

29 November 2022 h 14.30-15.30

Seminar

Nanobodies: Next antibody generation for research, diagnostic and therapeutic applications

Mireille Dumoulin, Ph.D

NEPTUNS, Nanobodies to Explore Protein Structure and Functions, Centre for Protein Engineering, InBIOS, University of Liège, Belgium

Place: Aula Zancan

Department of Pharmaceutical and Pharmacological Sciences

https://unipd.zoom.us/j/83677587166





29th November, h 14.30-15.30 Nanobodies: Next antibody generation for research, diagnostic and therapeutic applications

Mireille Dumoulin,

NEPTUNS, Nanobodies to Explore Protein Structure and Functions, Centre for Protein Engineering, InBIOS, University of Liège, Belgium

Due to their high affinity and antigen specificity, antibodies have become an important tool in research as well as for the diagnosis and treatment of various human diseases. In addition to conventional antibodies, camelids produce a unique class of antibodies devoid of light chain and referred to as heavy-chain-only (HCAbs). The binding domain of HCAbs, referred to as VHH or Nanobodies (Nbs) have a number of unique properties including: small size, high stability, high solubility and low immunogenicity, capacity to target cryptic epitopes and to act intracellularly, easiness to produce recombinantly and to store, easiness to engineer. These properties make Nbs outstanding tools in structural biology, unravelling biochemical mechanisms, molecular imaging, diagnosis and treatment of diseases. In this seminar, I will give a brief introduction of Nbs (generation, selection and characterization) and their engineering, and I discuss examples of applications where Nbs make the difference in research, diagnostic, and therapy. I will also introduce ALPANANO, our platform to generate and select Nbs.

Info: patrizia.polverinodelaureto@unipd.it