

Bringing the Real World to a Crystallography Lab – A Quality Management Framework

G Audette¹, R Audette²

**¹Dept of Chemistry, York Univ, Toronto, ON, ²Audette Consulting, St. Albert, Alberta
audette@yorku.ca**

The underlying focus of chemical education and training in the university setting is to provide students with the background knowledge, technical skills and understanding to enable them to apply an intellectual, inquiry-based approach to problems. Crystallography is no exception – we are applying highly specialized techniques to ask fundamental questions about structure and function. Understanding the "nuts and bolts" of crystallography, including symmetry, diffraction, structure solution and refinement, is central to our ability to effectively use crystallographic methods to answer our research questions, be them chemical or biochemical, and to push the boundaries of knowledge. But let's be honest, most undergraduates don't pursue graduate studies, and landing an academic career can be very challenging for our graduate students and postdocs. Most of our trainees head out into the "real world" and apply themselves to industrial problems. And when they get there, they are often faced with the rules, regulations and processes that govern a company's activities, which can be daunting. In an effort to better prepare students for this culture shock, we've implemented an ISO 17025 compliant quality management system in our academic structural biochemistry laboratory. We discuss the experiences, challenges and benefits of implementing an ISO 17205 compliant quality management system to an academic lab, including buy-in from students and other research groups in a semi-open lab environment at York University.