

Séminaire

Mardi 17 septembre 2024 à **11h00**
Amphithéâtre Henri Benoît

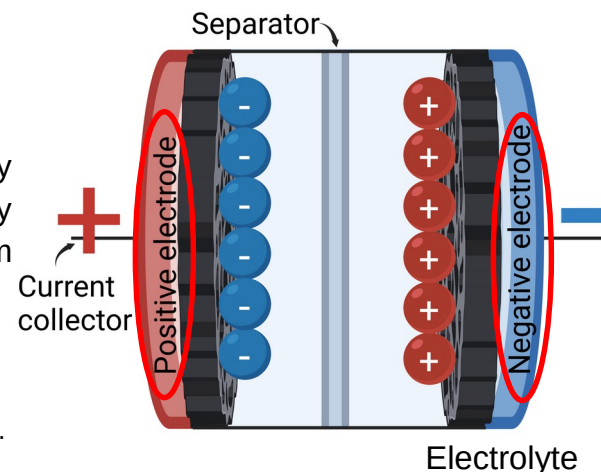
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Hybrid Materials for Energy Storage: Supercapacitors and beyond

Our dependance on rechargeable and connected devices is constantly increasing. Therefore, the need for new materials that can follow this increasing demand is becoming urgent. For this, a complete understanding of the mechanism of energy storage is required. Among energy storage devices, electrochemical capacitors have gained attention due to their rapid energy storage that translated in multiple applications. [1] However, they suffer from limited energy density, hence a real focus on improving their performance is. The past decades have seen tremendous revelations about the storage mechanism of capacitors. Important improvements on either electrodes [2] or electrolytes [3] have been observed. Recently, an interest is shifted towards the interaction between the electrode and the electrolyte.

Figure: A supercapacitor in the charged state. [4]

In this seminar, I will talk about my experience in the energy storage field and the challenges in this field as well as my future projects in ICS. I will also briefly introduce the Icam Strasbourg-Europe.



[1] T. Nguyen, M. de F. Montemor, *Advanced Science* 6 (2019) 1801797.

[2] M.A.A. Mohd Abdah, N.H.N. Azman, S. Kulandaivalu, Y. Sulaiman, *Materials & Design* 186 (2020) 108199.

[3] F. Béguin, V. Presser, A. Balducci, E. Frackowiak, *Advanced Materials* 26 (2014) 2219–2251.

[4] S. Zallouz, S.N. Pronkin, J.-M. Le Meins, C. Pham-Huu, C. Matei Ghimbeu, in: M. Jeguirim, P. Dutournié (Eds.), *Renewable Energy Production and Distribution*, Academic Press, 2023, pp. 353–408.