

Jurassic lab

Joe Thornton runs a Jurassic lab — he specialises in resurrecting extinct proteins. In a *Nature* paper published this week, he resurrected proteins hundreds of millions of years old to reveal how evolution built a complex molecular machine in the cell. The result flips a finger to proponents of intelligent design, who says such machines can only have been created by a divine force.

Thornton wasn't always breathing life into ancestral proteins. In his first career, he worked as an environmental activist for Greenpeace, educating himself and others about pollutants. He wrote an influential book, *Pandora's poison*, on the long term global impact of organochlorines such as dioxins.

The work led on to a scientific fascination with steroid hormone receptors — such as the one for oestrogen, which is so easily corrupted by other chemicals. Since he launched his scientific career, he has racked up a string of *Science* and *Nature* papers. One showed how the snug interaction between a hormone and its receptor evolved [Science Brigham 2006]. A second showed that the evolution of this hormone and receptor proceeds like a ratchet, answering a key question about whether evolution can run in reverse [Nature 2007]. A paper in review now at *Nature*, he says, shows through protein resurrection why the oestrogen receptor is so exquisitely sensitive to endocrine disrupting chemicals.

Thornton is intense, successful (an HHMI fellow at a young age), he still takes time to speak at environmental groups and attempts, with his family, to live as green a life as he can in Eugene, Oregon (they apparently avoided using PVC when building their house.) I propose visiting the Thornton lab before or after the AAAS (this depends if he is willing and the timing works out) and writing a profile of him and his leading protein resurrection lab.