14.15 | Discussion  |
| 14.15 – 14.30 | <b>Short coffee/tea break</b>   |

## **MUSKOS debate: Trial registration in physiological research - Scientific rigor or unwarranted constraint? (AUD A)**

Chairs: Thomas Bandholm and Michael Kjær

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|---------------|--|
| 14.30 – 14.50 | Exploratory physiological experiments are not clinical trials<br>Professor Erik A Richter, University of Copenhagen                                    |
| 14.50 – 15.10 | Role of prespecified analysis plans in physiological research: Encouraged or mandatory?<br>Professor Robin Christensen, University of Southern Denmark |
| 15.10 – 15.30 | Debate with the floor  |
| 15.30         | <b>End of retreat</b><br>Professor Thomas Bandholm, University of Copenhagen   |



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