Kai Ishihara, Kevin Lamb, Georgina Gonzalez* (ginaglezi2000@gmail.com), Mariel Vazquez, Koya Shimokawa and Javier Arsuaga. Can Chromosome Conformation Capture Data reveal the topology of the genome? Preliminary report.

Chromosome Conformation Capture Data (CCC) consist of pairwise contact frequencies between regions in the genome. Loci with high CCC contact values are believed to be physically close in space and are used for downstream analysis, including the generation of 3D models of the genome. A key issue that is commonly addressed in the generation and discussion of 3D models is that of the topology of the genome. Most models claiming to be correct by the lack of knots. We here argue however that the topology of the genome cannot be directly determined from Hi-C data. Instead we suggest other methods, topological and geometrical, that may help infer properties of such topologies. (Received August 28, 2018)