



**IBMM**  
Institut des  
Biomolécules  
Max Mousseron



## **MINI-SYMPOSIUM IBMM / SEMINAIRE ED459 SCB**

**Lundi 13 décembre 2021, 10h30-12h00**

*Amphithéâtre de la délégation, CNRS DR13*

*1919 route de Mende, Montpellier*

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NIR chromophores for biophotonics and laser protection

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Biomimetic assemblies and catalysis using Cyclodextrins

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*En raison du contexte sanitaire Covid-19, la capacité de la salle est limitée à 40 personnes. Une feuille d'émargement sera mise à disposition le jour même avant l'entrée dans l'amphithéâtre. Néanmoins, si vous souhaitez préserver votre place, merci de transmettre vos nom, prénom et courriel à [sebastien.ulrich@cnr.fr](mailto:sebastien.ulrich@cnr.fr).*

*L'accès au campus CNRS DR13 est contrôlé et nécessite un badge ou une invitation. Si vous souhaitez demander un accès temporaire pour pouvoir assister à ce mini-symposium, merci de contacter [sebastien.ulrich@cnr.fr](mailto:sebastien.ulrich@cnr.fr) en précisant vos nom, prénom et courriel. Un QR code permettant l'accès vous sera ensuite transmis par courriel.*

# ***NIR chromophores for biophotonics and laser protection***

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Biphotonic absorption is used in different fields of applications such as biology and defense. The design of chromophores for these applications is strongly related to their excited state properties.

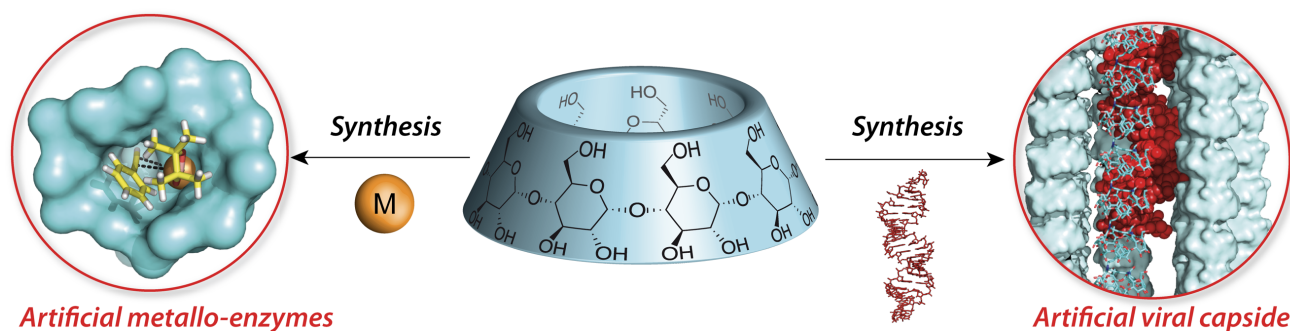
During this seminar, our molecular engineering will be presented in the view of biological imaging (1), optical power limiting (2). Besides the molecular design for each application taking into account different photophysical requirements in addition to the optimisation of biphotonic properties, the compatibility of molecules with their environment will be also addressed in each case.

# Biomimetic assemblies and catalysis using Cyclodextrins

Matthieu Sollogoub

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Cyclodextrins are cyclic oligosaccharides used in our daily life as deodorants or excipients. In these applications, they are unfunctionalized or randomly functionalized. The regioselective functionalization of cyclodextrins is a well-established bottle-neck for their use in more sophisticated applications. Over the years we delineated several strategies to access poly-hetero-functionalized cyclodextrins.<sup>[1]</sup> Based on this ability, we could synthesize modified cyclodextrins that imitate the function of a capsid protein to build an artificial virus.<sup>[2]</sup> Also inspired by Nature, we encapsulated metals inside the cavity as in metallo-enzymes and used these complexes in catalysis.<sup>[3]</sup>



## References

- <sup>[1]</sup> M. Sollogoub et al. *Angew. Chem., Int. Ed.* **2008**, *47*, 7060; *Angew. Chem., Int. Ed.* **2013**, *52*, 639; *Nature Commun.* **2014**, *5*, 5354; *Angew. Chem. Int. Ed.* **2021**, DOI: 10.1002/anie.202102182
- <sup>[2]</sup> M. Sollogoub et al. *Angew. Chem. Int. Ed.* **2012**, *51*, 487; *Angew. Chem. Int. Ed.* **2014**, *53*, 7238; *Angew. Chem. Int. Ed.* **2018**, *57*, 7753.
- <sup>[3]</sup> M. Sollogoub et al. *Angew. Chem. Int. Ed.* **2013**, *52*, 7213; *Chem* **2017**, *3*, 174; *Angew. Chem. Int. Ed.* **2017**, *56*, 10821; *ACS Catal.* **2020**, *10*, 5964-5972; *Angew. Chem. Int. Ed.* **2020**, *59*, 7591-7597.