



GESELLSCHAFT DEUTSCHER CHEMIKER  
ORTSVERBAND SIEGEN

## Ankündigung

Am Montag, 06. Mai 2024, spricht um 16:30 Uhr  
im Hörsaal AR-F 002 des Departments Chemie und Biologie

### **Prof. Dr. Dr. h. c. Jürgen Janek**

Justus-Liebig Universität Gießen

über das Thema

### **The Chemistry of High-Performance Batteries and their Challenges**

Kaffeerunde ab 16 Uhr in Raum AR – H 100,  
organisiert durch das  
JungChemikerForum Siegen

Alle interessierten Kolleginnen und Kollegen, Mitarbeiterinnen und  
Mitarbeiter und Studierende sind zu diesem Vortrag herzlich eingeladen.  
Gäste sind herzlich willkommen.

Der Ortsverbandsvorsitzende  
Prof. Dr. Jörn Schmedt auf der Günne



## **"The Chemistry of High-Performance Batteries and their Challenges"**

Since their invention more than 200 years ago, “galvanic cells” have been developed as versatile electrochemical storage devices – with storage capacities extending over 8 orders of magnitude; from small and ultra-stable batteries for medical devices to large-scale grid storage systems. In this lecture, the current status of high-performance batteries will be briefly reviewed, and the most important cell concepts will be discussed (lithium ion batteries, sodium ion batteries, solid state batteries, post-lithium concepts). The role of solid state chemistry and electrochemistry, along with organic/polymer chemistry and materials science will be highlighted. Two major examples for remaining challenges will be presented in more details, i.e., the quest for even higher energy densities and the search for cell concepts with less critical supply chains. In any example, the critical role of controlling chemical reactivity will be emphasized.