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### Ph.D. Thesis Offer

**Title:** “New photocatalyzed transformations using first row transition metals and mechanism understanding”

**Position:** Full Doctorate (number of position available: 1)

**Keyword:** Organofluorine Chemistry ; Copper Catalysis ; Photocatalysis ; Reaction Mechanism

Nowadays, the quest for new methodologies and reagents to efficiently introduce various fluorinated groups to access a panel of fluorine-containing building blocks renders this blooming research area very appealing for scientists. In addition, the understanding of these transformation is still poor and knowledge, useful for the whole community still have to be gained.

Besides, photocatalysis is a powerful tool to develop new transformations, impossible so far. However, one of the main current drawbacks of this impressive synthetic tool is the use of expensive and poorly abundant noble transition metal, like Ir or Ru for instance.

Aiming at taking benefit from our home expertise and willing to push beyond the boundaries of knowledge in organofluorine chemistry, we intend to develop new photocatalyzed transformation to develop new transformations. In that purpose we want to focus on the use of first transition metal based photocatalysts. The combination of light and the newly developed catalyst will allow the development of new transformations. Note that the newly developed transformations will be quickly tested in flow chemistry. A strong emphasis will be devoted to the fundamental understanding of the reaction mechanisms to share with the whole community these new insights.

To support this research program we are looking for an outstanding and highly motivated candidate to pursue his PhD within our group.

**Requirement for the position:** a Master degree in chemistry.

**Laboratory:** INSA Rouen, UMR 6014, C.O.B.R.A.

**URL:** <http://www.lab-cobra.fr/?equipe=synthese-de-biomolecules-fluorees>

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