



## PhD position in Grenoble

*Département de Chimie Moléculaire (UMR CNRS 5250)*

**Title:** Design, synthesis and mechanisms of melanogenesis inhibitors

**Description of the position:** The position is a 3 years doctoral fellowship in the field of Bio-inspired chemistry. A grant funded by IDEX University Grenoble Alpes is secured.

**Context:** Tyrosinase is the key enzyme involved in the biosynthesis of melanin, pigment found in the skin and eyes that are the cause of various diseases. For discovering efficient tyrosinase inhibitors, our strategy is to target the tyrosinase dicopper active site which plays a central role in tyrosinase activity.

**Methodology:** (i) The design of these new inhibitors will be inspired by integrating knowledge of tyrosinase enzyme or biomimetic model structures and using fundamental recognition properties of inorganic chemistry. Substrate mimics or known inhibitors associated to groups able to bind selectively the dicopper active site should afford safe and potent compounds according to a strategy validated by our recent results.

(ii) The issue regarding how selected inhibitors (or potential inhibitors) bind/interact with the active site of the enzyme using computational approaches is a part of the project to understand inhibition mechanisms and rationalize the design of improved inhibitors.

(iii) Furthermore the candidate will interact with external partners to evaluate the activity of synthesized molecules.

**Candidate profile:** The candidate should be highly motivated, to work in a multidisciplinary project and to interact with external partners. The project requires a solid experience in organic syntheses, as well as an interest for bioinorganic chemistry. A background in molecular modeling is an undeniable advantage.

**Application:** To apply, please send a CV (max. one page), Master's grades, covering letter and details for potential referees to the contacts. The deadline is April 27<sup>th</sup> 2018.

### Contacts/Location

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### Selected references from the group in the field

[1] *Chem. Eur. J.*, **2013**, 19, 3655-3664, [2] *Chem. Commun.* **2014**, 50, 308-310 [3] *Inorg. Chem.* **2014**, 53, 12848-12858. [4] *Cur. Top. Med. Chem.*, **2016**, 16, 3033-3047