



## Consequences of metal-peptide interactions in Alzheimer's Disease & some strategies to prevent them

Christelle HUREAU

*<sup>a)</sup> Laboratoire de Chimie de Coordination, 205 Route de Narbonne, 31077 Toulouse cedex 04,  
France  
christelle.hureau@lcc-toulouse.fr*

Alzheimer (AD) is a multifactorial disease where two key events have been linked to the etiology of the disease: (i) the self-assembly process of the Alzheimer-related amyloid- $\beta$  (A $\beta$ ) peptides leading to the deposits of the A $\beta$  amyloids in the senile plaques detected in AD patients' brains [1] and (ii) oxidative stress.[2] Metal ions (copper, zinc and iron) have been found in the senile plaques in abnormally high level. They can modulate the self-assembly of the A $\beta$  peptides and A $\beta$ -bound copper ions can catalyze the production of Reactive Oxygen Species. They are thus key players in the pathology.

During the talk, I will give an overview of the approaches we have developed during the last years to (i) understand at the molecular level how metal ions are linked to the fate of the disease [1-4] and to (ii) overcome their deleterious effects by copper-targeting molecules [4] and modulators of A $\beta$  peptides self-assembly.[6]

### References:

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