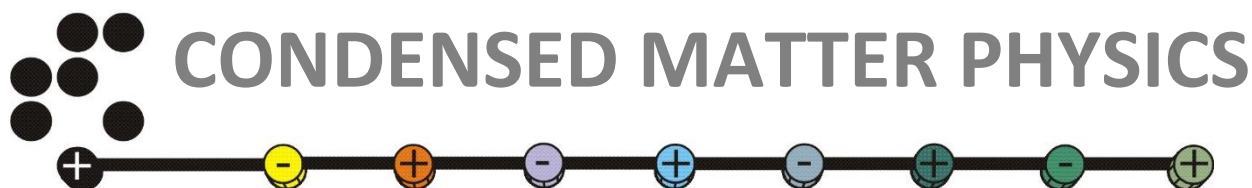


# F-5 SEMINAR



*Wednesday, December 13, 2023  
at 2 PM*

*in the seminar room of physics (room 106)  
Condensed Matter Physics, Jožef Stefan Institute*

***prof. Torben R. Jensen***  
*Interdisciplinary Nanoscience Center (iNANO)  
and Department of Chemistry  
University of Aarhus, Denmark*

## **Fast cation conductivity in the solid state – the fundament for development of novel types of batteries**

Solid state batteries created using abundant and cheap elements may pave the way towards a more sustainable future.

In general, mobility of divalent cations in the solid state at ambient conditions is usually very limited, especially for  $\text{Ca}^{2+}$  as compare to  $\text{Mg}^{2+}$ , due to larger ionic radius (+39 %), cross sectional area (+93 %) and volume (+168 %). However, recent research has discovered new phenomena that can enhance ionic conductivity. Synthesis and characterisation of novel battery materials is the fundament for our research and we have discovered a range of new solid state electrolytes with fast  $\text{Li}^+$ ,  $\text{Na}^+$ ,  $\text{Mg}^{2+}$  and  $\text{Ca}^{2+}$  ionic conductivity.

***You are cordially invited to attend.***