POSTDOCTORAL POSITION AVAILABLE

ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA

Center for Light Activated Nanostructures
Università di Bologna - Italy

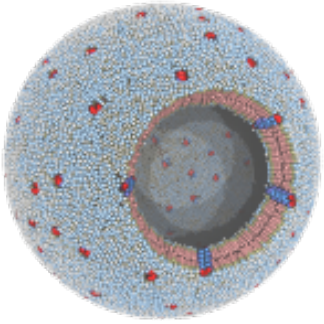
European Research Council

Study of light-driven molecular pumps in bilayer membranes

One postdoctoral position is available in the *Center for Light Activated Nanostructures* (CLAN) – a joint lab of the Università di Bologna and Consiglio Nazionale delle Ricerche – to perform research supported by the ERC Advanced Grant "LEAPS - Light effected autonomous molecular pumps: towards active transporters and actuating materials", Principal Investigator: Prof. Alberto Credi.

Background on molecular machines and motors

The construction and operation of machines at the extreme stage of miniaturization - that is, at the molecular level - is a fascinating challenge of nanoscience and an important objective of nanotechnology. Light is a convenient energy source to operate molecular machines. In our lab we have shown that molecular pumps, capable of using light energy to operate away from chemical equilibrium, can be rationally designed. A research effort is necessary to move a step forward towards the exploitation of these molecular machines to perform useful tasks.



The research project deals with the incorporation of the molecular machines developed in the group within bilayer membranes, and the study of their photochemically driven operation in such an environment. The final goal is to observe molecular transport, promoted by the molecular machines, across solution compartments.

For an overview of the field, see: dx.doi.org/10.1002/open.201700181. For our recent papers on molecular machines and pumps, see: dx.doi.org/10.1038/nnano.2014.260, dx.doi.org/10.1073/pnas.1712783115

The fellow will become part of a young and dynamic team consisting of graduate students, post-docs, and staff members working in an internationally renowned laboratory. The candidate must have a PhD in Chemical Sciences, an outstanding track record, and a strong motivation in undertaking a challenging research project in a stimulating and competitive environment. Experience is required in the design/preparation of lipid bilayers, and in the characterization of resulting planar or spherical (vesicles) aggregates. Subordinately, skills in organic synthesis, supramolecular chemistry, NMR spectroscopy and photochemistry will be considered as a plus.

The contract will have an initial duration of 1 year, starting on or after 1 June 2018. The gross salary will be around 25,000 €/y and will be tailored according to the Italian legislation and the experience of the candidate.

The research will be performed in the CLAN laboratory located in the Bologna campus of the National Research Council (ISOF institute, isof.cnr.it) with access to the facilities of the Department of Chemistry of the University.

Details on the ERC-funded research project can be found at: site.unibo.it/leaps
For information about the PI's profile and scientific production: www.credi-group.it
Web site of the Center for Light Activated Nanostructures: centri.unibo.it/clan/en

Keywords: molecular machines | functional materials | nanoscience | photochemistry | self-assembly | supramolecular chemistry

If interested, please send your CV to alberto.credi@unibo.it or ask for more information

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Horizon 2020 | European Union funding for Research & Innovation

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site.unibo.it/leaps

CLAN CENTER FOR LIGHT ACTIVATED NANOSTRUCTURES

Consiglio Nazionale delle Ricerche