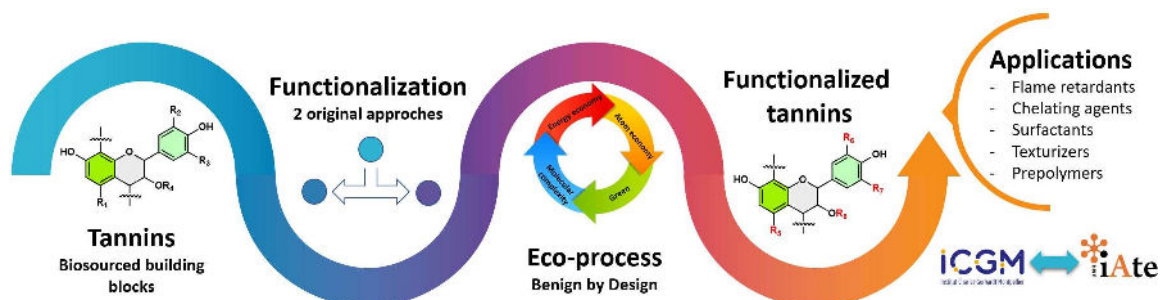


Engineer Position – 9 month contract

Original functionalization of tannins for innovative biosourced molecules and materials

Project

Tannins are widely available in various plant materials, including tree barks, fruits, and leaves. They are known for their antioxidant, antimicrobial, and adhesive properties. Their abundance and renewable nature make them an attractive alternative to non-renewable resources, aligning with the principles of sustainability and circular economy. When functionalized and incorporated into products, they can enhance their eco-friendliness and biodegradability, reducing the environmental impact of end-use applications. However their potential applications remain limited due to i) the limited number of functionalization options described in the literature and ii) the need to develop functionalization processes with lower environmental impact.¹⁾ In this project, two original functionalizations of tannins will be developed, both following the "Benign by Design" principle, enabling the environmental impact of the processes to be reduced as far as possible.²⁾ The modified tannins will then be considered for end-use applications.



Profile

Candidate should have a Master degree in chemistry, with solid skills in synthesis and in analytical methods, both in solution and in the solid state (HPLC, IR, MS, NMR). He/she will be motivated, passionate about chemistry and willing to take on challenges in sustainable chemistry.

Position details

The project will be performed in the brand new building of [Pôle Chimie Balard](#) located in the CNRS campus, within the Institut Charles Gerhardt in Montpellier, France. The successful candidate will interact with a team of researchers with varied and complementary expertise, including: T.-X. Métro (ICGM, CNRS), J.-L. Pirat (ICGM, ENSCM), and L. Rouméas (IATE, INRAE). Position is funded by the Chimie Balard Cirimat Carnot Institute (<http://www.carnot-chimie-balard-cirimat.fr/en>). The position is for 9 months, starting January 2024.

Application

Please send your CV (english or french, including names and contact details of two scientific references), grades from the Master diploma and cover letter in pdf format to Thomas-Xavier Métro ([thomas-xavier.metro\[at\]umontpellier.fr](mailto:thomas-xavier.metro[at]umontpellier.fr)) and to Jean-Luc Pirat ([jean-luc.pirat\[at\]enscm.fr](mailto:jean-luc.pirat[at]enscm.fr)). Applications will be evaluated as they come in, with a deadline of September 30th.

References

- 1) Arbenz, A.; Avérous, L. Chemical modification of tannins to elaborate aromatic biobased macromolecular architectures. *Green Chem.* **2015**, *17*, 2626-2646, doi : 10.1039/c5gc00282f.
- 2) Anastas, P. T. Benign by Design Chemistry, in Benign by Design, American Chemical Society: **1994**, 577, 2-22, doi : 10.1021/bk-1994-0577.ch001.