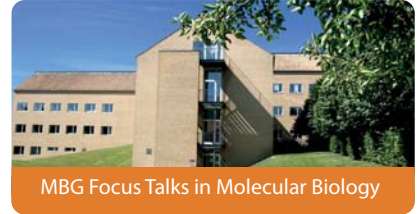


# MBG FOCUS TALK

hosted by Poul Nissen & Magnus Kjærgaard



**Wednesday 5 July from 10:15-11:00**

**Venue:** Twin auditorium, 1324-025, building 1324  
Aarhus University

**By Markus Seeger**

Institute of Medical Microbiology  
University of Zurich, Switzerland



## **Good things start with «S»: about sybodies and mycobacterial siderophore transport**

In the first part of the talk, I will provide some insights into the design principle standing behind the sybodies, as well as their successful application in structural biology. Sybodies were constructed based on three nanobody-target structures exhibiting different binding modes, using structure-based library design. A binder selection protocol involving both ribosome and phage display was crucial to routinely obtain high affinity binders against membrane protein. Sybodies are particularly suited to conformationally trap membrane proteins based on rational binder selection strategies.

In the second part of the talk, I will present the structural and functional characterization of unusual mycobacterial transporters involved in mycobacterial siderophore (=mycobactin) import and export. We mainly used cryo-EM to obtain high resolution structures of primary-active (ABC transporter) and secondary-active (RND) transporters responsible for the transport across the mycobacterial cytoplasmic membrane, and thereby gained surprising molecular insights into their transport mechanism.

**Everyone interested is very welcome to attend.**