An introduction to Fraisse structures

Abstract:
Given a class of finite structures, is there a way to assemble them into a countably infinite limit object in a canonical way? For example, consider the collection of finite linear orders. Clearly the limit object should be some infinite linearly ordered set, but there are lots to choose from. Should we use the order of the naturals? The integers? The rationals? Similarly, consider the class of finite graphs. There are lots of countably infinite graphs which embed every finite graph. Which one is best? Fraisse theory allows us to answer this question: for certain collections of finite structures, we can consider the “generic” countably infinite structure which embeds every member of the finite class.