

**Subject:** Joint webinar Division de Chimie du Solide – SCF / Division of Solid State and Materials Chemistry – EuChemS. Time: Thursday 13th February 2025 01:30 PM Paris-time

<https://univ-nantes-fr.zoom.us/j/87618988180?pwd=4leSIBybNYuZxzH3iYGGFHQg1T7uGB.1>

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### Vanadium-based oxides as versatile electrode materials for metal-ion batteries

**Abstract:** Vanadium-based oxides have received great attention as promising next-generation electrode materials due to their diversity in chemical compositions, unique open structures for fast diffusion with outstanding electrochemical properties and various oxidation redox couples. Recent reviews have even debated if they “will become the future choice for metal-ion batteries”. [1]

My talk aims to contribute to a deeper understanding of the potential of vanadium-based oxides as versatile electrode materials for energy storage beyond lithium. In the course of the lecture, structural peculiarities, redox activity, electrochemical performance, structure-property relationships and metal-ion storage mechanism of selected examples will be presented, from  $V_2O_5$  to vanadium oxide bronzes and hydrated vanadium oxides.

[1] D. Zhao, C. Wang, Y. Ding, M. Ding, Y. Cao, Z. Chen, ChemSusChem, 2022, 15, e202200479.

