

# De Volder教授の講演会

- 日時：2024年03月19日（火）10:30～12:00  
（講演：1時間，質疑応答：30分）
- 場所：すずかけ台キャンパス R2棟 1階 OCS会議室

英国ケンブリッジ大学De Volder 先生が未来研の特任教授(WRH)として着任いたしました。今回は「電極の構造化によるリチウムイオン電池のエネルギー密度の向上」について講演会を開催いたします。たくさんの参加をお待ちしております。

問い合わせ先：金俊完（科学技術創成研究院 未来産業技術研究所）  
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## Increasing the Energy Density of Li-Ion Batteries by Structuring Electrodes and New Energy Storage Concepts

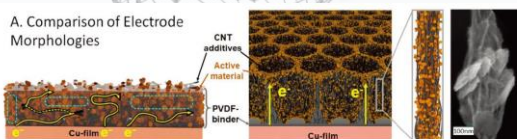
*Michael De Volder*

*Professor, University of Cambridge*

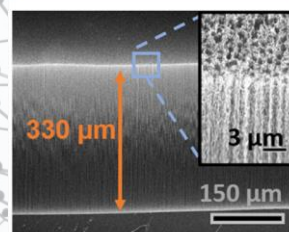
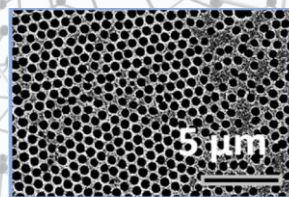
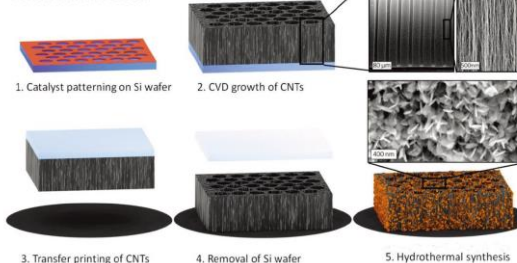
*Specially Appointed Professor, WRH, Tokyo Institute of Technology*

**Abstract:** Li-ion batteries still fall short of consumer needs in terms of charging time, capacity and cost. In addition, the materials used in batteries and the battery lifetime still cause concerns about their sustainability. In this talk, I will focus on different strategies to improve the performance of batteries. First, I will discuss aspects of optimising the structure of battery electrodes, which can lead to better battery performance using existing battery chemistries. Second, I will talk about how we can combine different Li storage mechanisms in new ways to increase the overall energy density of battery electrodes. Finally, I will discuss work on the degradation of batteries and methods to increase their life-time which is critical to improve their sustainability.

A. Comparison of Electrode Morphologies



B. Fabrication Process



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