

## **ROUND ROBINS FOR PHARMACEUTICAL X-RAY POWDER DIFFRACTION**

John Faber  
International Centre for Diffraction Data (ICDD)  
12 Campus Boulevard  
Newtown Square, PA, 19073 USA

The ICDD has had a strong historical effort in organizing round robin studies for x-ray powder diffraction work. Internal testing protocols are well-established in most industrial settings. But the basic philosophy of round robins is to define a standard protocol and ask: if one were to run the identical specimen on well-aligned diffractometers of different manufacture and/or of different geometry, would one obtain nominally the same set of relative intensities? In this session, we will discuss the results of instrument sensitivity round robins organized by ICDD in the US, the UK and the Czech Republic[1]. The results of these trials are designed to provide timely response on performance and they set benchmarks for which the performance of many instruments can be gauged. All of these round robin trials were based on the use of NIST 1976, a Certified Reference material[2]. We will open the discussion for comment from conference participants concerning possible choices of reference materials for PPXRD and the efficacy of round robin trials in PPXRD.

[1] These round robins spanned 92 instruments in the 1992 US study, 27 instruments in the 1994 Czech Republic and 33 instruments in the 1996 UK study.

[2] please see: Cline, J.P., Schiller, S.B. and Jenkins, R., "The introduction of a NIST Instrument Sensitivity Standard Reference Material", *Adv. X-ray Anal.*, 4 (1989) 341-352 and subsequent literature.