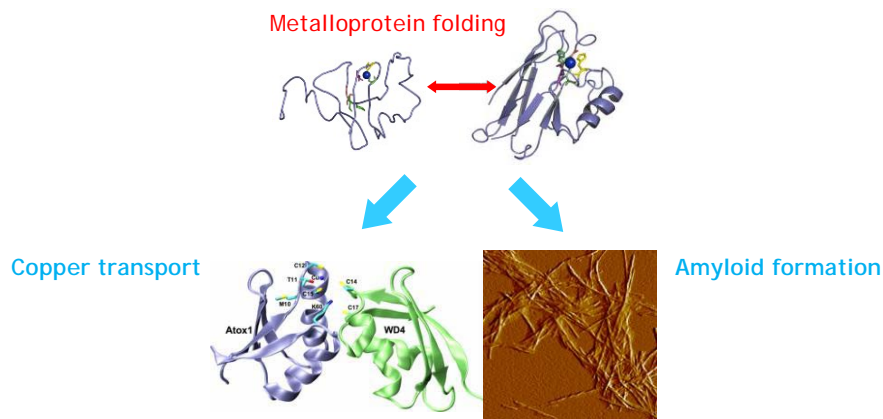


## Master Projects (30 or 60 hp)

### Pernilla Wittung-Stafshede's Research Group

How unstructured linear chains of amino acids are turned into active folded proteins is one of life's great fundamental mysteries. Mechanistic understanding of protein folding and misfolding as well as the modification of these processes by external factors is critical for finding treatments of many diseases including Alzheimer's, Parkinson's, type-2 diabetes, Wilson disease, and cancer. Wittung-Stafshede has worked on questions around protein folding since 1999 and she pioneered the now-established research fields of metalloprotein folding and protein folding in cell-like environments. In the last decade, her research has extended towards more functional aspects of proteins and the current focus is on the role of protein misfolding and aggregation in human diseases as well as on the mechanisms of proteins transporting the essential metal ion copper in cells and how this relates to cancer. In most of her research efforts, biophysical and biochemical techniques are combined with purified proteins and strategically mutated variants. Wittung-Stafshede started her career as a professor in the United States, working there for 10 years, followed by 7 years at Umeå University. In 2015 she became Professor at the division of Chemical Biology at Chalmers.



Master projects are most often offered in the Wittung-Stafshede group. Most projects will concern amyloid formation of alpha-synuclein (protein involved in Parkinson's disease) and how this aggregation process is affected by small or large biomolecules (such as lipids, metals, other proteins). Sometimes there will also be projects available on copper transport proteins and breast cancer cells. Specific focus of each Master project will depend on expertise and interest of the current members of the Wittung-Stafshede research group and what is a 'hot' question right now. In most projects, the student will learn how to make recombinant proteins and how to apply biophysical/spectroscopic methods. Some projects may also involve cell culture studies and microscopy. Each Master student will work with a senior group member. All projects are excellent starts for future PhD projects. Please, contact Pernilla Wittung-Stafshede for more information or if you want to meet and discuss possibilities.

*Welcome to join the group! Pernilla*