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Talk: Bioinformatics meets FPGA: Academic and Commercial Considerations  

Abstract:  
Field Programmable Gate Arrays (FPGA), originally developed for circuit simulation, have matured into a product which is now deployed in embedded systems and as a central element of “reconfigurable computing.” Bioinformatics has grown up as a new discipline, driven by an explosion in both the quantity and types of data being generated in life science research. As data volumes grow, research demands ever greater analysis of the data, forcing consideration of parallel computing techniques and other ways to boost performance. The needs of bioinformatics and the capabilities of FPGA have developed at a time of mutual benefit. This talk looks primarily at some of the algorithmic considerations which must be addressed in adapting current bioinformatics techniques to high performance solution. Some additional observations about the unique challenges in taking research tools into the commercial environment are also offered.