

Project: Title

Grantee: Russo Daniela

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Period of STMS (begin- and end date): 29.10.2012-19.11.2012

Host institution (address): Institute of Crystallography, CNR
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Aims & subject of work (480 characters, no spaces; Calibri 12):

It is of great relevance the possibility to study the structure/function/dynamics relationships of genetically modified reaction centers in photosynthetic organisms, in order to identify the parameters underlying an increased performance in terms of charge separation, protein stability and functional reliability. In this picture our project addresses the problem comparing the neutron scattering experiments of Chlamydomonas cells carrying both native and mutated D1 reaction centre proteins.

Argumentation of necessity of STSM (100 characters, no spaces; Calibri 12):

Included in TD1102 objective

Workplan/timeschedule followed (4 bullets max., Calibri 12):

- Discussion and synthesis of neutron scattering results from elastic neutron scattering experiments as a function of Temperature for whole cells and thylakoids membranes.
- Analysis data of collective dynamics neutron scattering data.

Main results and outcome (conclusions):

Final results obtained from analysis data performed on elastic neutron scattering experiment on single particle dynamics suggest that point genetic mutations may notably affect the T dependence of the overall protein dynamics. In the specific, at physiological temperature, point mutations cells show a higher flexibility of the whole system.

