

EORS 2024, Workshop

Wednesday, 18 Sep, 9-11.30 CEST

Serum and Tissue Biomarkers in Orthopedics

All can participate despite of scientific background. The overall aim is knowledge sharing on available biomarkers in different fields of orthopedics. The workshop will facilitate inspiration and exchange of ideas and experience about the use of biomarkers in clinical diagnostic practice and in experimental studies.

Part 1

Title: Technical and biological considerations in serological biomarker development and application

Serological biomarkers play an increasingly important role both in drug development and in guiding more personalized clinical care. This talk will introduce technical and biological considerations going into developing an immunoassay for measuring serum biomarkers in a clinical setting. We will further discuss the definition of different types of biomarkers, eg. prognostic, risk, and response biomarkers and provide clinical examples of the potential use of serological biomarkers as diagnostic tools in understanding clinical pathology, diagnostics, and aiding drug development.

Speaker: Christian F. Thudium, MSc, PhD, Translational Medicine Lead at Nordic Bioscience.

Part 2

Title: Tissue and serum biomarkers of bone resorption and formation

We will focus on biomarkers of bone resorption and formation within tissue samples/biopsies. The focus is on both physiological and pathophysiological conditions including aging, osteoporosis, diabetes, myeloma, bone metastasis and rare genetic diseases. The interplay between bone tissue biomarkers and serum biomarkers is also in focus. Different points of awareness when implementing molecular techniques for identification of tissue biomarkers will also briefly be discussed.

Quantification of tissue biomarkers based on digital pathology and AI is also included in this talk.

Speaker: Thomas Levin Andersen MSc, PhD, Professor of Bone Histology and Pathology, Department of Pathology, University of Southern Denmark.

Part 3

Title: Implementing a new technique for identification of bone infection biomarkers – ups and downs

Here we focus on a specific disease and on implementing a new biomarker technique. We will share our experience with implementing mRNA in-situ hybridization on bone tissue and how we have used the technique to identify a molecular target that can confirm bacterial infection in a novel animal model. Focus will be on tissue handling and protocol development.

Speakers: Louise Kruse Jensen DVM, PhD, dr.med. Professor of Experimental Pathology, Department of Veterinary and Animal Science, University of Copenhagen and Julie Melsted Birch DVM, PhD, Assistant professor, Department of Veterinary and Animal Science, University of Copenhagen.