

Microsymposium

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Structure Determination in a Changing World

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Crystal structure analysis used to be a highly complex process requiring expensive and specialised instrumentation, high-end computing and a lot of prior knowledge. In the last ten years or so, the required instrumentation has become quite affordable (to the point of being ubiquitous), what used to be high-end computing can now be found in most people's pockets and the experience level of those performing these analyses has become highly polarised: - There are those who know little about the technique and are lured into it by the undisputed high value attached to a crystal structure and the apparent ease of use of modern hardware and software. - And then there are those old hands who dream about carrying boxes of instruction cards across campus in order to pick up the same boxes a few days later - now brimming with the results - and who know what to reach for when someone asks for the 'blue book'. Has crystallographic teaching kept up with these developments? Are we preparing our students and staff adequately? This contribution will feature a number of observations and tales gleaned from various crystallographic workshops we have held all over the globe, addressing mainly mixed groups of students and highly experienced crystallographers. In my opinion, we need to turn crystallographic educations on it's head and start with teaching how to produce proper, chemically and biologically correct structures including their valid CIFs and reserve Bragg's law for the end - and those few who got infected by the crystallography bug in the process of learning about this most fascinating discipline.

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