**Biography**

Geoff Smith is Professor of Pharmaceutical Process Analytical Technology in the Leicester School of Pharmacy at De Montfort University (UK). He is responsible for the development of through-vial impedance spectroscopy (TVIS) as a PAT tool for monitoring phase behaviour (ice formation and eutectics), ice interface temperatures, primary drying rates and end-points. In 2018, and in collaboration with Biopharma, he developed Z-FDM - a freeze-drying microscope with an integrated impedance spectrometer, for the objective assessment of the collapse temperature and for the determination of ice nucleation temperatures, solidification times, and drying rates.