Will the future of Write-Once-Read-Many (WORM) storage be... fish based? Researchers at National Tsing Hua Universtity in Taiwan and the Karlsruhe Institute of Technology in Germany believe so, revealing how to use salmon DNA to build a WORM data storage device.

Where did the DNA come from? The testes (sperm) of Oncerynchus keta, better known as chum or keta salmon.

DNA is already pretty amazing-- after all, it is the "blueprint of life" and contains the proteins shaping an creature's processes and characteristics. But it can be even more than that. DNA can also be used in electronics, since it acts like a metal.

The researchers mixed DNA with metal nanoparticles, creating a polymer-nanoparticle composite material one can easily switch between 2 states (electrically conductive or resistive) through the application of electricity or light-- meaning it can store data as the 1's and 0's of digital information.

The current prototype consists of a thin layer of DNA-nanoparticle mix between metal electrodes. Sending an electrical current (or shining a laser) through the layer makes the material electrically conducive, writing bits of data.

The technology is still far from having data centre applications-- it is not rewritable, and no one knows for how long it can hold data. Still, salmon sperm is apparently available in huge amounts, and thus is a cheap and plentiful DNA source. So maybe the "blueprint" for making a

fish might find its way to making blueprints for the fish-based data storage of the future...

Go Photoinduced Write-Once-Read-Many Memory Device Based on DNA Biopolymer Nanocomposite