

APERIODIC 2015

HISTORICAL BACKGROUNDS

Aperiodic2015 continues the tradition of international conferences organized under the aegis of the IUCr Commission on Aperiodic Crystals (CAC). Following its terms of reference, the Commission is responsible for the organization of meetings on a triennial basis in alternation with the International Conference on Quasicrystals and is intended to promote the development of common methods and nomenclature for the crystallographic investigation of aperiodic crystals including modulated structures, polytypes, incommensurate misfit or composite crystals and quasicrystals. It is also the aim of the series of conferences to promote scientific interchange among groups working in various fields of aperiodic materials and to emphasise the multidisciplinary aspects of aperiodicity.

Through the organization of conferences and meetings, the IUCr CAC focused its work along different directions: the establishment of standards for the publication of aperiodic structures; the organisation of international conferences and micro-symposia on the same topic, the organization of international schools to familiarize the newcomers to the field and finally, the coordination of conference activities between different communities working in related fields of aperiodic structures. The checklist for the publication of incommensurately modulated crystals, which appeared in 1997 in *Acta Cryst* was published following broad consultations with specialists in the field of incommensurate crystal structures. It contains numerous recommendations and suggestions to authors for the publication of refined structures described in the superspace group approach.

The first Aperiodic conference took place in the mountain resort Les Diablerets (Switzerland) in 1994 and the next ones continued to be organized triennially: Alpe d'Huez (France), Nijmegen (Netherland) and then outside

Europe in Belo Horizonte (Brazil) and Zao (Japan). The last conferences took place in Liverpool (Great Britain) and Cairns (Australia). The only continents, which are still missing on this list, are North America and Africa. We can only hope that this will soon be a past story! The conferences typically gather between hundred and hundred fifty participants from all over the world from twenty to thirty nations.

The highlight of the last conference in Cairns was the celebration of the winner of the 2011 Nobel Prize for chemistry, Dan Shechtman, who presented some historical background related to the discovery of quasicrystals almost thirty years before the prize was attributed. More recently two former members of the CAC, Ted Janssen and Aloysio Janner received the Ewald Prize, which was delivered in 2014 during the IUCr conference in Montreal.

We are fortunate to have published proceedings for all conferences in form of books or as part of specialized journals reflecting thus the evolution of the different fields and tendencies in the research of aperiodic crystals. For instance, the field of polytypes and OD structures which was developing for many years as a specialized branch of crystallography is so close to the field of modulated structures that some compounds need combination of both approaches to be described correctly.

Aperiodic2015 and the present book of abstracts shows again that the field of aperiodic crystals is a very attractive and dynamic field of research. We are convinced that the field will evolve more rapidly in parallel to the development of elaborate equipment for the study of matters at the atomic scale.

Gervais Chapuis

Codes of Contributions Labels

Xn (- Lm)

X -

T	Tutorial	L	lecture
PL	Invited plenary lectures	m	number of lecture in session
Sn	Session + number		
Pn	Poster + number		