# **NOBIS 2024**

1st Nordic Orthopaedic Bone Infection Symposium

2 - 3 May, 2024 Copenhagen, Denmark





Nordic Orthopaedic Bone Infection Symposium

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# WELCOME TO NOBIS 2024!

### It is a pleasure to welcome you to Copenhagen for the 1st Nordic Orthopaedic Bone Infection Symposium (NOBIS)!

NOBIS brings together orthopaedic surgeons, infection specialists, and clinical microbiologist to exchange knowledge and expertise in the field of bone and joint infections.

With this symposium we aim to increase the common understanding of the challenges in diagnosis, surgical strategies, and medical treatment and to enlighten the value of multidisciplinary cooperation.

We hope that this symposium will be the first of many future symposia that will boost professional collaboration in our region for many years to come.

Enjoy the symposium and your time in Copenhagen!

Best regards The Local Organising Committee



**Karen Dyreborg** 

MD, PhD Department of Orthopaedic Surgery, Herlev & Centofte Hospital, Denmark



Michala Sørensen

MD, PhD, Associate Professor, Orthopaedic Department, Section of Bone Infections, Wound, and Amputation, Zealand University Hospital, Denmark



#### **Hans Gottlieb**

MD, PhD, Associate Professor, Department of Orthopaedic Surgery, Herlev & Gentofte Hospital, Denmark

# **General Information**

#### Website

www.nobis2024.org

#### Venue

DGI-Byen – CPH Conference Tietgensgade 65 1704 Copenhagen V Denmark

#### WiFi

Name: CPH conference Password: dgibyenwifi

#### **Certificate of attendance**

You will receive an email with the link to download the certificate after the symposium.

#### Symposium dinner

Time: 2 May at 18.30 - 22.00 Place: Restaurant Gemini Gammel Kongevej 10 - by the lake

(Admission by pre-booked ticket only).

### Focused Issue in collaboration with the Journal of PMI

All presenters are invited to submit an article for a focused issue of the Journal of Pathology, Microbiology and Immunology, dedicated to show the latest advancements and research presented at NOBIS 2024.

All accepted articles for this issue will be published as free access.

#### Symposium Secretariat

CAP Partner Nordre Fasanvej 113 DK-2000 Frederiksberg Denmark Tel.: +45 70 20 03 05 info@cap-partner.eu www.cap-partner.eu



**Restaurant Gemini** 

## Programme

### Thursday, 2 May 2024

Treating the infected orthopaedic patient - by protocol

08:30 - 09:30	Registration & Networking coffee	
09:30 - 10:30	Session 1: Welcome & status: What are we aiming for and why "Nordic"? Moderator: Hans Gottlieb	
	Presentation from each of the Nordic Representatives	
	- Håvard Dale Department of Orthopaedic Surgery, Haukeland University Hospital, Norway	
	- Hans Gottlieb Department of Orthopaedic Surgery, Herlev and Gentofte Hospital, Denmark	
	- <b>Claes Olsen</b> Department of Orthopaedic Surgery, Sahlgrenska University Hospital, Sweden	
	- Antti Ylitalo Department of Orthopaedics and Traumatology, Tampere University Hospital, Finland	
10:30 - 11:00	Coffee & Exhibition	
	Session 2: How to fix compliance amongst our colleagues Moderator: Karen Dyreborg	
	- Do you want to be in our team?	
11:00 -	Oxford Bone Infection Unit, Oxford, United Kingdom	
12:00	- To treat and avoid, together Håvard Dale	
	Department of Orthopaedic Surgery, Haukeland University Hospital, Norway	
	<ul> <li>Challenges when approaching FRI from a surgeon's point of view</li> <li>Claes Olsen</li> </ul>	
	Department of Orthopaedic Surgery, Sahlgrenska University Hospital, Sweden	
12:00 - 13:00	Industry Symposium (See agenda on page 11)	
13:00 - 13:45	Networking lunch & Exhibition	

	Session 3: When to treat, with what and where Moderator: Mats Bue
	- Fracture-related infection: When to treat? The importance of a well-established diagnosis Willem-Jan Metsemakers
	Department of Trauma Surgery, University Hospitals Leuven, Belgium
13:45 - 14:45	<ul> <li>Perspective on PJI from the specialized arthroplasty unit, Coxa Hospital for Joint Replacement</li> <li>Ari Lehtinen</li> <li>Coxa Hospital for Joint Replacement, Tampere, Finland</li> </ul>
	- An FRI-treatment algorithm Hans Gottlieb Department of Orthonaedic Surgery, Herley and Gentofte Hospital, Depmark
	Case presentation: Periprosthetic joint infection of the knee caused by aerococcus urinae: a case report Meeri Honkanen Department of Internal Medicine, Tampere University Hospital, Finland
	Session 4: The Danish COMBINE* approach in bone and joint
14:45 - 15:30	* Centrum for Translational Medicine on Bone and Joint Infections - A network for cross disciplinary research on BJI
	Moderator: Andreas Ibrahim Jørgensen
	- Mats Bue Department of Orthopaedic Surgery, Aarhus University Hospital, Denmark
	- Louise Kruse Jensen Department of Veterinary and Animal Sciences, University of Copenhagen, Denmark
	- <b>Anton Peterlin</b> Department of Veterinary and Animal Sciences, University of Copenhagen; Department of Orthopaedic Surgery, Herlev and Centofte Hospital
	- Hans Gottlieb Department of Orthopaedic Surgery, Herlev and Gentofte Hospital, Denmark
	See detailed session description on next page
15:30 - 16:00	Coffee & Exhibition

	Session 5: How to introduce and work with treatment by protocol Moderators: Antti Ylitalo & Rehne Hansen
16:00 - 17:00	- Developing and working with protocols in bone and join infection Martin McNally Oxford Bone Infection Unit, Oxford, United Kingdom
	<ul> <li>A standardized protocol for the management of fracture-related infection</li> <li>Willem-Jan Metsemakers</li> <li>Department of Trauma Surgery, University Hospital Leuven, Belgium</li> </ul>
	- Protocol for PJI: Cases and examples Daniel Pérez-Prieto Department of Orthopaedic Surgery, Hospital del Mar, Spain
18:30 - 22:00	Symposium dinner at Restaurant Gemini (Gammel Kongevej 10) Admission by pre-booked ticket only.

### **Description of COMBINE Session**

### Thursday 2 May 14.45-15.30

In 2018, a new initiative was established in Denmark with the aim of promoting interdisciplinary research in the field of bone and joint infections. This initiative, known as COMBINE, stands for Centrum for Translational Medicine on Bone and Joint Infections.

The core idea behind COMBINE is to bring together scientists and researchers from diverse backgrounds and disciplines working on bone and joint infection research to foster collaborations between different scientific specialities.

Through a series of meetings, including knowledge-sharing, panel debates, and networking, a COMBINE approach for successful collaboration within and between basic and clinical disciplines has been developed.

This presentation aims to pass on the COMBINE approach, share our experiences, and inspire basic scientists and clinicians to work closer together.

### Friday, 3 May 2024

### A multidisciplinary take on treating the non-healing patient

	Session 6: Bacteria and defence mechanisms Moderator: Anne Brun Hesselvig	
09:00 - 10:30	<ul> <li>The in-vivo biofilm - an analysis of the worst film ever</li> <li>Anne Brun Hesselvig</li> <li>Department of Clinical Microbiology, Zealand University Hospital Slagelse</li> </ul>	
	<ul> <li>Approaching FRI at Sahlgrenska University Hospital Mölndal</li> <li>Claes Olsen<sup>1</sup>&amp; Jonatan Tillander<sup>2</sup></li> <li><sup>1</sup> Department of Orthopaedic Surgery, Sahlgrenska University Hospital, Gothenburg, Sweden</li> <li><sup>2</sup> Infection Clinic, Sahlgrenska University Hospital, Gothenburg, Sweden</li> </ul>	
	<ul> <li>Risk of orthopaedic hardware infection during bacteremia</li> <li>Meeri Honkanen</li> <li>Department of internal medicine, Tampere University Hospital, Finland</li> </ul>	
	Free paper presentations: A rare case of osteomyelitis in tibia due to fusobacterium nucleatum in an immunocompetent adult Frederik Holm Rovsing North Zealand Hospital, Orthopaedic Department, Hilllerød, Denmark	
	Models for osteomyelitis research Niels Søe Hand Section, Department of Orthopaedic Surgery, Gentofte and Herlev University Hospital, Denmark	
	Daptomyic-impregnated PMMA cement against vancomycin-resistant germs: Dosage, handling, elution, mechanical, stability, and effectiveness <b>Martina Humez</b> Justus-Liebig-University, Institute of Hygiene and Environmental Medicine, Gießen, Germany	
10:30 - 11:00	Coffee & Exhibition	
11:00 - 12:00	<ul> <li>Session 7: When to DAIR not to spare Moderator: Hans Gottlieb</li> <li>FRI from diagnostics to treatment Andreas Ibrahim Jørgensen Department of Orthopaedic Surgery, Herlev and Gentofte Hospital, Denmark</li> <li>Imaging in FRI Stine Hangaard Department of Radiology, Herlev and Gentofte Hospital, Denmark</li> </ul>	
10:30 10:30 11:00 11:00 12:00	Free paper presentations:         A rare case of osteomyelitis in tibia due to fusobacterium nucleatum in an immunocompetent adult         Frederik Holm Rovsing         North Zealand Hospital, Orthopaedic Department, Hillerød, Denmark         Models for osteomyelitis research         Niels Søe         Hand Section, Department of Orthopaedic Surgery, Gentofte and Herlev University Hospital, Denn         Daptomyic-impregnated PMMA cement against vancomycin-resistant germs: Dosage, handling, elution, mechanical, stability, and effectiveness         Martina Humez         Justus-Liebig-University, Institute of Hygiene and Environmental Medicine, Gießen, Germany         Coffee & Exhibition         Session 7: When to DAIR not to spare         Moderator: Hans Gottlieb         -       FRI from diagnostics to treatment         Andreas Ibrahim Jørgensen         Department of Orthopaedic Surgery, Herlev and Gentofte Hospital, Denmark         -       Imaging in FRI         Stine Hangaard       Department of Radiology, Herlev and Gentofte Hospital, Denmark	

11:00 - 12:00	<ul> <li>Surgical indications for DAIR and implant exchange in FRI</li> <li>Daniel Pérez-Prieto</li> <li>Department of Orthopaedic Surgery, Hospital del Mar, Barcelona, Spain</li> </ul>	
	<b>Free paper presentation:</b> Periprosthetic joint infections in megaprosthesis - a database analysis for cases caused by staphylococcus species <b>Benjamin Schlossmacher</b> Klinik für Orthopädie und Sportorthopädie, Klinikum rechts der Isar, Munich, Germany	
12:00 - 13:00	Industry Symposium (See agenda on page 13)	
13:00 - 13:45	Networking lunch & Exhibition	
13:45 - 14:45	<ul> <li>Session 8: Soft tissue management and wound care of the advanced patient</li> <li>Moderator: Lilan Engel</li> <li>The interdisciplinary set-up for osteomyelitis patients with need for soft tissue coverage – and the Peroneus brevis flap Lilan Engel         <ul> <li>Department of Plastic Surgery, Herlev and Gentofte Hospital, Denmark</li> </ul> </li> <li>Soft tissue coverage and bony reconstruction in osteomyelitis surgery         <ul> <li>Jonas Löfstrand</li> <li>Department of Plastic Surgery, Sahlgrenska University Hospital, Gothenburg, Sweden</li> </ul> </li> <li>Fracture-related infection with segmental bone loss in femur with compromised soft-tissues – multidisciplinary planning and surgical options         <ul> <li>Juha Kiiski</li> <li>Department of Plastic Surgery, Tampere University Hospital, Finland</li> </ul> </li> </ul>	
14:45 - 15:15	Coffee & Exhibition	
15:15 - 16:00	Reflections and what's next?	

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The well established concept of bone remodeling and local antibiotics - CERAMENT<sup>®</sup> G and CERAMENT<sup>®</sup> V

Date: May 2, 2024 Time: 12:00 - 13:00 Room: Sankt Hans Torv

#### Chair



Dr. Daniel Pérez-Prieto Orthopaedic Surgeon, Hospital del Mar Hospital de l'Esperança, Barcelona, Spain

### **Guest Speakers**



# My journey with local antibiotics in the treatments of bone infections

Prof. Martin McNally Honorary Consultant in Limb Reconstruction Surgery Oxford Bone Infection Unit, Nuffield Orthopaedic Centre, UK



# Bone penetration of antibiotics and its relevance in clinical practice

Ass. Prof MD, PhD Mats Bue Orthopaedic residency, Department of Orthopaedic Surgery Århus, Skejby University Hospital, Denmark



### Standardized treatment of FRI at Herlev Hospital

Ass. Prof Hans Gottlieb Department of Orthopaedic Surgery, Herlev Hospital, Denmark

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ZL201610089710.5 Patents pending: GB1502655.2, GB1704688.9, EP 18275044.8, US 15/933936, CN 108619579A MA0117R4



# Industry Symposium Agenda

### Friday, 3 May 2024 12:00 - 13:00



Local Antibiotic Delivery - a Convincing Concept to Solve the Significant Burden for Patient with Infected Bone and Soft Tissue

- STIMULAN in revision total joint arthroplasty effective topic treatment
- STIMULAN as a suitable carrier of antibiotics in diabetic and non-diabetic foot ulcers: A retrospective cohort study of 137 cases.

### Speakers

### **Prof. Daniel Kendoff** Head of Orthopaedic and Trauma Surgery Centre, Germany

### Dr. Rob Morley

Consultant Podiatric Surgeon, United Kingdom

# **Exhibitor Directory**

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••• Mölnlycke®	<b>Mölnlycke</b> www.molnlycke.com Mölnlycke is a world-leading medical products and solutions company that equips healthcare professionals to achieve the best patient, clinical and economic outcomes.
<b>OSARTIS</b>	<b>OSARTIS</b> www.osartis.de OSARTIS GmbH is a medical device company located in Germany focusing on the development, registration, production and distribution of medical biomaterials and PMMA bone cements.
TECRES® ADVANCING HIGH TECHNOLOGY	<b>Tecres</b> www.tecres.com For over 40 years Tecres has developed and manufactured PMMA bone cements for orthopaedics and devices for supporting the treatment of PJI. Cemex bone cements and Spacer, the unique temporary antibiotics-loaded prostheses for two-stage septic revision, are successfully sold worldwide. These products are available also in the combination Vancomycin-Gentamicin. We are active also in the field of spinal surgery and neurosurgery.





### Notes

### Notes

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