

# The New Human Species By Annalize Rossouw

Do we change the world to suit us or do we change ourselves to suit the world?

**IMAGINE YOU COULD** make petroleum out of water. Or that your body heat could create comfy clothing. Or even more fascinating: imagine our organs could produce their own energy. Science fiction? Oh no, some of these phenomena are about to become reality.

Professor Craig Venter and his team at the J. Craig Venter Institute are one step away from making alchemy a modern reality.

Their biological theory around the human genome - an organism's entire hereditary information contained within DNA or RNA - is a little hard to grasp for the layperson, but here goes a tentative explanation: by adding or changing one genome, you change the species of something. The team's goal is to be able to convert one species into another using synthetic biology in the form of synthetic genomes. What this means is that we'd be able to

take something like stone and, by changing one genome, be able to convert it into a non-sustainable resource like oil, for example. As farfetched as this may seem, the team is only one step away.

The idea is based on the fact that species are genetically not that far apart. "We all differ from one another by 1 to 3%, meaning that my genome is not all that different from Desmond Tutu's. We humans differ from all other mammals - dogs, cats etc - by less than 10%," explains Venter.

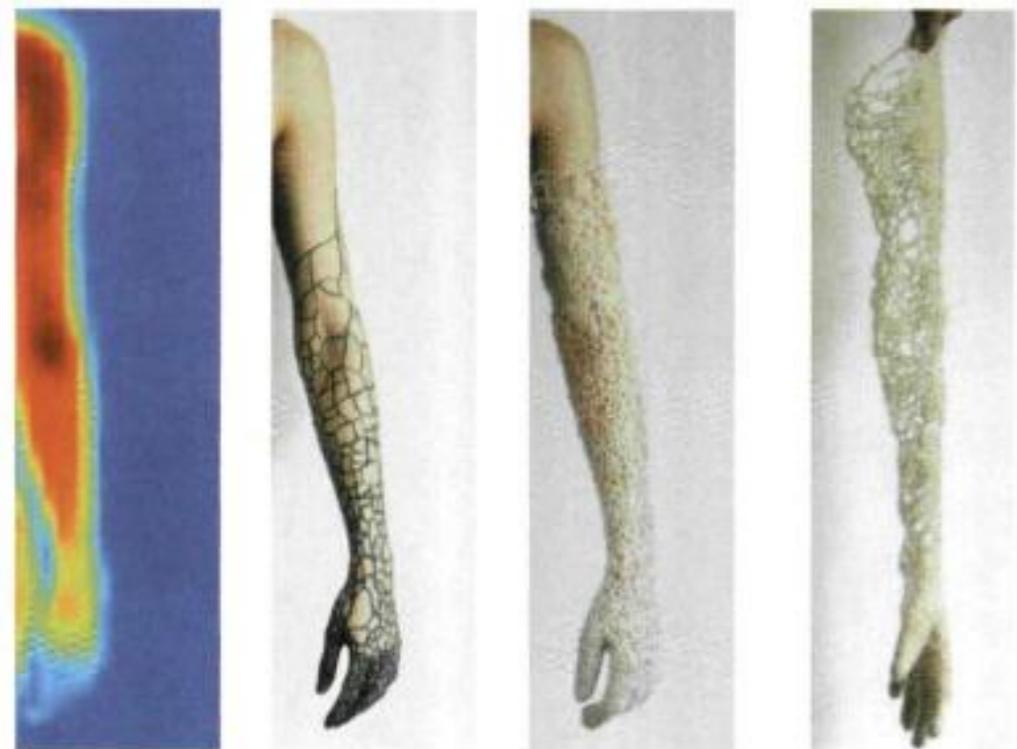
Given that he and his team first sequenced the genome in 1995, the next question was whether they could create a synthetic genome. And if they could make a synthetic genome, could they boot it up? Could they then create fourth-generation designer fuels?

"The step that has not yet been achieved is taking synthetic DNA and converting one species to another. We're close to doing this. We're

moving DNA across the boundaries of life," Venter remarked. According to Bruce Nussbaum, journalist and entrepreneur, "Designers have a future-facing perspective - they're making the new." This opinion is definitely true in the case of Sonja Baumel. She plays with the idea of having a living, responsive, intelligent and bacteria-based fabric or second skin around our bodies. Using body heat as a stimulus, the bacteria would grow thicker on colder body parts and thinner on the warmer body parts, resulting in a functional form of body protection.

Protofarm 2050 is a Design Indaba initiative based on the fact that by 2050 80% of the world's population will live in cities, which will expand to the point where they encroach onto farmland. Of course, energy concerns, climate challenges and digital-biological integration will also plague life in 2050. Against this backdrop, designers are asked to create the world they believe we will inhabit in 2050.

Although all the commissioned designers shaped worlds that show imagination and a lot of cleverness, Revital Cohen's energy-generating body organs stayed on the mind longest. She theorises that humans will be able to harvest the energy generated by our organs to fire our electronic goods. This, in turn, would allow us to consume copious amounts of sugary goods to keep our organs pumping out that energy. This reality is certain to be a winner with the foodies. <





**PROTO FARM 2050**

**REVITAL COHEN**  
 Designer and Researcher

Distance From Home	9 662 km
Books Published	0
Years In Profession	2
Google Hits *	5 210

DESIGN INDABA 2010

