halt. My American university could not afford $0.5M for a fifth CBM, so I was left without my machine. I spent 2+ years learning how to teach, plus writing papers on evolvable hardware and quantum computing, until I realized that thanks to Moore's Law, I could once again build brains, but this time far more cheaply.

A British company had developed a way to translate ordinary computer software code (e.g. in the computer language "C") into bit string instructions to wire up (i.e. configure) programmable chips (FPGAs). I conceived a new brain building research project. The new approach was to use a GA to evolve neural nets that would be programmed into the FPGA electronic board (costing less than $1000). This board could evolve a neural net circuit module dozens of times faster than a PC could in software (the latter taking hours to several days per module).

These modules would be evolved one by one in the hardware and the result downloaded into a PC. Each module would have its own evolved function as specified by human BAs (brain architects). Once several 10,000s of these modules had been so downloaded into the PC, special software could be used to specify the connections between the modules, e.g. the output of module M3728 could be connected to the second input of module M9356.

The PC is then used to perform the neural signaling of the whole artificial brain in real time (i.e. 25 neural signals per neuron per second). Today's PCs can signal 10,000s of modules in real time. The whole approach, that I call "Brain Building on the Cheap" costs under $2000, so I'm hoping the idea will spread to other universities and research labs. Of course my approach will be a lot more persuasive to my colleagues and funders if I can actually build such a brain in the next few years and show it controlling a robot to perform useful tasks.