



**Dr. Camille Oger**

~ *IBMM - Université de Montpellier* ~

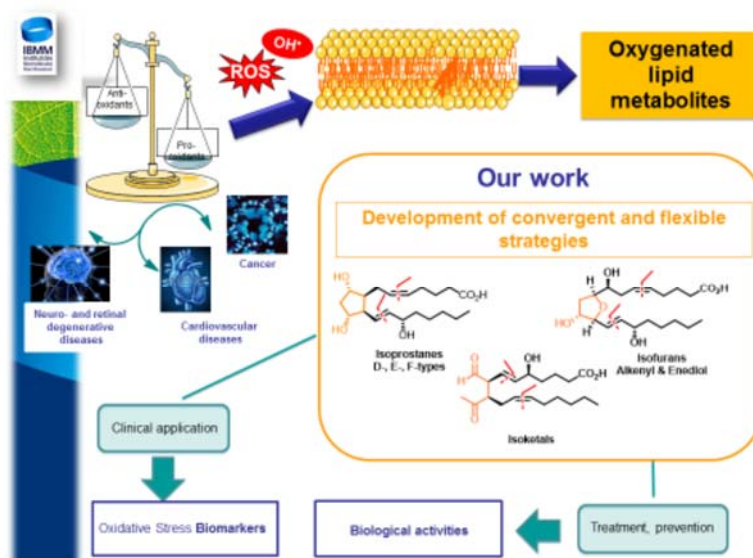
**24 Avril 2019 - 10h00**

**Salle Marie Curie**

## Total synthesis of PUFA metabolites - keystone toward new biological discoveries

Oxidative stress is a phenomenon that is found in many pathologies as cause or consequence of the latter. Oxidative stress is an imbalance of the antioxidant / pro-oxidant balance tending towards overproduction of pro-oxidant species, including free radicals. Free radicals then cause lesions within biomolecules such as lipid and especially polyunsaturated fatty acids (PUFA). Several classes of oxygenated metabolites can be produced by lipid peroxidation, and were grouped under the name oxylipins.<sup>1</sup>

Our laboratory is interested in the synthesis of all these metabolites<sup>2-5</sup> in order to 1) highlight their formation *in vivo*; 2) use them as biomarkers of oxidative stress; 3) determine their biological properties. For this purpose, we develop flexible and divergent synthesis strategies to synthesize the largest number of oxylipins. Thanks to numerous collaborations we developed, we highlighted the formation of new lipid metabolites and discovered interesting biological properties.



## References :

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2. Oger C, Brinkmann Y, Bouazzaoui S, Durand T, Galano J-M. *Org Lett.* 2008; 10: 5087–5090.
3. de La Torre A, Lee YY, Oger C, Sangild PT, Durand T, Lee JC-Y, Galano J-M. *Angew Chem Int Ed.* 2014; 53: 6249–6252.
4. Cuyamendous C, Leung KS, Durand T, Lee JC-Y, Oger C, Galano J-M. *Chem Commun.* 2015; 51: 15696–15699.
5. Candy M, Durand T, Galano J-M, Oger C. *Eur J Org Chem.* 2016; 2016: 5813–5816.
6. For a recent review see : Oger Oger, C., Cuyamendous, C., de la Torre, A., Candy, M., Guy, A., Bultel-Poncé, V., Durand, T., Galano, J.-M., *Synthesis*, **2018**, 50, 3257-3280.

## Biographical Sketch

Camille Oger studied chemistry in Toulouse at Déodat de Séverac College and Paul Sabatier University and obtained her master degree from University Pierre and Marie Curie (Paris VI) in 2006. She then moved to Montpellier and received her PhD in the field of total synthesis of neuroprostanes at the University of Montpellier II, in 2010. She did a post-doctoral work with Pr. Ilan Marek at the Technion- Israel Institute of Technology, working on a new access to stereopentade of polypropionate units.

She was promoted assistant professor at the University of Montpellier I in 2011 and obtained her habilitation in 2016 based on her research work on the development of new strategies toward the synthesis of bioactive lipids. In 2017, she received Jean Normant award from the Organic Division of the French Chemical Society.

Her research field is at the interface with chemistry and biology, with the total synthesis of lipids metabolites, the quantification of such compounds in biological fluids and the research of potent biological properties. She is the co-authored of 75 articles and reviews, 4 patents and 2 book chapters. More info on <https://camilleoger-chemblog.jimdo.com/>

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