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PAC spectroscopy applied in metallobiochemistry

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Metal ions are essential to all living systems, and are for example involved in catalysis, regulation of gene expression, controlling and maintaining structure and folding of biomolecules, and electron transport. Inside cells the concentration of both essential and toxic metal ions is tightly controlled, and one facet of metallobiochemistry is the structure and function of various metallobiosensors, which selectively bind and respond to the presence of either Cu(I), Zn(II), Ag(I), Cd(II), Hg(II), or other metal ions. We will present recent examples of applications of PAC spectroscopy, elucidating the structure and function of metallobiosensors [1,2].

1. Tebo A.G., Hemmingsen L., Pecoraro V.L. *Variable primary coordination environments of Cd(II) Binding to Three Helix Bundles Provide a Pathway for Rapid Metal exchange*, Submitted to Metallomics
2. Szunyogh D., Zsolokai H., Thulstrup P.W., Larsen F.H., Gyurcsik B., Christensen N.J., Stachura M., Hemmingsen L., and Jancso A. *Specificity of the metalloregulator CueR for monovalent metal ions: Functional role of a coordinated thiol?*, Submitted to Angew. Chem. Int. Ed.

Primary author: HEMMINGSEN, Lars (University of Copenhagen (DK))

Presenter: HEMMINGSEN, Lars (University of Copenhagen (DK))

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