

Solid form screening of pharmaceutical compounds enhanced by Electron Diffraction experiments

Polymorphism study of APIs is essential for selecting the most adequate solid form for development into a drug product. Therefore, it is always recommended to conduct a thorough search to establish the landscape of the crystalline solid forms and to assess the associated development risks.

For each polymorph of an API, the arrangement of the molecules in the crystal determines its physical properties and therefore, knowledge of crystal structure is important to fully understand and optimize the pharmaceutical performance of the drug. Consequently, an effective approach for solid form screening combined with crystal structure determination is of considerable importance across the drug development process. However, as growth of suitable crystals for X-ray crystallography may be time consuming for complex molecules, using Electron diffraction (ED) on nano-sized crystals represents a significant advantage to the solid-state studies.

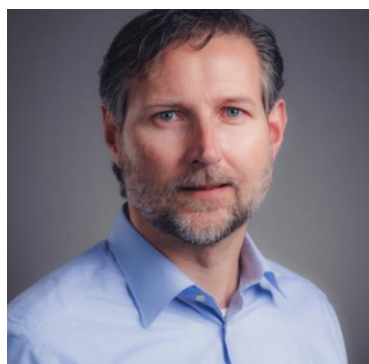
This lecture will be presented by Mihaela Pop and Danny Stam and aims to offer an occasion of describing the solid form screening approach including the X-ray and Electron diffraction tools for crystal structure determination. Particularly, the capability of the new ELDICO *ED-1* instrument to efficiently provide crystal structures will be explored in the case of pharmaceutical nanocrystals.



Mihaela Pop

serves as Chief Scientific Officer and currently oversees the entire scientific, research and technological operations at TeraCrystal

TeraCrystal is an established provider offering a full suite of solid-state and crystallization services. Differentiated by strong scientific focus, we assist pharmaceutical companies to rapidly and successfully progress their lead compounds into all drug development phases.



Danny Stam

Serves as Sales Manager at ELDICO Scientific ELDICO Scientific (The Electron Diffraction Company) is a Swiss technology and service company. ELDICO develops, manufactures and commercializes solutions based on their electron diffractometer. ELDICO's clients are industrial and academic researchers in large and fast-growing areas such as the health care, energy storage and advanced materials applications.

Mihaela and Danny both worked together for the company Crystallics