One of the positive outcomes to emerge from concerns about irreproducibility in science is innovation in research and publishing practices. In this two-part talk, we will discuss recent developments for improving rigour and efficiency of research. In Part 1, we will overview the Registered Reports initiative: a relatively new type of empirical article offered by academic journals (https://cos.io/rr/). In contrast to conventional articles, Registered Reports are peer reviewed before results of a research study are known to the authors, and usually before the results even exist. Research proposals that meet high standards of theoretical or applied value and methodological rigour are then accepted in advance, with final acceptance guaranteed regardless of the outcomes provided researchers adhere to their approved protocol and conduct the research to a high standard. This model of publishing seeks to eliminate bias against negative (or null) results, and also makes clear the distinction between confirmatory hypothesis testing and exploratory post hoc analysis. In Part 2, we will introduce the concept of consortia-based undergraduate projects, in which students and PIs from multiple institutions work collectively on developing, implementing and analysing a large-scale pre-registered study. We will discuss two projects that we have run so far and the potential benefits such as large sample sizes, collaboration and scientific rigour. We will also review the challenges involved and provide practical guidance on how to overcome them.