**Prof. Matthieu Becuwe**

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**Brief CV:**

 My work mainly concerns the design of new molecular and functional hybrid materials for energy storage (electrode materials, electrolytes, etc.). My most recent research aims to set up molecular engineering to improve and understand the electrochemical performance of organic electrode materials for Li-ion batteries. Our most significant result has been the improvement in the charge and discharge kinetics of conjugated lithium carboxylates through the use of aromatic rings with greater electron conjugation such as Naphthalene and Perylene. The exploration and resolution of the mechanisms involved during the charge / discharge cycles of these compounds is also an integral part of our work and is studied through high performance tools such as solid-state NMR, X-ray diffraction and electron microscopy. In the longer term, our goal is to develop new generations of "all organic" ion batteries to reduce the environmental impact of current lithium ion batteries.

My curiosity is also focused on the development of functional hybrid materials (obtained by graft chemistry) for energy storage and catalysis applications.