High pressure research and crystallography: the great unification

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The first experimental studies at elevated pressure were reported as early as 400 years ago, but the dynamic growth of the techniques dates back to the beginning of the last century. First in situ high pressure X-ray diffraction studies were first undertaken in 1933 in USA [1] and independently after the World War II in the Soviet Union [2]. This field of research was significantly intensified by the invention of the diamond anvil cell (DAC) in 1958 [3], which opened up new opportunities for the study of the structure of matter at non-ambient conditions. The International Association for the Advancement of High Pressure Science and Technology (AIRAPT) was founded in 1965 [4], around the time when the first reports on structural studies for the samples in a DAC were published. However, it was not until 1987 when at the 14th IUCr Congress in Perth, a High-Pressure Group was established within the Commission on Crystallographic Apparatus to represent and support high-pressure crystallography. The IUCr Commission on High Pressure (CHP) was created at the 17th IUCr Congress in Seattle in 1996, and since that time it "helps to develop and strengthen links and interactions between the field of high-pressure crystallography and the whole field of high-pressure science", as noted in the CHP terms of reference [5]. The author, who is the incumbent Chair of the CHP will present a personal perspective, looking into the past but also offering ideas on how to strengthen this symbiotic relationship.